Summary of Comments Filed in RCA Docket I-15-001, In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System

The following text summarizes certain information filed in RCA Docket I-15-001. Actual comments by Industry, the public and others are attached following this summary.

Comments filed by utilities and industry:

Alaska Energy Authority (AEA)

AEA believes the best option for effective and efficient Railbelt electric transmission requires creation of an RCA-regulated entity empowered to implement long-term transmission planning, open access transmission rates, and system-wide reliability standards. AEA believes the public interest would be enhanced by requiring cooperative planning of new facilities and by economic dispatch. AEA believes the RCA has some of the authority necessary to implement restructuring of the Railbelt transmission and generation systems, but may find it difficult to mandate a regional ISO (independent system operator) without additional authority.[1,2]

Alaska Environmental Power (AEP)

AEP asks the RCA to ensure separate ownership of transmission and generation assets.[3]

Alaska Independent Power Producers Association (AIPPA)

AIPPA supports legislation and regulations promoting an ISO provided a transmission company (Transco) controls transmission assets separately from the owners of generation assets and the organizational costs are kept low. AIPPA favors fair, open, cost-based, and non-discriminatory transmission services for independent power producers (IPPs). AIPPA favors system-wide planning and voluntary processes for dispute resolution. AIPPA favors wholesale changes, not "baby steps." AIPPA desires the RCA to foster cooperation among utilities in the public interest.[4]

In a supplemental filing, AIPPA observes that is no "silver bullet" solution to the Railbelt's transmission problems. AIPPA suggests the RCA lay a legal and regulatory foundation within which the stakeholders can seek a solution. AIPPA underlines its belief that the solution must include independent governance, fair and open access for IPPs, and system-wide postage stamp rates. AIPPA recommends that the RCA incorporate pertinent provisions of the Alaska competitive Energy Act into its decision.[5]

Alaska Power Association (APA)

APA's Board of Directors adopted a resolution urging the Legislature to support self-directed efforts by Railbelt electric utilities to unify the regional transmission system and asking the RCA to consider the extension of the interconnected electrical system to include additional utilities.[6]

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[1] *Alaska Energy Authority's Response to Order No. 1*, filed March 31, 2015.
[2] Correspondence from Kirk Warren, dated April 24, 2015.
[3] Correspondence from Craft, M. dated April 1, 2015.
[4] *Alaska Independent Power Producers Association comments*, filed March 31, 2015.
[5] *Alaska Independent Power Producers Association comments*, filed June 24, 2015.
[6] *Initial Comments of the Alaska Power Association*, filed March 31, 2015.

Alaska Railbelt Cooperative Transmission and Electric Company, Inc. (ARCTEC)

ARCTEC believes implementing an ISO, USO (Unified System Operator), or RTO (Regional Transmission Operator) is the best option for delivering low-cost, reliable, and sustainable energy. ARCTEC foresees reduced costs through economic dispatch, optimized reserve sharing, improved efficiency in grid operations, better opportunities for IPPs, better long-term planning, and more efficient use of capital. ARCTEC believes an ISO or USO should have stakeholder governance, RCA oversight, reliability and interconnection standards, system-wide upgrade planning, non-discriminatory access, economic dispatch, and respect for existing agreements. ARCTEC believes the stakeholders need to plan, develop, and manage the Railbelt assets as a single, integrated system. ARCTEC envisions achieving independence from the participating utilities while drawing on their expertise and states that the RCA needs to sort this out as part of its implementation plan. ARCTEC estimates a start-up cost for a USO to be about $25 million.

To the extent the RCA lacks statutory authority to take action on ARCTEC's recommendations, it recommends that the RCA seek statutory changes. ARCTEC suggests that there is significant consensus among stakeholders regarding the ISO model despite disagreement over some of the details. ARCTEC emphasizes that a Transco is not the same as an ISO and by itself will not yield the benefits of economic dispatch, open-access, and uniform reliability standards. ARCTEC acknowledges that the Railbelt system is currently working, but that there is great room for improvement through greater cooperation and with unified planning and operations. ARCTEC believes that the inability of the utilities to move toward greater integration for so many years indicates that an ISO will not happen if they are left to work things out on their own.[7]

ARCTEC supplemented its filing, again stating a USO is the best option for low-cost, reliable, and sustainable energy. ARCTEC invites the RCA to direct utilities to develop and implement a USO and report their progress in six months. The USO would ultimately implement economic dispatch, reserve sharing, efficient use of the grid, enhanced IPP opportunities, better long-term planning, and more efficient use of capital. ARCTEC urges the RCA to seek legislation which clarifies its authority to authorize and regulate a USO; require non-discriminatory, open access to the transmission system; and fund RCA's increased resource needs. ARCTEC recognizes that implementing a USO business model involves difficult transition issues to ensure benefits for all customers, but believes ARCTEC can expand its membership and facilitate the process and become the USO or Transco. ARCTEC believes that a separate Transco would help in accessing outside capital to fund new facilities. ARCTEC favors ML&P's proposal for an interim trial economic dispatch using ML&P's software (discussed further in summarizing ML&P comments).[8]

American Transmission Company (ATC)

ATC is a customer-owned private electrical transmission company currently operating in portions of Wisconsin, Michigan, and Illinois. ATC has been ascertaining whether its business model could be tailored to meet the Railbelt's needs. As a Transco, ATC would be an RCA-regulated utility which plans, constructs, and maintains the transmission system with open and non-discriminatory access under a system-wide tariff. ATC states that it would employ any state funds effectively, maintain labor agreements, manage pre-existing transmission assets, and honor existing financing restrictions. ATC

[7] *Comments of Alaska Railbelt Cooperative Transmission and Electric Company, Inc. in Response to Questions Posed in Docket I-15-001(1)*, filed March 31, 2015.

[8] *Reply Comments of the Alaska Railbelt Cooperative Transmission and Electric Company, Inc. in Response to Order Number 2 in Docket I-15-001(1)* filed April 30, 2015.

submitted a set of "Guiding Principles of a Railbelt Transco" which had been signed by representatives of all Railbelt electric utilities.[9]

In supplemental comments ATC states there is a strong consensus for changing the Railbelt business model to provide open, non-discriminatory access to transmission, to invest in system upgrades, to ensure system-wide planning, and to facilitate economic dispatch of generation. ATC states that it will continue to work with the utilities to develop a voluntary Transco model.[10]

Ares EIF Management, LLC and PowerBridge, LLC (Ares/PB)

Ares/PB has been meeting with Alaska entities regarding potentially investing in Railbelt transmission upgrades. Ares/PB does not propose a Transco and would not intend to retain ownership of transmission projects. Ares/PB believes allocating the benefits of transmission upgrades among regional utilities is a difficult issue. Ares/PB believes that first implementing an ISO or similar structure is not necessary before beginning to achieve effective and efficient electrical transmission and that ISO implementation can proceed concurrently with transmission upgrade projects. Ares/PB believes that transmission projects could proceed on the basis of an agreement between the developer and the affected utilities. Ares/PB states that a private developer could provide immediate equity capital and guarantee an upper limit on construction costs. Ares/PB suggests that cooperation on transmission upgrades would help Railbelt entities move toward cooperating on economic dispatch and other efficiency enhancements.[11]

Ares/PB disagrees with the NERA recommendation (submitted by Chugach, discussed below) that a Transco should have a monopoly on developing and financing new facilities, since in other regions of the country there is multiple ownership of transmission facilities with pooling of costs. Ares/PB also believes that the assured cost recovery proposed by NERA may not be appropriate where, for example, a project experiences cost overruns. Ares/PB believes, however, that a new cost allocation method, though difficult to devise, will be necessary. Ares/PB favors competition for new transmission projects (with independent entities' proposals competing with those of a Transco) with merit selection made by the RCA after reviewing the system operator's recommendations. Ares/PB believes that competition for new transmission projects will help assure that a Transco provides low-cost services. As an alternative to regional transmission planning by a system operator, which may take time to set up, Ares/PB believes the RCA could set up a reliability administrator to perform or facilitate the planning.[12]

Chugach Electric Association, Inc. (Chugach)

Chugach believes a USO is the best option for the least-cost and most reliable integrated Railbelt power system. Chugach recommends a USO governed by an expert board of stakeholder representatives with authority to operate and maintain the transmission system. Chugach believes the USO should provide open access under a universal tariff, enforce reliability standards, plan and coordinate facility upgrades, manage new connections, and function as a single economic dispatch control area. Chugach wants the RCA to ensure full cost recovery of all investments by utilities, honor existing agreements, ensure fair and reasonable operations, and pre-approve long-term plans. Chugach wants the RCA actively to promote Railbelt restructuring by adopting the USO model after seeking technical, organizational, and structural input from foremost experts. Chugach believes the RCA has the authority and responsibility to impose a USO on Railbelt utilities.

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[9] Correspondence from Meyers, Eric, dated March 31, 2015.
[10] Correspondence from American Transmission Company, dated June 17, 2015.
[11] *Comments of ARES EIF Management, LLC and Power Bridge, LLC*, Filed March 31, 2015.
[12] Comments of ARES EIF Management, LLC and Powerbridge, LLC, filed June 12, 2015.

Chugach submitted an 86-page Report entitled "Regulatory Implementation Filing on an Alaskan Railbelt USO" which provides a detailed history of the Railbelt operations and its current challenges. The Report urges the RCA and all stakeholders to work together to restructure the current model by implementing a stakeholder-governed USO and potentially to establish a Transco, with a discussion of implementation and transitional issues. The Report states that the RCA should authorize the formation of a USO and later a Transco and reform the way utilities recover their revenue requirements to insure timely recovery through formula rates.

Chugach urges the RCA to open a new docket to define the Railbelt's challenges for greater integration, determine if the public interest would be served by regional economic dispatch, determine what problems exist in energy transmission, address system reliability, and make findings on the best regulatory remedies. Chugach suggests the RCA has broad authority to regulate relationships between utilities and prevent private bickering from interfering with reliable service. Chugach asks the RCA to set forth preliminary solutions to the Railbelt's problems and consider regulations to facilitate the creation of a USO. Chugach suggests that the status-quo is not appropriate as evidenced by recent major outages; unresolved reliability standard and spinning reserve obligations; litigation over the S-Q line, Bradley Lake dispatch procedures, and the Teeland interconnection; and double-digit rate increases by some utilities.[13,14]

A Chugach representative appeared at an RCA public meeting[15] and presented information and recommendations for allocating the costs and benefits from system-wide economic dispatch based primarily on ISOs operating in Texas, Ireland, and elsewhere.

Chugach also submitted a 60-page report prepared by National Economic Research Associates (NERA) entitled "Evaluation of Options Regarding the Creation of an Independent System Operator or Similar Structure for Electric Utilities in the Railbelt." After considering options for a future of Railbelt transmission organization, NERA recommends the formation of a USO and a Transco, preferably with the Transco as a separate organization. NERA estimates potential annual cost savings from implementation of a USO and Transco of $792 million per year derived from system-wide economic dispatch and regional planning, with additional system reliability and resilience benefits and cost savings in ancillary services. NERA recognizes that allocation of the ensuing benefits among utility customers will be complex and that RCA will need to play a leadership role in establishing the new organizations. A NERA representative appeared at an RCA public meeting to discuss the report.[16]

In supplemental comments Chugach recommends that the RCA report to the legislature that it intends to embark on a series of rulemakings to (1) adopt uniform reliability standards; (2) establish a process to certificate a Transco to develop, own, and operate transmission assets; and (3) develop a process to lead to economic dispatch. Chugach also recommends that the RCA invite utilities and others to develop proposals to accomplish these goals. Chugach will support the RCA if it seeks additional statutory authority to achieve the goal of economic dispatch.[17]

<u>Cook Inlet Region, Inc. (CIRI)</u>

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[13] *Chugach Electric Association Inc.'s Response to Questions Posed in Order I-15-001(1)*, filed March 31, 2015.
[14] *Reply Comments of Chugach Electric Association*, filed April 30, 2015.
[15] June 3, 2015
[16] Correspondence from Chugach Electric Association, Inc., dated May 28, 2015.
[17] *Chugach Electric Associations, Inc's Supplemental Comments*, filed June 17, 2015.

CIRI believes that an ISO could ensure the lowest investment and operating costs for energy production, reduce duplication of transmission assets, reduce the need for reserve capacity, enhance reliability, foster the integration of renewable energy facilities, and increase investment in independent energy investments. CIRI believes the RCA should look to the principles developed by other states and the FERC, such as open transmission access, independent ISO governance, cost-based transmission rates, mandatory reliability standards, system-wide planning, and voluntary dispute resolution. CIRI believes the RCA should have authority to protect the interest of energy consumers in all areas of Alaska.[18]

Golden Valley Electric Association Inc. (GVEA)

GVEA believes that the exact form of an ISO or USO depends on evidence and findings to be developed by the RCA. GVEA believes a transmission entity may provide greater integration of new generation, increase investment in new transmission, and increase competition in the energy market. GVEA believes some utilities may benefit more than others, so unwarranted cost shifting may occur. GVEA believes issues of asset transfer, cost allocation, and disruption of existing agreements may present insurmountable problems. GVEA believes the RCA lacks explicit authority to mandate the creation of an ISO, so the RCA would need to rely on implied authority and a broad reading of existing laws. GVEA believes that a system operator would be subject to RCA regulation as a public utility. GVEA believes it is premature for the RCA to adopt new regulations, but ultimately regulations will be needed to govern transfers of existing assets, set governance structure and staffing procedures, set up a regional planning process, establish new transmission rates, and provide for ongoing RCA oversight and arbitration of disputes. GVEA urges the RCA to adopt comprehensive reliability standards for the Railbelt. GVEA believes the RCA needs to develop a strong factual record before taking action to mandate a system operator or a system-wide wheeling rate. GVEA suggests the RCA has some limited authority over utility plans to build new facilities, but there may not be consensus that it should exercise that authority. GVEA urges the RCA to require utilities to work together.[19,20]

In supplemental comments GVEA states that it believes there can be system-wide benefits and future cost savings by forming a Transco and that Railbelt utilities are currently working together on the best way to form a Transco. GVEA believes a Transco would not only improve reliability and planning, but, most importantly, would allow implementation of a uniform, system-wide transmission tariff which will encourage more economic use of generation assets. Because some utilities would be disadvantaged by a system-wide tariff, their participation can be gained only by compulsion (which could lead to protracted litigation and ill-will) or through incentives. GVEA favors an incentive approach to gain voluntary participation of all utilities, including the transfer of the state-owned intertie to the Transco at zero cost. GVEA foresees the formation of a Transco as potentially leading to a power pool and then to a USO, yielding greater benefits. GVEA believes the current pancaked wheeling rates frustrate many economic power purchases, and a system-wide rate would not reduce total transmission costs but would spread the costs evenly throughout the system. GVEA suggests that any certification granted to a Transco be conditioned on implementing uniform reliability standards. GVEA indicates that the utilities will provide proposals to the RCA for recommended changes in regulations on transmission issues. GVEA supports providing the RCA with the resources necessary to accomplish the task.[21]

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[18] *Cook Inlet Region Inc.'s Comments Responding to Commission Order No. 1*, filed March 31, 2015.
[19] *Golden Valley Electric Association Inc's Response to Commission Order Seeking Comments*, filed March 31, 2015.
[20] *Golden Valley Electric Association Inc.'s Reply Response to Commission Order Seeking Comments*, filed April 30, 2015.
[21] *Golden Valley Electric Association Inc.'s Supplemental Comments*, filed June 17, 2015.

Homer Electric Association (HEA)

HEA does not believe the current Railbelt transmission system is broken, ineffective, or inefficient, but rather that it works well and is simple and inexpensive to operate. HEA believes that the RCA has little authority to require utilities against the will of their management to work more closely together, but rather the RCA is intended to resolve disputes between utilities. HEA believes that the reason various proposals for greater unified operations in the Railbelt have not moved forward is that they do not make economic sense. HEA suggests that moving toward an ISO raises issues of stranded assets, recovery of sunk costs, cost versus value of service, cost allocation, insuring fairness and competence in governance, finding benefits which exceed costs, distributing economic benefits, dealing with existing gas supply contracts, and lack of diversity in load profiles. HEA is not sure what problem the Legislature evidently believes may exist, so it is not possible to posit a solution. HEA does not believe the RCA has the authority to mandate reliability standards, require utilities to jointly manage or operate their facilities, or mandate a system-wide wheeling rate. HEA does believe the RCA can study Railbelt issues and make recommendations to the Legislature and the utilities. HEA favors local control of utilities.[22,23]

In supplemental comments HEA states it is working with other utilities to evaluate a Railbelt transmission entity and the benefits of economic dispatch via a power pool. HEA believes utilities have not overbuilt generation capacity, since much existing capacity is aging and inefficient, suitable primarily for peaking and backup. HEA believes local control of generation is important in Alaska where reliability is critical in cold weather and load centers are far apart. HEA has technical and governance concerns with reliability standards and the need for auditing and enforcement. HEA states that Railbelt utilities work cooperatively in many areas, including coordination of maintenance schedules, communication between dispatch centers, buying/selling spinning reserves, short-term power contracts, and economy energy sales. HEA questions the magnitude of benefits from economic dispatch due of operational constraints such as must-run units, gas contract limitations, and reliability requirements of to Railbelt topography. HEA states that the RCA lacks authority to investigate and mandate inter-utility activities. HEA opposes opening regulations dockets, but states that a series of technical conference to explore technical, governance, and statutory/regulatory modifications would effectively move the process forward.[24]

Matanuska Electric Association, Inc. (MEA)[25,26,27]

MEA believes an ISO which economically dispatches Railbelt electricity is the logical and best option for increased generation efficiency, subject to system requirements and transmission availability. MEA states that ARCTEC was established in part to serve as an ISO. MEA is under contract with Chugach to jointly dispatch power and desires to move toward economic dispatch with more participants. MEA does not believe that the RCA currently has the authority to mandate ISO formation or regulate ISO operations. MEA suggests the RCA should first explore with stakeholders how an ISO could improve Railbelt operations and then seek consensus about how transmission issues can be addressed and what statutory

[22] *Response by Homer Electric Association to Questions Posed in Order I-15-001*, Filed March 31, 2015.
[23] *Response by Homer Electric Association to Order I-15-001(2)*, filed April 30, 2015.
[24] *Final Comments by Homer Electric Association to Presentations and Comments by the Commission*, filed June 17, 2015.
[25] *MEA Responses to RCA*, filed March 31, 2015.
[26] *Comments of Matanuska Electric Association, Inc. in Response to Comments Submitted March 2015*, filed April 30, 2015.
[27] Correspondence from Matanuska Electric Association, Inc. dated June 17, 2015.

changes may be needed to compel regional transmission regulation. MEA states the RCA previously determined that its regulatory authority is not limited to single systems, but extends to inter-utility operations. MEA states that the utilities have developed mandatory reliability standards which are not under RCA regulation, so no action is needed by the RCA, though the standards are not always followed. MEA believes the RCA does not have the authority to mandate system-wide wheeling rates and questions RCA authority to mandate integrated facilities planning. MEA believes it is difficult for stakeholders to analyze RCA rulemaking authority since details of potential rules have not been articulated. MEA observes that utilities wanting the RCA to take a pro-active role in promoting an ISO also believe the RCA has broad authority to do so, while ISO opponents minimize RCA authority. MEA believes current financial resource limitations of Railbelt utilities and the State of Alaska reduce the potential for a Transco to build now facilities.

In supplemental comments MEA states that the most viable economic option for the Railbelt would be a loose power pool with some form of cooperative dispatch of generation assets. MEA is concerned with the cost of setting up and operating an ISO and Transco and with the complex commercial and contractual hurdles. MEA cites factors changing the economics of an ISO and favoring a loose pool: (1) recent generation additions and shifting of loads among utilities, (2) increases in reliability and control and decreases in the need for increased interconnection for reliability reasons due to greater decentralization of generation, (3) recent transmission rate increases, (4) decreased economic benefits of economy energy sales due to commissioning of Healy coal units, and (5) greater independence of HEA and GVEA. MEA cites the current initiatives among utilities for greater cooperation, including ML&P's proposal for sharing its economic dispatch software for a trial period and recent significant sales by MEA to neighboring utilities from its new generation facility. MEA believes the utilities can improve administration of reliability standards, with RCA involvement limited to dispute resolution. MEA states that economic efficiency on the Railbelt is hampered by Chugach's postage stamp transmission rate and favors a distance-sensitive rate which only charges for facilities actually used. MEA also explains the constraint on economic dispatch due to fuel transportation restrictions imposed by ENSTAR's increasing gas transport rates. MEA provides many criticisms and observations regarding the conclusions of the NERA study sponsored by Chugach, questioning whether the ISO/Transco recommendations are reliable. MEA believes that no single utility should dominate the Railbelt governance and operations. While MEA supports non-utility representation in governance, it believes it will be difficult to find qualified individuals to serve. MEA is concerned that, while there may be very long term economic benefits to an ISO for all utilities and customers, the disparate impacts would be felt in the near term.

Municipal Light and Power (ML&P)

ML&P states two issues must be addressed before implementing an ISO: First, a cost allocation mechanism to recover transmission expenses to prevent cost shifting and subsidies; Second, the lack of real benefits absent significant capital investments. Because ML&P owns relatively little transmission facilities, a unified rate would require it to pay a greater portion of total Railbelt transmission costs without providing offsetting benefits. ML&P states that without construction of new facilities, implementing an ISO would likely increase, not decrease, the cost of operating the system. ML&P believes that the cost of transmission upgrades may not be offset by cost savings. ML&P believes that discussion of an ISO is premature and further study in necessary to demonstrate net benefits, not merely cost-shifting among utilities. ML&P believes that material savings can be achieved immediately through centralized economic dispatch, which would not require a large capital investment. ML&P believes that analysis of the extent of RCA authority over transmission issues depends on a well-defined proposed action, a fully developed record, and appropriate findings and policy decisions. ML&P supports the creation of reliability and operating standards by merging current Railbelt standards with national

standards, with oversight by the RCA or another independent entity. If supported by proper findings, ML&P believes the RCA may have the authority to order system-wide wheeling rates.[28]

At a RCA public meeting, representatives of ML&P offered to sponsor a one-year trial run to gauge the potential benefits of more centralized operations and economic dispatch using ML&P's software at no charge to participants and with no need for RCA involvement.[29]

In a supplemental filings ML&P provided a copy of a memorandum of understanding signed by all six Railbelt utilities except Chugach which encourages ML&P to finalize development of its centralized power pool economic dispatch system and commits the utilities as far as possible to make their excess generation available for inclusion in the pool. The document states that the obligations are voluntary and may be terminated at any time.[30,31]

Office of Attorney General, Regulatory Affairs and Public Advocacy (RAPA)

RAPA states it did not have enough information to recommend whether an ISO is the best option for the Railbelt. RAPA believes the RCA has authority to mandate an ISO if it would be in the public interest, particularly under its certification authority. RAPA suggests that the RCA make decisions on a case-by-case basis before adopting new regulations governing transmission. If the RCA pursues a regulations docket, RAPA recommends setting its scope at an early stage. RAPA believes the RCA has authority to consider system-wide impacts of its decisions and is not limited to considering solely impacts on individual utilities. RAPA believes the RCA has broad authority to jointly and cooperatively regulate Railbelt utility generation and transmission assets to protect customer interests. RAPA believes the RCA has authority to order system-wide wheeling rates. RAPA believes the RCA might have the authority to regulate integrated planning and the need for new utility facilities, though use of that authority is discretionary.[32]

Providence Health & Services (Providence)

Providence is the state's largest private electric consumer. Providence states its power supplier has justified adding generation facilities in part because of the lack of cooperation among Railbelt utilities. Providence believes that economic dispatch would help ensure that customers receive the least cost power available and that an ISO should be seriously considered as a way to achieve those savings. Providence believes that ISOs and similar entities formed in other states where it operates have been beneficial to customers.[33]

Renewable Energy Alaska Project (REAP)

REAP, a coalition of over 80 utilities, IPPs, native organizations, businesses, and NGOs, wants to increase the production of renewable energy and promote energy efficiency. REAP's review of the merits of an ISO relates to its interest in establishing a system-wide wheeling tariff and eliminating "pancaked" transmission tariffs which destroy the economics of moving renewable energy across the system. REAP wants the RCA to have the necessary tools and resources to develop and form an ISO, while it believes the formation of a Transco will be a transaction among the utilities which own the facilities and other

[28] *Municipal Light and Power's Response to Order No. 1*, filed April 3, 2015.
[29] June 3, 2015.
[30] Correspondence from James Trent (ML&P), dated May 19, 2015.
[31] Correspondence from James Trent (ML&P), dated June, 22, 2015.
[32] *Office of the Attorney General's Response to Order I-15-001(1)*, filed March 31, 2015.
[33] Correspondence from Providence Health Services, dated June 17, 2015.

entities. REAP believes the RCA has the authority to establish an ISO in the name of conservation, but also is requesting legislation directing the RCA to establish an ISO. REAP does not believe that by itself a Transco will be able to break down the barriers to moving renewable energy across the Railbelt grid.[34]

In supplemental comments, REAP emphasizes the key role of renewable energy in stabilizing electric costs which are sensitive to future gas prices. REAP states that reform in transmission system rates and access is essential to bring renewable energy to market efficiently. REAP believes a more robust grid is necessary to accommodate greater use of variable renewable energy such as wind and solar. REAP believes the current trend toward greater disaggregation of the operation of Railbelt electrical facilities should be reversed by establishing an ISO. REAP supports providing the RCA with the necessary resources to develop and regulate an ISO.[35]

Xcel Energy Services Inc. (XES)

XES is the centralized service company for the Xcel Energy Inc. holding company system which provides integrated electric services in many states and also seeks opportunities to invest in transmission projects in other areas, including Alaska. While the ISO question focuses primarily on transmission facilities, XES believes there is a broader interest in better coordination of existing generation and transmission resources to reduce costs, new ways to plan and develop facilities, better ways to price transmission services, and coordinated dispatch of generation facilities. XES believes a Railbelt system operator would be one of the best options for effective and efficient electrical transmission. XES favors changes to the RCA governing statutes to confirm the goal of enhancing the Railbelt electric system and to remove any uncertainty about the RCA's authority to adopt a system operator approach, avoid the disputes and delays that hampered restructuring in other states, and secure from the outset a legislative consensus and direction regarding the restructuring process. XES states a power pool may be a viable alternative to a system operator. XES believes establishing a separate, independent, non-profit system operator with functional control, but not ownership and maintenance responsibility, is one of the best ways to achieve more effective and efficient electrical transmission. XES believes the system operator should establish transmission tariffs subject to RCA regulation. XES believes the RCA could certify a system operator to provide transmission service to the exclusion of other utilities. However, XES does not believe the RCA has the authority to mandate the creation of a system operator. XES believes new RCA rules could provide a roadmap for establishing a system operator and attract investment in new transmission facilities. XES believe that relying on existing laws to implement new transmission policies, such as using contested proceedings challenging the reasonableness of existing management practices, would likely result in disputes and litigation over RCA jurisdiction, so greater authority and guidance from legislation would be helpful. XES believes adopting a set of minimum reliability standards is a worthy goal. XES provided a document entitled "Establishing a Railbelt System Operator proposed Legislative Principles" which proposes a method to transition to a system operator.[36]

Comments filed by individuals:

Ryan Astalos, Andy Baker, Laura Baldwin, Kenton Bloom, Susan Braun, Michael Coumbe, Laurie Daniel, John Gaedeke, Gail Garber, Ed Gonzalez, Maureen Knutson, Kyla Kosednar, James Kowalsky, Robyn Lauster, Sue Libenson, Lucas Merli, Cynthia Monroe, Stephen Nickel, De Patch,

[34] Correspondence from Rose, C. dated April 1, 2015.
[35] Correspondence from Rose, C. dated June 18, 2015.
[36] *Response of Xcel Energy to Order No. 1*, filed March 31, 2015.

Bridget Paule, Don Pendergast Amanda Piatt, James Proch, Denis Ransy, Francie Roberts, Michael Sallee, Paula Sayler, Kevin Shaffer, John Shows, James Sullivan, Peg Tileston, David Vought, Nancy Wallace, Michael Wilson, Anne Yoshino, and Ken Zafren:

These individuals separately filed essentially the same comments. They favor an ISO for effective and efficient electrical transmission. They believe it will save consumers money and incentivize renewable generation, thereby reducing carbon emissions. They suggest we look to models in other states and move away pancaked transmission tariffs which raise prices.[37]

Diane Holmes (Holmes)

Holmes favors a non-profit ISO or similar entity to ensure fair treatment of renewable energy.[38]

Karl Kassel (Kassel)

Kassel believes the only reasonable way to operate the Railbelt transmission system is with an ISO and it is time to change to improve efficiency and make renewable energy more functional.[39]

Charles Kennedy (Kennedy)

Kennedy supports an ISO. He believes the current system under-utilizes the hydro peaking, especially Bradley Lake, and an ISO is an essential first step toward non-carbon emitting power.[40]

Becky Long (Long)

Long supports the formation of an ISO to facilitate the development small, dispersed, renewable energy projects and the movement of Bradley Lake power, which are hampered by existing institutional barriers. She believes the Railbelt transmission system needs efficient economic dispatch, open and non-discriminatory access, regional planning, and reduced costs.[41]

Sharon Waisanen (Waisanen)

Waisanen opposes an ISO because it will create another costly layer of management and not increase renewable energy opportunities. She believes ISO participation should be voluntary.[42]

Comments made at public meeting but not filed with the Commission:

Ocean Renewable Power Company (ORP)

ORP develops power generation using tidal flows. A representative of ORP stated at a public meeting that ORP favors an ISO to help ensure fair and equal access to the market for renewable power and avoid the need to deal with six separate utilities.[43]

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[37] All correspondence dated and filed on June 15, 16, and 17.
[38] Correspondence dated June 16, 2015.
[39] Correspondence dated June 17, 2015.
[40] Correspondence dated June 17, 2015.
[41] Correspondence dated June 15, 2015.
[42] Correspondence dated June 17, 2015.
[43] June 17, 2015.

Peter Crimp (Crimp)

Crimp supports the establishment of a non-profit, non asset-owning, regulated ISO to ensure fair, open transmission access. He cites the NERA study submitted by Chugach for a good estimate of potential cost savings. Crimp states that consumers are dismayed by all the litigation and by the rate increases caused by redundant generation which occurs despite the utilities' high level of commitment and good intentions, indicating a systemic problem calling for systemic solutions.[44]

[44] June 17, 2015.

STATE OF ALASKA

REGULATORY COMMISSION OF ALASKA

Before Commissioners:	Robert M. Pickett, Chair Stephen McAlpine T.W. Patch Norman Rokeberg Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	))))	I-15-001

ALASKA ENERGY AUTHORITY'S
RESPONSE TO ORDER NO. 1

The Alaska Energy Authority (AEA), by and through the State of Alaska, Department of Law, submits these responses to questions the Commission posed in Order No. 1 to this docket. The Commission requested responses to a number of specific questions whether either general or specific statutory authority would enable the Commission to restructure the Alaska Railbelt electric transmission system and bulk power supply, and to create an independent system operator. In this response, AEA will provide its perspective on various statutory provisions, and reference specific Commission questions where appropriate.

A. Restructuring of the Railbelt transmission system and bulk power Supply, and creation of an Independent System Operator, would serve the public interest.

AEA believes the best option for effective and efficient electrical transmission in the Railbelt is creation of an entity empowered to implement long term electric transmission infrastructure planning and oversee final development, and periodic refreshment, of open access provisions and reliability standards the system will operate under.

DEPARTMENT OF LAW
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Individual utilities have reliability standards; however, there are no standard criteria for the entire Railbelt electrical transmission system and the authority to enforce standards across the entire railbelt system is unclear. As a result, conflicting standards have been submitted to the RCA for informational purposes by subsets of the utility operators. These conflicting standards are due to the inability of the utilities to agree on a single set of criteria. Creation of an entity, under the jurisdiction of the RCA, that is responsible for these standards would effectively mitigate this confusion. Creating a more transparent operating environment would assist IPPs and utilities with excess generation to market power, and benefit ratepayers.

The public interest would be also be served by requiring cooperative planning and economic dispatch of electric generation. Over the past several years, Railbelt utilities have constructed significant amounts of additional generation capacity. Generation decisions made by individual utilities may not reflect the most cost effective means to meet the collective needs of Railbelt ratepayers. Cooperative planning and economic dispatch would serve the long term benefit of the region's electric ratepayer's as a whole.

A system wide planning document can be created and/or maintained most easily with the creation of an entity that is responsible for the system as a whole. Independent area plan's that are mutually exclusive lead to inefficiency in the bulk electrical system, increased cost to the ratepayers, and confusion to commercial and industrial interests. The result of these concerns stifles economic development in this region of the State.

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B. The Commission has statutory and regulatory authority respecting restructuring the Railbelt creating an Independent System Operator, but additional authority could be necessary or desirable.

AEA believes the Commission possesses statutory authorities that could empower the Commission to implement some restructuring of the Alaska Railbelt electric transmission system and bulk generation. This statutory authority, however, may not provide an effective means for the Commission to easily implement a complete and coherent restructuring that mandates a Railbelt-wide independent system operator. Existing statutory authority is stronger for transmission than for generation issues. Enactment of additional statutory authority may be necessary or desirable to establish the most cost effective Railbelt transmission system that can meet the growing needs of Railbelt ratepayers and system users.

The starting point of analysis is the Commission's general powers and duties under AS 42.05.141. The Commission is given broad powers to "do all things necessary or proper to carry out the purposes and exercise the powers expressly granted or reasonably implied" in AS 42.05.[1] The Commission is not limited by express statutory grants, but rather may implement measures "reasonably implied" in AS 42.05. Powers reasonably implied from other statutory authority provides very broad authority for the Commission to act. The Alaska Supreme Court has described the broad scope of AS 42.05.141(a):

> This provision presents two guiding principles for determining the extent of the [commission]'s jurisdiction under specific provisions of the Act. On the one hand, it includes a principle of limitation, restricting the [commission]'s power to the specific jurisdictional areas of its "stated purposes." On the other hand, it includes a principle of expansion, mandating that the [commission]'s power to

[1] AS 42.05.141(a).

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act within its specific areas of jurisdiction "is to be liberally construed."[2] This broad scope of authority is critical to the Commission's potential for implementing Railbelt wide restructuring for transmission or generation, bulk power supply, or for creating an independent system operator.

Restructuring the Alaska Railbelt transmission system and mandating an independent system operator implicates joint use and interconnection of utilities transmission systems.[3] The Commission has rather broad, express authority to order joint use and interconnection of utility assets.[4] The Commission may order that joint use be permitted, prescribe reasonable conditions and compensation, and determine the apportionment of costs and responsibilities for operation and maintenance of the interconnection.[5] In addition to the express authority to order joint use and interconnection, powers "reasonably implied" from those express powers offer the Commission greater ability to implement change. Taken collectively, the terms and conditions over joint use and interconnection would enable the Commission to implement Railbelt transmission restructuring. Determining responsibility for operation and maintenance of the

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[2] *Matanuska Elec. Ass'n, Inc. v. Chugach Elec. Ass'n, Inc.*, 58 P.3d 491, 494 (Alaska 2002), quoting *Homer Elec. Ass'n v. City of Kenai*, 816 P.2d 182, 186 (Alaska 1991) (internal citations omitted).

[3] Using joint use and interconnection powers to implement cooperative generation planning or economic dispatch does not appear clearly viable to AEA.

[4] AS 42.05.311-42.05.321; *see, also, Matanuska Elec. Ass'n, Inc. v. Municipality of Anchorage*, 184 P.3d 19, 23-24 (Alaska 2008) (when utilities fail to agree, AS 42.05.321 instructs Commission to prescribe reasonable terms and conditions for joint use and interconnection when Commission finds public convenience and necessity requires use or interconnection, and finds no substantial injury to utility or customers).

[5] AS 42.05.321(a)(1) - (5).

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interconnection enables the Commission to effectively identify and select an independent system operator for transmission. Commission control over reasonable conditions and compensation, and to apportion costs would enable the Commission to effectively implement contractual terms and conditions for Railbelt transmission operations by an independent system operator.

From this analysis, the initial response to several Commission questions is "yes." The Commission could implement the actions associated with transmission identified in questions #2, 3, 6, 8, 9 by identifying the responsible party to operate the joint use, and by establishing terms and conditions for the joint use. Those decisions requiring joint and cooperative operation and management would not be dependent upon a utility's service territories or owned assets.

The power of the Commission to order joint use and interconnection is limited. After investigation and hearing, the Commission must first make certain findings. The public convenience and necessity must require the joint use or connection. Further, the use or connection must not (1) result in substantial injury to the owner utility or its customers, (2) cause substantial detriment to the services furnished by the owner utility, or (3) create safety hazards.[6] These limitations on the Commission's authority are largely focused upon the interests of the owner utility and its ratepayers, rather than on the broader public interests of all Railbelt ratepayers. This more parochial focus may make more difficult Commission efforts to implement Railbelt-wide transmission restructuring.

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[6] AS 42.05.321(a)

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The Commission also has express authority to regulate utilities' management practices. The Commission has general authority to regulate public utilities, and to "require just, fair, reasonable . . . practices, services, and facilities.[7] If the Commission finds unreasonable practices exist, the Commission may, after notice and opportunity for hearing, "take appropriate action to protect the public."[8] The Commission may order corrective action to "achieve effective development and regulation of public utility services."[9] In areas where utilities are competing to provide identical services, the Commission can eliminate both competition contrary to the public interest and undesirable duplication of facilities.[10] In eliminating such competition or duplication, the Commission may compel the utility granted the continuing certificate to acquire facilities from the other utility.[11] Exercising such authority could substantially further the integration of transmission or generation, particularly within a newly created independent system operator.

Again, AEA suggests this express authority on management practices should be read in conjunction with the more expansive authority to implement measures "reasonably implied" from the statutes. The Commission has implied powers, if not express powers, not limited to individual utilities to require reasonable management practices. These powers arise if the

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7 AS 42.05.141(a)(1) and (3).

8 AS 42.05.511(b).

9 *Id.*

10 AS 42.05.221(d) (powers associated with Commission regulation of certificates of public convenience and necessity). *See also* AS 42.05.271 which enables the Commission to amend or modify a certificate if required for the public convenience or necessity.

11 *Tlingit-Haida Regional Elec Authority v State*, 15 P.3d 754, 766 (Alaska, 2001).

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Commission finds actions are required to achieve reasonable management practices or to effective development and regulation of public utilities. With such a finding, the Commission would have authority to implement restructuring of Railbelt transmission, planning and economic dispatch of generation, and to establish an independent system operator.

AEA further suggests the authority respecting restructuring transmission is stronger. All of the express and reasonably implied powers respecting management practices should be read in conjunction with the Commission's express and implied powers to deal with utilities more collectively under joint use and interconnection powers. Collectively, all of these powers give the Commission greater ability to implement restructuring of Railbelt transmission.

From this analysis, the initial response to several Commission questions would be "yes" if the Commission determined that actions identified in questions #2, 3, 6, 7, 8, 9, 10 and 11 were necessary to protect the public from existing management practices. A difficulty for the Commission is that creating anything new inherently involves uncertainties and risk. Implementing major changes to complex the Railbelt transmission system or establishment of an independent system operator may involve more complex uncertainties and risks. It may be difficult for the Commission to determine that existing management practices dictates the necessity for imposing a new, specific Railbelt transmission system plan, generation planning and economic dispatch, or establishing an independent system operator for either to both transmission and generation. Implementation could be easier for the Commission with additional statutory authority.

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Waiting for additional statutory authority, however, may be outweighed by the more immediate needs for Railbelt for restructuring of transmission. If or when those needs become evident, the adoption of regulations for the implementation of restructuring would be desirable. AEA believes that a regulatory program would provide a more comprehensive approach than what would result from the Commission addressing transmission issues as individual applications or disputes arise.

The Commission does not appear to have regulations that enable the implementation of "implied powers" broadly covering both general and specific authority to address management practices, joint use and interconnection, conservation of resources, and other purposes and powers arising under AS 42.05. Existing regulations appear to be potentially focused only on limited portions of the issues. For example, 3 AAC 50.750 – 3 AAC 50.820 addresses interconnection, but is limited to PURPA qualifying facilities. 3 AAC 52.110 – 3 AAC 52.150 addresses duplication of facilities, but is limited to competition between electric utilities in a geographical area. Neither would provide much guidance for implementing a Railbelt-wide restructuring of transmission or generation planning and economic dispatch.

In adopting regulations, AEA suggests that the scope of the rulemaking docket be narrowly limited. It may be prudent to have more than one rulemaking docket to minimize complexity. The Railbelt has significant current needs. The public interest would be served by addressing those needs more efficiently by maintaining a narrow focus. Providing a broad scope of rulemaking would likely complicate and delay any effective resolution. Separating issues would also enable the Commission to address transmission and generation issues separately.

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Any rulemaking docket should implement necessary public hearing and due process statutory requirements associated with Commission statutory powers. For example, "notice and opportunity for hearing" is required to amend a certificate of public convenience and necessity.[12] An "investigation and opportunity for hearing" is required before the Commission may order joint use or interconnection.[13] Providing for required notice, hearing, investigation and other required due process should reduce regulatory uncertainties associated with any rulemaking docket.

C. Conclusion.

The Alaska Energy Authority believes that restructuring of the Railbelt transmission system, including the creation of an independent system operator, would provide public benefits to Railbelt ratepayers. The Alaska Energy Authority looks forward to working with the Commission and interested parties to implement these worthy goals.

DATED: March 31, 2015.

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12 AS 42.05.271.

13 AS 42.05.321(a)

CERTIFICATE OF SERVICE

I certify that on March 31, 2015, a true and correct copy of the **ALASKA ENERGY AUTHORITY'S RESPONSE TO ORDER NO. 1** was served via mail or e-mail on the following:

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RECEIVED
By the Regulatory Commission of Alaska on Apr 15, 2015

From: Smith, Bernie R (RCA)
To: RCA Records & Filing
Cc: Lawrence, David A (RCA); Jensen, Anne M (RCA); Pickett, Bob (RCA)
Subject: FW: Railbelt Legislation History
Date: Friday, April 24, 2015 9:36:50 AM
Attachments: Railbelt Fund Analysis.xlsx

Please add email and attachment to Docket I-15-001.

From: Kirk H. Warren [mailto:KWarren@aidea.org]
Sent: Wednesday, April 15, 2015 2:12 PM
To: Smith, Bernie R (RCA)
Cc: Keen, James A (RCA)
Subject: RE: Railbelt Legislation History

Hi Bernie, my apologies for getting this back to you WAYYY late. There was quite a bit of research it turns out to have this researched. Short summary is this: Attached is a "railbelt energy fund" history created for Senator Stoltze a few years back. The "history" is up to date for the most part but the balance is not.

The balance left in this fund is approximately $2.5 million.

The agency responsible for administering the fund is the Department of Revenue.

Hope this helps.

Kind regards,
Kirk

Kirk H. Warren, P.E. PMP
Railbelt Energy Infrastructure Engineer
Alaska Energy Authority
907-771-3072(o)
907-240-8663(c)

Lead By Example

From: Smith, Bernie R (RCA) [mailto:bernie.smith@alaska.gov]
Sent: Monday, April 06, 2015 11:22 AM
To: Kirk H. Warren
Cc: Keen, James A (RCA)
Subject: Railbelt Legislation History

Kirk, I know you are super busy but here is a draft of Railbelt Legislation History (which I am updating) that I sent to the Chairman.
I was wondering if you might take a look and comment.
Also, how much remains in the Railbelt Energy Fund is left (if you know) and does AEA administer

the fund?

YTD/ITD RSN:07731 02/22/2011 RRN:0095519
FUND UNRESTRICTED REVENUES BY ACCOUNT
11123 RAILBELT ENERGY FUND
COA:2011 **ITD ACTUAL**
ENTITY NUMBER - DESCRIPTION

		At 02/22/2011	FBX TEELAND STN & STATIC VAR	AEA STUDY OF RAILBELT ELEC GRID AUTH	AEA SUSITNA HYRDO	AEA FIRE ISLAND WIND	SEWARD PURCHASE OF BACK UP GENERATORS	MAT-SU BUR. PT. MACKENZI PORT DEV.	MAT-SU BUR. PT. MACKENZI PORT DEV.	FUND ONLY-RAIL BELT ENERGY	FUND ONLY-RAIL BELT ENERGY	TOTAL ALL CCs
	AR		**32674-13**	**10914-10**	**04683-11**	**04686-13**	**04958-11**	**07260-11**	**07261-10**			
	CC		**08179215**	**08179984**	**21753410**		**21753571**	**22031400**	**22031401**	**90011123**	**98811123**	
	Initial Fund Balance	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
S**	65502 MOU INVEST INC DISTB	(37,132,268)									(37,132,268)	(37,132,268)
S**	65511 MKT SECURITY INTERST	(2,795,624)	(4,469)							(2,791,155)		(2,795,624)
S**	65516 LOANED SEC INTEREST	(1,597,587)									(1,597,587)	(1,597,587)
S**	65050 INTEREST EARNED_OTHR	(902,876)							(46,876)		(856,000)	(902,876)
S**	65772 INTEREST EARNED-GF	(8,712)									(8,712)	(8,712)
		(42,437,067)	(4,469)	0	0	0	0	0	(46,876)	(2,791,155)	(39,594,567)	(42,437,067)
S**	67003 TRANSFERS IN CONTCAP	(86,465,441)	0	0	0		0	0	0	0	(86,465,441)	(86,465,441)
S**	67005 TRANSFERS IN OTH FND	(451,556,950)	0	0	0		0	0	0	0	(451,556,950)	(451,556,950)
	rding	2									2	2
		(538,022,389)	0	0	0	0	0	0	0	0	(538,022,389)	(538,022,389)
		(580,459,456)	(4,469)	0	0	0	0	0	(46,876)	(2,791,155)	(577,616,956)	(580,459,456)
S**	71000 PERSONAL SERVICES	90,762								90,762		90,762
S**	72000 TRAVEL	20,026								20,026		20,026
S**	73000 SERVICES	4,420,101								2,896,190	1,523,911	4,420,101
S**	74000 COMMODITIES	48,206								48,206		48,206
S**	75000 CAPITAL OUTLAY	45,752,811								45,752,811		45,752,811
S**	66190 PY REIMBURSE RECVRY	(26,009)									(26,009)	(26,009)
S**	78000 DEBT SERVICE	7,000,000								7,000,000		7,000,000
S**	77000 GRANTS AND BENEFITS	72,510,752					2,000,000	1,105,387	25,524	69,379,841		72,510,752
S**	66370 MISC REV	(4,500,000)						(2,691,579)			(1,808,421)	(4,500,000)
S**	70250 INTERFUND TRSFRS OUT	344,815,132	1,988,000	800,000	2,500,000						339,527,132	344,815,132
`		(1)										0
		470,131,780	1,988,000	800,000	2,500,000	0	2,000,000	(1,586,192)	25,524	125,187,836	339,216,613	470,131,781
	Current Fund Balance	(110,327,676)	1,983,531	800,000	2,500,000	0	2,000,000	(1,586,192)	(21,352)	122,396,681	(238,400,343)	(110,327,675)
	Tanab Balance	44,898,192	18,312,000	0	0	25,000,000	0	1,586,192	0	0	0	44,898,192
	Total Appropriated		20,300,000	800,000	2,500,000	25,000,000	2,000,000	0	25,524	125,187,836	339,216,613	515,029,973
	Fund Unobligated Balance	**(65,429,484)**										

HISTORY OF THE RAILBELT ENERGY FUND as of 02/22/2011

GF= General Fund
REF=Railbelt Energy Fund

In 1986, the statutory citation of the Railbelt energy fund was renumbered to AS 37.05.153
In 1988, the statutory citation of the Railbelt energy fund was renumbered to AS 37.05.520
In 1993, Ch. 18 amended AS 37.05.520 to include the last line of the current statute.

Ch.	SLA	Sec.	Statutory Citation	Purpose	Amount
Total Transfers into the Fund					
29	1986	1	44.25.050	Create the REF	0
41	1986	4	44.25.050	Contribution from the GF	200,000,000
41	1986	10,12,13,15-18		Reappropriations of "unexpended, unobligated, and unencumbered" prior year appropriations to capitalilize the REF	89,481,023
117	1989	217(b)	37.05.520	Appropriation from GF to the REF for the Healy cogeneration project contingent upon sec. 217(a) which appropriates $30 million from the REF to the GF.	30,000,000
117	1989	219(b)	37.05.520	Appropriated from the GF to the REF for the Winter Sports Training Facilities reserve [contingent upon 219(a) which appropriates $5 million from the REF to the GF].	5,000,000
19	1993	3	37.05.520	Balance of Railbelt intertie reserve.	30,882,941
19	1993	4(b)		Repayments of principal & interest on loans	
19	1993	7(1)-(7)	37.05.520	Various reappropriations from Bradley Lake Hydro projects.	11,500,000
19	1993	8(a)	37.05.520	From the general fund.	13,200,000
19	1993	8(b)	37.05.520	From the general fund.	66,900,000
75	2000	1(a)		Appropriations made in secs. 4 and 5, ch. 19, SLA 1993. ;lapse into the REF	55,000,000
82	2006	61(a)		Re-appropriation of Anchorage-Kenai Intertie unspent grant funds in August, 2006 from AIDEA Trust	39,614,794
				Unlocated difference-possibly re-appropriation amounts in legislation were estimates of final actuals	(3,556,367)
				AKSAS 67000	**538,022,391**
Fund Investment Income					
60	2000	3		Interest Earnings as of 11/27/02 since statutory change (AS 37.05.520)	13,587,115
60	2000	3		Additional Investment Earnings as of 02/22/2011	28,849,952
				AKSAS 65200	**42,437,067**
Other Fund Income					
				CC98811123-Misc Revenue Per AKSAS-Related to AR 07260-11??	1,808,421

Ch.	SLA	Sec.	Statutory Citation	Purpose	Amount
				Mat-Su Pt. MacKenzie Port-Ar 07260-11- Misc Revenue Per AKSAS	2,691,579
				AKSAS 66370	**4,500,000**
Total Authorizations From the Fund					
42	1986	1	44.25.050	Prepare a review and evaluation of Railbelt electric power alternatives	2,500,000
96	1987	2	37.05.153	Amend the fund source for the Bradley Lake Hydroelectric Project from general funds to railbelt energy funds.	50,000,000
172	1988	6	37.05.520	Bradley Lake Hydroelectric Project-Coded to Debt Service in AKSAS	7,000,000
117	1989	217(a)	37.05.520	Appropriation of REF to GF contingent upon (b) of this section that appropriates GF to the REF for the Healy congeneration project.	30,000,000
117	1989	219(a)	37.05.520	Appropriation from REF to GF contingent upon 219(b) [appropriation of GF to REF for the Winter Sports Training Facilities reserve]	5,000,000
208	1990	139	37.05.520	Various capital Ars as Grants to Munis, Unincorporated Communities, and state agencies (AS37.05.315 and317	18,732,942
208	1990	141	37.05.520	McLaughlin Youth Center Cottage/School Replacement	2,500,000
208	1990	139		Various capital projects	6,085,500
208	1990	143	37.05.520	Healy cogeneration project	25,000,000
208	1990	144	37.05.520	Seward transmission line from lowing to Fort Raymond substation	9,500,000
208	1990	145	37.05.520	Purchase of locomotives, rolling stock, and associated equipment costs.	9,000,000
208	1990	146	37.05.520	Ship Creek development project	2,500,000
208	1990	147(a)	37.05.520	Weatherization and energy conservation	1,600,000
208	1990	147(b)	37.05.520	Weatherization and energy conservation federal match	600,000
208	1990	148	37.05.520	Alaska home craftsman program	600,000
208	1990	149	37.05.520	Alaska energy efficiency and retrofit program	2,200,000
208	1990	150	37.05.520	Grant to Mat-su borough for job corps facility construction	1,700,000
208	1990	151	37.05.520	Design and construction of UAF natural sciences facility	23,000,000
208	1990	152	37.05.520	Design and construction of UAA classroom building and land purchase	16,500,000
208	1990	153	37.05.520	Reconstruct and upgrade the Alyeska Utilities water and sewer system	2,300,000
208	1990	154	37.05.520	Anchorage Economic Development Corporation	3,800,000
208	1990	155	37.05.520	Kenai Peninsula Borough solid waste disposal facility	1,100,000
208	1990	156	37.05.520	Fire training facility on the Kenai Peninsula	1,000,000
208	1990	157	37.05.520	City of Kenai for construction of a congregate housing facility	3,300,000
208	1990	158	37.05.520	Anchorage Neighborhood Housing Services	1,700,000
208	1990	159	37.05.520	To the general fund, Railbelt intertie reserve-source of grant funds for Anchorage-Kenai & Healy-Fairbanks Interties	100,000,000
19	1993	4	37.05.520	Loan for power transmission intertie, Sutton to Glennallen.	35,000,000
19	1993	5	37.05.520	Loan for power transmission intertie, Swan Lake to Tyee Lake.	20,000,000
19	1993	8 (c)	37.05.520	To Power Cost Equalization fund to capitalize the fund.	66,900,000
135	2000	24(a)	37.05.520	Reppropriated-Purchase of locomotives, rolling stock, and associated equipment costs.	(9,000,000)
135	2000	24(a1)		Mat-Su Pt. MacKenzie Port Development & associated rail improvements	4,500,000
135	2000	24(a2)		AK Railroad Corp. for rail improvements to Mat-Su Valley for coal dev.	4,500,000

Ch.	SLA	Sec.	Statutory Citation	Purpose	Amount
1	2002	78(a)	37.05.520	Grants to Homer Electric Association, Golden Valley Electric Association, Matanuska Electric Association	3,372,000
1	2002	78(b)	37.05.520	Eklutna project transmission line upgrade.	19,300,000
1	2002	78(c)	37.05.520	Upgrade and extend the Anchorage to Fairbanks power transmission intertie to the Teeland substation.	20,300,000
3	2005			Reapproprieated bal-Mackenzie Pt. Port Development	2,691,579
3	2005			Mat-Su Pt. MacKenzie Port Improvements	25,524
82	2006	61(i)		Transfer to AEA for AR 10914-10 Railbelt Electric Grid Auth. Study	800,000
29	2008			Seward Back up generators-AR04958-11	2,000,000
29	2008			Transfer to AEA for AR 0486-13 Fire Island Wind	25,000,000
29	2008			Transfer to AEA for AR 04683-11-Susitna Hydro Study	2,500,000
				AKSAS 66370-PY Reimbursable Recovery of Expenses	(26,009)
				Unlocated Difference-Possibly due to some early amounts appropriated were estimates-possibly related to 1989 legislation	(3,051,564)
				Total Appropriations *FROM* Railbelt Energy Fund	**519,529,972**

AKSAS 70000-Expenses	474,657,789
open Obligations	44,898,192
AKSAS 66190-PY Reimbursable Recovery	(26,009)
	519,529,972
difference	0

Recap of Above Activity	
Fund Capitalization	538,022,391
Fund Investment Income	42,437,067
Other Fund Income	4,500,000
Fund Expenditures	(474,631,780)
Fund Balance Per AKSAS	110,327,678
Fund Open Obligations	(44,898,192)
Rding	(2)
Fund Unobligated Balance	65,429,484
xcheck	0

Unlocated Differences in Revenue	(3,556,367)
Unlocated Differences in Expenditures	(3,051,564)
Net Unlocated Differences	(504,803)

To: The Regulatory Commission of Alaska

From: Michael A. Craft

Alaska Environmental Power, 907-388-9917

Date: March 31, 2015

Re: RCA I Docket, Independent Service Operator

#1-15-001

Please accept the following public comment on the current RCA Docket #1-15-001. I believe it is imperative that the RCA ensure that the generation assets and the transmission assets are not owned by the same entity. It is critical that these assets remain independent of one another. Also, if public comment regarding this issue continues or is re-opened, I would like to reserve the right to comment in the future. Thank you, Mike Craft

BEFORE THE
REGULATORY COMMISSION OF ALASKA

Before Commissioners:	T.W. Patch, Chairman Paul F. Lisankie Robert M. Pickett Norman Rokeberg Janis W. Wilson

In the Matter of the Evaluation of the	)	
Operation and Regulation of the Alaska	)	I-15-001
Railbelt Electric Transmission System	)	ORDER NO. 1
_____	)	

Alaska Independent Power Producers Association comments
RESPONDING TO COMMISSION ORDER NO. 1

1. Would the creation of an independent system operator or similar structure for electric utilities in the Railbelt be the best option for effective and efficient electrical transmission? If not, what other approach would be best?

AIPPA response: Depends on the configuration and clearly the devil is in the details. What does independent mean? If generation and transmission assets are clearly and distinctly separated to protect IPP's and the public from utility self-build bias (and natural utility protection to block IPP's from market sources), then a system operator would be beneficial. A TRANSCO might be a better alternative for Alaska. However, any organizational costs must be kept low. New overhead costs of overhead and new bureaucracies are a concern for both Independent Power Producers and the public. The cost analysis component is missing from the docket analysis. The Alaska public cannot be asked to support an organizational structure without knowing the cost up-front and how any organizational structure will impact rates.

2. To what extent does our existing statutory and regulatory authority extend to mandating the creation of an independent system operator or similar entity and to regulating the rates and practices of such an entity?

AIPPA response: CSHB 78 as entered on March 31, 2015 provides the RCA the necessary authority to establish fair, open and nondiscriminatory transmission services which would form the legal foundation and ground rules for any ISO or TRANSCO entity. RCA is all concerned with organizational issues, AIPPA is concerned with fundamental rule of law issues that embodies fair play and nondiscriminatory access to markets and transmission rates. Voluntary acceptance of FERC rules is fundamental with RCA oversight and execution of any future transmission or integrated service operator. A question must be asked, is RCA attempting to usurp legislative authority by pre-empting legislation with this docket? If so, the Commission should state so and justify why doing so is better to have regulators decide what is best for Alaska constituents rather than elected leaders who are constitutionally and directly accountable to Alaskans and their energy costs?

3. Are existing statutes and regulations governing our regulation of electric transmission adequate for us to effectively address current and future Railbelt transmission issues?

AIPPA response: RCA should embrace and accept CSHB78 as introduced in the House Finance Committee on March 31, 2015 and the RCA will have the adequacy of legal authority to effectively address current and future Railbelt Transmission issues, but ALSO have the authority to address non-Railbelt transmission issues in a similarly fair and nondiscriminatory manner.

4. If our regulations require changes, what specific changes should be considered in a rulemaking docket and is it appropriate to consider making those changes at this time?

AIPPA response: Any changes to RCA regulations that relate to this matter should generally include the principles adopted by FERC in its oversight of similar entities and jurisdictions in the Lower 48. Such principles include but may not be limited to:

- Services provided should be made available on a non-discriminatory basis to all qualified customers.
- Qualified customers should include both utility as well as independent generation and transmission owners.
- Any ISO and or TRANSCO governance should be fair and impartial, with an open and transparent decision-making process. Utilities must not be allowed to use their market power to advantage themselves compared to independent generation and transmission owners.
- Rates for interconnection, transmission and related services should be derived based on cost of service and costs should be spread over all benefited stakeholder groups similarly for both Utilities and Independent owners.
- The ISO and or TRANSCO should be accountable for ensuring reliability of grid operations, with control for the operation of the interconnected transmission system commensurate with that accountability.
- There should be appropriate system-wide planning processes through which short-term and long-term transmission constraints and future requirements are identified.
- There should be a voluntary dispute resolution process through which parties can manage disputes without resorting to the RCA. TIMELY, CHEAPER, SMARTER resolutions are required.

5. If regulatory changes are found to be necessary, how narrow or broad should a rulemaking docket be and what scoping process should be used to determine the boundaries of the proceeding?

AIPPA response: AIPPA believes an appropriate scope of regulatory changes should be developed that allows the full implementation of any ISO and or TRANSCO so that all of the benefits can be achieved on the Railbelt, and that the principles and rulemaking can be implemented and executed along other electrical transmission systems in Alaska. Wholesale change is needed. Not a "baby steps" approach that will not serve the best interests of the Railbelt consumers and Alaskans served by other transmission systems.

6. Regarding the reliability of electric service, is our authority limited to addressing utility practices and service quality within each utility's service territory, or does it extend across service

territory boundaries such that, for example, we can address the effects of one utility's practices on the service quality of another utility?

AIPPA response: AIPPA provides no legal advice to the RCA on statutes in Alaska at this time. It is consistent, however, as a state agency that the RCA should have authority to protect the interests of energy consumers in all areas of Alaska. Moreover acceptance of NERC should be the equivalent and mandatory acceptance of FERC transmission rules. Anything less is a half measure and moderately hypocritical to the Alaska consumer public.

7. Should there be a set of mandatory reliability standards for the Alaska Railbelt similar to those of the North American Electrical Reliability Corporation, and if so, do we or should we have the authority to mandate or regulate those standards (beyond the existing voluntary arrangements such as the existing Railbelt Operating and Reliability Standards)?

AIPPA response: NERC's reliability standards are not optional and should already apply equally to Alaska notwithstanding that FERC jurisdiction in Alaska is limited. If the RCA is willing to accept NERC as a federal standard, then FERC transmission standards should also be accepted.

8. Considering our authority to "promote the conservation of resources used in the generation of electric energy" under AS 42.05.141(c), to require reasonable management practices under AS 42.05.511, to provide rate recovery of energy conservation efforts, and other statutory grants of authority, do we have the authority to order the Railbelt electric utilities to jointly and cooperatively manage their generation and transmission assets, or is our authority limited to matters within each utility's service territory? If our authority is limited to each utility's operations within its particular service area without regard to other interconnected utilities, explain why it is limited.

AIPPA response: AIPPA requests that RCA not lobby specific legislation unless it wants to adopt Federal Power Act and FERC rules which are the rule of law in jurisdictions outside of Alaska. Otherwise AIPPA provides no legal advice to the RCA in this regard at this time.

9. Do AS 42.05.311(a) and other statutes provide us with authority to order system-wide wheeling rates across utility-owned Railbelt transmission facilities, even if ownership of the facilities remains with individual utilities?

AIPPA response: AIPPA provides no legal advice to the RCA in this regard. The key component is a non-discriminatory transmission tariff where each participant is charged the same non-discriminatory wheeling rate.

10. Does the AS 42.05 provide us with authority to review or regulate the integrated planning, determination of need for, and/or siting of new generation and transmission facilities of regulated electric utilities? If it does, how can that authority be employed to help ensure that new facilities are planned and constructed to optimize efficient and reliable provision of electric service to the entire Railbelt region?

AIPPA response: This is less clear when considering industry precedent. Generally state agencies other than the utility regulatory body will have jurisdiction over the siting of new power plants, but the state commission would commonly have the jurisdiction to confirm the need for and the

reasonableness of costs proposed by utilities for new generation or transmission resources. Because most US ISO's are regulated by FERC, the ISO transmission planning processes are also FERC-regulated. FERC has encouraged regional planning, most significantly in Order No. 1000, issued in 2011.

11. What authority do we have to require or to encourage greater cooperation, power pooling, and/or centralized transmission system planning and operations among Railbelt electric utilities?

AIPPA response: AIPPA provides no legal advice to the RCA in this regard. However, it would be consistent actions by regulatory commissions in other states and by FERC to approve of and encourage the cooperation of utilities so long as such cooperation was in the public interest.

AIPPA would like to provide the RCA a resolution (attached as a component of this document) that alternatively calls for:

BE IT RESOLVED The Alaska Independent Power Producers Association supports legislation and regulatory actions in the State of Alaska necessary to support the creation of a transmission-only electric utility (TRANSCO) in the Railbelt Transmission System that 1) owns no generation, 2) provides open, nondiscriminatory access to a unified transmission network, 3) operates under a single, open-access tariff and postage stamp rate that equitably allocates transmission costs to all transmission users, and 4) ensures adequate transmission capacity to maintain safe, reliable electric service and access to diverse sources of electric power.

BE IT FURTHER RESOLVED that AIPPA supports a lead entity to form, develop, finance and operate a TRANSCO for the Railbelt Transmission System for the benefit of Alaska's electricity consumers, Alaska's businesses, industries and economic development by providing credible and sustainable transmission services to meet the current and future needs of Alaska's Transmission System.

Dated and submitted this 31st day of March.

Duff W. Mitchell
Executive Director, AIPPA
8585 Old Dairy Road, Suite 104
Juneau, AK 99801
907-789-2775

Members

- Alaska Power &Telephone, Inc.
- CIRI
- Juneau Hydropower, Inc.
- Delta Wind Farm
- Fishhook Renewable Energy
- Alyeska Resort
- Ocean Renewable Power Company
- STG Incorporated
- Chenega Energy, LLC
- Cape Fox Corpration
- American Transmission Co.

Board of Directors

- Earle Ausman, President
- Keith Comstock
- Mike Craft
- Bob Grimm
- Doug Johnson
- Ethan Schutt
- Randall Call
- Greg Porter
- David Landis
- Jim St. George

Executive Director

Duff Mitchell
Contact

Mailing Address
8585 Old Dairy Rd.
Suite 104
Juneau, AK 99801

Telephone
907.789.2775

Web
www.aippa.info

Alaska Independent Power Producers Association 2015 Resolution Supporting the Formation of an Alaskan Railbelt Transmission Company (TRANSCO)

WHEREAS, in 2010 Alaska adopted a State Energy Policy with the goal of meeting 50% of its electricity needs from renewable sources by 2025 by supporting the development of renewable energy sources and transmission with private investment and capital, and;

WHEREAS, Alaska has an abundance of diverse energy and mineral resources whose development is often constrained by high electricity prices and/or access to electric transmission, and;

WHEREAS, Alaska ranks near last of all U.S. states for electricity costs, and has the highest per capita energy costs, placing an economic burden on the residents of Alaska and putting Alaskan businesses at a competitive disadvantage, and;

WHEREAS Alaska's transmission infrastructure is today owned and controlled by vertically integrated companies who own both generation and distribution facilities, creating potential barriers to entry for independent power producers and constraints on capital available for transmission projects, and;

WHEREAS improvements to the Railbelt Transmission System and the future sustainability of the Railbelt Transmission System will depend on a stable tariff, operational expertise, and access to capital, and;

WHEREAS transmission projects must be developed in accordance with reliability and planning standards, adherence to sound engineering, sound economic practices, and fiscal responsibility in consultation with stakeholders, and ;

WHEREAS over the past several decades, numerous state studies have identified substantial consumer energy cost reductions and reliability improvements that can be achieved cost effectively through investments in electric transmission, and;

WHEREAS the American Transmission Company LLC, (ATC) founded as the country's first multi-state transmission-only electric utility in 2001 has expressed interest in forming a TRANSCO in Alaska and investing capital and proven know-how in Alaska's Railbelt Transmission System, and;

WHEREAS the Railbelt's transmission goals cannot be achieved without an application of both private investment capital and proven experience, and;

THEREFORE BE IT RESOLVED, The Alaska Independent Power Producers Association supports legislation and regulatory actions in the State of Alaska necessary to support the creation of a transmission-only electric utility (TRANSCO) in the Railbelt Transmission

System that 1) owns no generation, 2) provides open, nondiscriminatory access to a unified transmission network, 3) operates under a single, open-access tariff and postage stamp rate that allocates transmission costs to all transmission users, 4) ensures adequate transmission capacity to maintain safe, reliable electric service and access to diverse sources of electric power.

BE IT FURTHER RESOLVED that AIPPA supports a lead entity to form, develop, finance and operate a TRANSCO for the Transmission System for the benefit of Alaska's electricity consumers, Alaska's businesses, industries and economic development by providing credible and sustainable transmission services to meet the current and future needs of Alaska's Transmission System.

Dated this day of March 20, 2015

Duff Mitchell

Executive Director on behalf of AIPPA Board of Directors

From:	Chairman AIPPA
To:	Mail, RCA (RCA sponsored); Beard, Brian F (RCA)
Subject:	AIPPA comments I-15-001
Date:	Wednesday, June 24, 2015 3:00:12 PM
Attachments:	AIPPA I-15-001 RCA Comments 6-23-15.pdf

RECEIVED
By the Regulatory Commission of Alaska on Jun 24, 2015

Dear RCA,
AIPPA is filing its comments that are due today on I-15-001.
Please see the attached comments.

regards,
Duff Mitchell, Executive Director

BEFORE THE
REGULATORY COMMISSION OF ALASKA

Before Commissioners:	Robert M. Pickett, Chairman Stephen McAlpine T.W. Patch Norman Rokeberg Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	))))	I-15-001 ORDER NO. 1

Alaska Independent Power Producers Association comments

The Alaska Independent Power Producers Association (AIPPA) is an organization comprised of Alaska independent power producers, many of which develop and or operate facilities on the existing Railbelt. In addition, we have other members that are not on the Railbelt, but are rightfully concerned of any precedent and direction that this docket might have on other areas of Alaska. Therefore, our perspective is macro in our viewpoint and we seek to assist the RCA in its decision making for this matter.

On March 31, 2015, AIPPA submitted detailed responses to the questions posed by Commission. During the past months, the RCA has held many meetings and have covered a large swath of transmission organization, viewpoints of specific interests, and potential transmission regulatory territory with the goal of reducing ratepayer costs of transmission by making the Railbelt system more efficient and sustainable.

Understandably, these are admirable goals considering the disparate views of some incumbent utilities, independent power producers, and other interested parties. Unfortunately, it is clear that there is not going to be a silver bullet or simplified solution for the Railbelt Transmission system. However, identifying the problem and openly analyzing various courses of actions with the impartial identification of the advantages and disadvantages to include hybrids and combinations of variables of different courses of action might be advisable. From the recent meetings, there is a concern that much of testimony would attempt to create a solution with new ideas or to create the stage for a preferred solution. Whereas the attention of effort may well have been spent firmly laying a legal and regulatory foundation of what the RCA controls and then let the parties build a solution within the legal and regulatory framework. This market force- business approach may well be more realistic and less costly than a centralized or dictated approach.

AIPPA will and continue to insist that any Railbelt transmission solution require: an independent board (free from incumbent utility influence); an open and fair playing field for all generators with clear, understandable, timely and equal access to the Railbelt system; a postage stamp rate that is non-discriminatory and does not provide advantage to one user over another. These basic requirements are essential not only for the Railbelt users, but for the betterment and preservation of the Railbelt economy. AIPPA agrees with comments submitted by Ares-EIF Management LLC

and re-emphasizes our earlier comments that it perhaps premature for the RCA to institute and set up an ISO, TRANSCO, RTO first, and then decide what transmission investments to make[1]. We also continue to believe that a TRANSCO (with an independent board, open access and nondiscriminatory tariffs) has merits as a means to equalize the playing field for independent producers and reduce transmission costs over time, but the devil is in the details.

AIPPA suggests that the RCA can assist Alaska by laying a legal foundation for the future transmission in Alaska with the tried and proven cornerstones of open access and non-discriminatory rates by regulating current tariffs that the incumbent power line owner can only charge others what they charge themselves. The RCA can support a legal foundation for future economic growth, prosperity by supporting and incorporating in your decision of this docket, the salient provisions found in CSHB 78, the Alaska Competitive Energy Act, as entered on March 31, 2015. While the I-15-001 docket has been focused on organizational issues and system benefits, which are important, our AIPPA members are concerned with the fundamental rule of law issues that embodies fair play and nondiscriminatory access to markets and transmission rates that must be addressed first. One can only come before the other. This is akin to getting into the weeds before the grass has been planted.

Dated and submitted this 24th day of June, 2015.

Duff W. Mitchell
Executive Director, AIPPA
8585 Old Dairy Road, Suite 104
Juneau, AK 99801
907-789-2775

[1] Comments of ARES EIF Management, LLC and Powerbridge, LLC June 12, 2015 page 6

STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:	Robert M. Picket, Chairman Stephen McAlpine T.W. Patch Norman Rokeberg Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	))))	I-15-001

INITIAL COMMENTS OF THE ALASKA POWER ASSOCIATION

In response to Order No. I-15-001(1), the Alaska Power Association ("APA") submits these brief initial comments. As a result of APA's need to devote its limited legal and regulatory resources to other matters and the fact that APA expects that its Railbelt utility members will be actively involved in this docket, APA has decided not to actively participate in this docket at this time. However, APA provides the following brief comments for the Commission's consideration.

First, APA's Board of Directors has adopted a resolution urging the Alaska Legislature to support self-directed efforts by the Railbelt electric utilities to unify the regional transmission system. Second, if the Commission decides that statutory or regulatory changes are required to address Railbelt electric transmission issues, APA urges the Commission to consider and account for potential future extensions of the current Railbelt transmission system. For example, it is possible that in the future transmission segments may be added that would connect the Copper Valley Electric Association, Inc., transmission system to the Railbelt system. Any new or amended statutes or regulations governing Railbelt transmission issues should take such potential interconnections into account.

DATED this 31st day of March, 2015, at Anchorage, Alaska.

ALASKA POWER ASSOCIATION

By: /s/ Crystal Enkvist

Crystal Enkvist
Executive Director
703 West Tudor Road, Suite 200
Anchorage, Alaska 99503
Phone: (907) 771-5703
Fax: (907) 561-5547
E-mail: cenkvist@alaskapower.org

STATE OF ALASKA

BEFORE THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:	Robert M. Pickett, Chair Stephen A. McAlpine T.W. Patch Norman Rokeberg Jan Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System _____	))))	I-15-001

COMMENTS OF ALASKA RAILBELT COOPERATIVE TRANSMISSION AND ELECTRIC COMPANY, INC IN RESPONSE TO QUESTIONS POSED IN DOCKET I-15-001(1)

SUMMARY

The Alaska Railbelt Cooperative Transmission and Electric Company, Inc. ("ARCTEC") is pleased to provide these comments in response to the Regulatory Commission of Alaska's (the "RCA", or the "Commission") request under docket I-15-001 "*In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Transmission System"*(the "Docket"). The Docket asks for input on questions that fall into two general categories:

1. Is the implementation of an Independent System Operator ("ISO") or similar structure the best solution for effective and efficient transmission?;
2. Does the Commission have the requisite authority to implement improvements to the way the electric transmission system is regulated?

While the second set of questions requires a robust legal discussion, we limit our comments to the first. Further, our comments are not an exhaustive description of what an Independent System Operator is, or how one might be implemented in Alaska. Our comments address the features of an ISO that are most relevant to Alaska, and how those features can create value for the State's economy.

> **At ARCTEC, we believe implementation of an ISO, USO, or RTO *IS* the best option for delivering low-cost, reliable and sustainable energy to consumers, today and into the future**.

An integrated system, managed by a Unified System Operator ("USO") will deliver on this goal through:

- Reduced costs realized through economic dispatch of Railbelt generation;
- Reduced costs through optimized reserve sharing;
- Improved economic efficiency in use of existing grid;;
- Better opportunities for Independent Power Producers;
- Better long-term planning;
- More efficient use of capital

Any USO implemented in the Railbelt should adhere to the following principles:

- Stakeholder governance
- RCA jurisdiction / regulatory compact
- Nationally recognized reliability standards
- Interconnection standards
- Infrastructure upgrades planned on system-wide basis
- Non-discriminatory access and service
- Economic dispatch
- Respect for existing agreements and investments

WHO WE ARE

ARCTEC was formed in 2010 to address the needs in the Railbelt for generation, transmission and ancillary services. Our current members include the City of Seward, Golden Valley Electric Association, Matanuska Electric Association, and Chugach Electric Association.

CASE FOR ACTION

According to the Alaska Energy Authority's "*Pre/Post Watana Transmission Study*", Railbelt electric consumers could save as much as $140 million ***annually***, if the transmission system could be upgraded and managed more effectively. These benefits can be achieved by:

- **Economic Dispatch**: running the most cost efficient generators to meet the load regardless of where they are. Additionally, optimizing the use of hydro resources to offset the most expensive generation during periods of peak demand. This results in lower costs to customers and reduced emissions from fossil fuels
- **Reserve Optimization:** Today, each Railbelt utility is responsible for maintaining its own share of online reserves; running generators that are operating at reduced output and efficiency that can be ramped up at a moment's notice in an emergency. With a USO reserve requirements can be shared; again resulting in lower costs and reduced emissions.

The system lacks needed infrastructure. A USO provides the "big picture" planning, regulatory stability, and rate recovery mechanism that will attract capital and allow this needed infrastructure to be constructed.

Management of the grid has become more fragmented. For many years, the Railbelt was managed as only two load balancing areas. Golden Valley Electric maintained its control area and Chugach Electric managed the rest on behalf of the other utilities. Now that both Matanuska Electric and Homer Electric have become vertically integrated, they are managing their own load balancing areas. This has created complications as transmission facilities originally designed to support and integrate legacy generators are now being used for other purposes.

To accomplish change, stakeholders of the Railbelt Electric System need to fundamentally alter the way they think about the electric "Grid." Rather than six independently owned and managed collections of poles, wires, and transformers, the electric grid is a single, integrated organism, in many ways like the circulatory system in the human body. Every component impacts every other component; each component depends on every other component. We need to begin to plan, develop and manage the system as it is: a single integrated machine that benefits all users.

GUIDING PRINCIPLES FOR A RAILBELT SYSTEM OPERATOR

ARCTEC believes Unified System Operator should be implemented in the Railbelt founded on the following guiding principles:

1. Stakeholder governance
2. RCA jurisdiction / regulatory compact
3. Nationally recognized reliability standards
4. Interconnection standards
5. Infrastructure upgrades planned on system-wide basis
6. Non-discriminatory access and service
7. Economic dispatch
8. Respect for existing agreements and investments

1. Stakeholder Governance

Anyone with an interest in the Railbelt electric system is a stakeholder and should be able to join as a member. Many ISOs in the Lower-48 have different classes of membership with different dues structures to reflect the relative means of individual customers on the one hand and large transmission owning utilities on the other. Any USO in the Railbelt should include members from the following groups:

- Utilities
- Independent power producers
- Industrial / commercial customers
- RCA (typically ex officio)
- Consumer advocates
- Environmental / conservation community
- Members at large

Most, but not all, ISOs in the lower forty eight and in Canada are governed by independent boards. These boards are made up of industry experts, elected by the member stakeholders. ISO Board Member job descriptions are rigorous, and the requirement for demonstrated industry expertise presents a high bar for candidates. The primary benefit of independence is the credibility it creates among stakeholders that the "deck hasn't been stacked" against or in favor of one particular group.

It is ARCTEC's view that populating an USO Board with members that are both truly *experts* in the Railbelt electric industry and at the same time are truly *independent* of any of its stakeholders may present a practical problem. A symptom of Alaska's small scale may be manifested in the shallowness of the talent pool available to fill USO Board seats with candidates that are both expert and independent.

The Electric Reliability Council of Texas ("ERCOT") uses a different, or "hybrid" model. That is, in addition to independent "at large" members, Board members are also elected by each of the various member "sectors" (Utility, IPP, customer, etc).

The Commission should investigate if a truly independent USO is practical in Alaska.

Participation in USO Board governance by the Commission is critical to its smooth functioning. This participation is typically non-voting "ex-officio" given that RCA is likely to need to act on many of the issues addressed by the Board.

2. RCA Jurisdiction / Regulatory Compact

The ISO will be regulated by the Commission. The RCA will continue to fulfill its mandate of ensuring just and reasonable utility rates. It will provide regulatory oversight to ensure the USO is acting in accordance with its guiding principles. It will be the "court of appeals" that settles disputes among stakeholders.

A regulatory compact must exist between the USO and the RCA. The USO will approve and implement a regional transmission plan. There must be an understanding that reasonably incurred costs to implement the transmission plan will be recoverable in the SO's tariffed rates. Absent this understanding it is likely that benefits of regional transmission upgrades will remain unrealized.

3. Nationally Recognized Reliability Standards

The same reliability standards should apply to all users of the Railbelt grid. Every user of the integrated system affects every other user. The reliability of service to all of our customers is only as good as the weakest link.

Here too, there is ample experience to draw from. North American Electric Reliability Corporation ("NERC") standards have been developed over many years. Indeed, many of the Railbelt's utilities have been using NERC standards for some time.

All users of the grid should be required to conform to the same NERC reliability standards.

4. Interconnection Standards

Independent, renewable and private power producers represent an important component in a restructured electric system. Independent developers can often provide innovation and manage risks that cooperative and municipal utilities might not. It is important that access and interconnection with the transmission system be provided to developers in a way that is transparent, predictable, and fair to new and existing stakeholders.

The USO would be accountable to:

- Create a standard technical methodology for evaluating, designing and constructing new generator interconnection facilities;

- Create a standard methodology for studying and mitigating system impacts created by new projects;
- Give new generation projects clarity and certainty of how its project will be evaluated
- Protect existing customers;

A standard approach to interconnection and integration can provide a powerful economic signal to new generators. It will allow investors to evaluate the relative characteristics of different projects based on their impact on the transmission system. Projects that actually enhance transmission service will be more favored.

5. Infrastructure upgrades planned on system-wide basis

The lack of regional planning is one of the most significant shortcomings inherent in the existing system. Many of the infrastructure upgrades necessary to deliver the promise of economic dispatch are large regional projects that have multiple beneficiaries. These projects are too large for an individual utility to undertake by itself.

The USO should develop and implement a regional transmission plan, with costs to be recovered from all users of the grid.

A regional transmission plan has numerous advantages. By looking at the grid as a whole, the projects that have the greatest impacts can be prioritized. Unifying the transmission system allows the use of new and innovative sources of financing; financing that is impossible in today's environment of independently acting utilities. Even now, a wide variety of respected industry players like American Transmission Company, Xcel Energy and Ares/Powerbridge are investigating potential investments in Alaska. A regionally planned capital program, coupled with a clear regulatory cost recovery mechanism, can make Alaska an attractive investment environment. Continuing the current approach of fragmented, uncoordinated planning surely has the opposite effect.

6. Non-discriminatory access and service

Transmission service should be provided to all users on the same terms and price, regardless of facility ownership. The current practice of rate "pancaking", which distorts economic efficiencies by inhibiting economic dispatch needs to be eliminated.

In an USO the fixed costs of the transmission system are paid by each utility's customers based on their share of the overall Railbelt load. That is, if "Utility A" represents 30% of the Railbelt's coincident peak electric load, then A's customers would be responsible for 30% of the ***total system's*** costs.

Within the USO model, when delivering to Railbelt loads, an independent generator that has been fully integrated according to the standard interconnection procedures would pay ***no wheeling fee***, except for incremental losses.

7. Economic dispatch

The ability to deliver the most efficient generation to customers anywhere on the grid can create savings for all Railbelt customers. In addition, the ability to better optimize the use of hydro resources, by offsetting only the highest cost generators, creates substantial and sustainable value while reducing emissions.

Dispatch economics are improved by running generators at their most efficient "sweet spots" instead of at reduced output to provide spinning reserves.

8. Respects Existing Agreements and Investments

Experience in the Lower-48 shows that moving to an USO model raises significant transitional issues that cannot be ignored. Some of these include:

Cost shifting. The way transmission costs are recovered will change. Some customers may pay significantly more than they have in the past. In the long run, all customers will benefit from economic dispatch and other features of a new system. However, in the short run, there are potentially rate impacts for some customers. Most USOs deal with this issue by phasing in the transition, lessening the shock, and allowing the realized benefits to help offset the rate increases some customers might otherwise see.

Existing Agreements. There are many existing agreements among stakeholders in the Railbelt that cannot be ignored. Changing the terms of these agreements will have real and meaningful implications. These implications need to be studied, and meaningful mitigation measures should be devised.

Stranded Assets. Railbelt utilities and independent power producers have invested in good faith in the infrastructure needed to meet their customers needs. Implementing economic dispatch will change generator operation patterns, with some generators running more, and some running less. It must be understood that these facilities provide an important service to the system even when they are not running. **Cost recovery of these investments cannot be based on level of operation.**

IMPORTANT FEATURES OF A RAILBELT USO

A USO established according to the forgoing principles will have result in a system that has the following features:

Credible Governance. The USO's governing body will be constituted such that its governing Board is not dominated by any one stakeholder group. Its Board members will have significant expertise in the utility industry. Balanced stakeholder influence and strong technical and policy level expertise will create the credibility necessary for a successful transition.

Pooled Transmission Assets. All of the physical poles, wires and transformers that make up the transmission system today will be pooled under USO management.

Ownership of the assets can remain with the existing utilties, but the operation and planning function will be turned over to the USO.

As the operation of the system is pooled, so too will be the way that its cost are recovered. All users of the system will be required to pay their fair share of the costs of transmission assets. This cost recovery will be administered by the USO through a tariff approved by the RCA.

Planning for upgrades will also be accomplished on a system-wide basis. Upgrades will be constructed based on regional priorities. The costs of regional upgrades will be recovered through the USO Tariff.

Non-discriminatory access and interconnection. The rules for new interconnections will be standardized and costs allocated on the principle of incremental costs; that is the costs that would not be incurred by the utility but for the interconnection.

Improved access for IPPs. Implementing a system-wide transmission tariff creates improved opportunities for independent power producers by allowing them to reach markets beyond their local utility. No longer will a wind developer in Anchorage be required to pay for wheeling service (except electrical losses) to deliver their output to customers in Fairbanks.

Improved scale economies. The Railbelt gird will be operated and dispatched as a single control area, with reserve requirements optimized. Planning functions can be optimized. Planning, engineering, construction, operation and maintenance can all be consolidated to whatever degree is desirable.

Improved access to capital. A stable regulatory cost recovery regime and coordinated planning will create an environment necessary to attract capital for infrastructure.

IMPLEMENTATION ISSUES

Independence / Governance. Railbelt stakeholders will need to determine and agree on whether the System Operator can be truly independent. The electric system is complex, and Board members charged with governing it must have a high degree of industry knowledge and expertise. At the same time, the best approach to achieving stakeholder credibility is through true independence. The Commission will need to sort this out as part of its implementation plan.

Cost. Establishing a USO will require some upfront and ongoing costs.

However, it must be noted that the majority of costs associated with establishing the USOs in the Lower-48 went to setting up highly complex commodity markets for energy and ancillary services; markets that make no sense for Alaska. Even a one-time start-up cost of $25 million equates to less than half of one cent per kWh cost on customers' bills for one year.

Most of the day to day functions of the USO are currently being carried out by each of the Railbelt utilities individually. Each utility has a dispatch center, a SCADA system, a load forecasting function. By consolidating these functions into a single system operator, overall Railbelt administrative costs should be reduced.

Level of Effort / Bandwidth. Implementation of a USO in the Railbelt will require a collaborative process involving many diverse stakeholders. Detailed discussions are required on topics ranging from the specific language of a standardized generator interconnection agreement to the approval process for a regional transmission upgrade plan to the protocols for financial settlement of the economic dispatch process. The level of effort required by stakeholders to "make it happen" should not be underestimated.

In Alaska we have the opportunity to learn from the experience, both good and bad, of several ISOs and RTOs that have been implemented in the Lower-48 and Canada. In particular, ERCOT is a state regulated (as opposed to FERC Regulated) USO that has many of the same characteristics we desire here in Alaska. There is no need for Alaska stakeholders to reinvent the wheel.

Phase-in. Implementation of the USO model will benefit all customers in the Railbelt differently. Some will save money by being able to carry reduced operating reserves, some will have lower transmission costs. Still others will benefit through the sale of surplus firm energy. Further, the infrastructure needed to create change will not be built overnight. In any case, the picture will change, and appropriate phase-in plans must be devised to prevent rate shock to one or another group of customers.

The members of ARCTEC stand ready to support the RCA's implementation of a Railbelt USO any way we can.

Respectfully submitted on March 31, 2015 by

Alaska Railbelt Cooperative Transmission & Electric Company, Inc.
David A. Gillespie
Chief Executive Officer

RECEIVED
By the Regulatory Commission of Alaska on Apr 30, 2015

From: David Gillespie
To: Mail, RCA (RCA sponsored)
Cc: "Ray Gillespie"; "Kent Dawson"; Brad Evans; Connie_Owens@chugachelectric.com; "Cory Borgeson"; david.glines@mea.coop; Dawn.Baham@mea.coop; Harry Crawford; Janet Reiser; Janet.Kincaid@mea.coop; jfoutz@cityofseward.net; joe.griffith@mea.coop; John Duhamel; schikora-rick@gvea.com; "Susan Redlin"; "Tom Delong"; "Travis Million"; wilnbev@ak.net
Subject: Reply comments of ARCTEC, Docket I-15-001
Date: Thursday, April 30, 2015 4:28:07 PM
Attachments: ARCTEC Reply Comments to RCA Docket I-15-001.pdf

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Please find ARCTEC's reply comments to the referenced docket, attached.

Thank you.

David A. Gillespie
Chief Executive Officer
Alaska Railbelt Cooperative Transmission & Electric Company, Inc.
dagillespie@earthlink.net
(713) 748-9329

STATE OF ALASKA

BEFORE THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:	Robert M. Pickett, Chair Stephen A. McAlpine T.W. Patch Norman Rokeberg Jan Wilson
In the Matter of the Evaluation of the Operation) and Regulation of the Alaska Railbelt Electric) Transmission System) _____)	I-15-001

REPLY COMMENTS OF ALASKA RAILBELT COOPERATIVE TRANSMISSION AND ELECTRIC COMPANY, INC IN RESPONSE TO ORDER NUMBER 2 IN DOCKET I-15-001(1)
APRIL 30, 2015

The members of the Alaska Railbelt Cooperative Transmission & Electric Company ("ARCTEC") appreciate the opportunity to provide these reply comments in response to the Regulatory Commission of Alaska's (the "Commission") Order #2 in Docket I-15-001.

Consistent with our initial comments we will not express an opinion on the legal questions of statutory authority that were posed by the Commission. We note however that respondents express a wide variety of opinions on the Commission's existing authority. We urge the Commission to seek changes to statute that bring clarity to the legal question. This approach will be far more timely and successful than a highly litigated proceeding.

ARCTEC's view is that there is significant consensus among diverse stakeholders on the desirability of the ISO model. In addition, the guiding principles for which ARCTEC has been advocating look very similar to those suggested by REAP and others. There is more on which we agree than disagree. Even the comments submitted by parties that don't agree with the ISO approach recognize the value of system improvements like economic dispatch.

We believe the comments opposing implementation of an ISO or similar model are founded not on fundamental disputes over what is necessary to make the Railbelt Grid better, but rather on a lack of detailed understanding of what an ISO is and how it would work.

Some comments seem to confuse the distinctly different concepts of a transmission owning utility, or Transco, with those of the non-asset owning Independent System Operator[1]. These entities are in no way interchangeable. Much of one party's commentary is related to ongoing discussions among Railbelt utilities regarding the formation of a Transco, and as such does not address the merits of an Independent System Operator[2].

While a Railbelt Transco is a step in the right direction, this model is best implemented to *complement* an ISO not *instead* of one. Specifically, the implementation of a Railbelt Transco, especially if not all utilities are members, will not ensure the benefits of economic dispatch, non-discriminatory open-access, or the implementation of uniform reliability standards.

As we indicated in our initial comments, it is important for Railbelt stakeholders to think of the interconnected transmission system as a single, integrated organism that benefits all users. ML&P rightly points out that transmission costs in an ISO are recovered by customers according to system-wide network service tariff based on their "load ratio

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[1] "ML&P has analyzed the creation of an independent system operator (i.e. Transco)". *Municipal Light & Power's Response to Order No. I-15-001(1) pg 2.*

[2] "ML& P believes discussion of an ISO is premature. Further study is necessary to create a basic framework that will result in benefits to all Railbelt ratepayers and not just shifting the costs from one utility to another. Currently, the Railbelt utilities have created a working group to study these issues. ML&P believes it would be appropriate to allow time for this working group to find answers to these and other questions before deciding to move forward". *Id. pg 4.*

share" of peak demand. ML&P also rightly points out that its allocation of those costs will likely be higher under an ISO tariff. However, ML&Ps comments leave out two additional points.

First, ALL customers derive the same reliability benefits from the interconnected system as all Railbelt consumers do, but without paying their proportional share of the costs. Would each Railbelt utility's customers enjoy the same level of service they do today if they were unable to access the transmission systems owned and paid for by other Railbelt consumers?

Second, the ML&P comments neglect to weigh the substantial benefits that are available to their customers simply by removing the effect of transmission rate pancaking. ML&Ps surplus generation capacity will be more valuable when the artificial barriers of individual wheeling tariffs are removed.

Nevertheless, cost shifting and rate shocks are a genuine concern in implementing any form of sea change like the one the Commission contemplates here. ARCTEC supports creating phase-in procedures to lessen and smooth out the impacts of these changes over an appropriate length of time.

Other parties suggest a "don't fix it if it isn't broken" approach to the Docket.[3] Alaska Electric and Energy Cooperative and Homer Electric Association (together, "Homer") suggests that "The current system works well". That the current system works well is undeniable. That the current system is imperfect is also undeniable. Should we be satisfied by the status quo when so much value can be created by evolving to a better system?

Homer also suggests that past failures to implement change in the Railbelt are evidence that change is uneconomic.[4] In fact, these past failures are evidence that an independent entity that is responsible for the system as a whole is necessary to move forward. These past failures illustrate that it has not been possible for utilities to come together to make improvements to the overall system for the "greater good." A regional transmission plan, developed by the ISO will extract these benefits on behalf of Railbelt consumers.

Homer points out that there are numerous issues that would have to be addressed during the implementation of an ISO. We agree. Stranded costs must be avoided. All participants must benefit. Transmission service must remain cost based. Governance must be fair. These are all considerations that have been effectively addressed by ISOs that serve nearly 200 million people in the Lower 48.

In conclusion, ARCTEC urges the Commission to seek out the necessary statutory authority to implement the ISO model now, without further delay.

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[3] "The current structure of utilities operating their own transmission systems works". *Response for I-15-001 by C.R. Baldwin, Alaska Electric and Energy Cooperative, and Homer Electric Association, Inc. pg 1.*

[4] "However, the utilities have not moved forward with these proposals because they have not made economic sense". *Id, pg 3.*

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March 31, 2015

Regulatory Commission of Alaska
701 West Eighth Avenue, Suite 300
Anchorage, Alaska 99501-3469

Re: Docket I-15-001

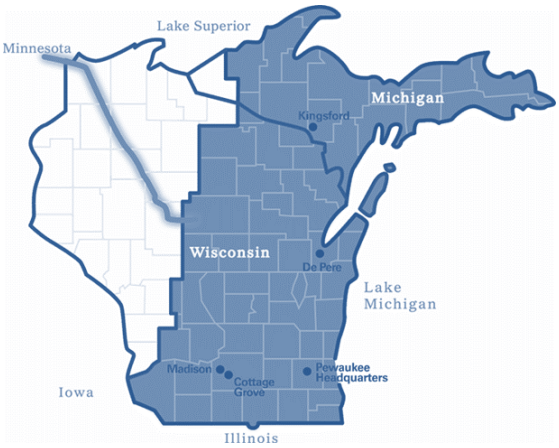
Commissioners:

The American Transmission Company LLC ("ATC") is pleased to provide written responses to two of the questions posed for public comment in association with the Docket opened on February 25, 2015 ("Docket I-15-001") by the Regulatory Commission of Alaska ("RCA"). ATC's responses to these questions are limited to matters with which we have personal experience as the first multi-state transmission-only utility in the United States, and from our work over the past year learning about the specific needs of Railbelt utilities and other stakeholders of the region's electric transmission infrastructure.

About ATC

American Transmission Co. was founded in 2001, as the first multi-state, transmission-only utility in the United States. Unlike most other utilities, we have a single focus: transmission. Our transmission system allows energy producers to transport electric power from where it's generated to where it's needed.

ATC provides electric transmission service in an area from the Upper Peninsula of Michigan, throughout the eastern half of Wisconsin and into portions of Illinois. Our more than 9,500 miles of high-voltage transmission lines and 530 substations provide communities with access to local and regional energy sources.



We operate our system as a single entity, providing comparable service to all of our customers. Our customers include electricity producers and electric distribution companies who count on ATC to move power from where it's produced to where it's needed in the homes and businesses they serve.

Our mission is to provide reliable electric transmission service to these customers. As a public utility whose infrastructure serves as the link transporting electricity to millions of users, ATC has duties and responsibilities to:

- operate the transmission system reliably
- assess the ability of the system to adequately meet current and future needs
- plan system upgrades to meet those needs in the most efficient, effective and economic way
- construct upgrades in time to meet those needs and
- maintain the transmission equipment and surroundings to minimize system failures.

When electricity usage exceeds the number of lines available to carry electric power, power stops flowing and an outage can occur. Depending on the size of the line, overloading can affect thousands of homes and businesses. ATC has been able to design its network to reduce network gridlock by planning for new transmission facilities well in advance, thereby ensuring the reliability of our transmission system. The ability of the transmission system to handle transmission traffic is known as transfer capability. Access refers to the ability of customers to use the system's transfer capability to access power available in adjacent utility or energy markets. Due to the age and configuration of the transmission system ATC received, transfer capability was limited when we were formed. As a result, ATC launched an Access Initiative in 2004. In the intervening years, ATC improved transfer capability, but only after carefully assessing the benefits and costs associated with developing transmission connections with adjacent areas.

We're owned by our customers. ATC is a privately-owned company. Our Customer-Owners include 28 IOUs, Municipalities and Cooperatives from Wisconsin, Michigan, and Minnesota. Together, we grew from $550 million in assets in 2001 to the $3.3 billion in assets we hold today. The utilities, municipalities, municipal electric companies and electric cooperatives that have an ownership stake in ATC are:

Investor-Owned Utilities	Municipal Utilities	Cooperative Utilities
Madison Gas & Electric Company	City of Algoma	Adams Columbia Electric Cooperative
Wisconsin Electric Power Company	City of Columbus	Alger Delta Cooperative Electric Association
Wisconsin Power & Light Company	City of Kaukauna	Badger Power Marketing Authority
Wisconsin Public Service Corporation	Manitowoc Public Utilities	Central Wisconsin Electric Cooperative
Allete	Marshfield Electric and Water Department	Cloverland Electric Cooperative
	City of Menasha	Ontonagon County Rural Electrification Association
	City of Oconto Falls	Rock Energy Cooperative
	City of Plymouth	

Investor-Owned Utilities	Municipal Utilities	Cooperative Utilities
	City of Reedsburg	
	City of Sheboygan Falls	
	Stoughton Utilities	
	City of Sturgeon Bay	
	City of Sun Prairie	
	City of Wisconsin Rapids	
	Upper Peninsula Public Power Agency	
	WPPI Energy	

We plan responsibly, to ensure the region's needs are met. Our transmission planning process involves continually evaluating the operation of the electric transmission network and taking a comprehensive look at various factors affecting electric use in the region, such as business development and employment trends, proposed new generation and projected growth in electric usage. Because transmission projects take years to plan and build, each year ATC prepares and issues a 10-Year Assessment, which identifies and prioritizes future projects needed to improve the adequacy and reliability of the system for our customers. For ATC, planning, constructing, and operating a transmission system is more than an engineering exercise – it relies heavily on stakeholder input and approvals. ATC's stakeholder input process begins well in advance of formal project proposals with our 10-Year Plan, which keeps all stakeholders – from our customer-owners, to regulators, to landowners and neighbors along our network's routes – informed. Our 10-Year Plan provides information about specific projects and the economic and reliability needs that drive them. We produce it every year because the needs that drive the planning exercise change with the needs of our customers and our community, and because the outreach and dialogue it generates improves the plan.

ATC's Work in Alaska

Over the last year, ATC has conducted extensive outreach to Railbelt electric utilities and other Alaskan stakeholders. In addition to individual and group discussions with Railbelt leaders, ATC has been invited to participate in public forums on Railbelt energy issues by the RCA and by Alaskan legislators, including participation in an RCA public meeting on February 19, 2014, in legislative workshops on April 9, 2014, and September 5, 2014, and in a legislative hearing on March 31, 2015. The September 5, 2014 workshop also included testimony by Public Service Commission of Wisconsin Chairman Philip Montgomery, who described the formation of ATC in Wisconsin and the benefits ATC has provided for Wisconsin consumers. ATC's regulators and owners have responded to numerous inquiries from Alaskan stakeholders seeking to learn more about the reasons for and extent of ATC's success in planning, designing, constructing and operating transmission infrastructure.

While public forums have provided valuable opportunities to explore the Railbelt's unique transmission challenges, ATC has focused on how our business model can be tailored to meet the needs of the Railbelt' s network of transmission lines. A key milestone in these ongoing conversations has been the development of a set of consensus principles for formation of a transmission-only utility in the Railbelt. These "Guiding Principles of a Railbelt Transco" are attached to these comments and detailed below.

Focus on Transmission-Only: The Transco will own no generation assets, and operations and planning decisions for transmission will be transparent, nondiscriminatory, and in compliance with established planning and reliability standards. Standards and protocols will be based on established, objective transmission operating, maintenance, planning and design principles to promote safety, reliability, and economic efficiency of the Railbelt grid.

Seek Regulation by the RCA: The Transco must obtain a Certificate of Public Convenience and Necessity ("CPCN") from the RCA and operate under a tariff with the RCA.

Provide Adequate Transmissions Service to Load-Serving Entities: The Transco shall have a public duty to operate, maintain, plan and construct its transmission system to reliably meet the needs of existing load-serving entities.

Provide, Open Nondiscriminatory Access: The Transco shall operate under a publicly-available generator interconnection agreement for standard network service developed as part of its tariff.

Provide Network Transmission Service: Transmission service will be provided under a single "postage stamp rate," or similar network-wide tariff, allocating the costs and benefits of the network across all transmission users equitably.

Utilize State Resources Effectively: State funds invested, contributed, or loaned for the purpose of energy infrastructure will be used effectively in an integrated Railbelt-wide transmission plan.

Maintain Labor Agreements and Existing Operations Resources: Formation of the Transco will not result in the net loss of jobs performed by craft labor under existing labor agreements.

Manage Pre-existing Transmission Contracts and Investments: The formation of the Transco will address historical agreements and resolve conflicts in a manner that promotes independent, nondiscriminatory access to transmission service, and supports recovery of existing investment.

Gain Necessary Approvals: Transco formation is conditioned upon all necessary regulatory, board of director, and financial institution approvals. The Transco's formation

will honor any restrictions contained in existing indentures of trust or debt agreements, and will not negatively impact credit ratings.

On the specific role of an Independent System Operator, ATC has operated in its history both without an Independent System Operator and (currently and for the majority of our history) under the Midcontinent Independent System Operator. Any approach to the Railbelt's present and future transmission needs should be tailored to meet the scale and scope of the region's infrastructure and electricity markets. ATC is familiar with proposals for an Independent and/or Unified System Operator in Alaska's Railbelt, as well as the differences between this concept as applied in Alaska and its analogues elsewhere in the United States. As the above principles state, the implementation of a Transco business model whether in Alaska or anywhere else relies on the establishment of independent reliability standards and planning protocols through a stakeholder-governed process. These standards and protocols provide the basis for determining appropriate investments in transmission infrastructure. Furthermore, such independent organizations facilitate the efficient utilization of existing generation assets, a process often described as economic dispatch.

Question 7: Should there be a set of mandatory reliability standards for the Alaska Railbelt similar to those of the North American Electric Reliability Corporation, and if so, do we or should we have the authority to mandate or regulate those standards (beyond the existing voluntary agreements such as the existing Railbelt Operating and Reliability Standards).

Answer:
Yes, consistent, mandatory, system-wide reliability standards provide a basis for determining prudent investments and promote safe, reliable electric service that meets present and future customer needs. As mentioned in the context of the Independent System Operator, the approach should be tailored to meet the region's needs, and thus ATC does not advocate verbatim adoption in Alaska of all standards required by the North American Electric Reliability Corporation. In order to be useful, and to maintain the safety and integrity of the electric system, electricity must be delivered to end users at the instant it is needed. Therefore reliability is a primary objective of any electric utility system. As a network, each element of the transmission system is interdependent on every other, and the network is only as reliable as its least reliable element. Recognition of these facts supports the development and pursuit of consistent reliability standards for the design, construction, operation and maintenance of each element of transmission infrastructure.

ATC appreciates the opportunity to provide responses to these questions. Should you have any questions regarding these comments, please contact Eric Myers (262-506-6827, emyers@atcllc.com) or Eric Lundberg (262-506-6853, elundberg@atcllc.com).

Attachment (1)

Guiding Principles of a Railbelt Transco

These principles reflect the consensus of discussions to date regarding the voluntary formation of a transmission-only utility (Transco) between American Transmission Company LLC (ATC), Golden Valley Electric Association, Matanuska Electric Association, Anchorage Municipal Light and Power, Chugach Electric Association, Homer Electric Association, and the City of Seward (collectively the Transco Partners).

- Voluntary: Transco formation will result from a commercial transaction between the Railbelt utilities and American Transmission Company LLC (ATC). While each entity's participation in the Transco is important to its success, each entity will voluntarily enter into this transaction.
- Facilitate future transmission investments: Creates a transmission-only entity with a stable balance sheet and reliable tariff structure to support debt and equity investments in the Railbelt transmission infrastructure.
- Planning and Reliability Standards: The planning, design and operation of transmission facilities shall adhere to standards developed by a stakeholder-governed independent body holding a regulatory compact with the RCA and providing for reliable, economic dispatch.
- Transmission-Only Focus: Transco will own no generation assets, and operations and planning decisions will be transparent, nondiscriminatory, and in compliance with established planning and reliability standards. Standards and protocols will be based on established, objective transmission operating, maintenance, planning and design principles to promote safety, reliability, and economic efficiency of the Railbelt grid.
- Regulated by the Regulatory Commission of Alaska (RCA): The Transco must obtain a Certificate of Public Convenience and Necessity (CPCN) from the RCA and operate under a tariff with the RCA.
- Provide Adequate Transmissions Service to Load Serving Entities: The Transco shall have a public duty to operate, maintain, plan and construct its Transmission System to reliably meet the needs of existing load serving entities.
- Provide, Open Nondiscriminatory Access: The Transco operates under a publicly-available generator interconnection agreement for standard network service developed as part of its tariff.
- Provide Network Transmission Service: Transmission service is provided under a single "postage stamp rate," or similar network-wide tariff, allocating the costs and benefits of the network across all transmission users equitably.
- State resources: The value of state funds invested, contributed, or loaned for the purpose of energy infrastructure will benefit from an integrated Railbelt-wide transmission plan.
- Labor Agreements and Existing Operations Resources: Formation of the Transco will not result in the net loss of jobs performed by craft labor under existing labor agreements.
- Pre-existing transmission contracts and investments: The formation of the Transco will address historical agreements and resolve conflicts in a manner that promotes independent, nondiscriminatory access to transmission service, and supports recovery of existing investment.
- Formation of the Transco: Transco formation is conditioned upon all necessary regulatory, board of director, and financial institution approvals. This formation will honor any restrictions contained in existing indentures of trust or debt agreements, and will not negatively impact credit ratings.

November 19, 2014
Anchorage, AK

Guiding Principles of a Railbelt Transco

We the undersigned support the above principles as the basis for further conversations on the formation of a Transco in Alaska's Railbelt.

John C. Procario
Chief Executive Officer
American Transmission Company LLC

James Trent
General Manager
Anchorage Municipal Light and Power

Bradley Janorschke
General Manager
Homer Electric Association

Brad Evans
General Manager
Chugach Electric Association

Joe Griffith
General Manager
Matanuska Electric Association

Cory Borgeson
General Manager
Golden Valley Electric Association

John Foutz
Utility Manager
Seward Electric System

November 19, 2014
Anchorage, AK

Guiding Principles of a Railbelt Transco

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John C. Procario
Chief Executive Officer
American Transmission Company LLC

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James A. Trent
ML&P General Manager &
Chief Operating Officer
Anchorage Municipal Light and Power

DEC 4 - 2014

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Bradley Janorschke
General Manager
Homer Electric Association

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November 19, 2014
Anchorage, AK

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John C. Procario
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James Trent
General Manager
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Bradley Janorschke
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Brad Evans
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12/2/14

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November 19, 2014
Anchorage, AK

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November 19, 2014
Anchorage, AK

Guiding Principles of a Railbelt Transco

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Seward Electric System

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November 19, 2014
Anchorage, AK

Guiding Principles of a Railbelt Transco

We the undersigned support the above principles as the basis for further conversations on the formation of a Transco in Alaska's Railbelt.

John C. Procario
Chief Executive Officer
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James Trent
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Anchorage Municipal Light and Power

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November 19, 2014
Anchorage, AK

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

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June 17, 2015

Regulatory Commission of Alaska
701 West Eighth Avenue, Suite 300
Anchorage, Alaska 99501-3469

Re: Docket I-15-001

Commissioners:

As the Regulatory Commission of Alaska ("Commission") prepares its report to the Alaska Legislature on options to promote effective and efficient electrical transmission in Alaska's Railbelt, the American Transmission Company LLC ("ATC") wishes to express its appreciation of the Commission's willingness to receive stakeholders' input on the important issues raised in this Docket. There is a strong consensus that changing the existing transmission business model for the Railbelt will provide open and non-discriminatory access to transmission, allow for needed improvements to transmission assets to meet current and future needs, ensure effective system-wide planning, and facilitate economic dispatch of generation assets.

To date, much of the record before the Commission necessarily consists of conceptual analyses of the benefits and opportunities that may exist under hypothetical constructs. Transforming these conceptual benefits into actual value will require organized and focused efforts. ATC will continue to work with the Railbelt utilities to develop a voluntary Transco model for transmission investment, planning and operation to achieve the benefits envisioned by participating stakeholders.

We look forward to reviewing the Commission's report to the Legislature. Thank you again for the opportunity to participate in this valuable process.

Should you have any questions, please contact Eric Myers (262-506-6827, emyers@atcllc.com) or Eric Lundberg (262-506-6853, elundberg@atcllc.com).

STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:	Robert M. Pickett, Chairman Stephen McAlpine T.W. Patch Norman Rokeberg Janis W. Wilson
In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	I-15-001

COMMENTS OF ARES EIF MANAGEMENT, LLC AND POWERBRIDGE, LLC

Ares EIF Management, LLC and PowerBridge, LLC ("Ares/PB"[1]) appreciate the opportunity to submit these comments to the Regulatory Commission of Alaska ("RCA") in response to the RCA's request for information related to the operation and regulation of the Alaska Railbelt Electric Transmission System. As successful investors in and developers of electric transmission facilities, we are aware of the potential need for substantial investment in the Railbelt Transmission System and believe our comments and observations may be relevant and helpful to the RCA's deliberations.

I. Introduction/Background

Together, Ares EIF Management, LLC and PowerBridge, LLC are one of the largest non-utility investors and developers of electric transmission in the United States. The

[1] Ares EIF Management, LLC ("Ares EIF") manages a number of private equity funds that invest in, among other things, electric transmission projects in the United States. Depending on the context, a reference herein to "Ares/PB" means PowerBridge, LLC and either Ares EIF, as investment manager, or an Ares EIF-managed fund, as the investor.

Ares/PB team has been responsible for the development, financing, and construction of approximately $1.5 billion of transmission facilities since 2005, represented by two High Voltage Direct Current ("HVDC") projects, each with transmission capacity of 660 MW. The Neptune project uses an undersea and underground cable and two converter stations to link the PJM[2] system with the New York Independent System Operator ("NYISO") on Long Island, while the Hudson project includes an underground and underwater cable and a single, back-to-back converter station to link PJM with NYISO in New York City. Both projects were completed on budget and ahead of schedule in 2007 and 2013, respectively.

PowerBridge is currently responsible for management, operations, and maintenance of Neptune and Hudson. Both project entities are Transmission Owner members of the PJM ISO and are in full compliance with all applicable requirements of the North American Electric Reliability Corporation ("NERC") and regional reliability organizations.

Ares EIF Management, LLC is an indirect subsidiary of Ares Management, L.P. ("Ares"), a leading global alternative asset manager with approximately $86 billion of assets under management (as of December 31, 2014, pro forma for the acquisition of Energy Investors Funds ("EIF")).[3] In early 2015, Ares completed the acquisition of EIF, one of the

[2] PJM Interconnection LLC, a Regional Transmission Organization, is part of the Eastern Interconnection grid operating an electric transmission system serving all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.

[3] "Assets under management" refers to the assets of the funds, alternative asset companies and other entities and accounts that are managed or co-managed by Ares, including funds managed by Ivy Hill Asset Management, L.P., a wholly owned portfolio company of Ares Capital Corporation, and a registered investment adviser. Amounts include drawn and undrawn commitments, including certain amounts that are subject to regulatory leverage restrictions and/or borrowing base restrictions."

oldest and most experienced U.S. private equity investment managers specializing in power generation and transmission assets. An EIF-managed fund was the lead provider of development and equity capital for Neptune and Hudson, and the EIF principals closely involved with these projects remain with Ares in its New York City office. An EIF-managed fund was also a principal investor in Path 15, an 84-mile, 500-kV transmission line upgrade in California, completed in 2004.

Ares/PB is in the business of investing in and developing electric transmission facilities. We do so by taking responsibility for and bearing the upfront costs and risks of the major steps of project development – permitting, real estate, design, engineering, financing, construction, etc. As discussed in Point 3 below, there are various financing structures that can be used to accomplish this.

As a transmission investor/developer, we have been aware of the potential need for transmission system upgrades for the Alaska Railbelt for some time. In March 2015, we had the opportunity to meet with representatives of four of the Railbelt utilities as well as the Alaska Railbelt Cooperative Transmission & Electric Company ("ARCTEC"), the Alaska Energy Authority ("AEA"), the Alaska Industrial Development and Export Authority ("AIDEA"), the RCA, and others who may play key roles in Alaska's energy future. We have also reviewed the Alaska Railbelt Transmission Plan Draft prepared for the AEA by Electric Power Systems, Inc. ("EPS"). Our experience and perspective as an investor/developer, and our recent discussions and review of related information, form the basis of our comments and observations submitted here.

II. Comments Responding to Order No. 1

A. Railbelt Electric Transmission Upgrades are Beneficial and Necessary.

The EPS Draft Transmission Plan has identified potential upgrades for the Railbelt system, with an estimated cost totaling approximately $900 million that are intended to facilitate economic dispatch of generation on the system as whole, enhance reliability, and realize substantial long-term cost savings for customers of the Railbelt utilities. Based on our discussions with utilities and other stakeholders, there appears to be a consensus view that some or all such upgrades would be both necessary and beneficial toward achieving these goals. Moreover, the specific components of the upgrade package could be implemented in subsets or phases (with some, perhaps, deferred indefinitely), and still result in significant benefits.

Understandably, there is a desire to review, verify, and confirm the conclusions of the EPS Draft Plan, including the assumptions, costs, and benefits. It may be too obvious to state that it will be necessary to form a consensus view of what upgrades are needed, and their relative priority, before any meaningful progress can be made on implementing them. It is our impression that while all utilities would stand to benefit in some way, not all upgrades would benefit all utilities equally or be realized in the same manner or at the same time. Thus, there would need to be a shared commitment to taking a long term view of the eventual goals, and working through the admittedly difficult issues of allocating costs in proportion to benefits, without letting "the perfect become the enemy of the good."

B. **An Independent System Operator is Not a Necessary Precondition to Implementing System Upgrades.**

In Question 1 the RCA has asked: Would the creation of an independent system operator or similar structure for electric utilities in the Railbelt be the best option for effective and efficient electrical transmission? This issue is one that the utilities, the RCA and other directly affected parties in Alaska need to work through. From our perspective as an investor, developer, however, we do not believe that creating an independent system operator ("ISO") or similar structure is necessary to achieve effective and efficient electrical transmission.

Our comments on this point should not be construed as opposition to the formation of an ISO or similar structure. Such structures, of course, are used in other parts of the U.S., either within single states (New York, California, Texas), or in regions. They can be highly beneficial for the purposes of establishing common operating rules and procedures that are observed by all parties. As noted above, PowerBridge entities are Transmission Owner members of PJM, and we are quite familiar with how these entities operate.

That said, from the point of view of an investor/developer, the absence of an ISO or similar structure is not an impediment to starting the development process and investing capital in transmission projects. In fact, the development of an ISO or similar structure could proceed independently of and concurrently with the project development process, with the expectation and intent that the upgrades, when completed, would be managed within the ISO framework should it be implemented.

In the same vein, we are aware that there have been proposals to form a company for the purpose of owning all Railbelt transmission assets (i.e., "Transco"), serving a separate purpose from that of an ISO. Without taking a position for or against an eventual Transco, Ares/PB does not propose to form such an entity and would intend to retain ownership (or ownership rights) in any transmission upgrades, while leaving day-to-day operation of the transmission system to the appropriate utilities.

We note that the likely timeline for completing all steps (permitting, financing, construction, etc.) in developing the major components of the Railbelt upgrades could be five years or more. Assuming that it is desirable to begin development sooner rather than later – not only to realize the benefits but also to take advantage of historically low interest rates for financing – then going through the process of forming an ISO before commencing with upgrades does not appear to hold significant advantages.

Commencing the development of all or a subset of the upgrades would require an agreement among the affected utilities and the developer (subject to appropriate regulatory approval) based on a common understanding of the scope of work and the rights and obligations of each of the parties. The existing Alaska Intertie Agreement is perhaps a conceptual model for such an agreement. We do not mean to suggest that it would necessarily be easy to work through provisions of such an agreement, but it is apparent that comparable agreements already exist irrespective of the existence of an ISO. We also believe the upgrades can be managed contractually from the outset to allow for an easy transition into the ISO should it be formed.

C. **Obtaining Private Investment Capital for Railbelt Transmission Upgrades is Feasible and Potentially Advantageous to Utilities and Ratepayers.**

Consensus on a scope of work for Railbelt transmission upgrades, and an agreement between the developer and the affected utilities as to their respective rights and obligations, would open the door for private investment capital for the development and eventual construction of the upgrades. Based on previous experience, there are a variety of financial structures that could be used successfully (see attached figures).

- For the Path 15 project in California (see Figure 1), private entities were established for the contribution of debt and equity needed to construct the project. Operating expenses, debt payments and equity returns are recovered via a "transmission access charge" collected by the California ISO from the utilities, who in turn collect from their ratepayers.
- For the Neptune and Hudson projects (see Figure 2), debt and equity were contributed to project-level companies, which have a 20-year Firm Transmission Capacity Purchase Agreement with a utility (Long Island Power Authority and New York Power Authority, respectively). Payments under the agreement are a function of the availability of the transmission line and are the basis for covering all operating expenses, debt payments and equity returns.

- For the prospective Railbelt transmission upgrades, we envision the likelihood of a financing structure that is contractual in nature (like Hudson and Neptune), but with a formulaic tariff based on a rate base mechanism similar to Path 15.

The overall point is that financing structures that permit the investment of private capital for public purposes have been employed successfully, and we expect that one or more such structures can be successfully adapted to fit the unique circumstances of the Railbelt transmission upgrades. Repayment of debt and return on equity can take place over a period of 30-plus years in order to reduce the annual cost, and need not necessarily be accomplished on a "straight line" basis over the repayment period. We would expect that our return on investment would be subject to the approval and oversight of the RCA.

The advantages of private equity capital as could be offered by Ares/PB include:

- With an understanding of the ultimate revenue framework, capital is immediately available up-front for the funding of project development tasks such as permitting and engineering; and
- The costs of construction could have a not-to-exceed limit, to be reflected in the approved rate of return, such that the risk of overruns is borne by the provider of capital rather than the utilities or their members/ratepayers.

D. Achieving Greater Cooperation, Power Pooling and Centralized Planning and Operations is Primary to Questions of Specific Structures.

In Question 11, the RCA has asked: What authority do we have to require or to encourage greater cooperation, power pooling and/or centralized transmission system planning and operations among Railbelt electric utilities?

In the course of our discussion with utilities and other key players, we observed general agreement that economic dispatch of generation and enhanced system efficiency and reliability are desirable, that Railbelt transmission upgrades would be likely beneficial to achieve these goals, and that the investment of private capital would be welcome if determined to be advantageous to the utilities, their members/ratepayers, and to the State as a whole. However, we also could not fail to notice a general lack of agreement as to the scope of the upgrades and the fair and proper allocation of costs and benefits that would result from implementing them. These are difficult issues, to be sure, but it appears to us that they must be addressed as first steps in achieving the agreed-upon goals.

While we are not in an appropriate position to advise the RCA as to the extent and limits of its regulatory authority, we do take particular note that Question 11 implied the need for *"encourage(ing) greater cooperation, power pooling, and/or centralized transmission system planning and operations among Railbelt electric utilities."* This strikes us as the essential element needed to move forward, primary to questions of specific structures or mechanisms. We applaud the RCA's willingness to tackle this and related issues, and urge the RCA and all affected parties to continue their efforts in this direction, regardless of whether or not Ares/PB will ultimately play a meaningful role.

III. Conclusion

We appreciate the opportunity to participate in this proceeding. We look forward to monitoring the utilities' and the Commission's efforts on these issues.

Dated this 31st day of March, 2015.

Respectfully submitted,

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FIGURE 1

PATH 15 – Schematic Diagram

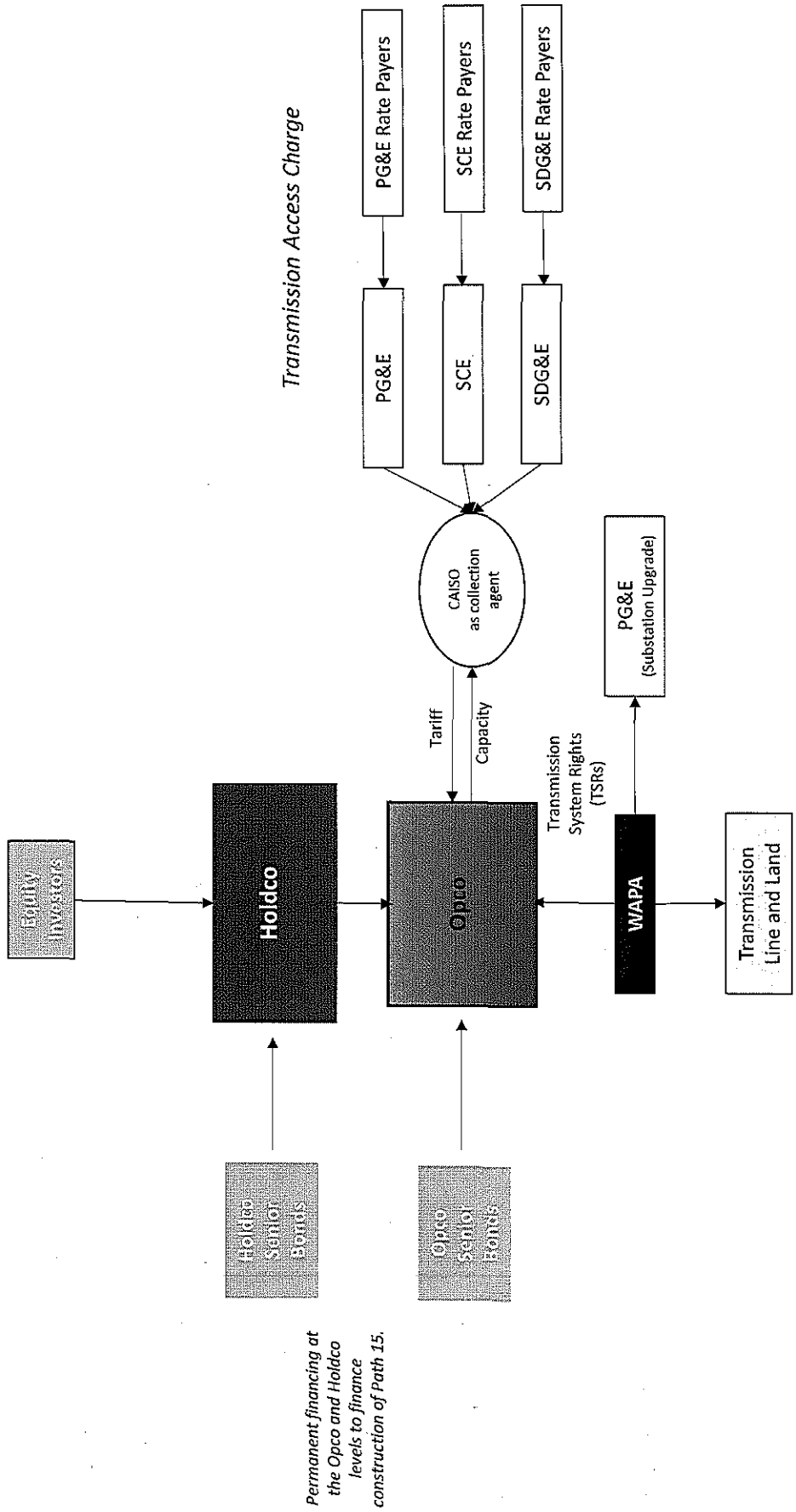
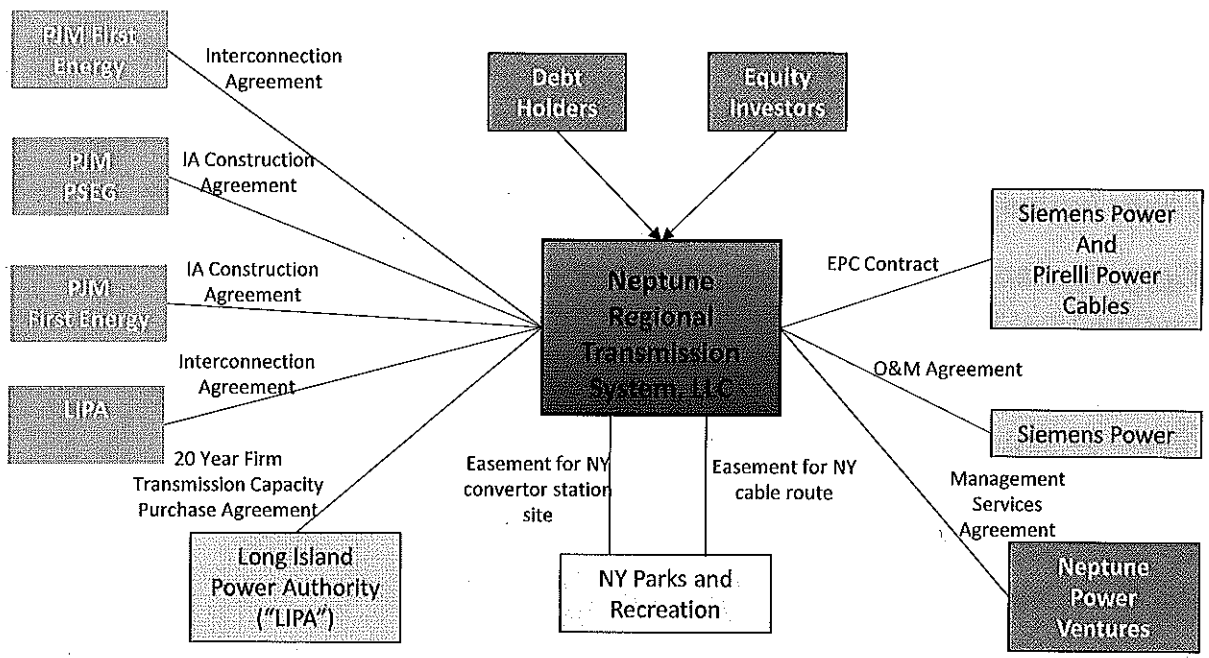


FIGURE 2

Neptune – Schematic Diagram



RECEIVED
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STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners: Robert M. Pickett, Chairman
Stephen McAlpine
T.W. Patch
Norman Rokeberg
Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	))))	I-15-001

COMMENTS OF ARES EIF MANAGEMENT, LLC AND POWERBRIDGE, LLC

I. Introduction

Ares EIF Management, LLC and PowerBridge, LLC ("Ares/PB") have closely followed the filings and supporting information in this Docket and welcome this opportunity to provide additional comments based on our experience as successful developers and providers of capital for major electric transmission projects. Our comments here are intended to be extensions of our initial comments filed in this Docket on March 31, 2015.

This Docket has raised a number of important issues to be faced by the RCA, including but not limited to:

1. The fair allocation of transmission costs among those who use the transmission system, thereby providing a basis for cost recovery of new transmission investment in the Railbelt.

2. Appropriate ownership and management of existing and new transmission assets.

3. How to realize the benefits of system-wide economic dispatch.

Ares/PB respectfully offer these comments relative to the issues framed above.

II. **Discussion**

A. **A monopoly TRANSCO is not necessary to accomplish the fair and equitable allocation of transmission costs.**

A recent NERA report[1] filed in this Docket suggests that significant benefit may result from the formation of a TRANSCO with a sale of existing utility transmission assets to this single company. It appears that NERA contemplates that the TRANSCO would have a monopoly on developing and financing transmission additions and upgrades.[2]

While citing Texas's ERCOT as an example of how a TRANSCO/ISO system can work,[3] the report does not adequately describe the ERCOT transmission allocation model. In ERCOT, a number of utilities and independent transmission developers maintain undivided ownership in specific transmission assets. However, the cost-of-service for all of the individually owned assets are pooled in a "Transmission Cost of Service" ("TCOS") framework, and subsequently those costs are allocated to load serving

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[1] *Evaluation of Options Regarding the Creation of an Independent System Operator or Similar Structure for Electric Utilities in the Railbelt, A Report for Chugach Electric Association, Inc., NERA Economic Consulting,* filed May 28, 2015 ("NERA Study").
[2] NERA Study, Section 4.2.1, p. 28 (second bullet) and p. 29 (second and ninth bullets).
[3] NERA Study, p. 14.

entities based on contributions to the highest four system coincident peaks in an annual period.

Additionally, the Georgia Integrated Transmission System ("ITS"), which is FERC regulated, works in a very similar manner. In the Georgia ITS, four different utilities utilize a transmission system in which discrete, individual transmission assets remain under the undivided ownership of any one of the four utilities in the ITS. Similar to ERCOT, the costs of the transmission assets are pooled and allocated annually based on load ratio shares.

There are various other cost allocation methodologies that could be employed in Alaska. Any new cost allocation methodology will result in shifts of transmission costs among the Railbelt utilities. However, without a cost allocation methodology (as NERA correctly concludes), there is no way for any new transmission asset to achieve cost recovery, and therefore much needed transmission improvements in the Railbelt will not be made. Undoubtedly, the allocation of transmission costs will be a thorny and difficult issue for the RCA and the Railbelt utilities. Our principal point here is that a monopoly TRANSCO is not necessary to accomplish appropriate cost allocation.

B. Competition among utilities and private transmission developers for new transmission projects is possible (and is the model employed in ERCOT).

Several parties have recommended that the Commission study the ERCOT model generally for application to Alaska.[4] While the ERCOT model does feature centralized planning of future transmission system improvements, it also incorporates competition for new transmission projects, including projects proposed by individual sponsors that are not included in the system-wide planning process. The ERCOT transmission system is not owned by a single transmission monopoly entity.

The ERCOT service area is a completely unbundled electricity market with competitive transmission providers. ERCOT and the Texas PUC select transmission projects and project sponsors based on the merits of the proposed project, and the qualifications and any other unique factors that the sponsor offers. If multiple sponsors propose building the same project, selection is based on value provided. Projects are built by independent developers like Ares/PB or utilities.

The largely completed Competitive Renewable Energy Zone ("CREZ") projects serve as an ERCOT example. In 2008, the Texas Public Utility Commission ("PUC") adopted Rule 25.2162[5] establishing a process for selecting parties to build the Texas CREZ projects. The rule provided for interested parties to build the planned facilities.

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[4] *See e.g.* Developing an Equitable and Economic Cost/Benefit Allocation Structure for an. Evaluation of Options Regarding the Creation of an Independent System Operator or Similar Structure for Electric Utilities in the Railbelt, TENEO Consulting LLP Presentation to RCA, June 3, 2015, Slides 5, 6; NERA Study, p. 14.

[5] Attachment I.

Parties presented specific projects, including routes and costs, to the PUC, which awarded a number of discrete projects to different parties based on cost and qualifications.

While generally, ERCOT identifies grid improvement projects in concert as a part of a regional transmission planning process, often it must review proposed regional improvements individually outside of the formal planning process. In that case, an ERCOT Regional Planning Group ("RPG") follows a review process, including an increasingly rigorous evaluation of the need for the project and its cost-effectiveness. The RPG process may include an evaluation of project alternatives that achieve the system performance goals of the original project. ERCOT considers several factors when it evaluates a proposal and its alternatives including the project's capital cost and expected system operation cost, subject to consideration of the expected long-term system needs in the area and the relative operational impacts of the alternatives. ERCOT recommends the project that is most beneficial to the electric consumers, and if the Texas PUC agrees, the project is approved.

C. Regional transmission planning is necessary in the Railbelt, but neither a TRANSCO nor an ISO/USO is required to accomplish transmission planning or attract investment in transmission upgrades.

Transmission planning in the Lower 48 is typically accomplished under the auspices of a regional independent system operator ("ISO") or individually by large vertically integrated utilities. However, an ISO/USO is not required to accomplish

transmission planning. As Ares/PB indicated in initial comments,[6] establishing an ISO/USO is not a necessary precondition to investing in system upgrades, so long as the affected utilities can agree on what projects should be constructed. Others appear to advocate the reverse – that the RCA must set up an ISO and TRANSCO first, and then decide what investments to make.[7] Under that proposal, investment decisions that will lower ratepayer costs could be years and years away.

As alternative to an ISO/USO, the RCA could set up a reliability administrator to perform or facilitate the necessary centralized planning.[8] The activities of such an administrator could initially be outsourced and the costs of the reliability administrator could be recovered through assessments to the Railbelt utilities, similar to the way the NERA report proposes to fund the ISO/USO (but at a much lower cost than setting up an ISO/USO).

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[6] Comments of ARES EIF Management, LLC and PowerBridge, LLC, I-15-001, March 31, 2015, p. 5.

[7] *See e.g.* Reply Comments of Chugach Electric Assn., I-15-001, March 31, 2015, p. 3.

[8] The concept of a Reliability Administrator has been adopted into law by the State of Hawaii, an electricity market roughly similar in size to the Alaska Railbelt System. *See* Act 166, Relating to Electricity [Hawaii S.B. No. 2787, S.D. 2, H.D. 1, C.D. 1.]. Act 166 which authorizes the Hawaii Public Utilities Commission to: "… develop, adopt, and enforce electric reliability standards and interconnection requirements that will be used to oversee the whole of the Hawaii electric system. In addition, this measure authorizes the contracting of a third-party entity to assist the Commission monitor compliance with and enforce standards and requirements as the Hawaii Electricity Reliability Administrator ("HERA"). A surcharge is authorized to provide for the funding of HERA operations..."

Of course, if the RCA finds it advantageous to establish an ISO/USO in order to unlock the benefits of coordinated Railbelt system dispatch, then the ISO/USO could assume the transmission planning responsibility. However, Ares/PB remains concerned that the time required to set up an ISO/USO, and then formulate and implement a planning process, would unnecessarily delay transmission improvements that seem to be almost universally recognized as valuable, and that could be executed much earlier assuming agreement by the affected parties in the absence of an ISO/USO.

D. <u>Monopoly control of transmission project development and financing may not be in the best interest of Railbelt electricity consumers</u>.

In order to assure the lowest cost of construction (in accordance with good utility practices), it is desirable to have full and fair competition among qualified transmission developers for new transmission facilities determined to be necessary and prudent. As discussed above, the ERCOT model makes provisionsq for such competition. If the TRANSCO does not have to compete with other developers, ratepayers cannot be assured that the costs they must bear were reasonably and prudently incurred.

We are therefore concerned about the proposed regulatory structure suggested by the NERA report, under which projects would be reviewed, preapproved, and their costs rolled into rates. As NERA describes the RCA's proposed role:

> …the USO reviews, approves, and submits long-term, large inter-regional projects to the RCA for pre-approval and application of formula rates and accelerated cost recovery. Projects so submitted and determined by the USO

> and RCA to have met the USO's predetermined stake-holder developed planning protocols *are assured such rate recovery*.[9]

It is not clear how cost overruns resulting from mismanagement, delays, or other avoidable problems would be recovered other than rolling these into customer rates as well. [10]

If a TRANSCO believes it is truly best positioned to provide the best and least expensive solution, it should not be concerned that a competitive transmission developer will undercut it in a competitive procurement process. In fact, a competitive process could serve the TRANSCO's interests. It will give the TRANSCO "cover" if it ultimately wins and constructs the project and later, questions are raised about whether its solution was prudent and economic. Competition should be a "win-win" for all.

III. <u>Conclusion</u>

As experienced transmission developers who have operated successfully in competitive environments and who would welcome such an opportunity in Alaska, our main concerns are two-fold: First, that necessary and beneficial transmission improvements should not be needlessly delayed by structural considerations (as important

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[9] NERA Study, p. 26. Emphasis added.

[10] Ares/PB have successfully developed and constructed major transmission projects in the Lower 48 based on a scheduled completion date and a not-to-exceed cost. Thus, Ares/PB bears the financial risk of delays and cost overruns rather than their utility customers or ratepayers.

as these may be); and second, that any such structural changes accommodate competitive market forces in the development, financing, and construction of these improvements.

As stated in our March 31 comments, we do not oppose the formation of an ISO/USO and, in fact, recognize that such an entity can be highly beneficial in setting common rules for reliable grid operation. However, as discussed above, there are other proven models to effectively accomplish coordinated transmission planning and investment -- in particular, ERCOT -- that do not rely on a monopoly TRANSCO model.

We note that according to the NERA report, even in the absence of an ISO/USO, voluntary exchanges among the utilities (enabled by transmission upgrades) have a net present value benefit of approximately $250 million.[11] It may be a disservice to Railbelt electricity consumers to precondition the capture of benefits on a single path forward if that path is likely to be the most complicated, the most expensive, and the most contentious.

Finally, we do acknowledge the need for and strongly encourage the following steps:

1. Establish a transmission cost allocation methodology that will provide some certainty to utilities and independent transmission developers regarding a mechanism for recovery of prudently incurred transmission costs.

[11] NERA Study, pp. 7-8.

2. Prepare a framework for a competitive transmission developer selection process. The selection criteria should be based on a) the need for the proposed project, b) the financial and technical qualifications of those wishing to compete for the right to construct new transmission, and c) any unique qualifications and/or features of proposals submitted by interested transmission developers (including the incumbent utilities).
3. Encourage voluntary joint transmission planning by the existing utilities, perhaps with the stipulation that in the absence of concrete progress within a reasonable period of time, the RCA would take greater control of the transmission planning process.
4. Identify and further define those transmission upgrades in the Railbelt that provide both a basis for meaningful transmission planning and maximize benefits to ratepayers, and then move forward on a competitive transmission developer selection process as noted in (2) above.

Ares/PB greatly appreciates the opportunity to provide these comments on these important issues.

Dated this 12th day of June, 2015.

Sincerely,

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ATTACHMENT I

CHAPTER 25. SUBSTANTIVE RULES APPLICABLE TO ELECTRIC SERVICE PROVIDERS.

Subchapter I. TRANSMISSION AND DISTRIBUTION.

DIVISION 2. TRANSMISSION AND DISTRIBUTION APPLICABLE TO ALL ELECTRIC UTILITIES.

§25.216. Selection of Transmission Service Providers.

(a) **Application.** This section applies to any transmission service provider (TSP), or entity seeking to become a TSP, that submits an application to construct, operate, and maintain one or more competitive renewable energy zone (CREZ) Transmission Plan (CTP) Facilities.

(b) **Purpose.** The purpose of this section is to state the requirements that govern the selection and performance of one or more TSPs, or entities seeking to become TSPs, that will be responsible for the construction, operation, and maintenance of CTP Facilities.

(c) **Definitions.** The following words and terms when used in this section have the following meaning unless the context indicates otherwise:

(1) **CREZ Transmission Plan (CTP)** -- The transmission capacity plan required by §25.174(c)(2) of this title (relating to Competitive Renewable Energy Zones).

(2) **CTP Facility** -- A transmission line with or without a substation or any other transmission facility as identified in the CTP and designated by the commission.

(3) **CTP Proposal** -- An application to serve as a Designated TSP for one or more CTP Facilities that is submitted by an Interested TSP.

(4) **Designated TSP** -- An Interested TSP that the commission has designated to construct, operate, and maintain one or more CTP Facilities.

(5) **Interested TSP** -- An entity seeking status as a Designated TSP that meets the definition of a TSP as defined by §25.5(143) of this title (relating to Definitions) or that commits to meeting such definition as necessary to fulfill its obligations as a Designated TSP.

(6) **Funds from operations** -- Net income from continuing operations, depreciation and amortization, deferred income taxes, and other non-cash items.

(7) **Total debt** -- Long-term debt, current maturities, commercial paper, and other short-term borrowings.

(8) **Historically underutilized business** -- Defined by Texas Government Code §481.191, as it may be amended.

(9) **Interest** -- Gross interest without subtracting capitalized interest and interest income.

(d) **Selection process.** The following steps outline the process the commission will employ to select Designated TSPs.

(1) The commission will initiate a proceeding that will invite each Interested TSP to file a CTP Proposal. The presiding officer shall set a procedural schedule that will enable the commission to decide the issues in the proceeding within 180 days after the deadline to file CTP Proposals unless good cause exists for setting a different schedule. The presiding officer may sever issues or CTP Proposals into separate proceedings.

(2) For each existing CTP Facility requiring an upgrade or modification, the commission will select the owner of the facility to be the Designated TSP for the CTP Facility, unless the owner requests that a different Interested TSP be selected or good cause exists to select another transmission service provider.

(3) For each new CTP Facility, the commission will select a Designated TSP pursuant to subsection (e) of this section.

(e) **Selection of Designated TSP.** The commission will evaluate each CTP Proposal received by considering, at a minimum, the current and expected capabilities of the Interested TSP to finance, license, construct, operate, and maintain the CTP Facility or Facilities in the most beneficial and cost-effective manner and the expertise of the Interested TSP's staff, the Interested TSP's projected capital

§25.216(e) continued

costs and operating and maintenance costs for each CTP Facility, the Interested TSP's proposed schedule for development and completion of each CTP Facility, the Interested TSP's financial resources, the Interested TSP's expected use of historically underutilized businesses unless the Interested TSP is an electric cooperative or municipally owned utility, and the Interested TSP's understanding of the specific requirements to implement the CTP Facilities in its CTP Proposal and, if applicable, the Interested TSP's previous transmission experience and the Interested TSP's historical operating and maintenance costs for its existing transmission facilities.

(1) Each Interested TSP shall submit with its CTP Proposal the following information:

(A) A description of the process that the Interested TSP will use for the preparation of any required application for a certificate of convenience and necessity (CCN).

(B) For each CTP Facility transmission line, a general description of the proposed structure types (lattice, monopole, etc.) and composition (wood, steel, concrete, hybrid, etc.), conductor size and type, and right-of-way (ROW) width.

(C) The projected in-service date of each CTP Facility.

(D) A discussion of the type of resources, including relevant capability and experience (in-house labor, contractors, other TSPs, etc.) contemplated for use by the Interested TSP for the licensing, design, engineering, material and equipment procurement, ROW and land acquisition, construction, and project management related to the construction of each CTP Facility.

(E) A discussion of the type of resources contemplated by the Interested TSP for operating and maintaining each CTP Facility after it is placed in-service.

(F) A discussion of the capability and experience of the Interested TSP that would enable it to comply with all on-going scheduling, operating, and maintenance activities required for each CTP Facility, including those required by policies, rules, guidelines, and procedures established by the Electric Reliability Council of Texas independent system operator or other independent organization, if applicable.

(G) Resumes for key management personnel that will be involved in obtaining a transmission CCN and constructing, operating, and maintaining each CTP Facility.

(H) A discussion of the Interested TSP's business practices that demonstrates that its business practices are consistent with good utility practices for proper licensing, designing, ROW acquisition, constructing, operating, and maintaining CTP Facilities. The Interested TSP shall also provide the following information for the current calendar year and the five calendar years immediately preceding its filing under subsection (d)(1) of this section.

(i) A summary of law violations by the Interested TSP found by federal regulatory agencies, state public utility commissions, other regulatory agencies, or attorneys general.

(ii) A summary of any instances in which the Interested TSP is currently under investigation or is a defendant in a proceeding involving an attorney general or any state or federal regulatory agency, for violation of any laws, including regulatory requirements.

(I) For each CTP Facility transmission line, the estimated direct costs in current dollars to construct (including design, engineering, materials, labor, transportation and other necessary expenses but excluding ROW and land acquisition) representative tangent, 30-degree, and 90-degree structures suitable for the type of conductor that

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STATE OF ALASKA

BEFORE THE REGULATORY COMMISSION OF ALASKA

Before Commissioners: Robert M. Pickett, Chair
Stephen A. McAlpine
T.W. Patch
Norman Rokeberg
Jan Wilson

In the Matter of the Evaluation of the Operation)
and Regulation of the Alaska Railbelt Electric)
Transmission System)
_____) I-15-001

CHUGACH ELECTRIC ASSOCIATION, INC.'S
RESPONSE TO QUESTIONS POSED IN ORDER I-15-001(1)

Pursuant to Order I-15-001(1), Chugach Electric Association, Inc., ("Chugach") hereby responds to the Regulatory Commission of Alaska's ("RCA" or "Commission") questions posed in Order No.1 of this docket.

1. *Would the Creation of an Independent System Operator or similar structure for electric utilities in the Railbelt be the best option for effective efficient electrical transmission? If not what other approach would be best?*

In short, the answer to this is yes. Creation of a stakeholder driven Unified System Operator (USO) with the following attributes will provide the least-cost and most reliable Railbelt power system in the future.

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A. Governance

The initial USO board membership should be comprised of electric industry professionals who have direct operational experience in transmission or generation infrastructure and should include professional representatives of relevant stakeholder segments that will expand over time as those segments mature.

B. Characteristics

1. Independence ensured organizationally by a professional stakeholder-appropriate Board of Directors.
2. Possession of operational authority over the Railbelt transmission system.
3. Exclusive authority to maintain Railbelt reliability.
4. Participation by all entities using interconnected transmission system.
5. Committed to maximizing the use of existing resources to avoid duplication of facilities and effort.

C. Functions of USO

1. Requires and facilitates non-discriminatory open access transmission.
2. Adopts, maintains and enforces Railbelt reliability standards - initially adopts North American Electric Reliability Corporation (NERC) based reliability standards equivalent to those modified and approved by the Intertie Management Committee (IMC) for the Railbelt.

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3. Either internally or through delegation, plans, coordinates and conditions necessary transmission additions and upgrades.
4. Conditions and authorizes the interconnection of new generation.
5. Administers a universal tariff and adopt a transmission pricing system that will promote efficient use and expansion of transmission and generation facilities.
6. Manages parallel path flow and transmission congestion.
7. Functions as a single control area operator either itself or through delegation, and requires and facilitates a regional economic dispatch to maintain reliability and maximize generation efficiency.

D. <u>USO-RCA Regulatory Compact</u>

1. RCA ensures cost recovery through rates throughout the planning, permitting and construction phases of projects planned and conditioned by the USO.
2. RCA honors existing agreements and allows cost recovery of existing investments.
3. RCA ensures that standards, operating conditions and tariffed rates are just, fair and reasonable to all ratepayers and allows transitional ramp-in rates to minimize individual utility USO implementation rate impacts.
4. Existing transmission assets used for the benefit of the Railbelt region will receive full cost recovery from the USO including depreciation (both direct and general plant), interest, and margin, as well as operations, maintenance,

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applicable taxes, and general & administrative expenses necessary for the operation of the transmission system.

5. USO reviews, approves, and *submits* long-term, large inter-regional projects to the RCA for pre-approval and application of formula rates and accelerated cost recovery. Projects so submitted and determined by the USO and RCA to have met the USO's predetermined stake-holder developed planning protocols are assured such rate recovery.

The time has come to restructure the Railbelt system in a manner that appropriately reflects the integrated nature of the transmission system and which ensures that Railbelt utilities can continue to provide safe, highly reliable, low-cost electricity to Alaska customers into the future.

In this document, Chugach uses the term unified system operator (USO) to distinguish a Railbelt specific version of Independent System Operations from the more complex FERC Independent System Operator (ISO), or Regional Transmission Organization (RTO). One of the most significant differences between the Railbelt USO and the Federal Energy Regulatory Commission ("FERC") type ISO or RTO will be its scale. Rather than creating a complex market structure with day-ahead, hour ahead and real-time markets for energy, capacity, ancillary services and the associated futures hedging markets for these commodities, the USO will operate a simple security-constrained economic dispatch for the entire interconnected Railbelt region; and, administers an after-the-fact settlement process that ensures each generation owner

receives equitable compensation for the use of its facilities in accordance with predefined settlement processes.

A second difference will be the structure of the USO governance board. Given the limited pool of industry experts in the Railbelt, the Railbelt electrical utilities, and any follow-on Transco, must have a direct role in USO governance, and therefore representation on the governing board. The independence of the proposed USO board will be assured through the professional representatives on the USO board of relevant stakeholder groups: importantly the RCA Chairman (ex-officio non-voting), Independent Power Producers ("IPPs"), renewables, industrials, economic development organizations and community professional members at large. With such a diverse make-up strict professional requirements for each seat will be a requirement.

The Commission has a critical role to play in the restructuring of the Railbelt utility system through the adoption of a USO model that reflects both the unique characteristics of the Railbelt electric system and builds upon work already completed in the Lower-48 states where the "FERC" has approved numerous ISOs and the State of Texas has established the Electric Reliability Council of Texas ("ERCOT") under the regulatory authority of the Public Utility Commission of Texas. Always recognizing the unique characteristics of the Railbelt in terms of relative size and complexity, these proven constructs provide a clear and proven path forward for the Railbelt.

The Commission must, however, seek technical, organizational and structural input regarding the development of a USO structure for the Railbelt first from the

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Railbelt utilities as the foremost experts in current Railbelt operations, and next from electric industry experts, "IPPs", renewable interests and other interested stakeholders. As addressed below, Chugach believes the Commission has both the statutory authority and responsibility to determine both what is good for a particular utility and its customers and what is good for all Railbelt customers through the adoption a USO model for Alaska.

DISCUSSION

The discussion that follows provides a brief overview of the issues surrounding the historical and current state of the Railbelt and the most optimal business structure for the Railbelt on a going forward basis. A more detailed discussion of this subject attached in the report entitled "Regulatory Implementation Filing on an Alaskan Railbelt USO" marked as Exhibit 1 (Hereinafter "Report."). A second report, a third party review of the economics Railbelt unification, economic dispatch and transmission improvement by National Economic Research Associates (NERA) is under final review and if the Commission desires, will be submitted as a follow-on document to this filing. In particular, the following discussion highlights (1) the history of the Railbelt and the need for change; (2) how the development and creation of a USO can bring about that change under the Commission's authority and guidance; and (3) how the potential follow-on development of a Transco within the USO structure can move the Railbelt

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forward in an efficient and economical manner and ensure that investment in transmission occurs when and where needed. Each is discussed in turn.

A. Backdrop

The Report clearly demonstrates that "the Railbelt is at a crossroads." For nearly 30 years the Railbelt electric grid has been a cornerstone to stable economic growth and quality of life from Fairbanks to Homer. With the termination of the long-term wholesale power contracts in the southern Railbelt, the Railbelt system has become increasingly balkanized with each utility planning to meet their own individual needs – many times without the benefit of joint planning and consideration of Railbelt customers as a whole. The brief and high-level history of the Railbelt organization and governance set forth in the Report demonstrates that the pattern of bilateral and multi-lateral agreements between individual utilities that comprise the current Railbelt business model produces less than optimal results and is insufficient to address future challenges, including the need for significant investment in regional transmission.[1]

Indeed, the historical arrangements between Railbelt utilities narrowly focus on specific issues or projects and are therefore necessarily limited in scope. These arrangements are exceedingly complex and difficult to unwind. The terms of these arrangements have often outlived the circumstances in play at the time they were negotiated. If allowed to continue, these arrangements will result in less efficient

[1] Report at p. 36.

utilization of capital and subsequently higher costs to Railbelt consumers. This is born out in the current series of rate cases and disputes before the Commission.

Recognition of the integrated nature of electric systems has been a cornerstone of FERC's open access and non-discrimination policies in the lower-48, where FERC asserted that:

> Electric energy does not travel on a preset path but rather along all available pathways in accordance with the laws of physics. Continuous fluctuations in the demand for power and generation operations affect power flows throughout the transmission grid. This means that the electric energy received by an individual customer at any one time could be delivered over any number of transmission facilities that constitute the transmission grid. Changes in demand for or supply of electricity at any point in the system will change flows on all the transmission lines to varying degrees, often in ways that are not easily controlled.[2]

All Railbelt utilities rely on the integrated Railbelt system, most importantly to deliver reserves both spinning and non-spinning; it is this reserve sharing pool that function properly as recently as Monday the 30th to prevent the EGS plant trip from cause MEA to at best shed customers and at worst collapse the system. Secondarily, it is the integrated Railbelt system, that delivers economy energy from more cost effective generation to higher cost regions resulting in millions of dollars of savings to Railblet consumers annually. However, the manner in which transmission and generation is planned, developed and paid-for fails to reflect this reality and contributes to the problem of "free riders,"[3] which FERC has described as follows:

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[2] *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, FERC Stats. & Regs. ¶ 31,323 at P 486 (2011), *order on reh'g*, Order No. 1000-A, 139 FERC ¶ 61,132 at P 559, *order on reh'g and clarification*, Order No. 1000-B, 141 FERC ¶ 61,044 (2012).

[3] Report at p. 36-37

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> the risk of the free rider problems associated with new transmission investment is particularly high for projects that affect multiple utilities' transmission systems and therefore may have multiple beneficiaries. With respect to such projects, any individual beneficiary has an incentive to defer investment in the hopes that other beneficiaries will value the project enough to fund its development.[4]

From a reserve sharing perspective the "free rider problem" is very real in the Railbelt today, as is demonstrated by HEA operating interconnected to the grid, but outside the reserve pool. Further, both in an historical context, and on a going-forward basis utilities such as ML&P that pay a disproportionately small share of the integrated system transmission cost with respect to their load and reserve requirement will exacerbate this problem. As assets deteriorate and reach the end of their natural life, this exacerbation will distort transmission investment, and reduce Grid robustness; this will in turn will further constrain transmission and distort economic dispatch and regional investment decisions.

Further in Order 2000 FERC stated that:

> The comments on the NOPR[5] overwhelmingly support the conclusion that independent regionally operated transmissions grids will enhance the benefits of competitive electricity markets. Competition in wholesale electricity markets is the best way to protect the public interest and ensure that electricity consumers pay the lowest price possible for reliable service.
>
> Regional institutions can address the operational and reliability issues now confronting the industry, and eliminate any residual discrimination in transmission services that can occur when the operation of the transmission system remains in the control of a vertically integrated

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[4] *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, supra.*

[5] Regional Transmission Organizations, Notice of Proposed Rulemaking, 64 FR 31,390 (June 10, 1999), FERC Stats. & Regs. 32,541 at 33,683-781 (1999).

> utility. Appropriate regional transmission institutions could: (1) improve efficiencies in transmission grid management; (2) improve grid reliability; (3) remove remaining opportunities for discriminatory transmission practices; (4) improve market performance; and (5) facilitate lighter handed regulation.
>
> Thus, we believe that appropriate RTOs could successfully address the existing impediments to efficient grid operation and competition and could consequently benefit consumers through lower electricity rates resulting from a wider choice of services and service providers. In addition, substantial cost savings are likely to result from the formation of RTOs ….[6]

A regionally operated transmission grid in the Railbelt will increase competitive opportunities for generation investment by IPP's and others in the Railbelt. And, while a truly competitive hour-by-hour market may not be practical for many years this competition for generation investment will make the Railbelt's economic dispatch profile more efficient.

Going forward, the fiction that Railbelt utilities can remain islands and lean on the investments of others must be rejected. It is necessary to take a broader view of the entire electric grid to facilitate the timely and orderly expansion of and/or modification to the transmission system to maintain reliability and promote efficiency in the delivery of power to customers. Chugach believes that investment in needed transmission works best when the utilities that invest in transmission infrastructure are ensured the timely recovery of the costs of such investments from all users of the "single machine." The

[6] Regional Transmission Organizations, Docket No. RM99-2-000; Order No. 2000, 89 FERC ¶ 61,285, (Issued December 20, 1999) at 3 – 4.

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current model, which is viewed through the lens of individual utility franchises, fails to achieve this basic and fundamental objective.

Accordingly, in Chugach's response to this docket, we are requesting that the Commission, Railbelt utilities, and stakeholders take a broader view of the entire electric grid and work together to restructure the current model for the benefits of all customers. Upon taking a broader view, Chugach believes the solution to the restructured Railbelt is a stakeholder governed USO and a follow on voluntary transmission-only utility charged with financing, constructing, operating and maintaining the Railbelt transmission system in a reliable and non-discriminatory fashion and whose costs and benefits are shared equitably by *all* end-use consumers interconnected to the Railbelt grid. This "USO" business model will facilitate regional and interregional coordinated operations and planning, ensuring that <u>all</u> Railbelt consumers continue to receive safe, reliable, stable low-cost energy to incent economic growth well into the future.

B. The Case for a USO.

Many challenges confront the Railbelt system is, and a tested and well-proven solution exists. The solution is a stakeholder governed, non-asset owning, USO, whereby the USO has functional control over transmission assets, but ownership would remain with Railbelt utilities (or a Transco if a utility elects to participate in one and asset transfer is required). All benefits and costs, the fruits of the labor, of these organizations including the benefits of economic dispatch, and the costs of USO

conditioned and RCA approved transmission improvements will be equitably shared amongst all Railbelt end-use consumers. While a sea-change for Alaska, the formation and implementation of a USO structure is not a novel concept; instead, its efficacy has been proven in numerous contexts.

Through the issuance of Order No. 2000, FERC enabled and encouraged participation in ISOs.[7] Currently, there are nine ISOs/"RTOs" operating in North America. One such ISO provides a roadmap for the Commission to follow. Specifically, the Public Utility Commission of Texas authorized the development of ERCOT and is the primary regulatory body overseeing its operations and its member utilities, much as this Commission would sanction and oversee any USO created for the Railbelt region. The map below provides a visual depiction of the scope of ISOs in North America.[8]

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[7] *See Regional Transmission Organizations*, Order No. 2000, FERC Statutes and Regulations, Regulations Preambles July 1996-December 2000 ¶ 31,089 (1999), *order on reh'g*, Order No. 2000-A, FERC Statutes and Regulations, Regulations Preambles July 1996-December 2000 ¶ 31,092 (2000), *aff'd sub nom. Pub. Util. Dist. No. 1 of Snohomish County, Washington v. FERC*, 272 F.3d 607 (D.C. Cir. 2001).

[8] This Map can be found on FERC's website at http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-rto-map.pdf

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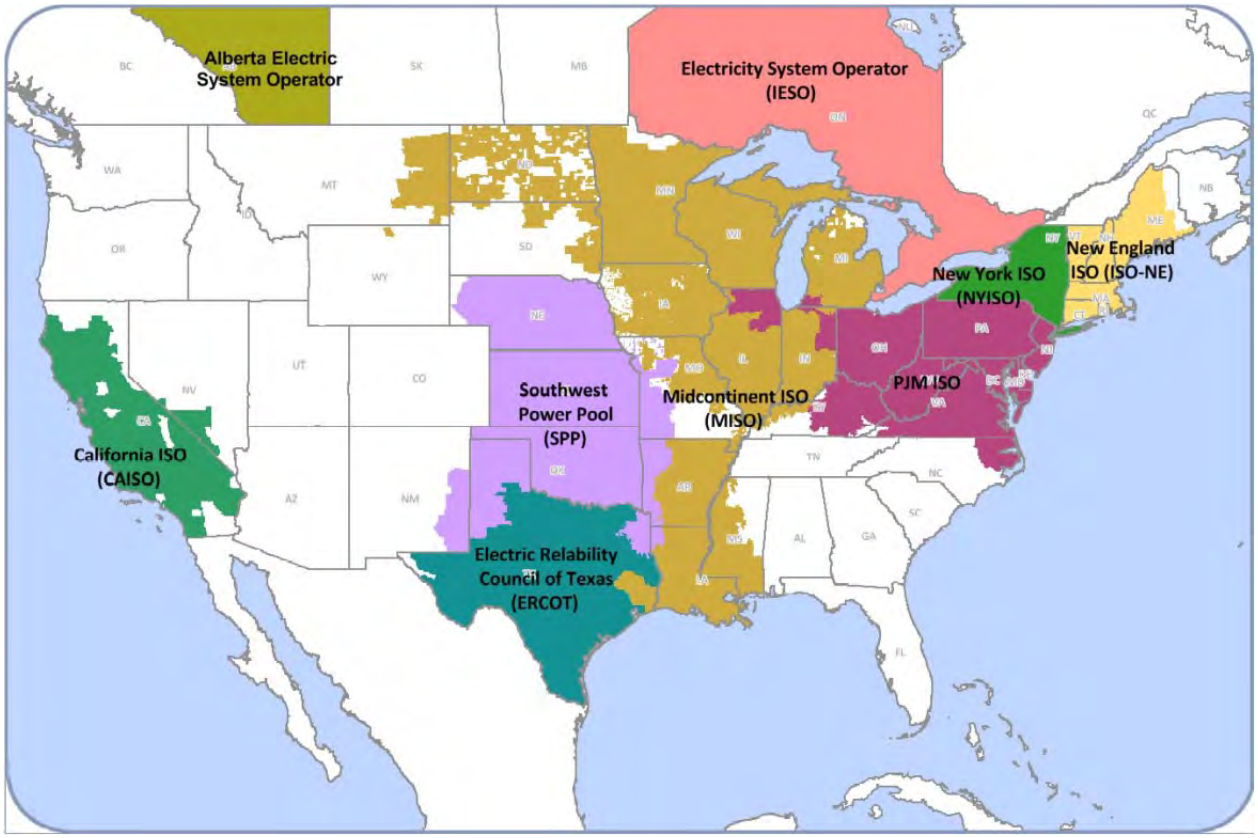

Granted much of the market infrastructure found in ISOs and RTOs in the lower 48 is too complex for the fairly simple and straight forward Railbelt Grid. Currently, and for the foreseeable future, the Railbelt as an economic region will not have sufficient market participation to create a truly competitive real-time energy markets. However, significant parts of the ISO/RTO infrastructure do make sense for the Railbelt: the inclusive governance structure, unified transmission rate structure, open access transmission system, regional transmission and generation focus, standardization of planning and interconnection protocols, and focus on regional reliability and economic dispatch efficiency are attributes that the Railbelt requires immediately. The driver behind the development and creation of ISOs arose from a desire to economically

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dispatch generation resources pooled together by numerous market participants and ensure that access to the transmission system was available to all users on an open non-discriminatory basis. With increased competition and more "independence" from individual stakeholder interests, costs of delivered energy from a wider pool of resources are reduced for consumers. For example, numerous studies have shown that Railbelt customers can expect to save tens to hundreds of millions of dollars annually through system-wide economic dispatch and the transmission improvements facilitated by the development of a USO.[9]

These savings result from the USO ensuring the reliability, efficiency, and non-discriminatory operation of the interconnected generation and transmission system are attained. Such functions can be incorporated into the operations of the Railbelt region through the development of detailed operating and planning standards (and protocols) developed by personnel with expertise in operating and planning bulk power systems. All stakeholders/participants in the USO have expertise to contribute and should have input into the development of these standards. Chugach believes that such standards can and should be developed through an inclusive stakeholder process set out in the bylaws or procedures of the USO and approved by the Commission. Such an inclusive process will ensure the USO will develop transmission planning and interconnection protocols, implement such protocols and endorse transmission expansion plans to move

[9] Report at p. 36.

transmission development forward (with pre-approval from the RCA) for the benefit of all customers – not to the benefit of any individual utility or stakeholder.

Finally, as the Report demonstrates, the benefits of a USO are best realized by establishing a single system-wide revenue requirement of the entire Railbelt transmission system. The revenue requirement must be allocated to all end-use consumers perhaps based on some combination of peak demand and energy and adjusted (perhaps through a multi-year transitional period) to reflect the changes of relative contributions of the parties based on legacy investments. The current situation of pancaked transmission rates (where a separate access charge is assessed every time the transaction contract path crosses the boundary of another utility) hurts consumers who pay higher transmission rates and have access to fewer generation options.[10]

C. The Case for a Transco

Chugach also believes that the benefits of a USO and the establishment of a single network revenue requiremement for all consumers using the integrated Railbelt transmission system to serve customers may be enhanced through the formation of a single transmission-only utility, a "Transco." A Transco is a non-independent, commercially interested party that plans, finances, develops, and owns transmission

[10] As FERC has repeatedly confirmed, a central goal of its RTO policy is the elimination of rate pancaking; therefore, "it prohibited RTOs from assessing customers multiple access charges for the same transaction to recover fixed costs (*i.e.*, pancaked rates)." *See e.g., American Electric Power Service Corporation v. Midwest Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C,* 122 FERC ¶ 61,083 at P 4 (2008). According to the Commission, "RTOs provide increased efficiency to wholesale markets ***by eliminating pancaked rates***, internalizing parallel flow, managing congestion efficiently, and operating markets for energy, capacity and ancillary services." *Midwest Independent Transmission System Operator, Inc.*, 126 FERC ¶ 61,139 at P 60 (2009). Emphasis added.

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lines, substations, and other assets within and subject to the USOs planning interconnection and reliability standards and the RCA's approval. Importantly, the Transco would not own generation and is, therefore, independent of the generation function. A Transco may or may not involve the transfer of assets. A Transco could be responsible for regional transmission system operations, but may not not own any existing Railbelt transmission assets. Another option would involve a Transco that excluded existing assets but invested strictly in new transmission assets. Alternatively, the Transco might focus on new assets initially with an eventual melt-up to some or all assets over a multi-year transitional period. In any case, participation in the Transco must be voluntary,[11] but should be encouraged by the Commission – much like FERC policies encourage transmission ownership by Transcos. However, irrespective of participation, the transmission costs of the Transco must be spread equitably over the entire aggregate load of the Railbelt to reflect use of the "single machine" that comprises the Railbelt transmission system.

The transfer of transmission assets, if applicable, or control of such assets where transfer was not practical to a transmission-only company could produce additional benefits because the transmission company business model will enhance asset management and responsiveness to signals indicating when and where transmission investment is needed. Since it is not involved in the generation or distribution of energy,

[11] Chugach recognize that involvement in the Transco may require a lengthy transition process. This transition process is necessary to ensure financial stability since participating organizations bond covenants and debt ratings are closely tied to the assets pledged in bond indentures some of which may be involved in the asset transfer. During the transition process control of these transitional assets could be transferred to the Transco through temporary operating agreements.

a Transco does not have any competing capital considerations and can focus on transmission needs identified pursuant to approved USO protocols. In addition, implementation of a Transco will result in standardization and economies of scale from an operations and maintenance perspective.

A Transco's development of needed transmission works best when the Transco's investment in transmission infrastructure is studied and authorized by the USO then pre-approved by the RCA. This review, including pre-approval by the Commission, can justify ensuring timely recovery of the costs of such investment regardless of the stage of "used and usefulness" in the regulatory process. However, as noted above, irrespective of participation, all transmission costs must be pooled and recovered from all Railbelt end-users in some proportion cost-causation characteristics, such as peak demand responsibility and adjusted as discussed above.

Should the Commission authorize the formation of a USO and follow-on Transco, the Commission should also consider reforming the manner in which the Railbelt utilities (or a Transco) recover their revenue requirements associated with their transmission plant on a cost-of-service basis. In particular, Chugach believes that utilities in the USO should be able to seek approval from the Commission to transition from "stated rates" to "Formula Rates" for transmission cost recovery. Such a transition would help to ensure timely recovery of investment in transmission infrastructure which has been studied and endorsed by the USO and approved by the RCA.

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Chugach believes that the Commission should consider responses to this question with an eye to both the problems that are identified and the remedies that may ultimately be adopted to address those problems. In Chugach's view, the question posed should not present the Commission with binary choices. Thus, a conclusion that the statutes contain sufficient legal authority to undertake specific regulatory activities does not necessarily require the Commission to mandate creation of an independent system operator or similar entity. Much depends on the functions that an ISO or similar entity would undertake. Rather, if the Commission determines that there are several potential alternatives which would serve the public interest, the Commission may conclude that the quantum of authority found in the statutes will more strongly justify some alternatives more so than others.

In this regard, it is useful to recognize that the FERC, in adopting their order regarding Regional Transmission Organizations, Order No. 2000, Docket No. RM99-2-000 (1999), recognized that the focus should be on the formation of good policy:

> Further, we want the industry to focus its efforts on the potential benefits of RTO formation and how best to achieve them, rather than on a non-productive challenge to our legal authority to mandate RTO participation.[12]

Chugach urges the Commission to follow the template provided in FERC Order 2000 – which sets forth a framework under which a regional transmission organization can be established and regulated, with voluntary participation by utilities.

[12] Order 2000 at 116.

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A Formula Rate allows regulated rates for transmission service to change without a rate case being filed, so long as such changes are consistent with the approved formula. A more detailed discussion of Formula Rates is included in Appendix D to the Report. A formula rate structure represents a positive step forward in ensuring more timely recovery of costs; however, an additional step is required to facilitate the construction of very long-term projects.

For large-scale interregional transmission projects where the time from the incurrence of cost to the recovery of costs (when the facility is placed in service) may be years, an intermediate rate recovery mechanism is required. That is to say the Commission should allow (subject to ISO and Commission pre-approval) inclusion of components of larger longer-term projects to be included in rates before the entire system is "used and useful." Absent such a mechanism, the constructor is forced to borrow funds to make interest payments on the construction debt and subsequently the borrowing cost of these funds can approach or exceed the total construction cost of the project. This creates significantly increased costs to the end-use consumer and an inherent disincentive to investing in long-term infrastructure in the Railbelt. Implementation of the USO model and Commission pre-approval of projects will create a unified business structure which will facilitate the implementation of formula rates and accelerate rate recovery.

2. *To what extent does our existing statutory and regulatory authority extend to mandating the creation of an independent system operator or similar entity and to regulating the rates and practices of such an entity?*

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At the same time, FERC also recognized that as to some functions and activities, participation would be mandatory:

> While we have concluded on this record that it is in the public interest to provide for a voluntary approach to RTO formation that relies upon encouragement, guidance, and support from the Commission, this does not mean that all aspects of this Rule are voluntary.[13]

In particular, Chugach believes that operating an interconnected utility in the Railbelt for purposes of reserves sharing, regardless of whether that utility is marketing energy to other utilities and customers, necessarily produces joint costs which must be shared equitably and that must be mandatory.[14]

The task before the Commission with regard to an independent system operator or similar entity must be put into the appropriate setting. The Legislature has established in AS 42.05 a set of overall policy goals, some specific legal and regulatory tools to achieve those goals, and in a few cases, criteria to be utilized in applying the legal tools. Chugach urges the Commission to (1) define the nature of the challenges posed with operating an integrated electrical grid involving multiple public utilities; (2) determine if the public interest would be served by dispatching energy to consumer on a "least cost" basis; (3) determine if additional problems exist in transmission of energy among participating entities; (4) address system reliability; and (5) make findings as to the best regulatory remedies to address the challenges. Chugach believes that the

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[13] *Id.* at 117.

[14] The Commission may find that to solve additional issues, for example establishment of load balancing areas and providing for common dispatch, it may be necessary to vest an ISO type of organization with additional powers.

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adequacy of the Commission's statutes will depend upon the goals adopted by the Commission.

With this as background, Chugach offers the following legal analysis of the Commission's statutory authority.[15]

A reasonable and complete reading of the RCA's enabling statues supports the conclusion that the Commission is empowered to regulate the relationships between electric utilities.

Since the formation of the RCA's predecessor agency, the Alaska Public Utilities Commission, it has been recognized that specific and active role to play in regulating the relationship among utilities. "The Commission was created to serve the public interest, and it cannot allow private bickering and disagreement to prohibit reliable service to the consumer."[16]

The Legislature has made both general and specific grants of authority to the Commission to approve the formation of a structure which includes the ability to require economic dispatch of electric energy. As is the case with most administrative agencies, it is appropriate to view and understand the statutory framework as a whole.

AS 42.05.141 sets out the general powers of the Commission. In relevant part, it provides:

---

[15] Chugach does not believe that the Commission's regulations provide legal authority independent of the provisions of AS 42.05.

[16] 1 APUC 5 at 16 (1965).

> (a) The Regulatory Commission of Alaska may do all things necessary or proper to carry out the purposes and exercise the powers expressly granted or reasonably implied in this chapter, including
>
> (1) regulate every public utility engaged or proposing to engage in a utility business inside the state, except to the extent exempted by AS 42.05.711;
>
> (2) investigate, upon complaint or upon its own motion, the rates, classifications, rules, regulations, practices, services, and facilities of a public utility and hold hearings on them;
>
> (3) make or require just, fair, and reasonable rates, classifications, regulations, practices, services, and facilities for a public utility;
>
> (4) prescribe the system of accounts and regulate the service and safety of operations of a public utility;

In particular, paragraph (3) empowers the Commission to "make or require just … and reasonable rates … practices, services and facilities …." While setting out the traditional boundaries of regulation, this provision should be read in light of subsection (c) of this statute which provides: "In the establishment of electric service rates under this chapter the commission shall promote the conservation of resources used in the generation of electric energy."

Overall, interpretation of the scope of the Commission's powers is informed by case law. In *Homer Elec. Ass'n Inc. v. City of Kenai*, 816 P.2d 182 (Alaska 1991), the Alaska Supreme Court interpreted the scope of the powers and duties of the RCA's predecessor agency, the APUC under AS 42.05.141:

> This provision presents two guiding principles for determining the extent of the APUC's jurisdiction under specific provisions of the Act.
>
> On the one hand, it includes a principle of limitation, restricting the APUC's power to the specific jurisdictional areas of its 'stated purposes.' On the other hand it includes a principle of expansion, mandating that the APUC's power to act within it specific areas of jurisdiction 'is to be

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liberally construed.' *Id.* at 186. *See also, MEA v. Chugach Electric Ass'n Inc.*, 58 P.3d 491 at 494 (Alaska 2002).

Thus, while it is necessary to locate specific references to the powers granted to the Commission in statutes, once those grants of authority are identified, the RCA's power to act is to be liberally construed.

Multiple instances of the grant of authority to the Commission to order the relationships and operations among utilities can be found.

A cornerstone of the Commission's statutory authority is found in AS 42.05.221(a), which sets forth the power to grant certificates of public convenience and necessity:

> (a) A public utility may not operate and receive compensation for providing a commodity or service without first having obtained from the commission under this chapter a certificate declaring that public convenience and necessity require or will require the service.

Subsection (d) of AS 42.05.221 grants to the Commission the authority to regulate competing utilities and eliminate duplication of facilities:

> (d) In an area where the commission determines that two or more public utilities are competing to furnish identical utility service and that this competition is not in the public interest, the commission shall take appropriate action to eliminate the competition and any undesirable duplication of facilities. This appropriate action may include, but is not limited to, ordering the competing utilities to enter into a contract that, among other things, would:
>
> (1) delineate the service area boundaries of each in those areas of competition;
>
> (2) eliminate existing duplication and paralleling to the fullest reasonable extent;
>
> (3) preclude future duplication and paralleling;
>
> (4) provide for the exchange of customers and facilities for the purposes of providing better public service and of eliminating duplication and paralleling; and

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(5) provide such other mutually equitable arrangements as would be in the public interest.

In U-97-201 (3), *Municipality of Anchorage d/b/a/ Municipal Light & Power v. Chugach Electric Association, Inc.*, (1998) the Commission interpreted the powers granted in AS 42.05.221 broadly:

> In the Commission's view, the statutory framework, discussed above, provides it with comprehensive control over public utilities and the services they provide to the public in this state. Importantly, they give the Commission policymaking authority to determine when and how to implement competition among public utilities in the public interest. The Commission may decide that it is in the public interest to allow only one electric utility to serve a community, as it recently decided in Docket U-94-2, in which it granted Alaska Power Company the exclusive right to serve Klawock. See Order U-94-2 (19); see also Order U-95-9 (3)/U-95-30(3) (allowing the City of Thorne Bay to retain an exclusive right to serve the customers in its service territory).
>
> Or, the Commission may decide to grant multiple certificates and allow competition in an area as it has done on past occasions once it finds that competition is in the public interest. See Re: Far North Sanitation Service, Inc., 3 APUC 333 (1981); Re: Matanuska Telephone Association, Inc., 3 APUC 348 (1981); Re: Colville Environmental Services, 4 APUC 181 (1982); Re: Claude C. Bailey d/b/a Valley Refuse, 7 APUC 97 (1985). (Emphasis added).

In furtherance of this broad authority, it is worth noting that AS 42.05.221(d)(5) grants to the Commission, in shaping competition the ability to "provide such other mutually equitable arrangements as would be in the public interest." As discussed below in deciding a case under AS 42.05.311 and 42.05.321, the Commission has extended the concept of the public interest to include the need for the economic distribution of energy to consumers.

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AS 42.05.241, which pertains to the conditions of issuance of a certificate of public convenience and necessity, provides:

> A certificate may not be issued unless the commission finds that the applicant is fit, willing, and able to provide the utility services applied for and that the services are required for the convenience and necessity of the public. The commission may issue a certificate granting an application in whole or in part and attach to the grant of it the terms and conditions it considers necessary to protect and promote the public interest including the condition that the applicant may or shall serve an area or provide a necessary service not contemplated by the applicant.
>
> The commission may, for good cause, deny an application with or without prejudice.

Note that this statute includes an element of compulsion in that a utility which is granted a certificate of public convenience and necessity may be required by the commission to provide a service not contemplated by the applicant. When combined with the overarching authority of the commission to "…make or require just and reasonable rates … practices and facilities …" these statutes reflect an intention by the Legislature to grant to the Commission the ability to require utilities, when certificated, to do more than they want to do.

AS 42.05.291 empowers the Commission to establish standards of service and facilities.

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Subsection (a) provides:

> (a) Each public utility shall furnish and maintain adequate, efficient, and safe service and facilities. This service shall be reasonably continuous and without unreasonable interruption or delay.

This provision includes the notion that the services and facilities of a public utility need to be operated in an "efficient" manner.

In addition, subsection (c) grants to the Commission the authority to "… adopt as to service and facilities … just and reasonable … practices to be furnished, imposed, observed, and followed by public utilities …." Subsection (d) grants to the Commission the power to order "… all … changes, alterations … or improvements in facilities that are reasonably necessary and proper for the safety, accommodation, and convenience of the public." [17]

Standing alone, it would be reasonable to conclude that under this statute the Commission has the ability to compel a certificated utility to operate the facilities it owns and the services it provides in an "efficient" manner. In U-70-33(14) the Commission said as much: "The granting of a Certificate of Public Convenience and Necessity, while giving a utility the protected right to serve an area also imposes a duty upon that utility to provide the public with adequate service at reasonable rates." [18]

---

[17] See U-81-034 (1) General Telephone Company of Alaska, (Staff Memo at 3): "Under AS 42.05.291(d), the Commission has the authority, after providing reasonable notice and opportunity for hearing, to prescribe by order the reasonable, adequate, and efficient service or facilities to be furnished. This includes prescribing the changes, substitutions, or improvements in facilities that are reasonably necessary and proper for the convenience of the public."

[18] U-70-033(14) North State Telephone Co., Inc. at 11. (1973)

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As discussed with reference to AS 42.05.311 and AS 42.05.321, the Commission has gone to some length to enforce this obligation and has not limited the duty of a utility to the boundaries of a certificate of public convenience and necessity.

Subsequent statutes reveal that this regulatory oversight is not limited to the activities and services that the certificated utility performs in isolation.

Specifically, AS 42.05.311 and 42.05.321 describe the obligations of certificated public utilities when it comes to interconnection and empowers the Commission to order that interconnection occur under specific conditions.

AS 42.05.311 provides in part:

> (a) A public utility having … other distribution or transmission facilities shall, for a reasonable compensation, permit another public utility to use them when the public convenience and necessity require this use and the use will not result in substantial injury to the owner, or in substantial detriment to the service to the customers of the owners. The cost of modifications or additions necessary to a joint use shall be at the expense of the public utility requesting the use of the facilities.

The full consequences of this requirement are revealed in AS 42.05.321 which provides in part:

Sec. 42.05.321. Failure to agree upon joint use or interconnection.

> (a) In case of failure to agree upon the joint use or interconnection of facilities or the conditions or compensation for joint use or interconnections, the public utility, including any municipality, or an interested person may apply to the commission for an order requiring the interconnection. If, after investigation and opportunity for hearing, the commission finds that public convenience and necessity require the joint use or connection, and that the use or connection will not result in substantial injury to the owner utility or its customers, or in substantial

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> detriment to the services furnished by the owner utility, or in the creation of safety hazards, it shall
>
> (1) order that the use be permitted;
>
> (2) prescribe reasonable conditions and compensation for the joint use;
>
> (3) order the interconnection to be made;
>
> (4) determine the time and manner of the interconnection;
>
> (5) determine the apportionment of costs and responsibility for operation and maintenance of the interconnection.

In U-03-100(1), the Commission exercised the authority granted under this statute to prescribe reasonable conditions and compensation for the joint use and interconnection of a transmission line owned by MEA and utilized by other utilities. In so doing, it is critical to understand the motivation of the Commission in taking this action. Significantly, the Commission went to some length to explain the concern for the economic operation of the interconnected facilities:

> The Intertie is the vital link between power resources in the northern and southern portions of the Railbelt. The Intertie enables northern utilities such as GVEA to obtain power from resources such as Bradley Lake. This linkage allows GVEA customers to benefit from that lower cost hydroelectric resource. The Intertie also enables southern utilities such as Chugach to sell economy energy to GVEA. In addition to the benefit to GVEA's customers, Chugach's customers benefit from such sales because they are limited to Chugach's excess capacity. Excess capacity does not interfere with Chugach's customers' service and the revenues from the economy energy sales help reduce their rates.
>
> In addition, MEA derives revenues from energy wheeled over the MEA-TLS. Over the life of the Intertie, MEA has received approximately $2 million in revenues. (Tr. 276.) MEA uses these revenues to reduce rates to its customers.
>
> Absent the MEA-TLS, the vital link between resources in the northern and southern portions of the Railbelt is broken. There are no other transmission lines connecting the resources along the Railbelt. Moreover, while a redundant line could be constructed, it could not be constructed before the stipulation expires December 31, 26 2004.

> We conclude that the public convenience and necessity require joint use and interconnection with the MEA-TLS. This issue was not a significant point of contention between the parties. The crux of this controversy lies in dispute over the appropriate terms and conditions of that interconnection and whether that interconnection will result in substantial injury to MEA or its customers, or in substantial detriment to the services provided by MEA, or in the creation of safety hazards. We address those issues next.[19]

Thus, in furtherance of the public convenience and necessity and otherwise further the interests of consumers, the Commission will take action under AS 42.05.311 and 42.05.321 to ensure that Railbelt customers receive the benefit of lower cost electricity produced elsewhere in the region. This ruling also demonstrates that the Commission will take a broad view of the public convenience and necessity and will not limit the exercise of regulatory powers to simple disputes among utilities. It is also worth noting the Commission's observation that "(t)his issue was not a significant point of contention between the parties."[20]

AS 42.05.381 (a) provides that "All rates demanded or received by a public utility, or by any two or more public utilities jointly, for a service furnished or to be furnished shall be just and reasonable …." Of interest is that this language contemplates the delivery of services by more than one utility and provides that the Commission may regulate the joint provision of such services.

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[19] U-03-100 (4) at 4 – 5. (2004)
[20] Id.

AS 42.05.511 addresses unreasonable management practices by public utilities. Subsection (a) includes a reference to "… inefficient … practices that adversely affect the cost or quality of service of the public utility."

Subsection (b) authorizes the Commission, in circumstances when it finds unreasonable practices, to "… take appropriate action to protect the public from the inefficient … practices and may order the public utility to take corrective action …."

The language found in AS 42.05.141(a) that the Commission "… may do all things necessary or proper to carry out the purposes and exercise the powers expressly granted or reasonably implied in this chapter …" has not historically been found to provide a sufficient basis for the Commission to undertake significant new regulatory initiatives. In decisions interpreting the scope of other more specific statutes, the Commission has affirmed that the scope of the Commission's over certification, interconnection and the regulation of competition is, to use the Commission's characterization, "comprehensive." Further, the Commission has noted with particularity a responsibility to act to ensure that consumers benefit from the economic production and distribution of energy. Taken together, the grant of broad authority to "… do all things necessary or proper …" and the specific powers in key areas supports the conclusion that the Commission may establish the rules, framework and mechanisms found in an independent system operator.

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3. Are existing statutes and regulations governing our regulation of electric transmission adequate for us to effectively address current and future Railbelt transmission issues?

Assuming that the Commission concludes that the public interest will be served by the provisioning of more economically priced energy and higher overall system reliability, Chugach believes that existing statutes are adequate to address Railbelt transmission issues. That said, Legislative adoption of specific statutory language, while not necessary, would be helpful. Much depends on the Commission's findings regarding the scope of the problem, the benefits to the public and the preferred remedies to address these issues. Chugach believes that the regulations of the Commission would have to be updated to provide for a framework for implementing this new regulatory approach and structure.

4. If our regulations require changes, what specific changes should be considered in a rulemaking docket and is it appropriate to consider making those changes at this time?

Existing regulations are not adequate. However, before changes to regulations are undertaken, the Commission needs to make findings on the scope of the problems, the public benefits to be achieved and identify specific remedies and other regulatory goals. Chugach believes that an effort to write new regulations at this time would fail if these predicate tasks are not completed.

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5. If regulatory changes are found to be necessary, how narrow or broad should a rulemaking docket be and what scoping process should be used to determine the boundaries of the proceeding?

The scope of regulations changes will depend on the conclusions the Commission reaches on the nature of the overall problem, the public necessity and the policy solutions the Commission wants to pursue. Until that is done, the scope of a rulemaking docket cannot be defined. Chugach reiterates that the Commission may benefit from a review of the FERC's approach to these problems as found in FERC Order 2000 and subsequent actions in implementing Order 2000.

6. Regarding the reliability of electric service, is our authority limited to addressing utility practices and service quality within each utility's service territory, or does it extend across service territory boundaries such that, for example, we can address the effects of one utility's practices on the service quality of another utility?

Chugach believes that the Commission has this authority under AS 42.05.311, AS 42.05.312 and AS 42.02.511, when these statutes are viewed as a whole.

7. Should there be a set of mandatory reliability standards for the Alaska Railbelt similar to those of the North American Electrical Reliability Corporation, and if so, do we or should we have the authority to mandate or regulate those standards (beyond the existing voluntary arrangements such as the existing Railbelt Operating and Reliability Standards)?

Yes. As outlined in the response to Question 2, above, Chugach believes that an overall reading of the Commission's statutes grants to the Commission the authority to

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require that interconnected utilities comply with specific reliability standards, including standards for reserves sharing.[21]

8. Considering our authority to 'promote the conservation of resources used in the generation of electric energy' under AS 42.05. 141(c), to require reasonable management practices under AS 42.05.511, to provide rate recovery of energy conservation efforts, and other statutory grants of authority, do we have the authority to order the Railbelt electric utilities to jointly and cooperatively manage their generations and transmission assets, or is our authority limited to matters within each utility's service territory? If our authority is limited to each utility's operations within its particular service area without regard to other interconnected utilities, explain why it is limited.

As discussed in greater detail in the answer to Question 2, above, and in Question 9, below, Chugach believes that the Commission has the authority to set the terms and conditions of interconnection between two utilities. This authority is not limited by a utility's service area.

9. Do AS 42.05.311(a) and other statutes provide us with authority to order system-wide wheeling rates across utility-owned Railbelt transmission facilities, even if ownership of the facilities remains with individual utilities?

Yes. In particular, AS 42.05.321 (a) grants specific authority to the Commission to "prescribe reasonable conditions and compensation for joint use …" and "determine the

[21] It should be noted that arrangements and obligations for reserve sharing imposes significant costs on participating utilities. Utilities must be able to recover those costs or otherwise address by mutual agreement ways in which those costs are shared. Absent such agreements, utilities that fail to participate would require other utilities to cover their reserve obligations without compensation. The alternative would result in termination of the interconnected electric grid in the Railbelt, at great cost to consumers.

apportionment of costs and responsibilities for operation and maintenance of the interconnection."

10. *Does the AS 42.05 provide us with authority to review or regulate the integrated planning, determination of need for, and/or siting of new generation and transmission facilities or regulated electric utilities? If it does, now can that authority be employed to help ensure that new facilities are planning and constructed to optimize efficient and reliable provision of electric service to the entire Railbelt region?*

Chugach does not believe the Commission has explicit authority to review and approve, in advance, plans to construct new generation and transmission facilities. However, see AS 42.05.221(d) in which the Commission is given the authority to eliminate duplicate facilities. This section also grants the Commission fairly broad powers to fashion remedies when duplicate facilities are deemed to exist.

11. *What authority do we have to require or to encourage greater cooperation, power pooling, and/or centralized transmission system planning and operations among Railbelt electric utilities?*

See AS 42.05.141(a)(3) and AS 42.05.141(c). Paragraph (3) of subsection (a), grants to the Commission authority to "… do all things necessary or proper … including … (3) make or require just, fair and reasonable rates, classifications, regulations, practices, services and facilities for a public utility." This provision includes the requirement that services are to be provided to the public in an economical manner.

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Subsection (c) requires the Commission to establish rates which "… promote the conservation of resources used in the generation of electric energy."

Taken together, these statutory provisions, along with other authority of the Commission to prescribe interconnection, gives the Commission the ability to require utilities to work together to serve the public with economically priced energy. The Commission has overall authority to review and approve the investments of utilities in plant. *See* AS 42.05.361 and AS 42.05.431. Once such plant has been deemed "used and useful" the Commission must generally allow utilities to recover their investment in the plant. However, following those determinations, the Commission has the authority to determine which facilities are best able to provide energy in an economical manner to the public.

CONCLUSION

For the reasons set forth above and in the appended Report, Chugach respectfully requests that the Commission open a new docket for the purpose of determining the nature and extent of the problems limiting the reliability of the Railbelt electric grid and the efficient distribution of energy over that grid. Chugach further urges the Commission to set forth on a preliminary basis, the solutions and responses to these problems. Once this is accomplished, the Commission may consider the development and implementation of any necessary regulations to facilitate the creation of an USO model for the Railbelt region. As the common economic regulator, the Commission

understands best the differences in energy costs from regional franchise to regional franchise. These differences are driven by geography, fuel availability, and historic investment decisions. The manner in which Railbelt transmission has been and is currently planned, constructed, operated, and funded through rate recovery limits the Commissions alternatives to act on disparate energy costs.

The Railbelt's separately-developed and operated transmission assets were not built to achieve the goal of economic dispatch, but to meet a sequence of separate, unaligned objectives and meet the needs of their native-load customers. These solutions were regulated as reasonable in their context, but they did not – and could not – achieve the lowest reasonable costs for all Railbelt consumers. In order to be planned, developed, constructed, and funded, the transmission projects necessary to achieve this open access network must be shared by all of the network's customers, as all customers will benefit from sharing in the least cost alternatives for energy, reserves, reliability, and other transmission services.

Chugach commits to work cooperatively with other utilities and stakeholders, as well as with the Commission in establishing a workable USO model for the Railbelt.

These Comment and the attached Report set forth concrete steps the RCA must take to achieve the benefits of an open-access grid funded by a single system-wide rate. Chugach looks forward to the Commission helping to facilitate this important dialogue.

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Dated at Anchorage, Alaska, this 31st day of March, 2015.

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A Case for Establishment of a Unified System Operator (USO) and a potential follow-on Transmission-only Utility (Transco) for the Railbelt Region of Alaska

Regulatory Implementation Filing on an Alaskan Railbelt USO

ERCOA- The Electric Railbelt Reliability Council of Alaska

Chugach Electric Association. Inc.

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Regulatory Informational Filing on USO/Transco

Executive Summary

The Railbelt is at a crossroads. For nearly 30 years the Railbelt electrical grid[1] has supplied safe, highly reliable, low-cost electricity; lighting our homes, energizing our communities and businesses. The "Grid" has been a silent cornerstone to stable economic growth and quality of life from Fairbanks to Homer. The business structure that enabled this system has come to an end. That business structure was a byzantine set of agreements and contracts interwoven in a labyrinth of implicit and explicit quid pro quos developed over some 30 years. Although it delivered good value for many years, it was inflexible and outdated. That system in and of itself was a function of the vertically integrated, certificated utility monopoly system of the 1940s and 50s.

The choice is simple. Do we increase Railbelt economic activity & growth by $40-60 million per year or do we reduce economic activity by twice this amount?

The Railbelt Electrical Grid (Grid) consists of the electrical transmission (69 kilovolts and above) and electrical generation facilities constructed to serve the consumers of the Alaskan Railbelt. Geographically the Railbelt extends from Katchemak Bay on the south, north to Fairbanks and Delta Junction. From east to west it reaches from The Matanuska Glacier on the Glenn Highway and Whittier on Price William Sound to Tyonek Village and the on-shore gas processing plants of West Cook inlet (see BJH Exhibit 01). The area is vast; and, features diverse and often harsh climates and terrain. The Grid consists of three load-generation areas or "areas". Furthest north is the Fairbanks Area stretching from Healy to Fairbanks to Delta Junction. Second, is the mid-Railbelt, the Anchorage- Mat-Su area reaching from Willow to South Anchorage and from Beluga to the Matanuska glacier. And third, in the south, is the Kenai Area running from Seward to Cooper Landing to Katchemak Bay. Single-transmission lines interconnect these three areas. These single-transmission lines have limited transfer capacity and outages to one of them can cause shedding of electrical load and instability in either or both areas. Electrically, the Railbelt serves an 850MW Peak demand, a 375 Valley demand, and delivers approximately 5000 GWH of energy annually to nearly 250,000 meters.

An electrical grid is a complex single machine, and as such it must be planned operated and maintained as such. To do otherwise is to invite inefficiency waste and

[1] *See* Appendix A, "Transmission Ownership and the Railbelt" for a brief description of the Railbelt system.

potentially disaster. Throughout their history, the Railbelt utilities improved reliability and carved out as much efficiency as was practical given the contractual constraints in place. The end of this business model is a chance for us to learn from our successes and mistakes and to *"take the Railbelt to the next level"* or alternatively to return to a balkanized disaggregated shadow of the old worn-out model, to relative inefficiency, low resilience and moderate or poor reliability of the 1960s and 1970s.

The recent Alaska Energy Authority (AEA) studies recommend over $900M in Railbelt-wide transmission improvements. These transmission improvements enable more efficient operations both within and between regions. In our analysis, under reasonable assumptions, these improvements could result in levelized annual savings of between $75M and $140M, and a commensurate increase in annual levelized costs of approximately $75M, the benefit to cost ratio then ranges from 1:1 and 1.8:1 respectively. These improvements could provide up to $60 M annually left in ratepayer's hands to accelerate Railbelt economic growth and create jobs. The 50-Year net present value (NPV) is as high as $500M.

As important, these benefits are strictly fuel and variable O&M savings, and do not take into account improved reliability, increased economic activity, and the improved resiliency of the grid. Grid resiliency is the ability of the Grid to sustain or weather changing conditions either economic or technical. Changes such as, the addition of a large mine load north of Fairbanks, electrification of pumping stations for the proposed LNG pipeline, increased emissions regulation, or required reduction in coal based power production, significant counter cyclical changes in oil vs natural gas pricing or disruptive technologies.

…The clear conclusion is that there is significant upside potential and very little down side risk….

Our analysis has undergone rigorous review, with considerations given to multiple contingencies and sensitivities and in our opinion is sound. The $900M investment and commensurate benefits are directionally correct. However, improvements of this magnitude will require refined feasibility engineering and cost-benefit analysis as they are brought to the project planning phase. And, at such a time, such improvements may or may not pass the required cost-benefit bar. However, in order to take these projects to the decision point, unified system operations and a new business rate structure is required. Given an appropriate business and rate structure, investments at this level, with commensurate benefits, could be undertaken without grant funding and with relatively moderate rate impacts on the order of plus or minus ten-percent. *And, the clear conclusion is that there is significant upside potential and very little down side risk.*

Many studies performed over the past two decades by different organizations have found that the *only way to achieve these savings* is by unified system operations; *importantly, none have come to any other conclusion*. Besides the hard currency savings of such a structure, there are numerous other benefits, including fostering

nondiscriminatory open access, which will unleash the innovation of the private sector by creating a level playing field with transparent costs and clear rules for interconnection. Regional planning and implementation will reduce inefficient capital investment and create grid resilience, positioning the Railbelt to take advantage of economic opportunities whether they be mines, manufacturing, pipelines, or industrial processing. Each of these industries is drawn to stable and reliable low-cost energy. A restructured grid will make investments to bring the cost of Railbelt electricity north of the Alaska Range in line with those in Southcentral.

Fortunately, we have nearly two decades of success and failures in Canada and the Lower 48 to draw upon as we consider restructuring. Successes include organizations such as the Electric Reliability Council of Texas (ERCOT) as a model for a State mandated regional transmission organization (aka USO) and the American Transmission Company (ATC) model that provides a blueprint for a transmission only utility focused on regional planning. These are just two examples in the Lower-48; there are other good examples from which we can pick and choose, always keeping in mind the uniqueness of the Railbelt in terms of size and isolation.

The Regulatory Commission of Alaska (RCA) must play a pivotal role in restructuring the Railbelt electric grid. They must seek technical, organizational and structural input from Railbelt electric industry experts, IPPs, renewable and other stakeholder groups. Finally, the RCA should vet this proposed USO structure against established principles of the FERC RTO's and ISOs considering the unique conditions of the Railbelt. As discussed herein, Chugach is under no illusion that a transition to a USO/Transco structure can be accomplished without considerable effort and leadership from the RCA. Accordingly, going forward the RCA must play a critical role in project pre-approval, adjudicating disputes and actively working with the unified system operator, and Transco to set and administer policy. The RCA must assure rate recovery for both existing and pre-approved future investments so organizations that take the risk, bear the fruit of their efforts, and repeat the process; establishing an improved transmission network and spurring economic development.

The time to restructure the Railbelt is now, and time is of the essence. We have a unique opportunity *now*; as time passes, the Railbelt utilities will establish new bilateral and multilateral agreements, which, intended or otherwise, will squeeze local efficiencies out of the system. By definition, these will be suboptimal when posed against a regional solution. And, as each contract is signed its terms and conditions will make implementation of a regional solution more difficult. Restructuring will be difficult, and there will be naysayers, entities with structural local advantages or with investments that may not be efficient. They may say this is too complex, or costs too much. Or, they may say we can achieve these benefits bilaterally or multilaterally. System-wide economic dispatch is the "prize", and the vast majority of the human resources and technical infrastructure required to implement a unified system operator are in place. Obviously there will be moderate start-up costs however what the Railbelt requires is a revised business and rate structure.

The solution to the restructured Railbelt is a stakeholder governed, non-asset owning, unified system operator: setting policy, maintaining reliability, performing economic dispatch, planning and conditioning projects, mandating and ensuring non-discriminatory open access under a universal tariff. And a follow-on transmission-only utility charged with financing, constructing, operating and maintaining the Railbelt transmission system in a non-discriminatory fashion. A fundamental economic principle for both of these organizations is that all USO and Transco costs must be allocated over the entire Railbelt end user load, nearly 5000 GWh.

The USO must possess a regulatory compact that authorizes it to use an RCA approved and stakeholder driven, process to develop and administer planning, operating and reliability standards, and to administer or perform a system wide economic dispatch. Decisions of the USO would be subject to appeal to the RCA in instances where its actions were perceived to be inconsistent with the USO's own adopted standards and protocols.

The time to act is now, the mission is clear, and even the longest journey begins with just one step.

As discussed herein, the creation of a USO/Transco structure that takes a broader view of the needs of all Railbelt customers is needed in light of the significant transmission investment that is required to ensure the efficient and reliable delivery of power to all customers over the long-term. It is only through regulatory action by the RCA, and if required the Alaska legislature that these changes can be made. Accordingly, we request that the RCA solicit a proposal or proposals from Railbelt utilities and other stakeholders to form the USO and Transco either through a rulemaking proceeding or series of stakeholder workshops with firm deadlines to develop the USO framework. The goal of such efforts will be to present a USO/Transco structure to the RCA that:

The time to act is now, the mission is clear, and even the longest journey begins with just one step.

(1). Facilitates the timely and orderly expansion of and/or modification to the transmission system based on well-defined transmission planning and interconnection protocols;

(2) Maintains reliability, promotes efficiency in the delivery of power to customers and facilitates compliance with applicable state laws, regulatory obligations, and reliability standards;

(3) Establishes a single system-wide transmission rate based on the revenue requirement of the entire Railbelt transmission system; and

(4). Establishes rate mechanisms that ensure the timely recovery of investment in needed transmission infrastructure.

A Compelling Need for Change

The Railbelt has changed. For 30 years Chugach has been the power supplier for much of the Railbelt acting as a single system operator serving Chugach, MEA, HEA and the City of Seward. The Railbelt electrical grid has supplied safe, highly reliable, low-cost electricity; it has lit our homes, and energized our communities and businesses. The "Grid" has been a silent cornerstone to stable economic growth and quality of life from Fairbanks to Homer. As of this writing, both of Chugach's wholesale power contracts [2] have come to their conclusion. Although the business model was not sustainable in its current form, it did provide the economic efficiencies of combined operation. Today, these wholesale customers are pursuing independent operation, and electric rates are increasing due to lost economies of scale and duplication of facilities and personnel. We are at a crossroads in the Railbelt, moving from combined efficient economic operation to less efficient operation with no one entity responsible for overall reliability.

We now have the opportunity to recognize where we have been and where we need to go in the future; isolating and breaking apart is not in the best interest of electric consumers. Aggregating system control and assets by adopting a new business model that will achieve higher reliability and tens to hundreds of millions of dollars of additional *annual* savings is the least cost highest value regional alternative for the Railbelt. These savings will accelerate regional economic growth. Alternatively the other path, the path towards stagnation and balkanization will result in lower reliability, more frequent and longer power outages, and tens of millions of dollars in unnecessary additional costs both fixed and variable. As we demonstrate, later this will significantly slow regional economic growth.

The choice is simple, efficient joint economic dispatch, centralized regional operations and planning for the entire Railbelt region, or inefficient decentralized-localized dispatch, operations and planning of individual utility systems. Do we optimize the Railbelt power system in a way that maximizes benefits to the entire Railbelt region "as a whole", or in a way that maximizes the benefits to some individual Railbelt communities at the expense of other Railbelt communities? The decision amounts to "do we endeavor to make the pie bigger or to cut the pie into different sized pieces"? In economic terms, this is a simple question "real growth" verses "transfer activity."

> *…In the end, our objective must be to maintain reliability and lower costs to each consumer…*

In the end, our objective must be to maintain reliability and lower costs to each consumer. Lowering the overall costs to end-consumers, and improving the reliability and resilience of the electric system will sustain and promote economic growth.

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[2] HEA/Chugach *Agreement for Sale of Electric Power and Energy 3-85*
AEGT/MEA/Chugach Modified Agreement for the Sale and Purchase of Electric Power and Energy (Modified Tripartite Power Sales Agreement) 4-89

We must opt for the former, efficient joint economic dispatch, centralized regional operations and planning of the entire Railbelt region. However, what form will such a decision take? Fortunately in our search for an answer to this challenge we can look to the successes and failures of the Lower 48 states and Canada which experienced a similar period of restructuring nearly two decades ago.

In the Railbelt we are not subject to regulation by either the Federal Energy Regulatory Commission (FERC) in economic terms (or by extension of FERC) the North American Electric Reliability Corporation (NERC) in terms of reliability. However, we have the benefit of their nearly two decades of thoughtful and considered analysis and measured experimentation in restructuring. Further, the state commissions of Texas, Wisconsin and California, all early proponents and adopters of restructured electrical markets, have made significant and meaningful contributions to this body of work. In all, despite some notable setbacks, restructuring has been successful and provided for more open, flexible, economic, and reliable electrical grids throughout North America.

In our efforts to restructure the Alaskan Railbelt, we can look to these examples and choose appropriate components of the most successful systems. However, we must always be cognizant of the fundamental differences between the Railbelt and interconnections (grids) of the Lower 48. In summary these differences lie in the Railbelt's:

- Scale (Load in hundreds of MW versus tens of thousands of MW)
- Wholesale power market dynamics (overly constrained inefficient market versus relatively efficient markets)
- Relative simplicity (versus significant complexity)
- Technical complexity (due to overly constrained stability limited nature versus strongly interconnected thermally limited nature)

These differences will necessarily drive our adoption of a new business structure towards conservation and utilization of existing resources (human and physical), sometimes at the cost of some degree of perceived independence. In comparison to the more extensive interconnections of the lower 48, we will require a simplified business structure and basic joint economic dispatch. We will not require sophisticated day-ahead, hour-ahead, and real-time markets with risk management tools such as options and futures. Moreover, we must recognize that reliability standards of larger more stable grids may be unachievable within the acceptable cost structure of the Railbelt.

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The Recent additions in generation capacity in the Railbelt have created or increased transmission bottlenecks (congestion) and created inefficiencies that will serve to increase energy costs for Railbelt ratepayers for generations to come. Generation has been located in

geographically located in sub-optimal locations and in conflicted with the most recent regional integrated resource plan performed by AEA. These resources will require an additional nearly $200M[3] in additional capital investment to integrate properly. Moreover, even with these investments preliminary studies[4] indicate that some level of resilience (the ability of the grid to adapt to changes both physical and economic) will be lost. Going forward, as a region, we must choose a more rational and regional approach to power grid development.

The current Railbelt business structures (Municipal and cooperative certificated vertically-integrated utilities with dedicated service territories) are capable and competent at the local distribution of electric power to their certificated service-territory consumers. However, from a regional perspective, this balkanized structure falls woefully short. Absent the regional wholesale power agreements discussed later in this document this business structure is no longer capable of rationally, safely, reliably, and efficiently providing transmission-level electric service to distribution utilities. Due to the legitimate, but parochial, fiduciary responsibilities inherent in the cooperative/municipal-certificated service territory business model, the current structure cannot optimally plan, develop and economically dispatch the Railbelt-wide transmission and generation grid. This locally focused model is incapable of addressing interregional development and the transmission congestion problems that limit the ability to economically dispatch the grid. Further, even the economic dispatch within the congested grid is constrained by localized focus resulting in nearly $50 M annually of lost economic dispatch efficiency. The current business model does not promote the efficient application of capital or facilitate the efficiency system-wide economic dispatch. And, the facts surrounding the current build-out of infrastructure demonstrate this.

The Railbelt Grid requires a single-operator with centralized planning and project conditioning authority and responsibility and authority over Railbelt reliability. Economic efficiency requires dispatching the most efficient generation to meet the anticipated load, subject to Grid reliability constraints. And, a settlement system that fairly allocates costs and benefits amongst all end-users, taking into account the costs and benefits of existing assets, as well as, those constructed in the future. Further, to efficiently achieve the benefits of an integrated Grid, the Railbelt requires a transmission-only utility, tasked with the responsibility for both area-wide and inter-area transmission planning and development, and field operations and maintenance of transmission assets. This transmission-only utility must have a mechanism for timely assured rate recovery particularly for inter-area transmission improvements. Investments must be in accordance with the USO developed planning protocols and reliability standards, subject to prudence review and pre-approval by the RCA.

An Independent System Operator (ISO) also known as a Unified System Operator (USO) with a follow-on “transmission only” utility (Transco) is a business model that

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[3] AEA Kenai transmission study AEA 3-7-14 pp. V. and Pre/Post Watana Transmission Study; 3-17-14;pp. 11-12

[4] MEA EGS System Impact Studies 10-22-13 pp. 4 and MEA System Operating Studies Final report -8-5-14 pp. 4-5

best fits the Railbelt. We use the term USO in this document to differentiate the proposed Railbelt business model from a typical lower forty-eight FERC based ISO. The primary differentiation between the model we propose and the FERC based ISO model is that the Railbelt USO will operate a straight forward common system-wide economic dispatch with post-dispatch financial settlement; as opposed to a complex day-ahead, hour ahead market based dispatch with the associated risk management tools (hedging and futures markets). This market simplification is both financially prudent and economically necessary do to the lack of sufficient market participants in the Railbelt. The lack of market participants prohibits the development of truly competitive Railbelt markets. The USO business model will ensure continued enjoyment of the reliability benefits we now possess and increased efficiency through a complete system-wide economic dispatch resulting in lower rates to endues consumers measured in tens to hundreds of millions of dollars annually. . Regional and interregional coordinated operations and planning will assure that the Railbelt consumers continue to receive safe, reliable, stable low-cost energy to incent economic growth well into the future.

Resiliency

We use the term resiliency in this document. Grid resiliency is an important and not well understood concept. In this document, resiliency means the ability of our grid and our energy economy to rebound or take advantage of unanticipated events, events with either potentially positive or negative consequences. Examples of such events are: on the downside, ability to minimize the economic rate impact of an unexpected failure of a major generator or transmission line by revised efficient economic dispatch. On the upside, resiliency is having sufficient transmission and generating capability to take advantage of a proposed new mine, pipeline, or industrial facility. Currently, the Railbelt "runs on the edge" with little ability to *efficiently* manage significant disruptions and without the ability to respond positively to significant load additions, or perhaps a significant regional shift in the price of fuel.

In 2003, The National Academy of Engineering in the United States published "A Century of Innovation: Twenty Engineering Achievements That Transformed Our Lives"[1]. The publication ranked the top twenty-engineering achievements of the 20th century. Electrification and the development of the electrical grid was number one of twenty on that list.

Proposed Way Forward

In this filing, we propose a way forward: the "USO-Transco solution". We will define in detail the principles characteristics and functions of this entity in solving the challenges the Railbelt faces. Other business models do exist; however, it can be shown that from a Railbelt regional perspective, other business model options are inefficient. The optimal single-operator solution has been vetted as the most efficient solution in numerous detailed studies performed over the last two decades. Each study has reached this same conclusion. Furthermore, none has reached any other conclusion[5].

Setting the Stage

Operating high-voltage electric power systems in an interconnected fashion (i.e., as a "Grid") provides many benefits to electric power consumers in terms of safety, reliability, and economic efficiency. These benefits are measured in tens to hundreds of millions of dollars annually[6]. Safe, reliable, and stable low-cost energy is a cornerstone in the development of a healthy modern economy.

[5] Black and Veatch 1998m CH2M Hill 1999, RW Beck RES 2003, Energy policy Task force 2003, RW Beck/Atter-Wynn 2004, AEA REGA 2008, AEA RIRP 2010, AEA Transmission update 2013

[6] AEA Transmission Update (Draft) [11/13/2013], pp5-6

The Physics and the Benefit

Physically an interconnected high-voltage power system is a single machine, i.e., all generators regardless of their physical location and electrical capacity, operate in nearly perfect synchronism. Thousands of complex mechanical and computer controlled protective devices supervise these generators. These generators are interconnected to each other and the loads they serve via similarly controlled and protected transmission lines. This complex combination of generators, transmission lines, controls, and protection form a single highly integrated machine.

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This integration increases reliability and reduces costs. Added diversity, both in terms of generation resources and transmission paths, increases reliability and economic dispatch. The sharing of reserves (standby generation, both on and offline) reduces costs. Reserve sharing[7] is one of the most important, but least understood benefits of interconnection. One benefit of the reserve sharing pool is the deferred capacity cost of constructing standby generation. Another benefit is spinning reserves; spinning reserves are the most costly components of the reserve pool. Spinning reserves are generating units that are partly unloaded or idling to maintain the supply and demand balance on a "moment by moment" basis in the face of an unanticipated generating unit or transmission line outage. Units providing spinning reserves are the first line of defense against large-scale cascading power supply outages, and, therefore, necessary. However spinning reserves also increase system costs significantly. Therefore, the management of spinning reserves within an interconnection is similar to managing risk in an insurance pool. One of the best ways to reduce this risk is to increase the size of the pool. Further, the smaller the pool, the larger cost per pool member. Reduction in spinning reserve costs is one of the largest benefits of grid interconnection. Moving to smaller disaggregated pools increases both risk and cost to end-use consumers, to the ratepayer[8].

As FERC recently explained in Order No. 1000-A (*Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities)*:

> Electric energy does not travel on a preset path but rather along all available pathways in accordance with the laws of physics. Continuous fluctuations in the demand for power and generation operations affect power flows throughout the transmission grid. This means that the electric energy received by an individual customer at any one time could be delivered over any number of transmission facilities that constitute the

[7] *See* Appendix B, "Reserve Sharing."
[8] *id*

> transmission grid. Changes in demand for or supply of electricity at any point in the system will change flows on all the transmission lines to varying degrees, often in ways that are not easily controlled.[9]

The Economics

As a consequence of this reality, FERC stated:

> "In order to determine a utility's cost of providing a transmission service, the Commission typically treats a transmission network … as an integrated system. In other words, all of the individual facilities used to transmit electricity are treated as if they were part of a single machine. The Commission takes this approach on the ground that a transmission system performs as a whole; the availability of multiple paths for electricity to flow from one point to another contributes to the reliability of the system as a whole. This principle has a strong basis in the physics of electrical transmission for there is no way to determine what path electricity actually takes between two points or indeed whether the electricity at the point of delivery was ever at the point of origin.
>
> As a corollary, in determining permissible prices for transmission services, the Commission treats each transmission customer not as using a single transmission path but rather as using the entire transmission system.[10] "

> "… that the risk of the free rider problems associated with new transmission investment is particularly high for projects that affect multiple utilities' transmission systems and therefore may have multiple beneficiaries…"
>
> *-FERC, Order No. 1000, Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities.*

In the Railbelt context, while all utilities rely on the integrated grid, the manner in which transmission and generation is planned, developed and paid-for fails to reflect this reality. It is necessary to take a broader view of the entire electric grid to facilitate the timely and orderly expansion of and/or modification to the transmission system to maintain reliability, promote efficiency in the delivery of power to customers.

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[9] *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, FERC Stats. & Regs. ¶ 31,323 at P 486 (2011), *order on reh'g*, Order No. 1000-A, 139 FERC ¶ 61,132 at P 559, *order on reh'g and clarification*, Order No. 1000-B, 141 FERC ¶ 61,044 (2012).

[10] Order No. 1000-A, 139 FERC ¶ 61,132 at P 560 (quoting *Northern States Power Co. v. FERC*, 30 F.3d 177, 179 (D.C. Cir. 1994) (emphasis supplied); *see also Western Massachusetts Electric Company v. FERC*, 165 F.3d 922, 927 (D.C. Cir. 1999) (stating that "[w]hen a system is integrated, any system enhancements are presumed to benefit the entire system").

Investment in needed transmission works best when the utilities that invest in transmission infrastructure are ensured timely recovery of the costs of such investments from all users of the "single machine."

Electricity flows from generators to end-use consumers according to the laws of physics utilizing the entire transmission interconnection. In aggregate, the benefits of transmission flow to all consumers; however, on a project by project basis this may not appear to be so. Transmission systems that are locally planned operated and capitalized are often undervalued by neighboring transmission users. Even where these benefits are recognized, traditional franchise rates do not practically allow for recovery from non-native load customers. As a result, network benefits are the responsibility of everyone *and of no one at all.* When costs are concentrated in one area, and the benefits are diffused across the entire system, traditional rate structures will not stimulate sufficient investment to maintain reliability, resilience and improve efficiency.

"This lack of a single open access transmission tariff is significant barrier to Independent Power Producers (IPP) and stymies the innovation of the private non-utility sector."

As FERC has confirmed: "In other words, in the case of transmission, there is only one service—service over the entire grid."[11] FERC also has recognized:

> "… that the risk of the free rider problems associated with new transmission investment is particularly high for projects that affect multiple utilities' transmission systems and therefore may have multiple beneficiaries. With respect to such projects, any individual beneficiary has an incentive to defer investment in the hopes that other beneficiaries will value the project enough to fund its development." [12]

The Challenges of Disaggregation

Integrated electrical grids provide necessary health and public safety benefits and are an engine of economic growth. They facilitate commerce in wholesale electricity that facilitates economic dispatch. Disaggregated traditional local franchise rates create obstacles to wholesale power contracts and distort the economics of efficient generation dispatch. For instance, if ML&P wishes to sell power to Fairbanks or perhaps beyond, ML&P will need separate transmission rates and agreements with no fewer than three or

[11] Order No. 1000, FERC Stats. & Regs. ¶ 31,323 at P 486 (2011).
[12] *Id.*

four utilities. This "pancaked rate" structure is an obstacle to economic dispatch and new generator development.[13]

Summary

As electrical grids form and develop, the complexity of the interconnections (i.e. number of generators and transmission lines) increases. These complexities occur at all levels: technical, operational, contractual, economic, and political. At some point, it is no longer safe, efficient, reliable or feasible to have components added to the grid and operated in an ad hoc fashion. A geographically diverse, highly sophisticated and complex single machine such as a high-voltage electrical interconnection requires centralized operations, planning, and project conditioning. Much as an airport requires a single-control tower, an electrical grid requires a single operator. The Railbelt has reached this point.

As an airport moves from a single remote airstrip with no controller; to a regional airfield with a simple control tower and air traffic controller; and eventually to an international airport with a highly sophisticated air traffic control system, the operational, organizational and governance needs of the airport change and evolve. An electrical grid follows a similar pattern of evolution. In the Railbelt electrical grid, we are at such a point of change and evolution.

…We describe the history and evolution of the Railbelt in terms of the many of the bilateral and multilateral agreements that brought us to the Railbelt as it exists today.

We do this in part to demonstrate the complexity and inevitable obsolescence of a business structure built on such agreements....

[13] As FERC has repeatedly confirmed, a central goal of its regional transmission organization ("RTO") policy is the elimination of rate pancaking; therefore, "it prohibited RTOs from assessing customers multiple access charges for the same transaction to recover fixed costs (*i.e.*, pancaked rates)." *See e.g., American Electric Power Service Corporation v. Midwest Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C*, 122 FERC ¶ 61,083 at P 4 (2008). According to the Commission, "RTOs provide increased efficiency to wholesale markets ***by eliminating pancaked rates***, internalizing parallel flow, managing congestion efficiently, and operating markets for energy, capacity and ancillary services." *Midwest Independent Transmission System Operator, Inc.*, 126 FERC ¶ 61,139 at P 60 (2009). Emphasis added.

History and Evolution

Often it is said, that "*to understand where we must go, it is important to understand where we've been*". In the following paragraphs, we describe the history and evolution of the Railbelt in terms of the many bilateral and multilateral agreements that brought us to the Railbelt as it exists today. We do this in part to demonstrate the complexity and inevitable obsolescence of a business structure built on such agreements. These agreements were drafted (necessarily due to financing) with very long durations; durations that have often outlived the facts on the ground. This obsolescence results in what appears to the uninitiated as irrational decision making.

Development of electrical generation and transmission facilities is a highly capital intensive and long-term investment process. For these reasons, and for the initial lack of economies of scale, in the early stages of electric power system development, only the bare-essential facilities are affordable. Very little redundancy or capacity for future load growth is built into early-stage power system facilities and reliability is poor. As time passes and electrical load grows, economies of scale increase and make the development of more reliable and more efficient power systems economically practical. This growth in-turn allows for the integration of redundancy and capacity for future load growth into the design and construction of facilities. These systems become increasingly sophisticated. The development of the Railbelt transmission Grid has followed this progression, a progression similar to that found in the development of electrical interconnections throughout the US and Canada.

The Early Years

Communities in the Railbelt initially installed local generators to meet local loads with locally available fuel. From time-to-time, they developed remote generation assets primarily to take advantage of attractive economic incentives, usually, low-cost fuel. For example, Municipal Light and Power's (ML&P) Plant One, Chugach's Knik Arm and International Stations and Golden Valley Electric Association's Inc.'s (GVEA) Zehnder plant were all sited very close to their respective load centers. In contrast, the Federal Alaska Power Administration's Eklutna Hydroelectric Plant near the junction of the old and new Glenn Highways and Chugach's Cooper Lake Hydroelectric near Cooper Landing on the Kenai Peninsula were developed remotely to make use of low-cost water as fuel for electricity generation. GVEA's Healy One plant was built to make use of low-cost mine-mouth coal from the Usibelli mine at Healy. Chugach's remote Beluga Power Plant was developed to utilize low-cost natural gas in west Cook Inlet, gas, discovered in conjunction with oil exploration in the Cook Inlet Basin. Each of these remote projects was connected to their respective load centers via transmission lines.

Typically as in the case of Eklutna, Cooper Lake, Beluga and Healy the interconnecting transmission lines[14] were sized to transfer the amount of power generated by the specific assets with little additional margin or redundancy. The original backbone

[14] Appendix A

transmission system for Matanuska Electric Association Inc. (MEA), from Palmer to Eagle River, as well as some of MEA's distribution substations, were built as part of the Eklutna Hydroelectric Project's (EHP) transmission system. The EHP system also connected to Anchorage via the EHP transmission line from Eagle River to the EHP's Alaska Power Administration substation near Wesleyan and Northern Lights. The transmission line from Cooper Lake to Anchorage delivered Cooper Lake power to Anchorage at this same substation. And, the 69kV line from Cooper Lake to Soldotna was constructed to deliver power contracted from Chugach by Homer Electric Association (HEA) to the HEA's service territory in the Soldotna, Kenai and Homer area. These ad hoc transmission lines and systems and bilateral arrangements created small intra-area area-wide and inter-area regional interconnected electric systems capable of some reserve sharing and limited transfers of electrical power.

As time passed, the ability to share both spinning and non-spinning reserves and provide emergency service to one another demonstrated significant value. For example, if Chugach and ML&P shared non-operating reserves, they only had to invest in ½ as much standby capacity to accommodate forced and scheduled outages of their generating units. Similarly, if they shared spinning reserves they only had to provide ½ as much unloaded operating generating capacity together as they would have if they ran independently[15]. These benefits led to transmission interconnections between neighboring utilities. In 1983, Chugach and ML&P added an interconnection at ML&P Plant II specifically for this purpose[16]. ML&P and Chugach eventually merged this interconnection into the 1985 Alaska Intertie Agreement (AIA)[17]. ML&P also interconnected with Fort Richardson and Elmendorf air force base.
North of the Alaska Range GVEA interconnected with Fairbanks Municipal Utility System (FMUS), Fort Wainwright, Eielson and the University of Alaska.

In the late 1960's, a number of factors led to the wholesale power negotiations between Chugach and HEA and Chugach and MEA. These factors included: the discovery of oil and natural gas on the Kenai and in the Cook Inlet Basin and the resultant electrical load growth; economies of scale; and pressure from the Rural Electrification Administration (REA) to maintain a single-generation REA borrower in the Railbelt region. These negotiations eventually led to long-term wholesale power contracts between HEA and Chugach and between MEA and Chugach, which were amended and modified over the years.

In the 1980s, in large part due to the explosive growth and expansion of the Trans-Alaska Pipeline construction years and misunderstandings between Chugach and the Alaska Public Utilities Commission (APUC), Chugach's internal financial situation became untenable. Given the load growth projections of the day (load growth that did not in fact materialize) Chugach believed it might be unable to honor its commitments to

15 Thermal generation dispatched below its maximum capacity is much more costly to operate (in $/MWH) than when dispatched at full capacity
16 INTECONNECTION AGREEMENT BETWEEN CHUGACH ELECTRIC ASSOCIATION INC. AND MUNICIPALITY OF ANCHORAGE MUNICIPAL LIGHT AND POWER [12/2/1983]
17 THE ALASKA INTERTIE AGREEMENT [12/23/1985]

meet the needs of HEA and MEA on a forward looking basis. This financial crisis reached a point that the APUC ordered a management audit of Chugach.

At this time Chugach had two turbine-generators under contract from General Electric, one destined for Beluga and the other to Bernice Lake. As a result of the potential financial impairment, one of these contracts was transferred to ML&P (This unit is now George M. Sullivan (GMS) Unit # 8). Chugach subsequently contracted with ML&P for 30% of GMS #8's capacity for a period of ten years. The second contract was transferred to Alaska Electric Generation and Transmission Cooperative (AEG&T) AEG&T is a cooperative formed by HEA and MEA that contractually envisioned Chugach's eventual participation. This second unit became the "original" Soldotna One, and was later moved to Nikiski; it is now powering HEA's new Nikiski steam unit. It was in these turbulent times that the Chugach/MEA wholesale power contract was renegotiated under the auspices of AEG&T and Chugach, into the Tripartite Agreement[18] and Chugach/Homer Electric Power sales agreement[19] remained a stand-alone agreement. The agreement that had envisioned Chugach becoming a member of AEG&T and forming a traditional G&T framework fell apart primarily due to the utility politics and the severe economic recession that followed the 1984 plunge in oil prices. This failure to form a more traditional G&T structure led to many years of litigious relations between Chugach and the AEG&T wholesale customers.

During the late 70s and early 80s Chugach's retail and wholesale loads grew considerably. This load growth led Chugach's build-out of the 138 and 230 kV transmission systems in the Anchorage Mat-Su region. Kenai load growth led to the construction of Chugach's Bernice Lake power plant and the 115 kV line from Bernice Lake to Quartz Creek via Soldotna substation.

In the early 1980s, the State of Alaska dba Alaska Power Authority (APA) began seriously to consider hydroelectric generation for the future of Railbelt Generation. In 1983, APA filed for a FERC license for the Susitna River Hydroelectric Project and in the following year for a FERC license for the Bradley Lake Hydroelectric Project.

Formation of the Railbelt Grid as we know it today -The Alaska Intertie

Soon after (1985) the State of Alaska through the APA grant funded the Alaska Intertie (AI). The AI connected GVEA's 138 kV line from Fairbanks to Healy to the MEA 115 kV line from Douglas substation near Willow to Hollywood (midway between the Parks Highway and Knik Goose Bay road) and thence along a 5.5 mile section of new APA constructed 138 kV line to Chugach's Teeland Substation (near Settlers Bay). The Douglas to Hollywood 115 kV line was integrated into the AI through the 1986

18 AEGT/MEA/Chugach Modified Agreement for the Sale and Purchase of Electric Power and Energy (Modified Tripartite Power Sales Agreement) 4-89

19 HEA/Chugach Agreement for Sale of Electric Power and Energy 3-85

Transmission Services Agreement between APA and MEA[20]. The APA installed voltage control devices (Static VAR Compensators) at Teeland, Healy and Gold Hill in Fairbanks. The State funded construction of the AI to facilitate the use of economical Cook Inlet natural gas-fired electrical generation to meet Fairbanks area loads. The interconnection also increased the reserve pool, thereby further decreasing reserve costs. In addition, the State anticipated development of the Susitna Hydroelectric Project, which would require an interconnection between Anchorage and Fairbanks. The 1985 Chugach, ML&P, GVEA, FMUS, AEG&T (representing HEA and MEA collectively) and the APA signed the Alaska Intertie Agreement (AIA). The City of Seward was not a signatory to this agreement.

The AIA formed the functional and organizational foundation for the Railbelt Grid as we know it today. The AIA established a formal reserve sharing pool, established rules for scheduling and delivery of energy between members of the pool, the rules for and allocation of spinning reserve among the pool. In addition, it required implementation of coordinated under-frequency load shed, some energy pricing and penalties. The agreement instituted the Intertie Operating Committee (IOC), charging it with

> "…establish(ing) operating procedures and standard practices with respect to this agreement for the guidance of dispatchers and other employees as to matters affecting Intertie operations pursuant to this agreement and shall recommend arrangements for metering communications and other services and facilities… " [21].

Following the tradition of the large interconnections of the lower 48 states the IOC reviewed, adapted and adopted the North American Electrical Reliability Council's (NERC) operating guides. The IOC arranged for NERC to perform several control area performance reviews of the Railbelt's operating practices in order to improve control center effectiveness and efficiency. In the Early 1990's, the Alaska Systems Coordinating Council (ASCC) was formed as state-wide voluntary coordinating committee and became an affiliate of the Western System Coordinating Council, the western region of NERC. The ASCC, working with the IOC, adopted the IOC operating guides[22] and formulated a corollary planning guide[23]. Nationally, compliance with these standards and membership in the council was voluntary. Compliance with the IOC adopted version of the standards was considered quasi-voluntary having been adopted by the IOC, but without meaningful enforcement mechanisms short of contract arbitration.

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20 Transmission Services Agreement Between Matanuska Electric Association and Alaska Power Authority, 12-18-86

[21] THE ALASKA INTERTIE AGREEMENT [12/23/1985], sec 9.2.1, pp18

[22] ASCC OPERATING GUIDES FOR INTERCONNECTED UTLITES and Alaska Intertie Operating Guides

[23] ASCC PLANNING CRITERIA for the reliability of interconnected electrical utilities

Planning, Operating and Economic Dispatch

Beginning in late 1988 with the 20-year Chugach-GVEA Non-Firm Energy Agreement [24](and its numerous amendments), the subsequent integration of AEG&T's Soldotna #1 unit[25], into the Chugach fleet, together with their underlying fuel agreements, the Marathon and Enstar Fuel and Transportation Agreements[26], Chugach established a single economic dispatch for the majority of the Railbelt. ML&P and FMUS remained outside this pool. Chugach began to serve GVEA's incremental load, load-following for GVEA and adding GVEA to Chugach's system-wide economic dispatch.

Under a separate less formal arrangement, the Chugach-GVEA Bradley Lake Banking Arrangement[27], Chugach combined GVEA's share of Bradley Lake with the combined Chugach retail and wholesale customer shares of Bradley Lake. This combined capacity allowed Chugach to offset the start of large Frame-7 peaking generator, in return for forgoing a portion of the fuel charge to GVEA for incremental sales. This further optimized the System-wide economic dispatch. Under the GVEA FMUS Tier I-II-III dispatch protocol and pricing arrangement[28]; FMUS's load was allocated between Chugach/GVEA non-firm and a spot market load of both ML&P and Chugach. With the merger of GVEA and FMUS in 1998 the FMUS load was carved out of GVEA's total and remained a Chugach-ML&P spot market for a number of years.

In the 20-plus years that these agreements have been in effect, Chugach with input from the wholesale customers and working to a large degree in concert with ML&P conducted economic dispatch and regional planning for the majority of the Railbelt south of the Alaska Range. Golden Valley and FMUS with similar arrangements performed this function north of the Alaska Range and integrated their load into Chugach's economic dispatch. During this period, Railbelt planning and operations were independently quasi-centralized north and south of the Alaska Range.

Even with this degree of centralized coordination and State of Alaska grant funding, (sans the Alaska Intertie and Bradley Lake) inter-area projects were not developed in the Railbelt. This lack of inter-area cooperation was primarily due to the politics of the wholesale power agreements, the ad hoc nature of ML&P's status in the southern region planning structure, and the lack of an assured method for fairly allocating costs and benefits of inter-area projects. Further, the Railbelt lacked an assured regional method of rate recovery for inter-area investments. In short, the Railbelt required an entity that acted with a Railbelt-wide perspective.

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[24] Chugach -GVEA AGREEMENT FOR THE SALE AND PURCHASE OF NONFIRM ENERGY; 5-18-1988

[25] U-90-15 and Chugach/HEA/AEG&T Soldotna #1 System Use and Dispatch Agreement; 12-91 and subsequent NIKISKI COGENERATION PLANT SYSTEM USE AND DISPATCH AGREEMENT; 02/09/99

[26] U-88-71

[27] Chugach-GVEA Bradley Lake Power Banking Agreement 8-30-94, 8-2-95,12-17-99

[28] GVEA/Chugach Non-firm dispatch Protocol for GVEA FMUS sales Tier I,II,II 3-1-1996

The Bradley Lake Project

In March of 1986 shortly after establishment of the interconnection between Fairbanks and Anchorage, the State of Alaska withdrew its application for the Susitna Hydroelectric project and focused solely on the Bradley Lake Hydroelectric project. Bradley Lake's Phase I preliminary construction began in June of 1986 and by late 1987 with the majority of the agreements for Bradley Lake signed; the participants undertook Phase II development. The Participants commissioned Bradley and accepted the project as commercial in September of 1991.

The Bradley Lake Project (the Project) is owned by State Of Alaska dba. Alaska Energy Authority (formerly the Alaska Power Authority). Bradley output is contracted for in a take-or-pay arrangement by Chugach, GVEA, ML&P, HEA, MEA, and the City of Seward. Financing for the project was 50% debt and 50% state appropriation. The participants agreed to continue to make payments to the State Railbelt Energy Fund in an amount equal to:

> "…the average annual debt service on such retired bonds[29]" after the bonds were retired and …"so long as that purchaser continues to purchase project power under this agreement or any renewal thereof."

The project anticipated establishment of a long-term fund to provide investment capital for transmission lines and in the near-term construction of a second inter-area Intertie between Anchorage and the Kenai. However, due to lack of funding, as a stop-gap measure, the parties contracted with Chugach to provide wheeling services across its 115 kV system from Anchorage to the Kenai. This system included the Cooper Lake 115 kV line from Cooper Landing to Anchorage and the 115 KV line from Soldotna to Cooper Landing. The Cooper Landing to Soldotna line had been leased by Chugach from HEA for the duration of the Chugach/Homer Electric Power sales agreements[30]. The APA installed Static VAR Compensators at Soldotna and Daves Creek near Cooper Landing to stretch the transfer capacity of the old 115kV system in order to accommodate the increase in power from Bradley Lake.

The Bradley Agreement (the Agreement) is an integrated series of twenty-plus counterpart agreements with terms of up to fifty years. The Agreements include the terms and conditions for: the bond resolutions, power sales and power purchases, transmission access, transmission capability rights, power scheduling and dispatch, Project asset operations and maintenance, and the operations and the maintenance of non-Project facilities required to deliver Project power. By statute, the Agreements are not subject State regulatory jurisdiction. The Agreements are a comprehensive arrangement that assures the production and delivery of, and payment for, the Project and its output. The Agreement contains numerous interrelated implicit and explicit quid pro quo arrangements. These arrangements form the substance of the compromise that allowed the project to become a reality; however, for many reasons for the details of the

[29] BRADLEY LAKE PROJECT POWER SALES AGREEMENT [12/8/1997], sec 29 (b)(i)-(c),pp28
[30] AGGREEMENT FOR THE LEASE OF FACILITES [September 1985]

arrangements are either implicit and unexplained, or not clearly articulated. Often from a "boots on the ground" perspective they are difficult to manage, particularly over the extended life of the agreements and as facts on the ground have changed.

For example, the northern participants provided up-front capital to HEA in return for transmission capability on a new Soldotna to Bradley Junction Line (constructed and owned by HEA), and then provided additional capital to accelerate the completion of a planned Fritz Creek to Bradley Junction line in return for transfer capability equivalent in MWs to their Soldotna to Bradley junction capacity share across the HEA system and submitted the use of the both lines to HEA's Native load priority. In the agreements the reasons for this two-segment structure are not well articulated nor are the reasons for differing capability rights on the two segments well documented. In the original negotiations, the new line was originally to extend from Soldotna to Fritz Creek closing the loop with HEA's Soldotna Diamond Ridge line as a single segment. The subsequent acceleration payment was the result of a significant last minute controversy over closing the Bradley Junction to Fritz Creek section of the Soldotna to Fritz Creek line.

In 1988, the studies regarding the necessity of closing the loop were inconclusive; there were clearly loss reduction benefits, and some felt there would be significant Project related Railbelt-wide stability problems absent this loop closure. In a somewhat unrelated issue, HEA had assumed it would be operator of the Project from the date of commercial operations going forward. However, APA felt they needed to operate the plant until end of the warranty period to maximize the value of the Project's warranty. In the controversy that arose, HEA felt that the other participants had not supported HEA's claim to operator status adequately before APA, as was required under the SERVICES AGREEMENT[31]. HEA also felt that losing the Project operator status for several years would reduce the overall value of the bargain they believed they had struck in the Bradley compromise.

In response, HEA proposed delaying construction of the Bradley Junction to Fritz Creek section of the Soldotna to Fritz Creek line for several years, deferring costs associated with that line section, in response to the loss of value from the delayed operator agreement [32] This essentially amounted to a proposal to have Bradley connected to the system from the single Bradley junction to Soldotna Line. This put REA approval of the project at risk[33] which in turn threatened State authorization to proceed with the project in its entirety. Eventually, the other participants agreed to pay HEA to accelerate construction of this line section and to close the loop between Fritz Creek and Bradley Junction. The Participants secured the right to transfer power over the HEA system and in the event of an outage on the Soldotna to Bradley Junction line subjugated these rights to HEA native load requirements.[34] Misunderstandings over the nature of this compromise

[31] AGREEMENT FOR THE WHEELING OF ELECTRIC POWER AND RELATED SERVICES ("SERVICES AGREEMENT") [12-8-1987] Section 12j

[32] Letter Robert Turkington, President HEA board to Peg Tileston President Chugach board; October 5, 1988

[33] Bradley Technical Coordinating Committee Meeting Notes; and correspondence 12-20-1988, 11-4-1988

[34] BPMC meeting minutes 9-27-1988,10-21-1988,6-8-89,7-28-1989

have created controversy today in the ability of HEA to charge the participants for inadvertent flows over this line.

This type of compromise is common in the Bradley agreements; and, they were necessary in that they allowed the project to proceed, and generating Millions of dollars in benefits for Railbelt rate payers. *However*, they have also left a quirky patchwork of agreements and operating practices which are unwieldy, awkward to maintain or modify, and over their fifty-year term give the appearance of irrationality. These terms were spelled out in the SERVICES AGREEMENT, THE TRANSMISSION SHARING AGREEMENT[35] and its amendment, AMENDMENT TO THE SALE OF TRANSMISSION CAPABILITY[36].

The Bradley Lake Project Power Sales Agreement (PSA) established the Bradley Lake Project Management Committee (BPMC) to manage the Project and provided:

> "Subject to such non-delegable rights, duties, and responsibilities (of AEA), the Committee shall be responsible for the management, operation, maintenance, and improvement of the Project, in recognition that as take-or-pay purchasers of Project Capacity after the Date of Commercial Operation, the Purchasers have substantial long-term financial interests in, and service and planning responsibilities affected by, the Project."[37]

The CEOs and general managers of the utilities signatory to the PSA, and the Executive Director of the AEA, make up the members of the BPMC.

The Bradley project output is jointly-owned and includes necessary transmission commitments in the various counterpart agreements. Therefore, in the structure of the current Railbelt pool, the BPMC forms another significant forum and counter-point to the IOC (and later the IMC/IOC).

The members of the IMC/IOC and the BPMC are not the same, FMUS was not a participant in the Bradley Project; the City of Seward was not a participant in the AIA, and neither the City of Seward nor HEA are participants in the Amended and Restated Alaska Intertie Agreement (discussed further later). Although the participants in both the AI and PSA were nearly the same, the focus of these entities is very different. This difference in focus sometimes places the organizations at cross purposes with one another. For example, the IMC and many of the participants have recently filed Open Access Transmission Tariffs (OATT) with the RCA and are seeking OATT type rate-recovery for joint and individual transmission investments. However, due to the complex set of quid pro quos, that make-up the fiber of the Bradley Lake Agreements, these same utilities are loath to attempt to unwind these agreements to integrate Bradley flows into an open-access-world. They, therefore, find themselves arguing at cross-purpose to each other and in apparent cross-purposes with themselves in various different forums.

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[35] TRANSMISSION SHARING AGREEMENT [12-8-1987]
[36] AMENDMENT TO AGREEMENT FOR SALE OF TRANSMISSION CAPABILITY [03/07/1989]
[37] BRADLEY LAKE PROJECT POWER SALES AGREEMENT [12/8/1997Sec. 13 (c)(i)

Consolidation and Testing the Grid

The 1990s and early 2000s were a period of consolidation and adaptation for the Railbelt grid; the federal Eklutna Hydroelectric Project was purchased by the power purchasing utilities ML&P, Chugach, and MEA. GVEA merged with FMUS. The failure of the Chugach 138 kV submarine cables in Cook Inlet; instability problems with the Bradley Lake Project; tower movement and unbalanced snow loading problems on the Alaska Intertie; the 1989, 1995 and 1996 Blackouts; the 1994 near voltage collapse and Y2K, all tested the resilience, reliability, governance, contractual relationships, operating procedures and technical ability of the Railbelt grid and its operators.

> …the Railbelt failed to jointly build inter-area improvement projects such as the Northern and Southern Interties *even with significant State grant funding….*

During this period Chugach economically dispatched in excess of 80% of the generation in the Railbelt through the combination of the agreements referenced above. Chugach and ML&P ran an informal spot market to the extent allowed by their respective natural gas supply contracts. Chugach, ML&P, GVEA and the APA (reorganized as the Alaska Energy Authority (AEA) in 1993) performed ad hoc regional planning.

The Failure to Move Beyond….

During the decades following the construction of Bradley Lake, the Railbelt failed to jointly build inter-area improvement projects such as the Northern and Southern Interties even with significant State grant funding. These failures were primarily the result of inter-area politics; a failure of the existing business structure to develop inter-area planning criteria; to allow for proportionate sharing of costs and benefits, and assure rate recovery for inter-area assets. GVEA did eventually construct the Northern Intertie (a second line from Fairbanks to Healy) and Battery Energy Storage System BESS (in Fairbanks) individually after all other participants had withdrawn. The Railbelt failed to build the Southern Intertie even after receiving a positive Record of Decision on its Environmental Impact Statement, when the parties withdrew based on the belief the cost and benefits were not proportionally shared.

In 2006, primarily due to shortfalls in the capital repair funding mechanisms and problems with unanimous agreement requirements, the AIA was terminated by the Alaska Energy Authority. The contract had a four-year notice provision, and contract remained in place through 2010 as the parties negotiated its replacement. This termination created and off-ramp from the existing Railbelt reliability rules and contractual spinning reserve requirements for the utilities. HEA took advantage of this opportunity to opt out of the Railbelt Pool contractually, but to remain interconnected.

Beginning in 2004, per the notice requirements of the Tripartite Agreement and Chugach/Homer Electric Power sales agreements, both HEA and MEA gave notice to Chugach [38] that they did not intend to renew the agreement and intended to construct their own generating facilities to meet their own electrical load.

> *"To date, the Railbelt utilities have not been able to take full advantage of economies of scale for several reasons. Absent taking a regional approach to future resource planning and development, these realities will continue.*[37]

The termination of the Tripartite Agreement and Chugach/Homer Electric Power sales agreements' was a significant event in the Railbelt and triggered a number of actions, regulatory, individual, bilateral and multi-lateral. Regulatory efforts addressed accelerated depreciation of existing generation assets and tariffs for transmission usage. Bilateral efforts tried to find other vehicles for maintaining interregional economic dispatch, operations, and quasi-centralized planning. Individual and regional efforts at integrated resource planning sought to identify the optimal resource mix, moving forward.

Shortly thereafter, AEA contracted Black and Veatch (B&V) to study the costs and benefits of a single Railbelt-wide system operating and planning authority; the Railbelt Electric Grid Authority (REGA).[39] B&V subsequently, developed, with input from the utilities, a Railbelt Integrated Resource Plan (RIRP)[40]. Each of the utilities to one degree or another also set about to perform their internal utility specific integrated resource plans. To a large extent all of these efforts failed to optimize the resulting Railbelt-wide resource development program.

The Railbelt Integrated Resource Plan

AEA's Black and Veatch RIRP lists two "organizational level-general risks" to the Railbelt as:

> "*The lack of a regional entity with the responsibility for implementing the RIRP will lead to suboptimal solutions, resulting in higher costs, lower reliability and the inability to manage the successful integration of DSM/EE and renewable resources into the Railbelt system.*" [41]

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[38] MEA Notice of termination via Patton Boggs[11-2-2004]
[39] ALASKA RAILBELT ELECTRICAL GRID AUTHORITY (REGA) STUDY [9/12/2008]
40 ALASKA RAILBELT REGIONAL INTEGRATED RESOURCE PLAN(RIRP) STUDY [2/2010]
41 Alaska Energy Authority ALASKA RAILBELT REGIONAL INTEGRATED RESOURCE PLAN(RIRP) STUDY [2/2010] sec 1.8.1, pp 1-26

> And "*To date, the Railbelt utilities have not been able to take full advantage of economies of scale for several reasons. Absent taking a regional approach to future resource planning and development, these realities will continue*.[37]

In 2009, in accordance with its 1992, 1995 and 2007 plans[42], Chugach undertook a system impact study[43] to determine the effect of a combined cycle generating plant located near its existing International Generating and Transmission station (IGT). After a determination of "no-harm" to the Grid, Chugach commenced planning and design and reached out to ML&P, MEA and HEA. In 2010, ML&P opted to participate as a 30% partner in the Southcentral Power Project. Chugach and ML&P negotiated interconnection and transmission sharing agreements[44]. Both ML&P and Chugach continued to seek participation from both MEA and HEA in the project. However, both MEA and HEA declined to participate citing their desires to develop what they believed to be lower-cost independent generation resource additions[45].

By 2011, it was clear that the risks identified by Black and Veatch were real and that some Railbelt utilities had chosen to ignore the regionally optimal resource plan of the AEA RIRP in favor of the historic suboptimal pattern of constructing unintegrated local generation to meet local load.

In November 2011, The Alaska Intertie Agreement was amended and restated[46]. All original participants except HEA (AEG&T was now a single member G&T made up of MEA alone) re-signed the Amended and Restated Alaska Intertie Agreement (ARAIA). Among other changes, the ARAIA relaxed majority voting from unanimous to 75% of members, representing 66-2/3 % of annual peak demand, and established mechanisms for funding capital repairs to AI facilities. In addition, the ARAIA formed the Intertie Management Committee (IMC) made up of the CEO's and General Managers of the signatory utilities and a representative of AEA. This committee was placed organizationally over the IOC.

HEA's withdrawal from the AIA and subsequent development of large-scale interconnected generation left a significant participant in Railbelt Grid operations free to operate under different and varying reliability standards. Moreover, it left HEA free to use the benefits of the reserve pool without sharing equitably in the costs of the pool. HEA developed large-scale power plants without any regional planning perspective[47], creating a multi-million dollar transmission constraint for the other Bradley Lake

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42 Chugach's 1992 SEI Long Range Transmission Plan, its EPS 2007 update and the 1995 Generation Siting study

43 CHUGACH ELECTRIC ASSOCIATION INTERNANTIONAL GENERATION EXPANSION STABILITY STUDY [9-25-2009]

44 South Central Alaska Power Project PARTICIPATION AGREEMENT[8-28-08]

45 Chugach Board Meeting Minutes [8-2008] &Letter W. Carmony to B. Evans [11-21-14]

46 Amended and Restated Alaska Intertie Agreement [November 2011]

47 HEA did engage Electric Power Systems to study the implications it proposed additional generation on the Kenai in 2011, the resulting congestion was identified in the study. HEA proceeded with construction of its desired generation irrespective of the effects on the system

participants. In these actions HEA operated from a local perspective consistent with its fiduciary responsibility to its local membership and the consumers in its certificated service territory. However, this localized perspective will raise costs to all Railbelt consumers (even HEA's through the unintended regional consequences of their localized actions).

The design and construction of MEA's Eklutna Gas Generation Plant (EGS), near the Eklutna exit off the Glenn Highway approximately 30 miles north of Anchorage, while consistent with MEA's internal IRP was also completed without a Railbelt-wide planning perspective. Over 40% of the load served by MEA, and intended to be served out of the EGS plant, is accessed over transmission facilities owned by the EHP purchasers. MEA is a minority owner in the EHP and has no transmission access agreement for use of the facilities except to deliver its EHP energy and capacity to its loads. MEA undertook EGS project development without any meaningful evaluation of regional grid impacts and without negotiating transmission access across EHP owned facilities. A system impact study completed mid-way through construction indicated the potential for Railbelt-wide stability problems with the plant's performance. The source, nature and extent of these issues are still under review[48]; however, a subsequent "Operating Study indicated that these limitations did not exists under expected operating conditions. Depending on the final outcome of these studies, the EHP purchasers estimate that the construction of the EGS plant in its current location may require tens of millions of dollars of improvements to EHP facilities taking four to five years to complete. In the interim, the community of Eagle River will be radially served and subject to single-contingency outages. The resulting configuration will be similar to the one which existed during the outages in the winter of 2006/2007 that resulted in the RCA docket U-07-01 related to Eagle River reliability[49]. And once again, in these actions MEA operated from a local perspective consistent with its fiduciary responsibility to its local membership and the consumers in its certificated service territory. However, this localized perspective will raise costs to all Railbelt consumers (even MEA's through the unintended regional consequences of their localized actions).

Railbelt Integrated Resource Plan- Transmission Update

It was known that integration of the Watana Project into the Railbelt Grid would require significant additional inter-area transmission. Transmission construction of this magnitude would take at least a decade if not more to complete. Therefore, in consultation with the utilities, AEA contracted with Electric Power Systems Inc. to update the RIRP with the additional transmission construction required to integrate these

48 MEA EGS System Impact Studies 10-22-13 pp. 4 and MEA System Operating Studies Final report -8-5-14 pp. 4-5

49 U-07-01 Order Initiating Investigation, Scheduling Evidentiary Hearing and Consumer Input Hearing, Requesting Attorney General Participation, Designating Parties, Appointing Administrative Law Judge, and Addressing Deadline for Decision, [January 8, 2007].

new generation assets into the Railbelt and to assure Watana deliverability. And further, to determine what, if any, benefit there would be from these transmission assets if their construction were well underway and the Watana project, for some reason, failed to be developed. This study used complex modeling tools to model powerflow, stability, and production costs to determine the necessary asset additions and their respective cost-benefit ratios.[50]

The result of this effort was the Alaska Railbelt Transmission Plan (ARTP)[51]. The ARTP identified approximately $903 M in non-Watana related transmission improvements necessary to integrate the four new non-RIRP generation plants plus Watana into the grid and to facilitate a system wide economic dispatch without significant security constraints. The Non-Watana generating units were, MEA Eklutna Gas Generation plant (EGS), ML&P Plant 2A (MLP2A), HEA Soldotna One LM 6000, and HEA Nikiski Combined Cycle. Currently, this study is under review by the Railbelt Utilities. The study indicates that the potential annual benefit for the base case 2020 study year is between $60M and $210M. There are some relatively unlikely sensitivity cases showing negative benefits of as much as -$80M. This study was subsequently integrated with the AEA Kenai Area Transmission plan and other documents and renamed the Pre/Post Watana Transmission Study. This study has been extensively vetted by Chugach (and perhaps others), Chugach's analysis concludes that the benefit range is between $75M and $140M (Chugach did not evaluate the 100MW mine load north of Fairbanks, the AEA $210M case). The $75 M benefit case reflects LNG delivered to Fairbanks at Cook Inlet prices plus transportation, and is very close economically to a case which would have used current oil prices (~$50/bbl.).

One notable fact is that the ARTP modified the traditional Alaskan inter-area reliability criteria from N-0 to N-1. This change means that the inadvertent opening of any line between any two areas (e.g. Anchorage-Kenai) cannot be allowed to result in the shedding of load. Traditionally in the Railbelt, the N-1 planning criterion was adhered to within areas, but due to the cost of inter-area transmission lines, relaxed between areas. The potential of firm power contracts for the Watana project, and that probability the utilities would not sign such contracts without firm transmission access drove this increase in required reliability. In the ARTP, this altered security requirement drives the construction of a second line between the Anchorage-Kenai Area and also between the Anchorage/Mat Su-Fairbanks areas. However, it is this second line that also provides the "firm" nature to these transmission interconnections.

50 Siemens PTI -P/SSE 32 and Ventyx PROMOD IV

51 Alaska Railbelt Transmission Plan [November 13, 2013] later integrated into the AEA Pre/Post Watana Transmission Study 3-17-14

The Railbelt-wide Integrated Resource Plan Versus the Individual Utility Integrated Resource Plans (IRPs)

Of the six generation projects recently constructed or currently under construction in the Railbelt, in the 2011-2020 time-frame only the South Central Power Project, Healy 2, Fire Island Wind, and Watana (Chakachamna) licensing appear in the RIRP's optimal Railbelt resource case 1A/1B, the regional least-cost scenario[52]. The RIRP assumed the Chakachamna project over the Watana project; however, Chakachamna has since been found to be technically infeasible due to limited water resources with respect to required fish water releases. Using a simple 30% capacity factor (CF) as a breakeven and an approximation of $2000/kW cost of installed capacity, the current generation build-out exceeds the optimum by between $200M, and using the sophisticated RIRP ProMod[tm] modeling by as much as $500M.

> *…However it must be reiterated the from a local IRP perspective both HEA and MEA were following through on plans determined to be in the best interest of the local native load customers….*

While called for in each utility's internal IRP, for the 2011 through 2020 timeframe, the addition of ML&P 2A, EGS and the Nikiski/Soldotna generation represents approximately 130% the required amount of electrical generating capacity determined in the AEA RIRP.

Lacking regional project conditioning, generation has been constructed on the Kenai bottlenecking the already transmission constrained Bradley Lake Hydroelectric Project (one of the least-cost generation assets in the Railbelt). Of the $200-$400M in transmission improvements of the ARTP recommended between the Kenai and Anchorage nearly, $200M can be attributed in part or total to relieving this unnecessary congestion. Further, MEA's Eklutna Gas Generation Plant is nearing completion, the Eklutna purchasers and MEA have finally reached an agreement on transmission interconnection of the plant which recognizes the integration and impact studies used to determine the effect of the plant on grid reliability were conflicting and inconclusive and must be revisited. Up to an additional, $30.4 M[53] in capital improvements to Eklutna-owned, non-MEA assets, will be required to integrate the EGS plant completely. As we stated earlier, given the lack of forward-looking regional planning, the EGS Plant will need to be temporarily interconnected in an unreliable radial fashion to the Eagle River Area until these projects can be financed and constructed. However, it must be reiterated that from a local IRP perspective both HEA and MEA were following through on plans determined to be in the best interest of the local native load customers.

[52] Alaska Energy Authority ALASKA RAILBELT REGIONAL INTEGRATED RESOURCE PLAN(RIRP) STUDY [2/2010] Appendix E , pp 1

[53] ARTP $20.4 M plus stability required Plant I to Fossil Creek at $10 M

Cook Inlet Gas

Coincident with, but unrelated to, these changes in the Railbelt have been the significant changes in the Cook Inlet natural gas supply market. Natural gas supplies home heating to much of the Railbelt and provides fuel to generate over 80% of the Railbelt's electricity. The Railbelt has depleted the once plentiful supplies of the 70's and 80's. Due to pricing producer dynamics and limited markets, exploration stagnated, and prices rose alarmingly between 1994 and 2007 (over 400%). Resolution of this serious and immediate problem served to complicate the evaluation of resource planning alternatives by adding another significant set of variables into the regional planning solution set. From an operating perspective, the fallout of this crisis continues to impact an already constrained Grid.

The Railbelt's Track Record

As the Railbelt Grid has developed, in spite of its unwieldiness and sometimes apparent irrationality, it *has provided significant benefits* to consumers. These benefits have accrued in terms of the Railbelt in terms of improved reliability and economic efficiency. These are straightforward to measure: reliability in terms of power supply outages and economics in terms of margins associated with economy energy sales.

Reliability

Prior to the formal development of the interconnection in 1985, cascading outages ("black-outs") were common in the Railbelt, often occurring several times per year. Complete restoration of the Railbelt electric service after a black-out can take several hours and has a significant impact on the regional economy in terms not only of inconvenience, but also of lost economic activity. Through interconnection, coordinated operation, experience, adoption of standardized operating practices, and application of advanced technologies, Railbelt operators have reduced these large scale outages to nearly zero. The last three (exclusive of the Kenai Black-outs of 2014) occurred in 1988, 1995 and 1996.[54]

> *…As the Railbelt Grid has developed, and despite the unwieldiness and sometime apparent irrationality the grid has provided significant benefits to the consumers of the Railbelt in terms of reliability and economic efficiency…*

Economics

From 1992 through 2014 Chugach and its wholesale customers MEA and HEA realized $31.2M in margins from economy energy sales (this is exclusive of O&M recovery). Assuming these sales were priced on a split the savings methodology this equates to a combined Chugach G&T / GVEA savings of $62.4 M.

[54] *See* Appendix C, "Railbelt Power Supply Outages 1988-1994."

This calculation does not include benefits ML&P has obtained from their economy sales or the resultant savings GVEA has earned through those MLP / GVEA purchases.

Historical Conclusions

This high-level history of the Railbelt organization and governance demonstrates the pattern of bilateral and multi-lateral agreements that the current Railbelt business model produces. These agreements focused on specific issues or projects; they are complex, often involving implicit and explicit quid pro quo concessions and benefits that prove difficult if not impossible to unwind. *The term of these contracts has often outlived the circumstances that made the agreements relevant, leading to periods of apparently irrational decision making as parties attempt to live within the confines of agreements that do not reflect the facts on the ground.* The agreements have been focused on and capable of squeezing incremental savings out of existing arrangements or resources but to a significant degree incapable of rationally advancing the Railbelt grid beyond its current structure. Moreover, as can be seen with the consequences of the termination of the Tripartite Agreement and Chugach/Homer Electric Power sales agreements their expiration has left the stakeholders of the Railbelt torn between returning to a familiar, but inefficient, fragmented historical framework, and moving forward to an unfamiliar, but more reliable and more efficient future. This world of bilateral and multilateral agreements does not provide a flexible and adaptable framework to respond to changing circumstances. Such an adaptable framework is necessary if the Railbelt and the State of Alaska is to prosper and compete in the 21st century.

The term of these contracts (Railbelt bilateral and multilateral agreements) often outlived the circumstances that made the agreements relevant, leading to periods of apparently irrational decision making as parties attempt to live within the confines of agreements that do not reflect the facts on the ground.

In order to move beyond this place, much like the larger electrical grids of the Lower 48 and Canada, we will require a different but proven business model. Moving forward, if we wish to maintain the gains we've made, prevent degradation of reliability, and obtain the future benefits identified numerous times in Railbelt studies, we must rationalize planning, operations and development.

For the Railbelt to prosper economically, we require a business model that seeks the maximum benefit for the entire Railbelt rather than for specific entities within an area, often at the expense of other parties in that area. A model that is flexible, responsive, stake-holder driven and "Railbelt Economics" particular, as opposed to, a business model focused on a specific asset, region, or resource. Finally, the Railbelt

requires an entity that operates these assets in the safest and most reliable least-cost manner. This business model is the USO-Transco model that we propose.

Moving Forward

AEA Transmission Plan Benefits

As discussed above, Railbelt benefits from current business model arrangements have been substantial: tens to a perhaps one hundred million dollars total over the last two and one-half decades. And, the Railbelt has experienced significantly increased reliability. However, depending on sensitivities, the most recent AEA studies put the non-Watana variable fuel and O&M benefits of a Railbelt-wide economic dispatch and transmission improvements, at between ($79.4 M) and $210 M[55] per for the given study year. Chugach's internal analysis places the likely annual benefit at approximately $140 M annually. Obviously there are sensitivity cases where the B/C ratio is less than one; however, in our analysis these are unlikely and even if they did occur there rate impacts are minimal, less than 2% increase in combined base rates and fuel and purchased power.

Some of these benefits could be realized through sub-optimal pools and other bilateral or multilateral arrangements. However, it is only through a system-wide joint economic dispatch that we will obtain all of the benefits. The best business model to accomplish this is the USO model.

The two AEA negative benefit cases (-22.3M and -79.4 M) assume both the loss of the Fort Knox Mine load in Fairbanks and availability of trucked Liquefied Natural Gas (LNG) in Fairbanks at a delivered price of $17/mcf. This would require all the GVEA plants to be converted to run on natural gas and also assumes that Aurora and Healy 1 (1960's vintage coal-fired power plants) are re-permitted indefinitely: this is a very unlikely combination of scenarios.

The high benefits cases consists of an additional 100 MW mine load in the Fairbanks area based on projections for the Livengood mine. Importantly all of these cases assume Aurora and Healy 1 continue to operate indefinitely, an unlikely event. These two coal-fired plants represent 400 GWH generations, which may very well have to be displaced in the near future. Displacement of these plants with gas-fired generation from Cook Inlet results in a benefits stream very nearly equal to the addition of the 100 MW mine load.

Some of these benefits could be realized through sub-optimal pools and other bilateral or multilateral arrangements. However, it is only through a system-wide joint

55 AEA Pre/Post Watana Transmission Study; 3-17-14; pp. 9-10

economic dispatch that we will obtain all of the benefits. The best business model to accomplish this is the USO/Transco model.

Importantly this study puts no value on the value of added regional economic growth due to stable, low-cost energy. We discuss this in greater detail later. Additionally, very little value is placed on the benefits generated by increased reliability based on the "value of un-served energy.[56]" These "softer" benefits should not be discounted; their value is substantial, just more difficult to quantify in a way that all stakeholders agree to. Further analysis should be performed to quantify these softer benefits. However, even absent these added benefit components, the reduction in variable O&M due to economic dispatch *is in most cases an order of magnitude greater* than the annual marginal benefits that the current business model has squeezed out of the grid over the past 25 years.

However, even absent these added benefit components economic growth and reliability, this variable O&M annual benefit due to economic dispatch, is in most cases an order of magnitude greater than the annual margin benefits that the current business model has squeezed out of the grid over the past 25 years.

The Chugach Transmission Investment Dilemma

Chugach faces a dilemma that will become more acute over time. Chugach is the owner of a significant portion of the Railbelt transmission structure outside of its certificated service territory. These are assets that Chugach constructed to serve the loads of MEA and HEA and assets for which it now bears the cost of maintenance, operations and up-keep. Chugach has no meaningful way to collect the revenue to maintain these assets, assets that technically form the "heart" of the Railbelt Transmission grid. These assets directly deliver spinning and non-spinning reserves and provide voltage support to ML&P, MEA, GVEA, Chugach, and by extension of the balance of the Chugach system to HEA and SES. Currently, there is no cost recovery mechanism for the provision of these services.

Chugach's open access tariff (before the RCA now) would recover a portion of these costs on energy or capacity transfers; unfortunately, this revenue is small and uncertain in comparison to the relative costs. Further, imposing these costs on the relatively this small number of MWHs actually transferred will distort economic dispatch. This revenue stream is neither sufficiently assured nor significant enough in magnitude to justify capital expenditures to failed infrastructure. Hypothetically, take, for example, the 230 kV submarine circuits between the Joint Chugach AML&P 230 kV station and Point

56 Strategic and Flexible Transmission Planning: Balancing Reliability and Economics in Transmission planning; http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000000001024273
And Estimating the Value of Lost Load; ERCOT-London Economics 6-17-2013.

Mackenzie north of Knik arm. These circuits form the primary transmission path for energy and reserves moving from Anchorage and the Kenai to GVEA and MEA and vice versa. These 230 kV submarine cables are approaching 40 years old and will need replacement eventually, perhaps sooner rather than later. The failure of one of these cables will leave the Railbelt (particularly MEA and GVEA) crippled. Operating costs will rise due to transmission congestion. Submarine cable repair and replacement will cost $20 -$50M. However, Chugach as a utility with no firm load north of Knik arm would be remiss in its fiduciary responsibility to its membership (and bondholders) to attempt this project absent a rate structure that allowed recovery from all ratepayers that receive benefit from cables both in terms of energy transfers and reserve sharing. This is the Chugach transmission dilemma and can be extrapolated to all Chugach assets under and north of Knik arm (with the exception perhaps of one 138 kV circuit to Beluga). As described above, this is the classic "free rider" problem addressed by FERC in Order No. 1000.

And furthermore, it is worth reiterating, that these (the AEA) improvements are required if the Watana project goes forward, and if Watana does not go forward, they still result in a nearly $69M net annual benefit.

The Financial Problem with the Current Business Model-Recovery of Investment in New Assets:

Improvement Costs in relationship to Improvement Benefits

The projected fuel and O&M savings of the AEA Pre/Post Watana Transmission Study come at a price, and this price is additional capital investment. AEA estimates this investment to be approximately $900 M. We believe the AEA's cost estimate to be directionally correct and conservative. Further, AEA has estimated that this sum will be invested over a 10-15 year period.[57] This capital investment must be made in primarily inter-area assets, facilities to more robustly interconnect Anchorage-Matsu to the Kenai and Anchorage Mat-Su to the Fairbanks area. This more robust interconnection will allow for firm inter-area power transfers and system-wide firm-power economic dispatch, as opposed to the current market in non-firm inter-area economy energy.

There are many ways to evaluate project benefits; however, from a simplified annualized benefit-cost screening perspective, barring the most severe sensitivity cases,[58] the implementation of system-wide economic dispatch and the proposed transmission improvements will result an annual Railbelt-wide savings of nearly $150 M per year[59].

[57] *Id. 50*
[58] It is unlikely that both Fort Knox mine will be lost entirely and $17/mmbtu LNG will come to Fairbanks while Aurora and Healy One are be re-permitted indefinitely
[59] Using an estimated annual energy usage in 2020 of 5,200 GWh per year,

The additional fixed and variable O&M cost of the improvements is estimated at $71M[60] per year resulting in roughly $70 M/year in net annual savings. Obviously project-cost, cash-flow, timing of construction and benefit-accrual, as well as possible sensitivities may have an effect on these numbers. However, there appears to be significant upside potential and limited downside potential in this investment. And furthermore, it is worth reiterating *that these improvements are required if the Watana project goes forward,* and if Watana does not go forward, they still result in a nearly $70M net annual benefit.

Therefore, even in a "non-Watana" future with a simple annualized benefit-cost ratio the inter-area grid improvements have a benefit to cost ratio of 2:1. Importantly this evaluation ignores benefits related to regional economic growth due to low cost stable electricity.

However, irrespective of the cost savings and economic growth potential for the Railbelt, the current business model will not allow existing utilities to finance these investments. And, these investments will not be made.

Monetizing savings to pay for infrastructure

With the current business model, operating in a balkanized fashion, these improvements will not be developed. First, these projects require Railbelt-wide planning that is outside the purview of any individual utility in the current business model. Second, the benefits of a security constrained Railbelt-wide hour by hour economic dispatch must occur to achieve the savings. Third these benefits flow from *reductions* in fuel and purchased power costs not from increased revenue. Entities cannot finance assets from reduced revenue. A rate structure must be established to ensure sufficient revenue to recover costs. Once this rate structure is in place, and the projects financed and constructed, then the resulting base rate increases can be offset by reductions in fuel and purchased power.

Further, complicating this issue is the fact that the allocation of these benefits in the form of reduced costs will vary widely from utility to utility depending on scenario i.e. which utility has the greatest generating capacity, at the least cost, in the optimal region, the "free rider" problem again. Local utility governing boards have no mechanism to make investments that have a Railbelt-wide greater good,

Finally, utilities have no clear-cut mechanism to incur debt and recover costs for projects outside their service territories for which they do not have assured rate recovery.

[60] In simple round numbers, the annual principle and interest on the $900 M investment is roughly $69.5 M (50 year amortization @ 7.5% WACC). With additional O&M at 1.5% of $69.5 M or $1M, the annual cost is approximately $71 M.

but may disadvantage their constituents. Such investment is "at-odds-with" and beyond the purview of their organizational and fiduciary responsibility. Finally, utilities have no clear-cut mechanism to incur debt and recover costs for projects outside their service territories for which they do not have assured rate recovery.

Organizationally there is a disincentive for traditional utilities to make investments that may lower the cost of other utility's energy more than their own, thereby economically disadvantaging their constituents; even though these developments may bring an overall net benefit to the Railbelt as a whole. This is demonstrated in the current opposition to the optimal USO Solution.

Organizationally there is a disincentive for traditional vertically integrated utilities to make investments that may lower the cost of other utility's energy more than their own, thereby economically disadvantaging their constituents; even though these developments may bring an overall net benefit to the Railbelt as a whole. This is demonstrated in the current opposition to the optimal USO Solution.

The Time to Redefine the Business Structure of the Railbelt is now!

Under the current business model, these improvements and the net savings to Railbelt rate payers will not be realized. In order to realize the benefits of system-wide economic dispatch and improved resiliency and reliability, a new and more rational business model must be adopted. *As we have stated we believe a unified regional system operator and transmission organization is the solution*; we propose the name: ERCOA- the Electric Railbelt Reliability Council of Alaska. And, we propose a follow-on Transmission-only utility ARETC: the Alaska Railbelt Electric Transmission Corporation LLC.

The time to revise the Railbelt business model is now! Now, before numerous sub-optimal bilateral arrangements are put in place that make the formation of the optimal USO business model difficult or impractical.

The Evolution of Independent System Operators and Regional Transmission Organizations in North America

There are nine ISO/RTOs in North America.[61] A relatively recent creation in the over 100-year-old electric utility industry, they were created in the mid-1990s. The driver for their creation arose from a desire to open electricity markets to more participants than the existing vertically integrated utilities that owned and controlled all

61 About the IRC http://www.isorto.org/about/default

aspects of electric energy production, transmission, distribution and retail delivery. FERC enabled and encouraged USO creation in the United States and regulates six of the seven USOs in the U.S.[62] In addition, the state of Texas created a ISO under state jurisdiction and two Canadian provinces, Alberta and Ontario, have ISOs in their jurisdictions.

History

At the end of the 19th century, electric utilities started in towns and cities. The utility in each city had to provide its own generation plants, transmission and distribution lines to serve its customers. This large investment made it uneconomical to have more than one utility in the city. There were few transmission interconnections between utilities and they largely operated in isolation from each other.

In the 1930's the monopolistic nature of the utilities pointed to the need for governmental regulation of the utilities. The Federal Power Agency (later to become FERC) was given that responsibility at the federal level.[63] States also created their utility regulatory agencies, mainly focused on retail rates charged by the utilities in their jurisdictions. Also in the 1930's the Rural Electrification Act was passed to enable the provision of electric service to less densely populated rural areas.[64]

The utilities also saw the benefits of interconnecting with each other. This enhanced reliability of service by enabling them to back each other up if a generating unit was lost and enabled them to buy available lower cost wholesale power from other utilities. Over the years, this evolved into the massive integrated electric transmission networks that exist today in North America.

In the 1980's, entities other than the utilities wanted to invest in generating plants and sell to the utilities on a competitive basis. In order to do this, they had to have access to the transmission system owned and operated by the utilities. This put them in a competitive disadvantage.

FERC Orders 888 and 889

In 1996, FERC adopted Order No. 888[65] in order "to remove impediments to competition in the wholesale bulk power marketplace and to bring more efficient, lower

62 *See* FERC's descriptions of the current Regional Transmission Organizations (RTO)/Independent System Operators (ISO) at http://www.ferc.gov/industries/electric/indus-act/rto.asp

63 History of FERC http://www.ferc.gov/students/ferc/history.asp

64 Rural Electrification Act of 1936 http://www.ccrh.org/comm/moses/primary/electrif.html

65 *Promoting Wholesale Competition Through Open Access Non-Discriminatory transmission services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, FERC Statutes and Regulations, Regulations Preambles January 1991-June 1996 ¶31,036 (1996) (Order No. 888) *order on reh'g*, Order No. 888-A, 81 FERC ¶61,248 (1997), *order on reh'g* Order No. 888-B, 81 FERC ¶61,248 (1997), *order on reh'g.* Order No. 888-C, 82 FERC ¶61,046 (1988), *aff'd. in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir.

cost power to the Nation's electricity consumers." Order No. 888 required all public utilities that own, control or operate facilities used for transmitting electric energy in interstate commerce to have on file open access non-discriminatory transmission tariffs that contain minimum terms and conditions of non-discriminatory service. It also permitted public utilities and transmitting utilities to seek recovery of legitimate, prudent and verifiable stranded costs associated with providing open access and transmission services.

The companion Order No. 889[66] mandated the primary tool to implement the goals of Order No. 888, the Open Access Same-time Information System (OASIS). The OASIS is an Internet-based tool for sharing information on transmission prices and availability. Order No. 889 also restricts communication between power marketing and transmission operation employees within any one organization. Utilities can obtain information about their own transmission system for their own wholesale power transactions only through OASIS, the same as any other user of the transmission system. Customers can view Available Transmission Capability and submit transmission service requests on the applicable OASIS sites

Why USO/RTOs?

ISOs grew out of Orders Nos. 888/889 where FERC suggested the concept of an Independent System Operator as one way to satisfy the requirement of providing non-discriminatory access to transmission. In 1999, in Order No. 2000[67], the Commission encouraged the voluntary formation of Regional Transmission Organizations to administer the transmission grid on a regional basis throughout North America (including Canada). Order No. 2000 was meant to build upon the USO concept by encouraging smaller transmission entities to join into larger RTOs and by pushing all transmission operators and regions to develop plans for participation in an RTO. While Order 2000 did not technically mandate participation in an RTO, the Order required all transmission owners to submit progress reports detailing their plans to participate in an RTO. RTOs and USOs can have a particularly useful administrative role to play in situations where a transmission asset or investment's benefits and/or costs are shared across multiple state

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2000), *aff'd sub nom., New York v. FERC*, 535 U.S. 1 (2002). Order No. 888 can be accessed at http://www.ferc.gov/legal/maj-ord-reg/land-docs/order888.asp

66 *Open Access Same-Time Information System and Standards of Conduct*, Order No. 889, FERC Statutes and Regulations, Regulations Preambles January 1991-June 1996 ¶31,035 (1996), *order on reh'g*, Order No. 889-A, FERC Statutes and Regulations, Regulations Preambles July 1996-December 2000 ¶31,049, *reh'g denied*, Order No. 889-B, 81 FERC ¶61,253 (1997). Order No. 889 can be accessed at http://www.ferc.gov/legal/maj-ord-reg/land-docs/order889.asp

67 *Regional Transmission Organizations*, Order No. 2000, FERC Statutes and Regulations, Regulations Preambles July 1996-December 2000 ¶31,089 (1999), *order on reh'g*, Order No. 2000-A, FERC Statutes and Regulations, Regulations Preambles July 1996-December 2000 ¶31,092 (2000), *aff'd sub nom. Pub. Util. Dist. No. 1 of Snohomish County, Washington v. FERC*, 272 F.3d 607 (D.C. Cir. 2001) (Order No. 2000). Order No. 2000 can be accessed at http://www.ferc.gov/legal/maj-ord-reg/land-docs/RM99-2A.pdf

regulatory jurisdictions. In this case, RTOs or USOs are uniquely positioned to administer FERC tariffs and assist state regulatory commissions in evaluating and administering transmission cost allocation." This, however is not the case in Alaska, in Texas, or in California.

In subsequent years, FERC approved the creation of six USO/RTOs. In parallel action, the state of Texas approved the Electric Reliability Council of Texas USO (since it exists entirely within the state and is not FERC jurisdictional) and the provinces of Alberta and Ontario created USO/RTOs in their jurisdictions.

RTOs and USOs have a particular role to play in situations where a transmission asset or investments benefits and/or costs are shared across multiple state regulatory jurisdictions. In this case, RTOs or USOs are uniquely positioned to administer FERC tariffs and assist state regulatory commissions in evaluating and administering transmission cost allocation.

Reliability Oversight

Although the regulatory impetus behind the creation of USOs in the United States may have been to ensure open access to the transmission system and enable competition in the provision of electric energy; USOs also have a significant responsibility in ensuring reliability of the generation and transmission systems in their areas. They are held accountable to Reliability Standards developed through the North American Electric Reliability Corporation (NERC)[68] and approved by FERC.

North American Electric Reliability Council (NERC pre-2005)

NERC was created as a result of the 1965 Northeast Blackout, which demonstrated the need for more coordinated operation and planning by interconnected utilities. NERC started as an industry organization supported by utilities that developed operating and planning guides the utilities voluntarily agreed to follow. Regional Reliability Councils were formed under NERC to formulate more specific guides that took into account the unique characteristics of utilities in their regions.

2005 Federal Energy Policy Act (EPAct) and NERC as the Electric Reliability Organization (ERO)

After another northeast blackout occurred in 2003, the Energy Policy Act (EPAct) was passed by Congress in 2005[69]. For the first time, FERC was granted authority to oversee mandatory reliability standards governing the nation's electricity grid. FERC adopted rules on the certification of an Electric Reliability Organization (ERO) and procedures for the establishment, approval and enforcement of mandatory electric reliability standards. FERC certified NERC as the ERO and approved reliability standards filed by the ERO.

68 NERC Standards http://www.nerc.com/pa/Stand/Pages/default.aspx
69 Energy Policy Act of 2005 http://www.gpo.gov/fdsys/pkg/BILLS-109hr6enr/pdf/BILLS-109hr6enr.pdf

NERC as the ERO has the authority to enforce compliance with applicable standards by USOs, utilities, generators, transmission and distribution providers. NERC can assess monetary fines for non-compliance subject to FERC approval. NERC has delegated some of that authority to Regional Reliability Entities[70], who may adopt regional reliability standards in addition to the federal standards.

The Electric Reliability Council of Texas Experience

The Electric Reliability Council of Texas (ERCOT) and the Alaska Railbelt have many characteristics in common. Over the past 70 years, ERCOT has gone through many changes that would be beneficial to review and determine if any would be applicable and of value to the Alaska Railbelt.

Common Characteristics

Like the Railbelt, the ERCOT[71] electric interconnection is located entirely within a single state. As a result, the Federal Energy Regulatory Commission (FERC) has limited jurisdiction, particularly over rates and operating and market structures. The Public Utility Commission of Texas (PUCT) is the primary regulatory body in ERCOT, much as the Regulatory Commission of Alaska (RCA) is for the Railbelt.

Although, unlike the Railbelt, ERCOT has a deregulated wholesale and retail market administered by an Independent System Operator (USO), the PUCT has oversight over the market structure and rules and the operation of the USO. ERCOT did not get to its current state overnight. It evolved over its 70-year history. Elements in that evolution would be of value if applied in the Alaska Railbelt.

ERCOT History

The predecessor of ERCOT, the Texas Interconnected System (TIS), started in 1941 when electric utilities in Texas that had previously planned and operated their systems in isolation came together as TIS to ensure a more reliable and adequate supply of electricity for the war effort. The reliability and economic benefits of interconnected operation were realized, and TIS continued operation as a voluntary organization, developing operating and planning reliability guides that members agreed to follow.

After the northeast blackout of 1965, the North American Electric Reliability Council (NERC) was formed to improve reliability of the bulk generation and

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70 Regional Entities http://www.nerc.com/AboutNERC/keyplayers/Pages/Regional-Entities.aspx

71 A more detailed description of ERCOT can be found at http://www.ercot.com/content/news/presentations/2014/ERCOT_Quick_Facts_052014.pdf

transmission systems in the United States and Canada. ERCOT was formed in 1970 as one of the regional reliability councils under NERC. In 1981, TIS merged into ERCOT. ERCOT was administered by volunteers from member utilities until 1986 when the Executive Director and a small staff was hired.

In 1995, the Texas Legislature enacted SB 373 (section 2.057)[72] that directed the PUCT to enable wholesale electric competition by ensuring non-discriminatory access to the transmission system. A PUCT rulemaking to implement this directive resulted in the creation of the ERCOT USO by ERCOT members. These mirrored actions are taken by FERC under Order 888 in the same time frame to ensure non-discriminatory access to the transmission systems of FERC jurisdictional utilities. The USO took the responsibility of real time reliability monitoring of the ten utilities that operated the ERCOT generation and transmission system. The USO also approved wholesale electricity transfers on the transmission system and provided transmission system information to all wholesale buyers and sellers. The USO also started playing an active role in planning transmission system additions.

In 1999, the Texas Legislature enacted SB 7[73] that created competition in the provision of retail electricity in ERCOT. In Section 39.151 it mandated that the PUCT certify an "independent organization" to:

(1) ensure access to the transmission and distribution systems for all buyers and sellers of electricity on nondiscriminatory terms;
(2) ensure the reliability and adequacy of the regional electrical network;
(3) ensure that information relating to a customer's choice of retail electric provider is conveyed in a timely manner to the persons who need that information; and
(4) ensure that electricity production and delivery are accurately accounted for among the generators and wholesale buyers and sellers in the region.

The PUCT certified the USO to be that organization and perform those duties.

To fulfill this mandate, ERCOT members decided that the USO should operate the interconnection as a whole instead of the ten utilities operating their own parts of the system. In 2001, the USO began single area operation and operation of a zonal wholesale electricity market. In 2002 retail competition commenced.

In 2010, ERCOT[74] changed from a zonal wholesale market structure with generator portfolio dispatch to a nodal market structure with economic dispatch of individual generators.

[72] (http://www.legis.state.tx.us/BillLookup/Text.aspx?LegSess=74R&Bill=SB373)
[73] (http://www.legis.state.tx.us/BillLookup/Text.aspx?LegSess=76R&Bill=SB7
[74] A timeline of ERCOT history can be found at http://www.ercot.com/about/profile/history/index.html

ERCOT Zonal Wholesale Market Operations and Congestion Management

The zonal market ERCOT started in 2001 retained some vestiges of the previous structure where load serving entities either owned or contracted with generator portfolios to meet their needs. In the zonal market, this could still be done, but had to be scheduled with the USO. Generator portfolios also offered balancing energy bid curves by zone to the USO to dispatch in 15-minute intervals to make up the difference between the scheduled amount and actual load. The highest bid struck to obtain the amount of balancing energy needed set the clearing price. Load-serving entities who had scheduled less generation than their load and generators who provided less than their scheduled amounts paid this price for the difference. Load-serving entities who had scheduled more generation than their load and generators who provided more than their scheduled amounts were paid this price for the difference. Balancing energy dispatched by the USO accounted for only about 5% of the total energy used in ERCOT with the remaining 95% being self-provided or contracted as reflected in schedules.

Zones were defined by where major transmission constraints existed. Congestion on these constraints was managed by the USO dispatching balancing energy up and down in the zones on the two ends of the constraint. This created different balancing energy prices in the two zones that load-serving entities and generators in those zones had to pay or be paid for schedule differences. Local congestion on lines within zones was handled by individual unit instructions within the zone. Those units were paid based on a formula and the cost spread across all loads in ERCOT. The inefficiencies and inequities caused by handling zonal and local congestion differently led to ERCOT changing to a nodal market operation in 2010.

ERCOT Nodal Wholesale Market Operations and Congestion Management

ERCOT began nodal wholesale market operation in December 2010. In the zonal market, the USO only dispatched balancing energy to zonal generation portfolios. For the nodal market, the USO performed Security Constrained Economic Dispatch (SCED) every 5 minutes of each generating unit on line based on price curves submitted by the unit owners. If there is no transmission congestion, the lowest cost generation is dispatched until it meets load requirements, and the last generator dispatched sets the same locational marginal price (LMP) for all generators dispatched.

If there is congestion, the units that have an effect on the constraint are dispatched up or down on their price curves to relieve the constraint. This results in different LMPs for each of those generation “nodes”.

Load serving entities and generators can financially protect themselves from these fluctuating LMPs through bilateral contracts or participating in the day-ahead market operated by the USO.

Given the relative simplicity of the Railbelt nodal price transparency would be straight forward and economical to achieve to achieve and may provide value to consumers and IPP's in understanding the economic dispatch cost structure and in identification of congestion. However, due to the small number of producers and the captive nature of the Railbelt, the grid will not constitute a true "competitive market[75]' for many, many decades[76]. This obviates the need for a complex market and risk management structure and will greatly simplify the Railbelt USO function.

ERCOT Ancillary Services

To be reliable, all electric systems must have generators with capacity available to follow ever-changing load requirements and be available if other generators supplying load have an unexpected outage. Providing this reserve capacity is called Ancillary Services. In ERCOT load serving entities (legacy distribution utilities in the Railbelt) are responsible for self-providing these services, contracting for them or having the USO procure them on their behalf through its Ancillary Services market. This is one important area where the Railbelt may differ from ERCOT in that spinning reserve (and Ancillary Service) is based on largest single generating contingency and is the responsibility of generators[77].

ERCOT determines the total amount of Ancillary Services required for reliability of the system and the total amount is allocated to each load serving entity on a load ratio share basis. That becomes their obligation that they must provide by their own generation, by contract with another generator or from ERCOT through the USO's Ancillary Services market.

ERCOT Transmission Service

Transmission service in ERCOT is provided on a "postage stamp" basis as mandated by PUCT rule. No matter from what source a load serving entity may obtain it's energy requirements, it pays a fixed price per MW to transmission providers according to a PUCT approved rate for each transmission provider based on their approved cost of service.

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[75] Power System Economic-Designing Markets for Electricity; Stoft; 2002; pp.51

[76] For example, at a 2% annual growth rate the Railbelt interconnection will reach the size (in peak MW) of the ERCOT interconnection in just over 200 years.

[77] The size of the spinning reserve requirement is driven by the greatest threat to system security i.e. maintenance of system frequency. In a small system like the Railbelt this threat is the loss of largest single generation contingency. As with ERCOT and the interconnections of the lower 48 states, when the grid's load becomes much, much larger than the largest generator the greatest threat to system security shifts to load forecast error. This shift essentially changes the burden of spinning reserve responsibility from the generators to the load serving entities. While this may seem esoteric, spinning reserve is the costliest of Ancillary Services and if loads were to be responsible for the commodity in the Railbelt, a smaller utility or industrial could construct a very large generator (obtaining the associated economies of scale) and transfer the burden of this plant to other consumers who receive little of the benefit of these economies of scale.

ERCOT Transmission Planning

The USO also coordinates the regional planning of the transmission system by the transmission service providers in ERCOT. This ensures the reliable and efficient planning of the system as a whole.

Application to the Alaska Railbelt

The Alaska Railbelt could benefit if it implemented some of the things done in ERCOT.

- Establish an ISO/USO – A USO would ensure non-discriminatory access to the transmission system for all buyers and sellers of wholesale electricity. A USO would also enhance reliability by administering planning and operating reliability standards and Ancillary Service requirements. Through the USO, the Railbelt could also accomplish the following:

> *Through its regulatory compact, the USO has authority over the entire Grid with its costs spread over all rate payers, perhaps in a manner similar to the current Regulatory Cost Charge (RCC).*

- Administer Reliability Standards – Mandatory reliability standards are a critical element to maintaining a reliable system. The USO could impartially administer those standards. This would include ensuring required Ancillary Services are provided or procured by those responsible.

- Perform Economic Dispatch – Although it may not be identical to the zonal or nodal market operation in ERCOT, some form of economic dispatch with elements from those markets would result in a more efficient use of the generation resources in the Railbelt.

- Coordinate Transmission Planning – Coordinated transmission planning will help ensure reliability is maintained without incurring costs of unnecessary facilities.

- Assist the RCA in administering Transmission Tariffs –The USO could facilitate the application of transmission tariffs by transmission service providers.

Defining terms- USOs, ISOs, RTOs, a Transco, and the Railbelt

There are several titles used interchangeably for unified system operator (USO) within a region; one such is the "Regional Transmission Organization" (RTO), another is the Independent System Operator or ISO. The terms RTO and ISO and unified system operator (USO) are used interchangeably in the electric power industry. In the context of our proposed USO solution we view the USO or unified system operator as an independent stakeholder driven organization with primary responsibility for ensuring: reliability and non-discriminatory open access; system-wide economic dispatch; and level playing field for all stakeholders. Given its necessarily diverse governance structure, a body with policy, protocol, and standards authority, and that is operational only in the sense of insuring short term reliability and economic dispatch. As discussed previously an important distinction between the FERC type ISO and Railbelt USO is the Railbelt USO's lack of the complex market functions, a feature of virtually all FERC type ISOs.

In this document we use the term unified system operator (USO) to distinguish a Railbelt specific version of Independent System Operations from the more complex FERC Independent System Operator (IS0), or Regional Transmission Organization (RTO). One of the most significant differences between the Railbelt USO and the FERC type ISO or RTO will be its scale. As above, rather than creating a complex market structure with day-ahead, hour ahead and real-time markets for energy, capacity, and ancillary serves, as well as, the associated futures hedging markets for these commodities, the USO will operate a simple security constrained economic dispatch for the interconnected Railbelt region; and, an after the fact settlement process that ensures each generation and transmission owners receive equitable compensation for the use of it's facilities in accordance with predefined settlement processes. A second difference will be the structure of the USO governance board. Given the limited pool of industry experts in the Railbelt, the Railbelt electrical utilities, AEA, and any follow-on Transco, must have a direct role in USO governance, and therefore representation on the governing board. The independence of the proposed USO board will be assured through the professional representatives on the USO board of relevant stakeholder groups: importantly the RCA Chairman ex-officio non-voting, IPPs, renewables, industrials, economic development organizations and community professional members at large. With such a diverse make-up strict professional requirements for each seat will be a requirement.

Through its regulatory compact, the USO has authority over the entire Grid with its costs spread over all rate payers, perhaps in a manner similar to the current Regulatory Cost Charge (RCC).

A Transco (transmission-only utility) is a different, but related organization that may perform some or most of the functions of a USO or RTO, but, usually, lacks independence and formal organizational participation from non-utility stakeholders. A Transco is a commercially interested party that owns transmission lines, substations, and other assets. Often Transco's plan, construct, operate, maintain and pool costs for transmission systems. A Transco does not own generation and is, therefore, independent

of the generation function. In addition, implementation of a Transco will maintain the expertise of existing Railbelt operations as the grid is further developed, including the efficient operations and maintenance of these assets.

In this petition, we use the term USO to describe the Railbelt's unified system operator, a function more fully described below. The term Transco will refer to an asset owning utility responsible for planning, financing, constructing, operating, and maintaining all or part of the Railbelt transmission system in accordance with the protocols and direction of the USO.

In our view because participation in the Transco may or may not involve a transfer of assets, and could consist of all, part or none of the existing Railbelt's transmission assets; participation in the Transco should be encouraged by the RCA. And, irrespective of participation, all of the transmission costs of the Transco must be combined with any non-participants transmission costs and spread over all Railbelt end users. Our reasoning for this is that every end-user connected to the Railbelt grid enjoys benefits in terms of economic efficiency and reliability from that interconnection. Utilities not participating fully in the Transco would need to identify the cost of operating their non-Transco transmission facilities and the facilities they used at a point of interconnection with the Transco or other non-Transco utilities. These utilities would submit these costs to the RCA through the USO or Transco for approval and inclusion in the universal system rate.

The Railbelt is unique among interconnected systems in the US in that there are no investor-owned utilities in the Railbelt; therefore, there are no shareholders in the Railbelt. In the Railbelt, the end-consumer is the owner and is the final bearer of all benefits and costs. We believe that for the Railbelt to move forward these costs and benefits must be shared fairly (most likely based on some ratio of fixed costs and usage) over the entire region. Obviously, there must be a mechanism residing within the USO to adjudicate inclusion or exclusion of transmission assets into the revenue requirement of the USO/Transco structure. Appropriately, and similar to the FERC approach, there would be a strong presumption of roll-in unless it was demonstrated that the assets provided no value to the Grid and had no significant effect on it.

In our view participation in the Transco should be voluntary but encouraged by the RCA; however, irrespective of participation, the transmission costs of the Transco must be spread over the entire aggregate load of the Railbelt.

The division of responsibility for Railbelt Grid operations between the USO and Transco would necessarily be a matter of debate and negotiation. However, as a general principle, in our view unless the Transco's governing body is established with a large degree of stakeholder involvement in governance (which could render it ineffective as an

operating body) matters requiring market independence or involving policy or protocol would reside with the USO. And, matters related to project planning, financing, execution, operations and maintenance would reside with the Transco. It is, however, possible that in the interests of efficient utilization of resources, the USO could contract with the Transco for functions such as economic dispatch. Given the size of the Railbelt and the small number of utilities it is important to have all utilities participate. The Railbelt is too small in terms of aggregate load to allow any individual to decline to participate while benefiting from the investment of others. However, in our view at minimum, the Transco and all non-Transco participating utilities must be participants in the USO.

Roles of the Regulatory Commission of Alaska in the Creation and Operation of an Independent System Operator for the Alaska Railbelt Utilities

The RCA's Role

As the common economic regulator, the Regulatory Commission of Alaska understands best the differences in energy costs from regional franchise to regional franchise. These differences are driven by geography, fuel availability, and historic investment decisions. The manner in which Railbelt transmission has been and is currently planned, constructed, operated, and funded through rate recovery limits the Commissions alternatives to act on disparate energy costs. The Railbelt's separately-developed and operated transmission assets were not built to achieve the goal of economic dispatch, but to meet a sequence of separate, unaligned objectives and meet the needs of their native-load customers. These solutions were regulated as reasonable in their context, but they did not – and could not – achieve the lowest reasonable costs for all Railbelt consumers. In order to be planned, developed, constructed, and funded, the transmission projects necessary to achieve this open access network must be shared by all of the network's customers, as all customers will benefit from sharing in the least cost alternatives for energy, reserves, reliability, and other transmission services. The following are concrete steps the RCA must take to achieve the benefits of an open-access grid funded by a single system-wide rate.

What we require from the RCA- *A call to Action….*

- Endorsement of a reliability entity that:
    - Develops, maintains, and monitors compliance with reliability standards
    - Develops planning and interconnection protocols
    - Conditions and endorses system improvements
    - Facilitates economic dispatch
- Enforcement of reliability standards

- Require Railbelt energy and transmission price transparency
- Authorize or certificate a transmission-only utility that plans, finances, constructs, operates and maintains the transmission systems
- Establish a unified network-wide non-discriminatory open access transmission rate structure
- Allows for timely recovery of RCA approved, prudently incurred costs.
- If required, request legislative authority and direction issued in the 2015 legislative session

Why do we require this?

As discussed above, the Railbelt transmission system has historically been developed in a fragmented manner to meet the shorter-term transmission and energy needs of individual utilities and their respective customers. The creation of a USO that takes a broader view of the needs of all Railbelt customers is needed in light of the significant transmission investment that is required to ensure the efficient and reliable delivery of power to all customers over the long-term. It is only through regulatory action by the RCA, and if required, the Alaska legislature that these changes can be made.

Why should the RCA act on the USO?

As we have discussed above, the formation of a USO recognizes that the transmission facilities of any one Railbelt utility are part of a larger, integrated transmission system which, from an electrical engineering perspective, operates as a single machine. A USO will eliminate the engineering and economic inefficiencies that now occur because each utility makes independent decisions about the use, limitations and expansion of its portion of the interconnected grid based on incomplete information, even though any action taken by one utility effects all other utilities.

As discussed, one of the central functions of a USO is to facilitate the timely and orderly expansion of and/or modification to the transmission system. On a non-discriminatory basis, the USO will maintain reliability, promote efficiency in the delivery of power to customers and facilitate compliance with applicable state laws, regulatory obligations, and reliability standards. Jointly with participation from the Railbelt stakeholders, a USO will develop transmission planning and interconnection protocols, implement such protocols and endorse transmission expansion plans to move transmission development forward (with pre-approval from the RCA) and for the benefit of all customers – not to the benefit of any individual utility or stakeholder.

The benefits of a USO are best realized by establishing a single system-wide transmission rate based on the revenue requirement of the entire Railbelt transmission system. The revenue requirement must be allocated to all end-use consumers based on a combination of peak demand and energy. The current situation of pancaked transmission rates (where a separate access charge is assessed every time the transaction contract path crosses the boundary of another utility) hurts consumers who pay higher transmission rates and have access to fewer generation options and adds uncertainty to IPPs as they attempt to establish business cases for IPP generation projects. It should be reiterated that participation in the USO involves transfer of control *but not of assets* to the organization and all interconnected entities must participate.

The Transco could involve the transfer of assets and should therefore be voluntary. Transfers may require a lengthy transition process. This transition process is necessary to ensure the financial stability of the participants. Participating organization's financing ability and debt ratings are closely tied to the strength of assets pledged in bond indentures …some of which may be involved in the asset transfer.

Why should the RCA act on the Transco?

The benefits of a USO and the establishment of a single network rate for all consumers using the entire Railbelt transmission system to serve customers may well best be achieved through the formation of a single "Transco,". The Transco could own and operate the integrated Railbelt transmission system or a significant portion of it. The transfer of transmission assets to a transmission-only company while complex and perhaps impractical would produce additional benefits because the transmission company business model will enhance asset management and responsiveness to signals indicating when and where transmission investment is needed. In addition, implementation of a Transco will result in standardization and economies of scale from an O&M perspective.

A Transco's development of needed transmission works best when the Transco's investment in transmission infrastructure is studied and approved by the USO. This review, including pre-approval by the RCA, can justify ensuring timely recovery of the costs of such investment regardless of the stage of "used and usefulness". However, as we've stated above, involvement in the Transco could involve the transfer of assets and should, therefore, be voluntary and may require a lengthy transition process. This transition process is necessary to ensure financial stability since participating organizations bond covenants and debt ratings are closely tied to the assets pledged in bond indentures, some of which may be involved in the asset transfer. During the transition process, control of these transitional assets could be transferred to the Transco through temporary operating agreements. However, irrespective of participation all transmission costs must be pooled and recovered from

all Railbelt end-users in an equitable fashion. The RCA should form a construct that allows and encourages formation of a Transco.

Why the RCA should implement forward-looking rates and accelerated cost recovery.

As we have alluded to above, currently, a Railbelt utility cannot recover the costs related to their incremental transmission investments until after the investment is "used and useful", it has filed a rate case with the RCA, and the RCA has allowed such new rates to be effective – irrespective of whether there is general agreement (or even regulatory pre-approval) that such investment was prudent/necessary and in the interest of customers. This backward-looking rate structure limits investments to a fairly short time-frame and is a strong disincentive (due to the carrying cost of construction capital) to the development of long-term high benefit projects such as those identified in the AEA study. Further, there is no mechanism for rate recovery for a utility except from that utility's native load consumers. Therefore, there is no practical mechanism to recover costs associated with projects having interregional benefits since benefits of such projects are seldom if ever evenly distributed among participants. In addition, because vertically integrated utility "rate cases" involve many issues beyond establishing a utility's transmission revenue requirement, these proceedings are often contentious and costly.

> *…the RCA should also consider reforming the manner in which the Railbelt utilities (or a Transco) recover their revenue requirements associated with their transmission plant on a cost-of-service basis. In particular, we believe that utilities in the USO should be able to seek approval from the RCA to transition from "stated rates" to "Formula Rates"…*

Should the RCA authorize the formation of a USO and Transco, the RCA should also consider reforming the manner in which the Railbelt utilities (or a Transco) recover their revenue requirements associated with their transmission plant on a cost-of-service basis. In particular, we believe that utilities in the USO should be able to seek approval from the RCA to transition from "Stated Rates" to "Formula Rates" for transmission asset cost recovery. Such a transition will help to ensure timely recovery of investment in transmission infrastructure which has been studied and endorsed by a USO and approved by the RCA.

A Formula Rate allows regulated rates for transmission service to change without a rate case being filed, so long as such changes are consistent with the approved formula. A more detailed discussion of Formula Rates is included as Appendix D. A formula rate structure represents a positive step forward in ensuring more timely recovery of costs; however, and additional step is required to facilitate the construction of very long term projects such as those proposed in the AEA study. For large-scale interregional transmission projects where the time from the incurrence of cost to the

recovery of costs (when the facility is placed in service) may be years, an intermediate rate recovery mechanism is required. That is to say the RCA should allow (subject to USO and RCA pre-approval) inclusion of components of larger longer-term projects to be included in the rate base before the entire system is used and useful. Absent such a mechanism, the constructor is forced to borrow funds to make interest payments on the construction debt and the interest, the borrowing cost, of these funds can approach or exceed the total construction cost of the project. This creates significantly increased costs to the end-use consumer and an inherent disincentive to investing in long term infrastructure in the Railbelt. Implementation of the USO/Transco model and RCA pre-approval of projects will create a unified business structure which will facilitate the implementation of formula rates and accelerate rate recovery.

Finally the implementation of the USO model will facilitate a tight power pool of economically dispatched generation either directly by the USO or facilitated by the USO, whereby all resources are used to serve all customers in the most economic manner while recognizing the unique characteristics of each utilities existing asset and resource base. For example, utilities who have invested in low cost generation recognize the value from this investment; ML&P should retain the risks and benefits associated with its investment in the Beluga River field.

Time is of the essence…Because electricity is a vital, real-time service and utilities operate under an obligation to serve their customers, indecision is not an option. Choices must and will be made regardless of imperfect information or business and market structures.

…These choices and structures will make implementation of the USO /Transco solution more difficult as time passes…

A Sense of Urgency

Electric utility infrastructure decisions are not made one dollar at a time. In order to achieve economies of scale, infrastructure is built large and lasts a long time. These decisions are made with the best available information at the time, with an understanding of history and a limited perspective on the future. Because electricity is a vital, real-time service and utilities operate under an obligation to serve their customers, indecision is not an option. Choices must and will be made regardless of imperfect information or business and market structures.

Over the life of these transmission and generation assets, fuel availability, public policy objectives, and economic activity change in ways that cannot always be predicted. However, robust transmission networks provide the best context for making capital decisions about generation, and in dispatching and operating those assets economically over time. If commercial, regulatory and legislative decisions are not made to integrate the planning, operation, and rate recovery for the Railbelt's transmission system, consumers will forego the benefits of economic dispatch that have already been

identified, as well as the resilience to react to changing times, for example rules like EPA 111(d) or the addition of the Livengood mine to the Railbelt grid. In addition, utility leaders will forego the opportunity to make the best possible near-term capital decisions, consequences of which will be felt by consumers over the near and long term.

RCA Authority

The RCA must determine whether it already has the authority to approve the creation of the USO by rule or whether legislature must act to revise the RCA's statutory authority. As outlined in Appendix E, Chugach believes the RCA has such statutory authority. Nevertheless, the RCA may desire statutory direction to avoid the appearance of regulatory overreach. In either case, if the RCA needs revised statutory authority, it would be most efficient if this takes the form of enabling legislation that empowers the RCA to adopt more specific rules guiding the principles functions and characteristics of a USO and Transco, rather than a specific organization structure. The development of the USO and Transco organizations should be left to industry experts who are best suited to develop a workable business structure subject to RCA review and approval in accordance with agreed upon principles functions and characteristics.

It is imperative that if such legislation is required, it be introduced as soon as practical and in the 2015 legislative session if possible. As we alluded to above, the window for action on this subject will not remain open indefinitely, day to day operation of the Railbelt requires that agreements between parties be negotiated and put in place. These agreements will begin to solidify the Railbelt contractually in a sub-optimal structure, making the implementation of a USO/ Transco structure difficult if not impossible to implement in the future.

How should the RCA act?

RCA rules for the creation of the USO should focus on the purpose of the USO and its governance. The FERC Characteristics and Functions of a USO, modified for the unique Alaskan circumstances, are a good starting point. The RCA should solicit a proposal or proposals from Railbelt utilities to form the USO and as with any rulemaking proceeding, input from all stakeholders should be gathered. One approach would be for the RCA to host a series of stakeholder workshops with firm deadlines to develop the USO framework.

The guiding principles for the unified system operator should be:

Principles

- Think regionally
- Create a nondiscriminatory level playing field for all stakeholders
- Ensure the most efficient and reliable system practical, recognizing economic constraints
- Strive to ensure equitable distribution of costs and benefits across the region
- Recognize value and assure recovery for existing investments

…The development of the form of the USO and Transco organizations should be left to industry experts. These experts are best suited to develop a workable business structure. This structure must be subject to RCA review and approval in accordance with agreed upon USO Transco principles, functions, and characteristics…

Characteristics

1. Independence ensured organizationally by professional stakeholder appropriate Board of Directors
2. Possession of operational authority over the Railbelt transmission system.
3. Exclusive authority to maintain Railbelt reliability
4. Participation by all entities using interconnected transmission system
5. Maximize the use of existing resources to avoid duplication of facilities and effort

Functions

1. Requires and facilitates non-discriminatory open access transmission.
2. Adopts, maintains and enforces Railbelt reliability standards - initially adopts North American Electric Reliability Corporation (NERC) based reliability standards equivalent to those modified and approved by the Intertie Management Committee (IMC) for the Railbelt.
3. Either internally or through delegation, plans, coordinates and conditions necessary transmission additions and upgrades.
4. Conditions and authorize the interconnection of new generation.
5. Administers a universal tariff and employ a transmission pricing system that will promote efficient use and expansion of transmission and generation facilities.
6. Manages parallel path flow and transmission congestion.
7. Functions as a single control area operator either itself or through delegation, and requires and facilitates a regional economic dispatch to maintain reliability and maximize generation efficiency.

USO-RCA Regulatory Compact

1. RCA ensures rate recovery throughout the planning, permitting and construction phases of projects planned and conditioned by the USO.
2. RCA honors existing agreements and allows cost recovery of existing investments.
3. RCA ensures that standards and tariff rates are just, fair and reasonable to all ratepayers and allows transitional ramp-in rates to minimize individual utility USO implementation rate impacts.
4. Existing transmission assets used for the benefit of the Railbelt region will receive full cost recovery from the USO including depreciation (both direct and general plant), interest, and margin, as well as operations, maintenance, applicable taxes, and general & administrative expenses necessary for the operation of the transmission system.
5. USO reviews, approves, and submits long-term, large inter-regional projects to the RCA for pre-approval and application of formula rates and accelerated cost recovery. Projects so submitted and determined by the USO and RCA to have met the USO's predetermined stake-holder developed planning protocols are assured such rate recovery.

USO Governance

The initial USO board membership shall be comprised of electric industry professionals who have direct operational experience in transmission or generation infrastructure and shall include professional representatives of relevant stakeholder segments that will expand over time as those segments mature.

A typical structure might be composed of a 17 member board, including representatives from the 6-legacy utilities, 1-Transco, 2-IPP, 2-renewable sector, 2-Industrial sector, 1-the Chair of the RCA (ex-officio--voting or non-voting)[78], CEO of the USO (ex officio voting) and 1 non-utility electrical professional from the community at large (a compensated position) and 2 members of the economic development community. Changes to the composition of the board could be discussed as stakeholder groups coalesce.

Funding the USO

The USO is an independent, non-profit organization, with no ownership in generation, transmission, or distribution assets save those required to administer and dispatch the grid i.e. office space, SCADA/EMS systems, etc. The USO's annual budget is approved by the RCA. Load-serving members of the USO then pay an assessment for participation in the USO proportionate to a predetermined RCA approved formula. These fees cover the operating costs of the USO and will be recovered through the rates of the entire load serving entities, paid for by the end-use customers.

[78] See Appendix F

The guiding principles for transmission-only utility (Transco) should be:

Principles

- A certificated public utility planning and operating in accordance with RCA and USO approved policies, standards and protocols.
- Propose, finance, and develop transmission projects having a demonstrable benefit to the Railbelt grid.
- Maintain independence from generation resources and provide non-discriminatory open access
- Operate and maintain transmission assets in the most reliable manner practical, recognizing economic constraints.
- State resources: the value of state funds invested or loaned for the purpose of energy infrastructure will benefit from an integrated Railbelt-wide transmission plan.
- To the extent feasible use existing and local resources for operations, maintenance, design, and construction of transmission assets

Characteristics

1. Board of Directors composed of transmission owners and equity partners and community electric industry professionals.
2. Field operational authority over the Railbelt Transco transmission system.
3. Executes USO directives to maintain Railbelt reliability.
4. Voluntary participation by entities owning interconnected transmission system.
5. Maximize the use of existing resources to avoid duplication of facilities.
6. Assumption of pre-existing contracts: addresses historical agreements and resolves conflicts in a manner that promotes independent, nondiscriminatory access to transmission service and continued investment.

Functions

1. Working in concert with the USO provides non-discriminatory open access transmission.
2. Implements Railbelt reliability standards at the direction of the USO.
3. Plans, finances, and develops, USO and RCA, approved Railbelt transmission additions and upgrades.
4. Operates and maintains transmission assets of its owner companies
5. As required, constructs authorized the interconnection of new generation.
6. Operates under an RCA approved Tariff that allocates transmission costs across all Railbelt end-users
7. Subject to independence requirements may contract to perform economic dispatch and load balancing for the USO
8. At the discretion of the USO and subject to independence requirements may function as a single control area operator facilitating regional power pooling or economic dispatch to maximize generation efficiency.

9. Provides services under system-wide postage stamp rates: a single transmission tariff, based on an allocation of Transco operating costs to wholesale customers as a function of load.
10. Facilitates future transmission investments: creates a transmission-only entity with a stable balance sheet and reliable tariff structure to support debt and equity investment in the Railbelt transmission infrastructure.

Transco Governance

The initial Transco board membership must be comprised of electric industry professionals who are representatives of the owner organizations, equity partners and electric industry professionals. One potential structure could have a board member representing the contributing utilities (up to 6); an equal number of non-contributing board members (up to 6), and the CEO of the Transco.

Side by side comparison of USO/Transco functions, characteristics and regulatory relationship

USO Characteristics	Transco Characteristics
Independence ensured organizationally by stakeholder appropriate Board of Directors.	Independent from commercial generation decisions however an owner of transmission assets. Operates under an open-access, non-discriminatory transmission tariff.
Possession of operational authority over the Railbelt transmission system.	Physical operation of Transmission assets consistent ownership and control agreements and with USO reliability protocols and in response to direction from the USO to resolve short-term reliability issues
Exclusive authority to maintain Railbelt reliability.	Operates transmission system / assets at the direction of the USO to maintain reliability
Mandatory participation by all entities using interconnected transmission system.	Voluntary participation of transmission-owning utilities, who may transfer assets or cash in exchange for Transco equity.
Maximize the use of existing resources, both human capital and physical plant, to avoid duplication of resources and facilities.	Maximize the use of existing resources, both human capital and physical plant, to avoid duplication of resources and facilities. Transco may function as the agent of the USO to accomplish some reliability functions.
Mandates non-discriminatory open access transmission.	Provides transmission service on an open-access, nondiscriminatory basis

Adopt, maintain and enforce Railbelt reliability standards - initially adopts North American Electric Reliability Corporation (NERC) based reliability standards equivalent to those approved by the Intertie Management Committee (IMC) for the Railbelt.	Plan, construct and operate transmission assets in compliance with USO mandated reliability standards.
Coordinate and condition the planning of necessary transmission additions and upgrades.	Submit transmission plans to the USO for coordination and conditioning prior to seeking RCA approval.
Condition and authorize the interconnection of new generation.	Submit generator interconnection requests, along with assessment of impacts, to USO for conditioning and approval.
Provides inputs to the RCA related to administration of the Railbelt open access tariff.	Operate under an RCA tariff for nondiscriminatory open access to all transmission assets and services
Manage parallel path flow and transmission congestion.	Implements USO congestion management directives
Functions as a single control area operator facilitating regional power pooling or economic dispatch to maximize generation efficiency.	Operates the transmission system based upon the dispatch directives of the USO.

USO Regulatory Compact	Transco regulatory compact
USO recovers cost of its operating budget through RCA approved assessments to load serving entities. Subject to RCA approval USO develops and maintains standards and protocols through a stakeholder-driven process. Ensures non-discriminatory open access to the transmission system.	RCA ensures rate recovery throughout the planning, permitting, and construction phases of projects approved by the USO and executed in accordance with USO developed and approved planning and conditioning protocols
	USO is structured so as to recognize and assure rate recovery for a transmission-only utility organized to pool costs, operate, maintain, plan and construct Railbelt Transmission facilities in accordance with USO developed protocols.
RCA ensures that the transition to the USO honors existing agreements and allows cost recovery of existing investments.	RCA ensures that the transition to the Transco honors existing agreements and allows cost recovery of existing investments.
RCA ensures that standards and tariff rates are just, fair and reasonable to all ratepayers and allows transitional ramp-in rates to minimize individual utility rate impacts.	RCA ensures that standards and tariff rates are just, fair and reasonable to all ratepayers and allows transitional ramp-in rates to minimize individual utility rate impacts.
Existing transmission assets used for the benefit of the Railbelt region will receive full cost recovery from the RCA including depreciation (both direct and general plant), interest, and margin, as well as operations, maintenance, applicable taxes, and general & administrative expenses necessary for the operation of the transmission system.	Existing transmission assets used for the benefit of the Railbelt region will receive full cost recovery from the RCA including depreciation (both direct and general plant), interest, and margin, as well as operations, maintenance, applicable taxes, and general & administrative expenses necessary for the operation of the transmission system

Funding the Transco

One attractive method for financing the Transco is the American Transmission Company (ATC) model[79]. Under the ATC model, utilities transferred their transmission assets to ATC in exchange for equity ownership interests in ATC and capital on a 50/50 basis. Transmission assets transferred to ATC were generally valued at their "contribution value," which generally is defined as the original cost less accumulated depreciation and adjusted for deferred taxes; excess deferred taxes and deferred investment tax credits. However, given the grant funded nature of a significant portion of

[79] https://docs.legis.wisconsin.gov/1999/related/acts/9.pdf

the Railbelt infrastructure, a fair market value approach or some combination of the two approaches may be necessary to ensure that the Railbelt Utilities receive the appropriate compensation and equity ownership in the Transco. In the event that the transfer of assets was overly difficult, costly, impractical or otherwise not in utilities best interests a utility could participate by providing capital to either secure equity or to increase its equity share above that secured by transferred assets.

The ATC model has several benefits. Railbelt utility divestiture of ownership and control of transmission facilities furthers the objective of a creating a transparent single rate for transmission service by separating the transmission function from the generation and distribution functions of the utilities. Such an arrangement also replaces of existing balkanized arrangements through the creation of a single rate zone, centralized tariff administration and transmission facility operation, and an enhanced ability to expand the transmission system. Finally, Railbelt wide standardization of O&M procedures will enhance safety and increase economies of scale providing additional benefit.

It is important to note the under the ATC model each local utilities existing, trained and experienced staff continues to physically operate and maintain the legacy assets and new assets within its footprint that have been transferred to the Transco. Under the ATC model, the Transco contracts with the legacy utility to perform this service in accordance with Transco developed and approved operation and maintenance standards. This maintains and leverages local talent and experience while achieving the benefits of standardization and economies of scale.

Public Benefit of an Independent System Operator and Transco for the Alaska Railbelt

A Unified System Operator (USO) and Transco for the Alaska Railbelt will provide a number of benefits to the Railbelt utilities, their ratepayers and the State as a whole. Those benefits include enhanced reliability of the power supply, more efficient and lower cost provision of electricity, easier entry of new electric generation and transmission providers and associated increased economic development.

Enhanced Reliability of Electric Supply

The top priority of the USO is enhancing the reliability of the interconnected generation and transmission systems of the Railbelt. Reliable electricity is not just a convenience; it is a significant factor in maintaining public health and safety and regional economic growth. There are a number of functions of the USO that will enhance reliability. The USO will facilitate the development and documentation of operating and planning reliability standards that it and utilities and generators in the Railbelt are to follow. The USO will also monitor compliance with those standards. The USO will monitor the status of the entire Railbelt interconnection 24 hours a day, seven days a week. It will also perform regular “what if” contingency analyses of the system with the

goal of the system being able to withstand the unexpected outage of any single generator or transmission line and still remain stable with no facility overloads or unacceptable voltage levels. It will do this by directing generators to come on line or increase or reduce output or transmission facilities to be switched in or out of service. Longer term the USO will coordinate planning of the transmission system to make sure future reliability needs are known and define what additions will meet those needs. A number of industry-wide studies[80] have been done to evaluate the value of unserved energy in terms of lost economic activity due to power outages. Typically these values are 150 to 600 times the order of magnitude multiplier of the cost of power per KWh. For example, a $.15/kwh energy cost has a relative unserved value of $22.5- $90/kwh. Given the representative values, an outage to 100 customers, lasting 2-hours results in $4,600-$18,000 in lost economic activity.

Increased efficiency and lower cost

Economies of scale and economic dispatch will be realized in system-wide economic dispatch and joint Railbelt-wide planning. The 2004 FERC Staff report on Costs for "Day One" operation of Regional Transmission Organizations (USOs-RTO's), reviewed the actual costs incurred by retail customers served by RTOs. The detailed FERC review, found this cost to be less than .3% of the average retail consumers bill [81] on a par with the current regulatory cost charge. In a detailed evaluation of the ongoing expense of an Alaskan USO, we have found the cost to be approximately $1.00 per month for the average retail consumer using 650 KWh per month. *This does not include* an offset to this expense from the benefits realized from Economic Dispatch and Reliability. Due to economies of scale, the Railbelt gross cost per consumer is slightly higher than the FERC estimates; however, within our benefit cost analysis we assumed a gross USO budget of $9M/year and a Transco budget of $10M/Year; and still arrived at the 2:1 benefit to cost ratio. Further, this analysis ignores the fact that 75% of the USO and Transco costs are estimated to be resource transfers from existing

In a detailed evaluation of the ongoing expense of an Alaskan USO we have found the cost to be approximately $1.00 per month for the average retail consumer using 650 KWh per month. *This does not include* the offset to this expense from the benefits realized from Economic Dispatch and Reliability.

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Further this analysis ignores the fact that 75% of the USO and Transco costs are estimated to be resource transfers from existing utilities

[80] Reference to VUE-VLL studies

[81] FERC "Staff Report on Cost Ranges for the Development and Operation of a Day One Regional Transmission Organization Docket No. PL04-16-000" pp-ii

utilities and will result in a net decrease in costs for the participants by this amount.

In monitoring and operating the system as a whole, the USO will increase the efficiency and enable lower cost of generation supply and transmission compared to each Railbelt system operating separately. The USO can economically dispatch all the available generation to ensure the lowest cost generation is operated within the constraints of the transmission system. These benefits have been estimated by the Alaska Energy Authority and others to be on the order of tens-of-millions of dollars per year in hard dollar savings (variable fuel and O&M). However these estimate by-in-large ignore softer benefits such as increased resiliency, improved reliability, the value of unserved energy, and increased economic growth.

Coordinating transmission system planning will also reduce the possibility that unnecessary transmission investments or investments with only short term benefit are made. Planning for the entire system instead of separate pieces will result in more optimal lower total cost investments to meet reliability or access to lower cost generation needs. Current disaggregated planning has resulted in the construction of capacity geographically located such that it has significantly increased transmission congestion. Current estimate's to relieve that congestion are in the $175 M range.[82]

Facilitate Entry of New Generation and Transmission Providers

The USO will oversee the Transco's generation interconnection process for new generators. This will ensure that the process is impartial since neither the USO nor Transco has an ownership interest in any potentially competing generators. It will be a well-defined process so all developers will know what is required beforehand.

The regional transmission planning process administered by the USO will make it easier to participate in the process and invest in projects of value to the system. It will also be an impartial process since the USO will not have ownership interests in any transmission facilities either.[83] The benefits of a regional transmission planning process are well known, common interconnection rules, common operation, removal of pancaked rates and planning protocol certainty will reduce risk and increase certainty for private sector participation in the Railbelt electricity sector.

Associated Economic Development

Increased reliability, improved efficiency, lower cost electricity and reduced barriers to new generation and transmission providers will be conducive to economic

[82] Reference AEA study (unconstrain Bradley and integrate EGS)

[83] In Order No. 2000, the Commission established an independence standard for RTOs to ensure that these entities would provide transmission service and operate in a non- discriminatory manner and stated that an RTO "[m]ust be independent of any entity whose economic or commercial interests could be significantly affected by the RTO's actions or decisions." *See* Order No. 2000 at 31,061.

development in the state. These benefits provided by the USO will make the Railbelt area more attractive to new businesses and foster economic development.

Additional work has been done to quantify the correlation between the cost of power and economic activity. For example, the results of the University of Kentucky, Gatton College of Business study on the relationship of economic growth to electricity rates[84] adjusted for Alaskan costs and consumer data implies that a 10% increase in electricity rates can result in as much .28% long term reduction in the States GDP ($60M) and an associated reduction in job growth .16 % equating to 645 jobs. A 25% increase in electricity rates can result in as much .7% long term reduction in the States GDP ($147M) and an associated reduction in job growth .39 % equating to 1,613 jobs. While these extrapolations are not definitive, they are directionally correct and demonstrate the effect electricity costs have on the larger economy. This is in part what we see in the severe challenges faced by Fairbanks and the other Alaskan communities operating liquid fossil fuel generation

A 25% increase in electricity rates can result in as much .7% long term reduction in the States GDP ($147M) and an associated reduction in job growth .39 %, equating to 1613 jobs. While these extrapolations are not definitive, they are directionally correct and demonstrate the effect electricity costs have on the larger economy. This is in part what we see in the severe challenges faced by Fairbanks and the other Alaskan communities operating primarily liquid fossil fuel generation.

Operation of the USO

The RCA must play an oversight and advisory role in the operation of the USO. There should be open lines of communication between the RCA and its key staff members and USO management, and these communications should be frequent. Any concerns the RCA has with USO operation should be freely communicated to the USO, and USO management should make sure that the RCA is aware of any issues in operation that may affect stakeholders or the public. These communications should occur as soon as possible after issues arise.

As we stated above, it would be helpful if the RCA had a seat on the governing board of the USO to provide formal input to USO operations. This seat could be filled by the RCA chairman or other representative designated by the RCA. The position should be ex-officio and non-voting since some issues determined by the USO governing board could subsequently come before the RCA. While potentially unnecessary, Appendix F

84 The Relationship between Electricity Prices and Electricity Demand, Economic Growth, and Employment, DRAFT REPORT; Gatton College of Business, University of October 19, 2011

provides a brief discussion of a statutory change that would authorize such participation. Rules around ex-parte communications may require modification. Here, it might be useful to look to the Electric Reliability Council of Texas (ERCOT) which has implemented this structure in its USO governance.

Operating and Planning Standards

The primary functions of the USO are to ensure the reliability, efficiency, and non-discriminatory operation of the interconnected generation and transmission system. In order to carry out this function, detailed operating and planning standards (and protocols) must be developed. These standards are best developed by people with expertise in operating and planning bulk power systems. All stakeholders/participants in the USO have expertise to contribute and should have input into the development of these standards. Standards should be developed through an inclusive stakeholder process set out in the bylaws or procedures of the USO and approved by the RCA.

The RCA and its staff should also have the opportunity to provide input in the standards development process. In addition, the RCA should approve those standards if they determine they were developed in a fair and equitable manner according to the approved process and are in the public interest.

However, once the standards are finalized and approved, the RCA should have a key role in ensuring adherence to those standards by the USO and stakeholders. This should be addressed in the legislative and/or rulemaking process through some type of enforcement procedure. The procedure could include provision for financial penalties for violations after due process. It would not be appropriate for the USO to fill this role. Enforcement and penalties should be administered by an appropriate regulatory or judicial entity. In addition, the USO will have the responsibility to perform under many, if not most, of the standards and would have a conflict of interest enforcing those standards.

However, the USO would have the responsibility to bring to the attention of the RCA any violations of standards that the USO believes have occurred or are occurring and request enforcement action by the RCA. Individual stakeholders should have the same opportunity if they perceive violations by the USO or other stakeholders.

The USO reviews and endorses the integration of existing assets into a USO or construction of new assets or projects based upon established operation, construction and maintenance standards. The RCA's ultimate approval of the project and its associated recovery assumes the construction, operation and maintenance of these facilities consistent with those standards. The ability of a transmission owner to recover through a system-wide tariff the costs of operating transmission assets is predicated on compliance with the reliability standards and planning protocols developed and maintained by the USO. Noncompliance by any transmission owner/operator would impact the recovery associated with that asset under the regulatory compact. The RCA may need further legislative authority to assess penalties for noncompliance that could otherwise be

economic. And as stated above, the USO would oversee formal process for adjudicating inclusion of transmission assets in the transmission revenue requirement (and by virtue of that fact placed under USO control). As with all USO decision-making, appeals would be to the RCA.

Adjudicating Disputes

It can be expected that from time to time the USO or individual stakeholders may disagree whether an action of a party is in compliance with operating or planning standards or whether a new or changed standard is appropriate and in the public interest, even if it has gone through the required development process. Although there should be an Alternative Dispute Resolution (ADR) process within the USO to reach mutually agreeable resolutions to these disputes, the RCA should provide a forum for adjudication if resolution cannot be reached through the ADR process. The decision of the RCA would be subject to the same right of appeal as any other decision by the RCA.

One such ADR process might be mandatory mediation by a panel of arbitrators with expertise in the electric industry, a number of USO's and Transco's maintain such a pool and it may be possible to drawn upon one.

Role of Stakeholders in a Unified System Operator for the Alaska Railbelt

Stakeholders in a USO for the Alaska Railbelt would include the Railbelt utilities, independent power producers, transmission companies and industrial, economic development representative, commercial and residential electricity consumers. They all have a vested interest in having a reliable and efficiently planned and operated generation and transmission system which is the core function of the USO. State government and regulators serving the public interest also have an interest in the proper functioning USO.

Stakeholders must play key roles in a properly functioning USO. These roles include participating in the governance of the USO, helping the USO develop planning and operating reliability standards and protocols through stakeholder driven committees, and committing to comply with those standards and to support the operation of the USO.

Participating in Governance

The USO will function as a non-profit corporation governed by an independent Board of Directors. The Board will guide the direction of the USO, select its Chief Executive Officer and approve selection of other executive management, approve its budget and approve the planning and operating standards. Stakeholder representatives should make up a part of the membership of the Board since actions the USO takes have a direct effect on their assets, system costs, and the reliability of the system the stakeholders depend upon. They will also bring expertise in the system operated by the

USO and the interests of entities the USO serves. This expertise is vital for the USO to fulfill its mission.

Developing Planning and Operating Standards

It would be expected that the USO Board would create through its bylaws other subgroups and committees to perform more detailed work, particularly developing the planning and operating standards for the Board's consideration and approval. Membership and participation in these groups by stakeholder representatives with particular technical expertise in the areas of focus is vital. While the USO will have staff with much of this expertise, the USO staff will be small and will not have available time or breadth of experience to perform this function properly without the active participation of stakeholders.

Compliance with Standards

Standards and Protocols developed through the stakeholder process and approved by the USO Board will require adoption and compliance by all participants. Standing stakeholder technical committees operating under USO-board approved by-laws (governing quorum and voting procedures) and using Roberts Rules of Order will develop and maintain these standards and protocols. Standards and protocols moved out of the drafting standing committees will be submitted the USO board for final approval, subject to appeal to the RCA. In approving the budget of the USO and the associated recovery mechanism of the load-serving members of that USO, the RCA establishes the ability to sanction noncompliance through the administration of that tariff, including through mandated customer refunds, the lowering of recovery basis, and/or the elimination of or reductions in "free riders" designated for the recovery of USO-related expenses. Further legislative authority may need to be granted to establish penalties that prevent economic noncompliance.

Support USO Operation

The operation of the USO will need the financial and political support of stakeholders. The financial support will be through a fee assessed to the ultimate stakeholders, the end use customer. USO fees will be approved by the RCA following the annual USO budgeting process. The USO's creation and continued existence will require supporting actions of the RCA and state legislature. Those supporting actions are unlikely without the broad political support of stakeholders enabling the USO to ensure a reliable and efficient generation and transmission system for the Alaska Railbelt.

Conclusion

The Railbelt lies at a crossroads.

In one direction, we have an opportunity to create a new effective business model for the Railbelt. We have the opportunity to create a single unified system operator and transmission focused utility, a business structure that will lower costs, improve reliability and resiliency, and guide the Railbelt effectively and efficiently into the 21st century. This business structure will level the playing field for IPPs and incent the innovation of the private sector. This business structure will save Railbelt end-use consumers, the Railbelt rate payers, tens of millions to hundreds of millions of dollars annually in fuel and O&M costs alone. These savings will generate jobs and enhance regional economic growth. This business structure will reduce the cost of electricity in Fairbanks to near the levels found on Cook Inlet; relieving some of the unsustainable economic pressure felt by Railbelt residents north of the Alaska Range, pressure caused by the high and highly volatile cost of oil-based energy. This business structure will increase the Railbelt grid's resiliency, as well as maintain and improve our already excellent reliability.

Establishment of the USO /Transco business structure will not be easy; it will not happen overnight; it will not make all stakeholders happy. However, it will save the ratepayers money, increase economic growth and position the Railbelt to be resilient and able to take advantage of economic changes as they come our way.

In the other direction, lies balkanization, duplication of facilities for the sake of perceived independence. Perceived independence because an electrical grid is a single complex machine and if you are connected to the grid you are integrally connected to everyone in it. Each ratepayer takes value from it; we all rise or fall together. Balkanization will lead to inefficient operation, increasing costs to consumers and creating a drag on regional economics and lower reliability. The current rise in electricity rates demonstrates this. The balkanized grid will be less resilient and less reliable. Litigation will be common place.

Some naysayers will discount the idea of a USO/Transco. They will claim the costs will be too high, it's too complex, just another layer of bureaucracy, or that these benefits can all be achieved by the six regulated electrical monopolies in the Railbelt independently "competing", executing bilateral and multilateral agreement to carve out efficiencies. One need only review the Railbelt history above, review the savings to-date from economy energy sales, examine the rate increases of the past 24 months and those set to come in the next 24 months, review the relative average bus-bar price of energy in

Fairbanks) to the average bus-bar price of energy in Anchorage to see through these arguments.

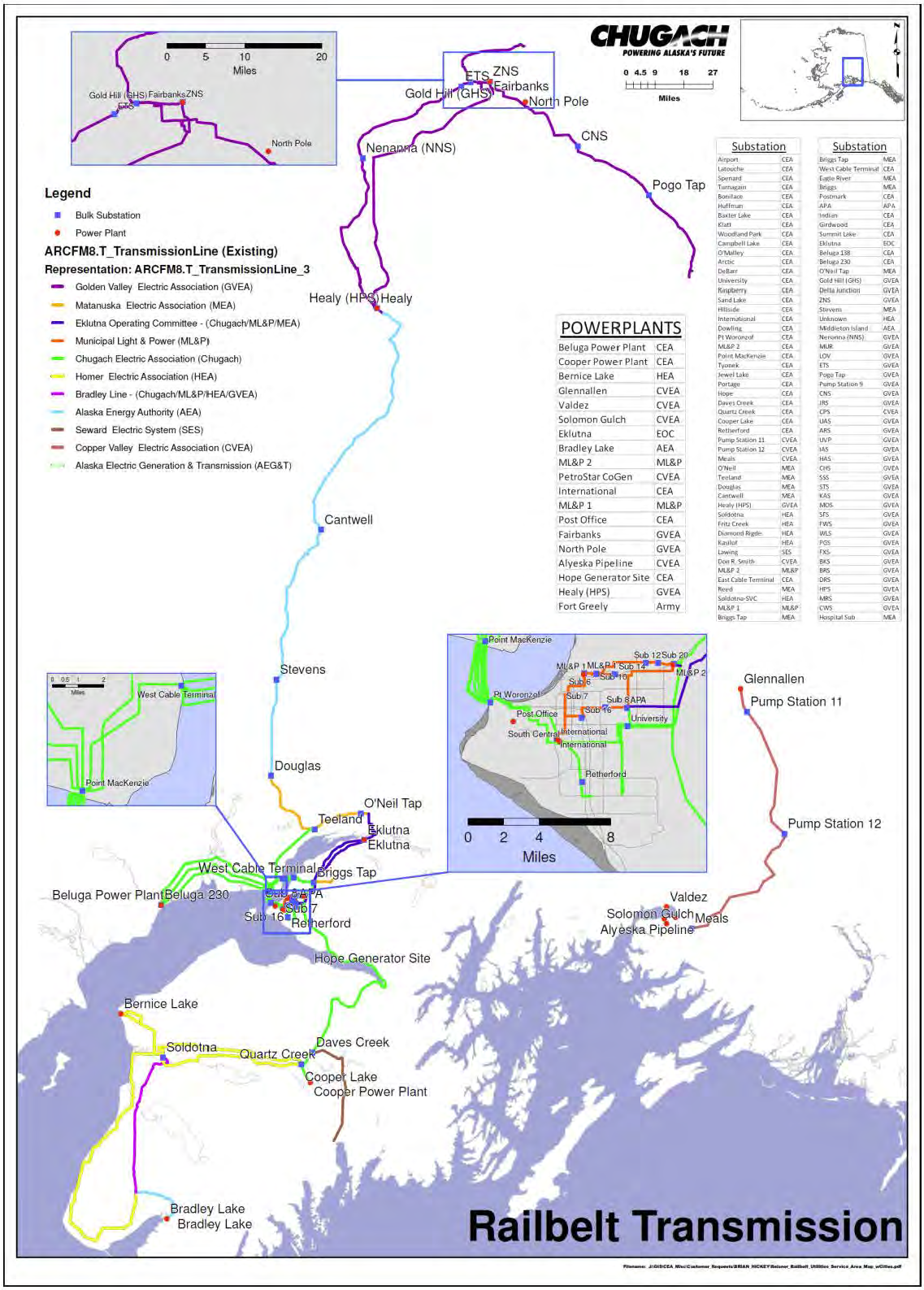
Establishment of the USO /Transco business structure will not be easy, it will not happen overnight, and it will not make all stakeholders happy. However, it will save the ratepayers money, increase economic growth, and position the Railbelt to be resilient and able to take advantage of economic changes as they come our way.

It is said that even the longest journey begins with just one step. It is time for us to take this first step.

Appendix A

Transmission Ownership and The Railbelt

The Railbelt Electrical Grid (Grid) consists of the electrical transmission (69 kilovolts and above) and electrical generation facilities constructed to serve the consumers of the Alaskan Railbelt. Geographically the Railbelt extends from Katchemak Bay on the south, north to Fairbanks and Delta Junction. From east to west it reaches from The Matanuska Glacier on the Glenn Highway and Whittier on Price William Sound to Tyonek Village and the on-shore gas processing plants of West Cook inlet (see BJH Exhibit 01). The area is vast; and, features diverse and often harsh climates and terrain. The Grid consists of three, load-generation areas or "areas". Furthest north is the Fairbanks Area stretching from Healy to Fairbanks to Delta Junction. Second, is the mid-Railbelt, the Anchorage- Mat-Su area reaching from Willow to South Anchorage and from Beluga to the Matanuska glacier. And third, in the south is the Kenai Area from running from Seward to Cooper Landing to Katchemak Bay. Single-transmission lines interconnect these three areas. These single-transmission lines have limited transfer capacity and outages to one of them can cause shedding of electrical load and instability in either or both areas. Electrically the Railbelt serves an 850MW Peak demand, a 375 Valley demand, and delivers approximately 5 GWH of energy annually to nearly 250,000 meters.


CHUGACH
POWERING ALASKA'S FUTURE
0 4.5 9 18 27
Miles
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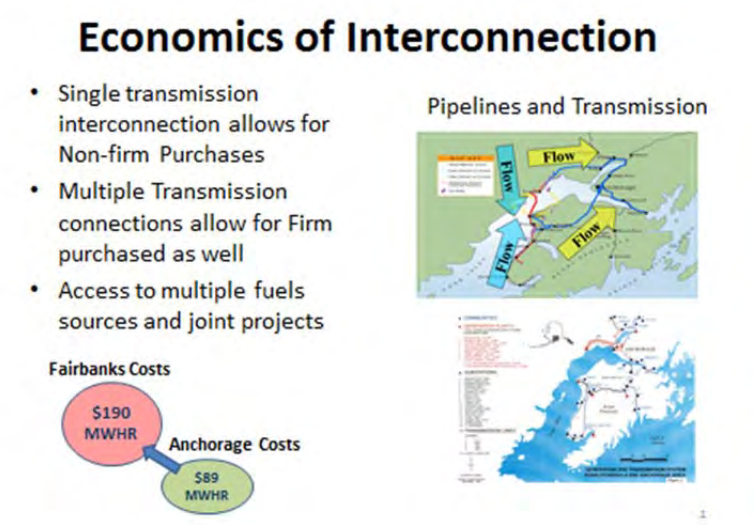
Miles
Gold Hill (GHS) Fairbanks ZNS
ETS
North Pole
Nenanna (NNS)
CNS
Pogo Tap
Healy (HPS) Healy
Cantwell
Stevens
Douglas
O'Neil Tap
Teeland
Eklutna
Briggs Tap
West Cable Terminal
Beluga Power Plant Beluga 230
Sub 16
Retherford
Hope Generator Site
Bernice Lake
Soldotna
Quartz Creek
Daves Creek
Cooper Lake
Cooper Power Plant
Bradley Lake
Point MacKenzie
Pt Woronzof
Post Office
South Central
International
University
Glennallen
Pump Station 11
Pump Station 12
Valdez
Solomon Gulch
Meals
Alyeska Pipeline
Legend
Bulk Substation
Power Plant
ARCFM8.T_TransmissionLine (Existing)
Representation: ARCFM8.T_TransmissionLine_3
Golden Valley Electric Association (GVEA)
Matanuska Electric Association (MEA)
Eklutna Operating Committee - (Chugach/ML&P/MEA)
Municipal Light & Power (ML&P)
Chugach Electric Association (Chugach)
Homer Electric Association (HEA)
Bradley Line - (Chugach/ML&P/HEA/GVEA)
Alaska Energy Authority (AEA)
Seward Electric System (SES)
Copper Valley Electric Association (CVEA)
Alaska Electric Generation & Transmission (AEG&T)
POWERPLANTS
Beluga Power Plant CEA
Cooper Power Plant CEA
Bernice Lake HEA
Glennallen CVEA
Valdez CVEA
Solomon Gulch CVEA
Eklutna EOC
Bradley Lake AEA
ML&P 2 ML&P
PetroStar CoGen CVEA
International CEA
ML&P 1 ML&P
Post Office CEA
Fairbanks GVEA
North Pole GVEA
Alyeska Pipeline CVEA
Hope Generator Site CEA
Healy (HPS) GVEA
Fort Greely Army
Substation
Airport CEA
Latouche CEA
Spenard CEA
Turnagain CEA
Boniface CEA
Huffman CEA
Baxter Lake CEA
Klatt CEA
Woodland Park CEA
Campbell Lake CEA
O'Malley CEA
Arctic CEA
DeBarr CEA
University CEA
Raspberry CEA
Sand Lake CEA
Hillside CEA
International CEA
Dowling CEA
Pt Woronzof CEA
ML&P 2 CEA
Point MacKenzie CEA
Tyonek CEA
Jewel Lake CEA
Portage CEA
Hope CEA
Daves Creek CEA
Quartz Creek CEA
Cooper Lake CEA
Retherford CEA
Pump Station 11 CVEA
Pump Station 12 CVEA
Meals CVEA
O'Neil MEA
Teeland MEA
Douglas MEA
Cantwell MEA
Healy (HPS) GVEA
Soldotna HEA
Fritz Creek HEA
Diamond Ridge HEA
Kasilof HEA
Lawing SES
Don R. Smith CVEA
ML&P 2 ML&P
East Cable Terminal CEA
Reed MEA
Soldotna-SVC HEA
ML&P 1 ML&P
Briggs Tap MEA
Substation
Briggs Tap MEA
West Cable Terminal CEA
Eagle River MEA
Briggs MEA
Postmark CEA
APA APA
Indian CEA
Girdwood CEA
Summit Lake CEA
Eklutna EOC
Beluga 138 CEA
Beluga 230 CEA
O'Neil Tap MEA
Gold Hill (GHS) GVEA
Delta Junction GVEA
ZNS GVEA
Stevens MEA
Unknown HEA
Middleton Island AEA
Nenanna (NNS) GVEA
MUR GVEA
LOV GVEA
ETS GVEA
Pogo Tap GVEA
Pump Station 9 GVEA
CNS GVEA
JRS GVEA
CPS GVEA
UAS GVEA
ARS GVEA
UVP GVEA
IAS GVEA
HAS GVEA
CHS GVEA
SSS GVEA
STS GVEA
KAS GVEA
MOS GVEA
SFS GVEA
FWS GVEA
WLS GVEA
PGS GVEA
FKS GVEA
BKS GVEA
BRS GVEA
DRS GVEA
HPS GVEA
MRS GVEA
CWS GVEA
Hospital Sub MEA
Railbelt Transmission

Appendix B

Why Interconnect

We interconnect for two primary reasons, economics and reliability.

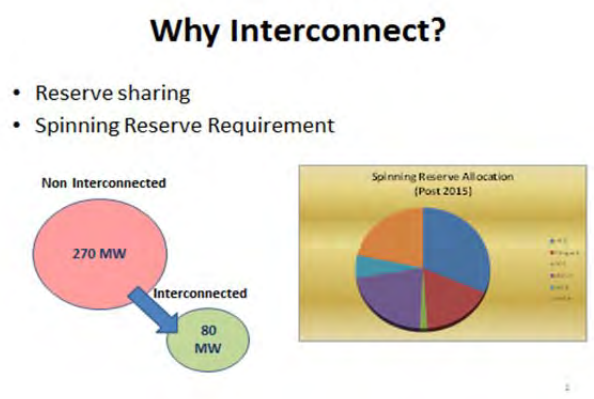


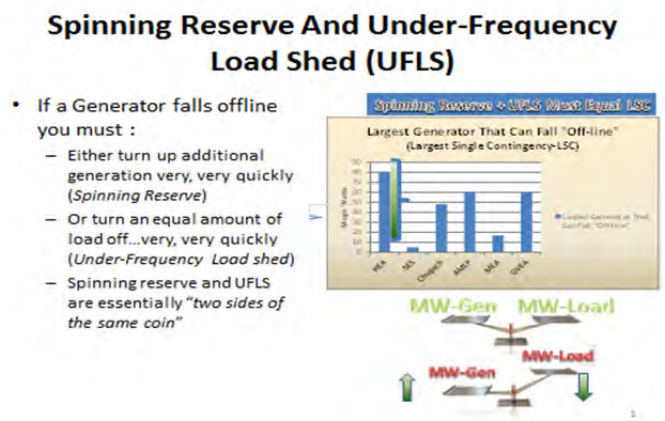
Non-firm interconnections between regions (single transmission lines) allow for the transfer of non-firm power called "economy energy." It is, usually, limited in quantity to energy which can be generated from already running units which are not fully loaded. It is, usually, interruptible by the supplier, and therefore, the purchaser must have local generation on standby in case the economy energy is cut off. Non-firm energy sales in the Railbelt saved consumers roughly $100 M over the last decades approximately $10 M/year.

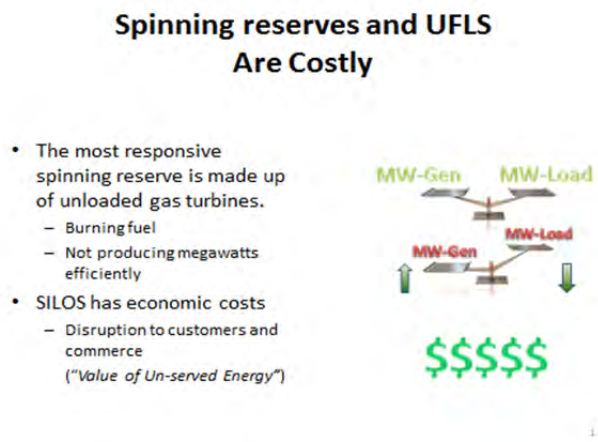
Firm-interconnections (multiple transmission lines) allow for the transfer of firm power with guaranteed delivery even when any single piece of infrastructure (T-line, generator or breaker) is unexpectedly out of service. Firm power allows prices to levelize between regions. The proposed USO/Transco solution facilitates and incents investment to "firm-up" inter-regional interties and allows the Railbelt to continue to achieve the current benefits of reserve sharing and increase the economic benefit to between $40 and $60M per year. This is an order of magnitude greater than the benefits achieved over the last two decades.

Reserve sharing is a significant contributor to both economics and reliability. In order to maintain the generation-load balance on a moment by moment basis, without the loss of load you must have adequate unloaded generation spinning and on-line (spin) to cover the loss of the system's largest single contingency (LSC). Independently each utility must "spin" for its own LSC. As a group one utility need only "spin" for part of the groups LSC. Therefore, fuel costs are significantly reduced; additionally having multiple sources of "spin" spread over a larger geographic region is more reliable. In the Railbelt spinning reserve sharing saves approximately *$200 M/ year* in fuel costs. Non-

spinning reserves (sharing units to cover un-intended long-term outages or scheduled maintenance) saves tens of millions of dollars in deferred capital investment





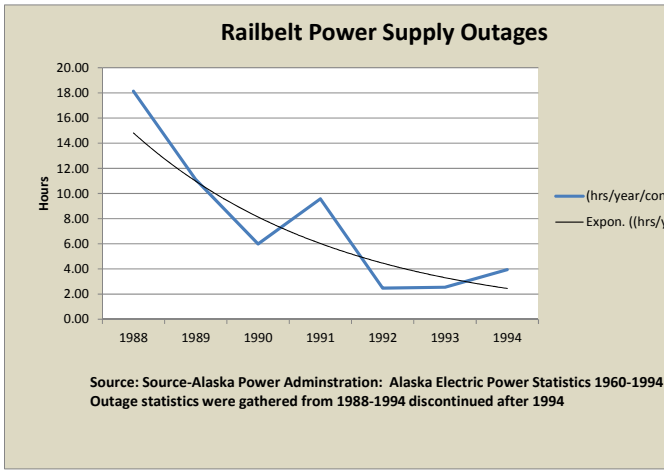


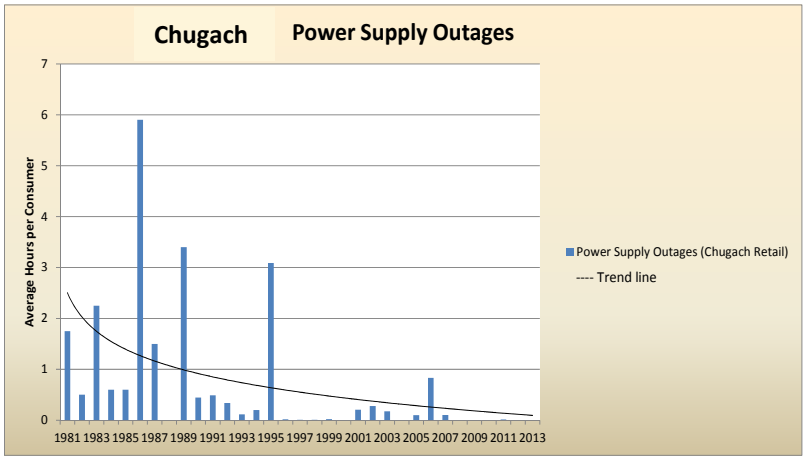
Additional Reserve Costs in a Non-ISO world											8760
	LSGC (MW) (@STP)	Pooled Spin Share (MW)	Pooled Reg Share (MW)	Stand Alone Spin Share (MW)	Stand Alone Reg Share (MW)			Pooled Cost	Separate cost	Delta /(Hour)	Annual Cost
GVEA	63	14	2	63.00	5					$14,350	125,708,790
MEA	50	11	2	49.50	5					$2,185	19,139,798
ML&P	63	14	2	63.00	5					$2,435	21,334,682
Chugach (SES)	63	14	2	63.00	5					$3,859	33,806,419
HEA	70	16	2	70.00	5					$3,842	33,654,622
Spin Checksum	70			308.50	25	333.5					233,644,312
								Average Cost Per MWh of Spin			80

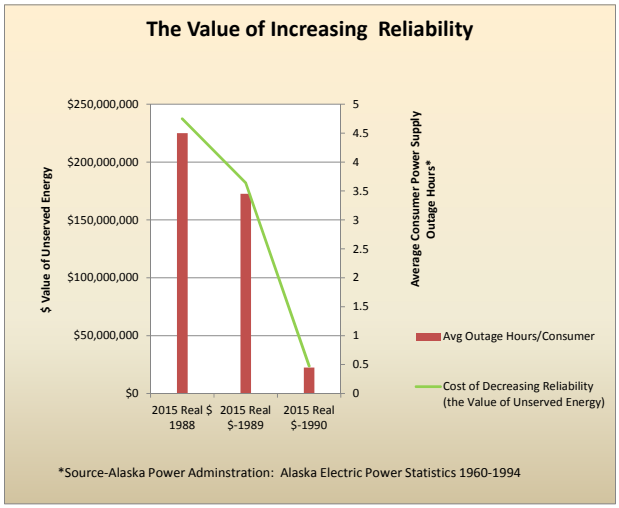
Appendix C

Historical Power Supply Outages

The value of unserved energy (VUE) aka Value of Lost Load (VLL) is the total economic cost due to large scale disruptions to the power supply. It includes lost commerce, damage to facilities and secondary economic costs associated with stopping and then restarting a modern economy. In the Railbelt, these costs have been estimated at between $5 and $27/KWh. At these values, the economic cost of 18 hours of power supply outage experienced in 1988 would have an economic value of *$ 230M* in 2015 dollars.







Appendix D

Formula Rate Discussion

In our view, the RCA has the requisite authority to both authorize the formation of a USO and to mandate participation by Railbelt utilities. Indeed, the RCA has expansive authority related to (1) ensuring just and reasonable rates (Alaska Stat. §§ 42.05.141, .361, and .381), (2) utility standards of service (Alaska Stat. § 42.05.291), (3) conduct investigations (Alaska Stat. § 42.05.141), and (4) oversee utility property transfers (Alaska Stat. § 42.05.281).

One of the central functions of a USO is to facilitate the timely and orderly expansion of and/or modification to the transmission system to maintain reliability, promote efficiency in power markets and facilitate compliance with applicable state laws, regulatory mandates and regulatory obligations. Jointly with participation from transmission owners, USOs develop transmission expansion plans to move transmission development forward for the benefit of all customers – not to the benefit of any individual utility. However, centralized development of needed transmission works best when those utilities that invest in transmission infrastructure studied and approved by USOs are ensured timely recovery of the costs of such investments.

Currently, a Railbelt utility cannot recover the costs related to their incremental transmission investments until after it has filed a rate case with the RCA and the RCA has allowed such new rates to be effective – regardless of whether there is general agreement that such investment is prudent/necessary and in the interest of customers. Because "rate cases" involve many issues beyond establishing a utility's transmission revenue requirement, the proceedings are often contentious and costly.

Should the RCA authorize the formation of a USO, we believe that the RCA should also consider reforming the manner in which the Railbelt utilities recover their revenue requirements associated with their transmission plant on a cost-of-service basis. In particular, we believe that utilities that elect to join the USO (or are required by the RCA to join) should be able to seek approval from the RCA to transition from "stated rates" for transmission to "Formula Rates."

In the context of transmission-owning utilities participating in ISOs in the lower-48 states, the Federal Energy Regulatory Commission ("FERC") has approved cost-of-service based Formula Rates to ensure timely recovery of investment in transmission infrastructure studied and approved by ISOs. Formula Rates are reflected in FERC approved ISO and/or transmission owner Tariffs.

Like FERC, the RCA has the authority under Alaska Stat. § 42.05.411 (New or revised tariffs) and Alaska Stat. § 42.05.431 (Power of commission to fix rates) to authorize Formula Rates as a mechanism for Railbelt utilities to recovery their revenue requirements associated with existing and planned transmission investment. As discussed below, we believe that the RCA should authorize Railbelt utilities participating in a USO to seek approval of Formula Rates. Formula Rates have several important benefits, particularly when utilities anticipate significant investment in transmission in the planning horizon.

A Formula Rate allows regulated rates for transmission service to change without a rate case being filed, so long as such changes are consistent with the approved formula. In this respect, the approved "formula" would be the cost-of-service rate on file with the RCA and reflected in the utility's tariff. A Formula Rate, which includes a true-up mechanism, tracks increases and decreases in transmission costs so that no under-recovery and no over-recovery of actual costs can occur. As such, a Formula Rate not only keeps a utility whole in its cost recovery, but it also protects transmission customers from paying excessive rates over time by reflecting any cost changes that reduce the cost of service and, consequently, the resulting rates for transmission customers.[85] A Formula Rate mechanism also significantly reduces cost recovery lag inherent in "stated rate" cost recovery.[86]

With Formula Rates, utilities are allowed to recover their transmission costs on a more current basis, which should improve the terms on which utilities can finance their new transmission investments. In this respect, using a formula rate with projected transmission plant additions improves a utility's cash flow, which is negatively affected by the existing recovery lag. This is important for both debt and equity investors when a utility is financing a significant construction program. As FERC stated in Order No. 679 (*Promoting Transmission Investment Through Pricing Reform*), "formula rates can provide the certainty of recovery that is conducive to large transmission expansion programs."[87] Finally, a Formula Rate avoids cumbersome rate case filings and reduces the costs of litigation typically associated with setting rates before the RCA.

Importantly, if the RCA approved a transition to a Formula Rate requested by a utility, certain components of the Formula would be included as "stated values," which are not subject to change each year except as allowed pursuant to an appropriate RCA filing and approval. Accordingly, if a utility sought to change any aspect of a stated value, the utility would need to make the appropriate rate filing with the RCA. The principal "stated value" in the Formula Rate context is a return on equity, which authorizes a utility to earn a return on investment at the level approved in the utility's last general rate case. However, once the RCA approved the "formula/protocols," if the formula is being adhered to, no other authorization is required to increase rates (*e.g.*, to reflect new transmission investment) or decrease rates (*e.g.*, to reflect depreciation).

Any approval of Formula Rates for Railbelt utilities would also necessarily include RCA-approved protocols to provide customers paying such rates specific procedures for notice and review

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[85] In contrast, if a utility uses "stated rates," any time that the utility's costs change such that a rate change would be warranted, the utility would have to file for approval prior to changing its rates. Each time a change in a stated rate is filed with the RCA for approval, litigation is required and resources of the different interested parties are expended to participate in the litigation. Such costs are often recovered from utility customers.

[86] FERC has stated that "the formula itself is the rate, not the particular components of the formula" and "that periodic adjustments, typically performed on an annual basis, 'made in accordance with the Commission-approved formula do not constitute changes in the rate itself and accordingly do not require section 205 filings'" under the Federal Power Act. *See e.g., UNS Electric, Inc.*, 148 FERC ¶ 61,032 at P 4 (2014).

[87] *Promoting Transmission Investment Through Pricing Reform*, Order No. 679, FERC Stats. & Regs.' 31,222, at P 386 ("Order No. 679"), *order on reh'g*, Order No. 679-A, FERC Stats. & Regs. , 31,236 (2006) ("Order No. 679-A"), *order on reh 'g*, 119 FERC ¶ 61,062 (2007). *See also New York Indep. Sys. Operator, Inc.*, 109 FERC ¶ 61,372, at P 29 (2004), *reh'g denied*, III FERC, 61,182 (2005) (encouraging parties to explore option of formula transmission rates); *Allegheny Power Sys. Operating Cos.*, 106 FERC ¶ 61,003, at P 32 (2004) (parties to explore option of formula transmission rates and noting that the Commission has approved incentive formula rates); *So. Calif. Edison Co.*, 116 FERC ¶ 61,099, at P 17 (2006) ("formula rates enhance cost recovery").

of, and challenges to the utility's annual updates. Such formula rate protocols, in order to fulfill this purpose, should afford adequate transparency to affected customers, state regulators or other interested parties, as well as provide mechanisms for resolving potential disputes. Such protocols are an important tool in ensuring just and reasonable rates pursuant to Alaska Stat. § 42.05.381.[88] As is typical in a formula rate, forecasted plant additions based upon USO-approved transmission planning would be included in the formula and then trued-up after the year is over. The true-up between the forecasted and actual net revenue requirement will be calculated each subsequent rate year and applied, with interest, as an addition to, or subtraction from, the subsequent year's net revenue requirement and resultant rates. The annual true up process would enable the utility to recover incurred costs and ensure that it earns its approved return on equity.

As implemented in the lower-48, Formula Rate Protocols enable customers (and other utilities) to monitor the operation of the Formula Rate. Such Protocols would require an annual informational filing to the RCA including the information that is reasonably necessary to determine: (1) that input data under the formula rate is properly recorded in any underlying work-papers; (2) that the transmission owner has properly applied the formula rate and the procedures in the protocols; (3) the accuracy of data and the consistency with the formula rate of the actual revenue requirement and rates (including any true-up adjustment) under review; (4) the extent of accounting changes that affect formula rate inputs; and (5) the reasonableness of projected costs included in the projected capital addition expenditures (for forward-looking formula rates). As such, the Protocols would provide for the submission of the Formula Rate calculations to the RCA for informational purposes, give customers the right to conduct discovery with respect to the charges, and establish a procedure for customers to challenge only the calculations if they believe the calculations are incorrect.

[88] Alaska Stat. §42.05.381(a) provides that "[a]ll rates demanded or received by a public utility, or by any two or more public utilities jointly, for a service furnished or to be furnished shall be just and reasonable."

Appendix E

Regulatory Authority

RCA's Authority to Authorize USO/Transco

A reasonable and complete reading of the RCA's enabling statues supports the conclusion that the Commission is empowered to regulate the relationships between electric utilities.

Since the formation of the RCA's predecessor agency, the Alaska Public Utilities Commission, it has been recognized that the Commission has a specific and active role to play in regulating the relationship among utilities. "The Commission was created to serve the public interest, and it cannot allow private bickering and disagreement to prohibit reliable service to the consumer," 1 APUC 5 at 16 (1965).

The Legislature has made both general and specific grants of authority to the Commission to approve the formation of a structure which includes the ability to require economic dispatch of electric energy. As is the case with most administrative agencies, it is appropriate to view and understand the statutory framework as a whole.

AS 42.05.141 sets out the general powers of the Commission. In relevant part, it provides:

> (a) The Regulatory Commission of Alaska may do all things necessary or proper to carry out the purposes and exercise the powers expressly granted or reasonably implied in this chapter, including
>
> (1) regulate every public utility engaged or proposing to engage in a utility business inside the state, exc
> ept to the extent exempted by AS 42.05.711;
>
> (2) investigate, upon complaint or upon its own motion, the rates, classifications, rules, regulations, practices, services, and facilities of a public utility and hold hearings on them;
>
> (3) make or require just, fair, and reasonable rates, classifications, regulations, practices, services, and facilities for a public utility;
>
> (4) prescribe the system of accounts and regulate the service and safety of operations of a public utility;

In particular, paragraph (3) empowers the Commission to "make or require just and reasonable rates … practices, services and facilities…". While setting out the traditional boundaries of regulation, this provision should be read in light of subsection (c) of this statute which provides: "In the establishment of electric service rates under this chapter the commission shall promote the conservation of resources used in the generation of electric energy."

Overall, interpretation of the scope of the Commission's powers is informed by case law. In Homer Elec. Ass'n Inc. v. City of Kenai, 816 P.2d 182 (Alaska 1991), the Alaska Supreme Court interpreted the scope of the powers and duties of the RCA's predecessor agency, the APUC under AS 42.05.141:

> This provision presents two guiding principles for determining the extent of the APUC's jurisdiction under specific provisions of the Act. On the one hand, it includes a principle of limitation, restricting the APUC's power to the specific jurisdictional areas of its 'stated purposes.' On the other hand, it includes a principle of expansion, mandating that the APUC's power to act within it specific areas of jurisdiction 'is to be liberally construed.' " [*Id.* at 186. *See also* MEA v. Chugach Electric Ass'n Inc., 58 P.3d 491 at 494 (Alaska 2002).]

Thus, while it is necessary to locate specific references to the powers granted to the Commission in statutes, once those grants of authority are identified, the RCA's power to act is to be liberally construed. Multiple instances of the grant of authority to the Commission to order the relationships and operations among utilities can be found.

A cornerstone of the Commission's statutory authority is found in AS 42.05.221(a), which sets forth the power to grant certificates of public convenience and necessity: "(a) A public utility may not operate and receive compensation for providing a commodity or service without first having obtained from the commission under this chapter a certificate declaring that public convenience and necessity require or will require the service."

Subsection (d) of AS 42.05.221 grants to the Commission the authority to regulate competing utilities and eliminate duplication of facilities:

> (d) In an area where the commission determines that two or more public utilities are competing to furnish identical utility service and that this competition is not in the public interest, the commission shall take appropriate action to eliminate the competition and any undesirable duplication of facilities. This appropriate action may include, but is not limited to, ordering the competing utilities to enter into a contract that, among other things, would:
>
> (1) delineate the service area boundaries of each in those areas of competition;
> (2) eliminate existing duplication and paralleling to the fullest reasonable extent;
> (3) preclude future duplication and paralleling;
> (4) provide for the exchange of customers and facilities for the purposes of providing better public service and of eliminating duplication and paralleling; and
> (5) provide such other mutually equitable arrangements as would be in the public interest.

In U-97-201 (3), Municipality of Anchorage d/b/a/ Municipal Light & Power v. Chugach Electric Association, Inc., (1998) the Commission interpreted the powers granted in AS 42.05.221 broadly:

> <u>In the Commission's view, the statutory framework, discussed above, provides it with comprehensive control over public utilities and the services they provide to the public</u>

> in this state. Importantly, they give the Commission policymaking authority to determine when and how to implement competition among public utilities in the public interest. The Commission may decide that it is in the public interest to allow only one electric utility to serve a community, as it recently decided in Docket U-94-2, in which it granted Alaska Power Company the exclusive right to serve Klawock. See Order U-94-2 (19); see also Order U-95-9 (3)/U-95-30(3) (allowing the City of Thorne Bay to retain an exclusive right to serve the customers in its service territory).
>
> Or, the Commission may decide to grant multiple certificates and allow competition in an area as it has done on past occasions once it finds that competition is in the public interest. See Re: Far North Sanitation Service, Inc., 3 APUC 333 (1981); Re: Matanuska Telephone Association, Inc., 3 APUC 348 (1981); Re: Colville Environmental Services, 4 APUC 181 (1982); Re: Claude C. Bailey d/b/a Valley Refuse, 7 APUC 97 (1985). [Emphasis added.]

In furtherance of this broad authority, it is worth noting that AS 42.05.221(d)(5) grants to the Commission, in shaping competition the ability to "provide such other mutually equitable arrangements as would be in the public interest." As discussed below in deciding a case under AS 42.05. 311 and 42.05.321, the Commission has extended the concept of the public interest to include the need for the economic distribution of energy to consumers.

AS 42.05.241, which pertains to the conditions of issuance of a certificate of public convenience and necessity, provides:

> A certificate may not be issued unless the commission finds that the applicant is fit, willing, and able to provide the utility services applied for and that the services are required for the convenience and necessity of the public. The commission may issue a certificate granting an application in whole or in part and attach to the grant of it the terms and conditions it considers necessary to protect and promote the public interest including the condition that the applicant may or shall serve an area or provide a necessary service not contemplated by the applicant. The commission may, for good cause, deny an application with or without prejudice.

Note that this statute includes an element of compulsion in that a utility which is granted a certificate of public convenience and necessity may be required by the commission to provide a service not contemplated by the applicant. When combined with the overarching authority of the commission to "…make or require just and reasonable rates… practices and facilities…" these statutes reflect an intention by the Legislature to grant to the Commission the ability to require utilities, when certificated, to do more than they want to do.

AS 42.05.291 empowers, the Commission to establish standards of service and facilities. Subsection (a) provides:

> (a) Each public utility shall furnish and maintain adequate, efficient, and safe service and facilities. This service shall be reasonably continuous and without unreasonable interruption or delay.

This provision includes the notion that the services and facilities of a public utility need to be operated in an "efficient" manner.

In addition, subsection (c) grants to the Commission the authority to "…adopt as to service and facilities … just and reasonable … practices to be furnished, imposed, observed, and followed by public utilities…". Subsection (d) grants to the Commission the power to order "…all …changes, alterations… or improvements in facilities that are reasonably necessary and proper for the safety, accommodation, and convenience of the public."[89]

Standing alone, it would be reasonable to conclude that under this statute the Commission has the ability to compel a certificated utility to operate the facilities it owns and the services it provides in an "efficient" manner. In U-70-33(14) the Commission said as much: "The granting of a Certificate of Public Convenience and Necessity, while giving a utility the protected right to serve an area also imposes a duty upon that utility to provide the public with adequate service at reasonable rates." [90] As discussed with reference to AS 42.05.11 and AS 42.05.321, the Commission has gone to some length to enforce this obligation and has not limited the duty of a utility to the boundaries of a certificate of public convenience and necessity.

Subsequent statutes reveal that this regulatory oversight is not limited to the activities and services that the certificated utility performs in USOlation. Specifically, AS 42.05.311 and 42.05.321 describe the obligations of certificated public utilities when it comes to interconnection and empowers the Commission to order that interconnection occur under specific conditions. AS 42.05.311 provides in part:

> (a) A public utility having … other distribution or transmission facilities shall, for a reasonable compensation, permit another public utility to use them when the public convenience and necessity require this use and the use will not result in substantial injury to the owner, or in substantial detriment to the service to the customers of the owners. The cost of modifications or additions necessary to a joint use shall be at the expense of the public utility requesting the use of the facilities.

The full consequences of this requirement are revealed in AS 42.05.311 which provides in part:

> Sec. 42.05.321. Failure to agree upon joint use or interconnection.
> (a) In case of failure to agree upon the joint use or interconnection of facilities or the conditions or compensation for joint use or interconnections, the public utility, including any municipality, or an interested person may apply to the commission for an order requiring the interconnection. If, after investigation and opportunity for hearing, the commission finds that public convenience and necessity require the joint use or connection, and that the use or connection will not result in substantial injury to the

[89] See U-81-034 (1) General Telephone Company of Alaska, (Staff Memo at 3): "Under AS 42.05.291(d), the Commission has the authority, after providing reasonable notice and opportunity for hearing, to prescribe by order the reasonable, adequate, and efficient service or facilities to be furnished. This includes prescribing the changes, substitutions, or improvements in facilities that are reasonably necessary and proper for the convenience of the public."
[90] U-70-33 (14) North State Telephone Co., Inc. at 11.

> owner utility or its customers, or in substantial detriment to the services furnished by the owner utility, or in the creation of safety hazards, it shall
> (1) order that the use be permitted;
> (2) prescribe reasonable conditions and compensation for the joint use;
> (3) order the interconnection to be made;
> (4) determine the time and manner of the interconnection;
> (5) determine the apportionment of costs and responsibility for operation and maintenance of the interconnection.

In U-03-100 (1), the Commission exercised the authority granted under this statute to prescribe reasonable conditions and compensation for the joint use and interconnection of a transmission line owned by MEA and utilized by other utilities. In so doing, it is critical to understand the motivation of the Commission in taking this action. Significantly, the Commission went to some length to explain the concern for the economic operation of the interconnected facilities:

> The Intertie is the vital link between power resources in the northern and southern portions of the Railbelt. The Intertie enables northern utilities such as GVEA to obtain power from resources such as Bradley Lake. This linkage allows GVEA customers to benefit from that lower cost hydroelectric resource. The Intertie also enables southern utilities such as Chugach to sell economy energy to GVEA. In addition to the benefit to GVEA's customers, Chugach's customers benefit from such sales because they are limited to Chugach's excess capacity. Excess capacity does not interfere with Chugach's customers' service and the revenues from the economy energy sales help reduce their rates. In addition, MEA derives revenues from energy wheeled over the MEA-TLS. Over the life of the Intertie, MEA has received approximately $2 million in revenues. (Tr. 276.) MEA uses these revenues to reduce rates to its customers.
>
> Absent the MEA-TLS, the vital link between resources in the northern and southern portions of the Railbelt is broken. There are no other transmission lines connecting the resources along the Railbelt. Moreover, while a redundant line could be constructed, it could not be constructed before the stipulation expires December 31, 2004.
>
> We conclude that the public convenience and necessity require joint use and interconnection with the MEA-TLS. This issue was not a significant point of contention between the parties. The crux of this controversy lies in dispute over the appropriate terms and conditions of that interconnection and whether that interconnection will result in substantial injury to MEA or its customers, or in substantial detriment to the services provided by MEA, or in the creation of safety hazards. We address those issues next. [U-03-100 (4) at 4 – 5.]

Thus, in furtherance of the public convenience and necessity and otherwise further the interests of consumers, the Commission will take action under AS 42.05.311 and 42.05.321 to ensure that Railbelt customers receive the benefit of lower cost electricity produced elsewhere in the region. This ruling also demonstrates that the Commission will take a broad view of the public convenience and necessity and will not limit the exercise of regulatory powers to simple disputes among utilities. It is

also worth noting the Commission's observation that "(t)his issue was not a significant point of contention between the parties."

AS 42.05.381 (a) provides that "All rates demanded or received by a public utility, or by any two or more public utilities jointly, for a service furnished or to be furnished shall be just and reasonable…". Of interest is that this language contemplates the delivery of services by more than one utility and provides that the Commission may regulate the joint provision of such services.

AS 42.05.511 addresses unreasonable management practices by public utilities. Subsection (a) includes a reference to "… inefficient … practices that adversely affect the cost or quality of service of the public utility." Subsection (b) authorizes the Commission, in circumstances when it finds unreasonable practices, to "..take appropriate action to protect the public from the inefficient … practices and may order the public utility to take corrective action…".

The language found in AS 42.05.141(a) that the Commission "… may do all things necessary or proper to carry out the purposes and exercise the powers expressly granted or reasonably implied in this chapter…", has not historically been found to provide a sufficient basis for the Commission to undertake significant new regulatory initiatives. In decisions interpreting the scope of other more specific statutes, the Commission has affirmed that the scope of the Commission's over certification, interconnection and the regulation of competition is, to use the Commission's characterization, "comprehensive." Further, the Commission has noted with particularity a responsibility to act to ensure that consumers benefit from the economic production and distribution of energy. Taken together, the grant of broad authority to "…do all things necessary or proper…" and the specific powers in key areas supports the conclusion that the Commission may establish the rules, framework and mechanisms found in an independent system operator.

Other State Regulators Have Exercised Similar Authority

Finally, it should be noted that other state commissions with existing authority comparable to the RCA's expansive authority similarly authorized regulated utilities to join USO/RTOs. For example, the Minnesota Public Utilities Commission ("MNPUC") approved the transfer of operational control of state-regulated utility transmission assets to the Midcontinent Independent System Operator, Inc. ("MUSO"), finding it had ongoing jurisdiction over such transfers of functional control over transmission assets. *See, e.g., In the Matter of the Petition for Approval to Transfer Functional Control of Certain Transmission Facilities to the Midwest Independent System Operator*, Order Authorizing Transfer with Conditions, MPUC Docket No. E-002/M-00-257 (May 9, 2002). The MNPUC issued orders for Otter Tail Power, Minnesota Power, and Interstate Power & Light that are nearly identical to the order for Northern States Power Company referenced above.

In finding that it had ongoing jurisdiction over such transfers of functional control over transmission assets, the MNPUC did not, however, specify the particular statutory authority upon which it relied. Rather, the Department of Commerce ("DOC") and Office of the Attorney General ("OAG") identified various grounds for authority in their comments and the MNPUC referenced in its orders the authority suggested by DOC and OAG. These statutory provisions relate to the MNPUC's authority to ensure just and reasonable rates (Minn. Stat. §§ 216B.03 and .05), set standards for the

quality of service (Minn. Stat. § 216B.04), to investigate utilities (Minn. Stat. §§ 216B.14 and .21), and to review property transfers (Minn. Stat. §§ 216B.48 and .50). The MNPUC's statutory authority mirrors parallel provisions under Alaskan law that provide similar authority over utilities to that referenced in the MNPUC decisions. For example, the RCA has similar authority related to rates (Alaska Stat. §§ 42.05.141, .361, and .381), standards of service (Alaska Stat. §42.05.291), investigations (Alaska Stat. §42.05.141), and property transfers (Alaska Stat. § 42.05.281).

Similar to Minnesota, the Indiana Utility Regulatory Commission ("IURC") also relied on its general authority to regulate reliability, efficiency, rates, and property transfers in evaluating proposals of utilities in the state to transfer functional control of transmission facilities to a USO/RTO. *See In the Matter of the Joint Petition of Indiana Michigan Power Company, d/b/a American Electric Power, and Northern Indiana Public Service Company for Approval, to the Extent Necessary, to Transfer Functional Control of Transmission Facilities Located in Indiana to the Alliance Regional Transmission Organization Pursuant to Ind. Code 8-1-2-83*, Ind. Util. Reg. Comm'n, Cause No. 42032 (Dec. 17, 2001) (rejecting the application to transfer functional control of the Petitioners' transmission facilities to the Alliance Regional Transmission Organization because such a transfer was not in the public interest); In the Matter of the Joint Petition of Hoosier Energy Rural Electric Cooperative, Inc., Indianapolis Power & Light Company, PSI Energy, Inc., Vectren Energy Delivery of Indiana, Inc., and Wabash Valley Power Association, Inc., Seeking Approval of, and Related Relief Concerning, Their Individual and Collective Participation as Transmission Owner Members in the Midwest Independent Transmission System Operator, Inc., Ind. Util. Reg. Comm'n, Cause No. 42027 (Dec. 17, 2001) (approving with conditions the application to transfer functional control of the Petitioners' transmission facilities to MUSO).

In contrast to the MNPUC, however, the IURC relied primarily on its authority to review and approve transfers of property interests pursuant to Ind. Code § 8-1-2-83. While the MNPUC questioned whether a transfer of functional control was within its power to review property transfers, the IURC has a more expansive right in this regard. Cf. Minn. Stat. § 216B.50 and Ind. Code § 8-1-2-83. Notably, Minnesota subsequently passed legislation specifying that MNPUC approval is required to make such a transfer of functional control to an RTO/USO, clarifying that a transfer of functional control is subject to Minn. Stat. § 216.50. See Minn. Stat. § 216B.16, Subd. 7c ("Public utility owners of transmission facilities may, subject to Public Utilities Commission approval, transfer operational control or ownership of those transmission assets to a transmission company subject to Federal Energy Regulatory Commission jurisdiction. For transmission asset transfers by a public utility, the Public Utilities Commission must review the request to transfer either in the context of a general rate case under this section or by initiating other proceedings it determines provide adequate review of the transmission asset transfer.").

Appendix F

Regulatory Commission Member as Ex Officio Member of USO Governing Board

RCA Commissioner on USO Board

The governing protocols/tariff under which the USO would operate would be subject to approval by the RCA. We envision that in addition to this direct oversight, RCA may want a Commissioner or a delegate to sit on the USO Board. We would support such membership, but it may be necessary to modify existing statues regarding restrictions on a state official participating on Boards of regulated entities. One option may be to revise AS 42.04.060 (Restrictions on members and employees) to add a new subsection "(e)" to provide:

> Sec. 42.04.060. Restrictions on members and employees. (a) A member of the commission or an employee of the commission may not have an official connection with, hold stock or securities in, or have a pecuniary interest in a public utility or pipeline carrier within the state. Membership in a cooperative association is not a "pecuniary interest" within the meaning of this section; however, a member or employee of the commission may not be an officer, board member, or employee of a cooperative association. A member or employee may not act upon a matter in which a relationship of the member or employee with any person creates a conflict of interest.
>
> (b) A member or employee of the commission may not, after leaving the position as a member or employee of the commission, act as agent for or on behalf of a public utility in any matter before the commission that was before the commission during the employee's employment or the member's term of office. A violation of this subsection is a class A misdemeanor.
>
> (c) Members and employees of the commission, except clerical and secretarial staff, are subject to AS 39.50. Members and employees of the commission are subject to AS 39.52.
>
> (d) A member of the commission is disqualified from voting upon any matter before the commission in which the member has a conflict of interest.
>
> (e) <u>Nothing in AS 42.04, AS 42.05, AS 39.50 or AS 39.52 shall preclude a member of the commission or its authorized delegate from serving on the board of a commission-approved unified system operator in an official or ex-officio capacity. For purposes of this Sec. 42.04.060, a unified system operator means any</u> unified electric system operator that is an independent stakeholder driven organization with primary responsibility for ensuring: reliability and non-discriminatory open access; system-wide economic dispatch; and level playing field for all stakeholders.

This change would carve out a narrow exception to limitations in Alaska statutes and permit participation on a USO Board.

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STATE OF ALASKA

BEFORE THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:	Robert M. Pickett, Chairman Stephen A. McAlpine T.W. Patch Norman Rokeberg Janis W. Wilson
In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	I-15-001

CHUGACH ELECTRIC ASSOCIATION, INC.'S
REPLY COMMENTS

Chugach Electric Association, Inc. ("Chugach") offers the following reply comments regarding the comments of other parties to I-15-001(1).

I. Reply to Comments as to the Commission's Question No. 1

A. Confusion between the functions of a Transco and ISO

In some of the party's comments, there appears to be confusion between the functions performed by an ISO and Transco. These comments appear to assert that the choice is an "either-or choice" between ISO and Transco. For clarification and in the context of the discussions that have gone on in the Railbelt over the past several months, Chugach does not view the ISO - Transco issue as an either-or option. Rather, Chugach

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suggests a world with both an ISO (USO) and a potential follow-on Transco with each of the entities having the attributes listed below.

We envision the USO as an organization that is a non-asset owning, not-for-profit private corporation. This USO is governed by a broad and professional stakeholder representative board and possesses a regulatory compact with the Regulatory Commission of Alaska ("RCA") that delegates to the USO the following authority and accountability:

- Possession of operational authority over the Railbelt transmission system
- Requirement to ensure Railbelt Grid reliability and develop and monitor compliance with reliability standards
- Requirement to perform or administer a Railbelt-wide economic dispatch and economic settlement
- Authority to require and implement non-discriminatory open access
- Requirement to develop, maintain and administer a system-wide transmission tariff that allocates transmission costs across all Railbelt end-users
- Requirement to develop and maintain Railbelt planning standards and interconnection standards and protocols
- Authority to authorize interconnection
- Management of parallel path flows and transmission congestion

We envision the Transco as a privately financed, asset owning "transmission-only" utility holding a certificate of public convenience and necessity from the RCA. This Transco is an RCA regulated utility operating under the jurisdiction of the RCA and USO and governed by a board made up of its equity owners. The CPCN of the Transco grants the Transco the rights and obligations to:

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- Maintain independence from both generation and distribution assets
- Implement USO standards for non-discriminatory open access transmission
- Implement Railbelt reliability standards at the direction of the USO
- Plan, finance and develop USO and RCA approved Railbelt transmission additions and upgrades
- Operate and maintain transmission assets of its owner companies
- As required, construct authorized interconnection of new generation
- Operate under an RCA-approved USO Tariff that allocates transmission costs across all Railbelt end-users
- Subject to independence requirements, may contract to perform economic dispatch and load balancing for the USO
- At the discretion of the USO and subject to independence requirements, may contract to function as a single control area operator facilitating regional power pooling or economic dispatch to maximize generation efficiency

B. Requirements for a USO

We disagree with the comments that appear to assert it may be prudent to invest in significant transmission projects without:

- First, a mechanism to maintain the system currently in place, and allocate the cost of this maintenance equitably over all Railbelt end users deriving benefit from them
- Second, development and enforcement of regional reliability, planning, and interconnection standards
- Third, implementation of regional economic dispatch with equitable settlement protocols to assure rational transmission investment and optimization of the existing system

We disagree with comments that assert that everything is working well in the Railbelt. The following are just a sample of what is not working well in the Railbelt.

- Two blackouts and two near blackouts on the Kenai in the past eighteen months (the first since 1996)

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- Unresolved reliability standard and spinning reserve obligation issues
- Litigation over the S-Q line and Bradly dispatch procedures
- Litigation related to interconnection at Teeland
- Double-digit rate increases within some of the Railbelt Utilities

With these types of issues, it is difficult for us to agree that things are going well. As the Railbelt continues to fragment, we foresee the strong possibility of a continued decline in reliability and increased cost.

Finally, we believe that continued study and refinement of the functions and characteristics of the USO – Transco model is certainly justified. However, we also believe that further study of whether or not unified system operations and regional planning will bring overall benefits to Railbelt consumers is re-hashing ground that has been covered by nearly a dozen studies performed over the past 20 years. Each of these studies has recommended implementation of unified system operations and planning. None have recommended any other course.

II. Reply to Comments as to the Commission's Remaining Questions in Order No. 1.

In general, Chugach will not seek to rebut on a point-by-point basis the comments of others on the questions posed by the Commission.

Chugach will call to the Commission's attention those aspects of the comments of others where the comments represent significant agreement, both as to the substantive points made and as to the process which the Commission may use to approach the task assigned to it by the Alaska Legislature.

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Turning to the way forward for the Commission to determine legal authority to address current and future Railbelt transmission issues, Chugach notes in the comments of Golden Valley Electric Association ("GVEA") that assessing the extent of the Commission's authority is dependent on "… clarity on the type of system operator, nature of utility participation (e.g., voluntary, forced), and more complete evidence and findings in a record …." GVEA Comments at 5. GVEA acknowledges that the Commission may have implied authority. *Id.* On the central question of authority, GVEA notes that the scope of the Commission's authority "… hinges on a determination that the action is in the public interest. Whether that flexibility extends to a system operator depends on the actual developed facts." GVEA Comments at 6. Compare Chugach's Comments at 20, where Chugach suggests that the Commission take a five step approach to defining issues and ultimately determining the applicable facts and remedies to be applied.

While Chugach disagrees with the conclusions of Anchorage Municipal Light and Power ("ML&P") as to the desirability of Commission action to address Railbelt system needs, ML&P's approach to the legal aspects is similar to the approach advocated by Chugach and GVEA: "Determining whether the Commission has the authority to take any specific action would depend on a variety of factors, including (1) having a well-defined proposed Commission action; (2) a fully developed factual record; and (3) appropriate Commission findings of fact and policy based on in (sic) the record." ML&P Comments at 5.

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Both Matanuska Electric Association and Homer Electric Association do not find express statutory authority for Commission action on this subject but their approaches are supportive of a fact-specific inquiry on behalf of the Commission before the Commission attempts to craft remedies.

Thus, it is fair to conclude that those with the greatest "skin in the game" (the major operating utilities), believe the Commission needs to compile a factual record upon which it can adequately define the critical problems and challenges of the Railbelt System. Once that is done, the Commission can determine the most appropriate remedies based on the express and implied authority that currently exists or, in the alternative, identify deficiencies in the grant of authority from the Legislature to the Commission.

Turning to the specific assessments of the commenters as to the Commission's legal authority, the comments of the Alaska Energy Authority ("AEA") are useful and should be carefully considered by the Commission.[1] Like Chugach, AEA believes that the authority of the Commission under AS 42.05 should be assessed as a whole. AEA Comments at 4: "In addition to the express authority to order joint use and interconnection, powers 'reasonably implied' from those express powers offer the Commission greater ability to implement change. Taken collectively, the terms and conditions over joint use and interconnection would enable the Commission to

[1] As representative of the State of Alaska's ownership in significant assets such as the Alaska Intertie and the Bradley Lake Hydroelectric Project, the perspectives of AEA are unique and potentially helpful to the Commission in understanding the "way forward" when it comes to Railbelt transmission and grid operations.

implement Railbelt transmission restructuring." AEA then urges that Commission authority as to joint use and interconnection be read along with the authority as to management practices under AS 42.05.511. AEA comments at 6. AEA then concludes:

> Again, AEA suggests this express authority on management practices should be read in conjunction with the more expansive authority to implement measures 'reasonably implied' from the statutes. The Commission has implied power, if not express powers, not limited to individual utilities to require reasonable management practices. These power arise if the Commission finds actions are required to achieve reasonable management practices or to effective development and regulation of public utilities. With such a finding, the Commission would have authority to implement restructuring of Railbelt transmission, planning and economic dispatch of generation, and to establish an independent system operator.
> AEA Comments at 6 – 7.

Chugach concurs in AEA's overall approach to analysis of the Commission's authority. Further, AEA goes on to urge that even if deficiencies exist in the statutes, those circumstances may be outweighed "… by the more immediate needs for Railbelt restructuring of transmission." AEA Comments at 8.

III. Summary

The comments submitted to the Commission reflect that more work needs to be done to identify the specific problems affecting the interconnected Railbelt electric grid and that all parties will benefit from further consideration of particular solutions. There is general agreement that the Commission's process should be well structured with an emphasis on establishing a factual record from which the Commission can find resolution of structural problems to be in the public interest.

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Chugach respectfully urges the Commission to move forward with this process so that consumers can obtain the likely economic benefits from an improved electric grid.

Dated at Anchorage, Alaska, this 30th day of April, 2015.

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By the Regulatory Commission of Alaska on May 28, 2015

May 28, 2015

Regulatory Commission of Alaska
701 W. 8th Avenue, Suite 300
Anchorage, AK 99501

RE: I-15-001; In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System

Commissioners:

Chugach Electric Association, Inc., submits for inclusion in the record for this proceeding, the attached report from the NERA Economic Consulting, "Evaluation of Options Regarding the Creation of an Independent System Operator or Similar Structure for Electric Utilities in the Railbelt."

Chugach urges the Commission to carefully consider the conclusions reached in the report before taking any final action in this "I" docket.

Sincerely,

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Attachment

NERA
ECONOMIC CONSULTING

Evaluation of Options Regarding the Creation of an Independent System Operator or Similar Structure for Electric Utilities in the Railbelt

A Report for Chugach Electric Association, Inc.

28 May 2015

Project Team

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Glossary

AEA Report	Alaska Energy Authority: Pre/Post - Watana Transmission Study, Draft Report, Project #11-0514, March 17, 2014
Chugach	Chugach Electric Association, Inc.
GVEA	Golden Valley Electric Association, Inc.
HEA	Homer Electric Association, Inc.
ISO	Independent System Operator
NERA	National Economic Research Associates, or NERA Economic Consulting, Inc.
NERC	North American Electric Reliability Corporation
MEA	Matanuska Electric Association, Inc.
ML&P	Anchorage Municipal Light and Power
RCA or Commission	The Regulatory Commission of Alaska
RTO	Regional Transmission Organization
SES	Seward Electric System
Transco	Transmission-only utility
USO	Unified System Operator
FERC	Federal Energy Regulatory Commission
Security-constrained Railbelt-wide economic dispatch	The least-cost operation of generation units for the whole Railbelt system, taking into account all transmission and generation constraints

1. Executive Summary

This report has been prepared by National Economic Research Associates ("NERA Economic Consulting Inc.", or "NERA") at the request of Chugach Electric Association, Inc. It has been prepared in response to Docket I-15-001 of the Regulatory Commission of Alaska (RCA) in the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System.

Order No. 1 of that Docket, issued on February 27th, 2015, relates to questions about the Legislative Directive regarding an Independent System Operator, and in particular Chapter 18 SLA 14, Section 31(b) which directs the RCA to determine "whether creating an independent system operator or similar structure for electric utilities in the Railbelt area is the best option for effective and efficient electrical transmission." In making this determination the RCA has, in Order No. 1, requested that the Railbelt electric utilities, the Attorney General, the Alaska Power Association, the Alaska Energy Authority (AEA), independent power producers, and other interested persons, respond to eleven specific questions.

This report responds primarily to the first of those eleven questions, which is as follows:

> *Would the creation of an independent system operator or similar structure for electric utilities in the Railbelt be the best option for effective and efficient electrical transmission? If not, what other approach would be best?*

Based on NERA's understanding of the power sector in Alaska and our experience of best practices of power sector restructuring in the lower 48 states and overseas, we believe there are five main options worth considering as defined in Table 1-1.

Table 1-1: Options for Future Railbelt Transmission Organization

Option	***Description***
Option 1: *Status quo*	All utilities continue to plan and invest for own systems and energy is exchanged in the same pattern as today
Option 2: Voluntary Exchange	All utilities continue to plan and invest for own systems; voluntary bilateral agreements between utilities where possible
Option 3: USO Model	Investment is coordinated by a non-for-profit independent entity responsible for reliability coordination and economic dispatch of generation resources. Utilities maintain control over investment.
Option 4: Combined USO-Transco	Transmission assets transferred to a for-profit company that is separate from existing utilities. Transo operates and invests in the physical assets and contains the USO.
Option 5: Transo and Separate USO	Same as Option 4 with USO a separate entity.

This report sets out an initial evaluation of these options and concludes that Option 5, establishing a new Transco and a new USO for the Railbelt (as separate entities), appears to be the best option. This conclusion is based on quantitative analysis and analysis of qualitative and unquantified benefits.

Quantitative data used for estimating costs in this report have been derived from the AEA's Alaska Railbelt Transmission Plan (the AEA Report)[1] and from Chugach estimates. Chugach shared material with NERA that Chugach prepared on the subject of the potential establishment of a Railbelt USO and a Transco, including cost estimates, and NERA has incorporated elements of that material herein where appropriate. Production cost benefits have been derived from the output of detailed production cost simulation modeling of the Railbelt conducted by Slater Consulting Inc., over recent months specifically for Chugach. These runs used the same production costing tool (known as PROMOD IV®) which was used for the recent AEA studies; and which for this study, Chugach benchmarked for accuracy against the Railbelt's actual 2013 production quantities and costs. The results of this benchmarking are discussed in greater detail below. These new runs expand upon and refine the work done by Slater Consulting for the AEA Report. The refinements over previous runs include refined dispatch and operations data and additional sensitivity analysis including projected savings at the current oil prices.

Qualitative factors such as the organizational structure and unquantified benefits from reliably and resiliency have also been taken into account as discussed below.

1.1. Terminology

We have referred, among other things, to assessing the case for a Unified System Operator ("USO") and a transmission-only utility ("Transco") in the Railbelt. Docket I-15-001 refers to "creating an independent system operator or similar structure". The different terminology is intentional:

- *USO*: We use the term USO in this report to differentiate the potential Railbelt business model from the typical FERC-based ISO model in the lower 48 states. The main differentiation between the model considered herein and the FERC-based ISO model is that we do not consider the possibility of a competitive wholesale spot market for electricity in Alaska. Being in the order of 1,000 MW in size, the Railbelt is simply too small and has too few participants to be sufficiently competitive. Rather, a Railbelt USO would operate a straightforward and common system-wide security-constrained economic dispatch with post-dispatch financial settlement. This is in contrast to a complex set of market arrangements which applies in a typical ISO – with deregulated power pricing and separate markets for day-ahead energy, real-time energy, ancillary services, capacity, transmission rights, forwards products, and so on – each with the associated risk management and market regulatory arrangements. Additionally, the governance structure of the USO would more closely reflect the Electric Reliability

[1] Alaska Energy Authority, Pre/Post - Watana Transmission Study, Draft Report, Project #11-0514, March 17, 2014

Council of Texas model (a non-FERC ISO), rather than the FERC ISO model found in PJM, MISO, New England ISO and others.

- *Transco*: By Transco we refer to a transmission-only utility, tasked with the responsibility for both area-wide and inter-area transmission planning and development, and field operations and maintenance of transmission assets. Future transmission investments would be made in accordance with the USO-developed planning protocols and reliability standards, subject to prudence review and pre-approval by the RCA. We expand in this report on the advantages of accompanying a USO business model with a parallel Transco business model thus defined, and indeed a significant proportion of the benefits identified herein are attributable to the establishment of a Transco in the Railbelt. A Transco would be separate from the utilities, and would likely be separate from the USO. (Although as Option 4 listed above indicates, we have also considered an option with a new combined transmission and USO company for the Railbelt.)

1.2. Background

The current Railbelt business structures (municipal and cooperative certificated vertically-integrated utilities with dedicated service territories) are clearly capable and competent in the business of local distribution of electric power to their certificated service-territory consumers. However, from a regional perspective, there is concern that by acting somewhat independently they do not deliver the best solution for the Railbelt consumers as a whole. Due to the legitimate fiduciary responsibilities inherent in the cooperative/municipal-certificated service territory business model, the current Railbelt structure is not organized to optimally plan, develop and economically dispatch the Railbelt-wide transmission and generation grid. NERA's understanding is that, in this Docket, the RCA is exploring this concern.

In the lower 48 FERC has already considered many issues related to those the RCA is facing today, and FERC policy has come out strongly in the past two decades in favor of the following reforms:

1. An integrated and common system-wide security-constrained economic dispatch process for each major area in its jurisdiction; and

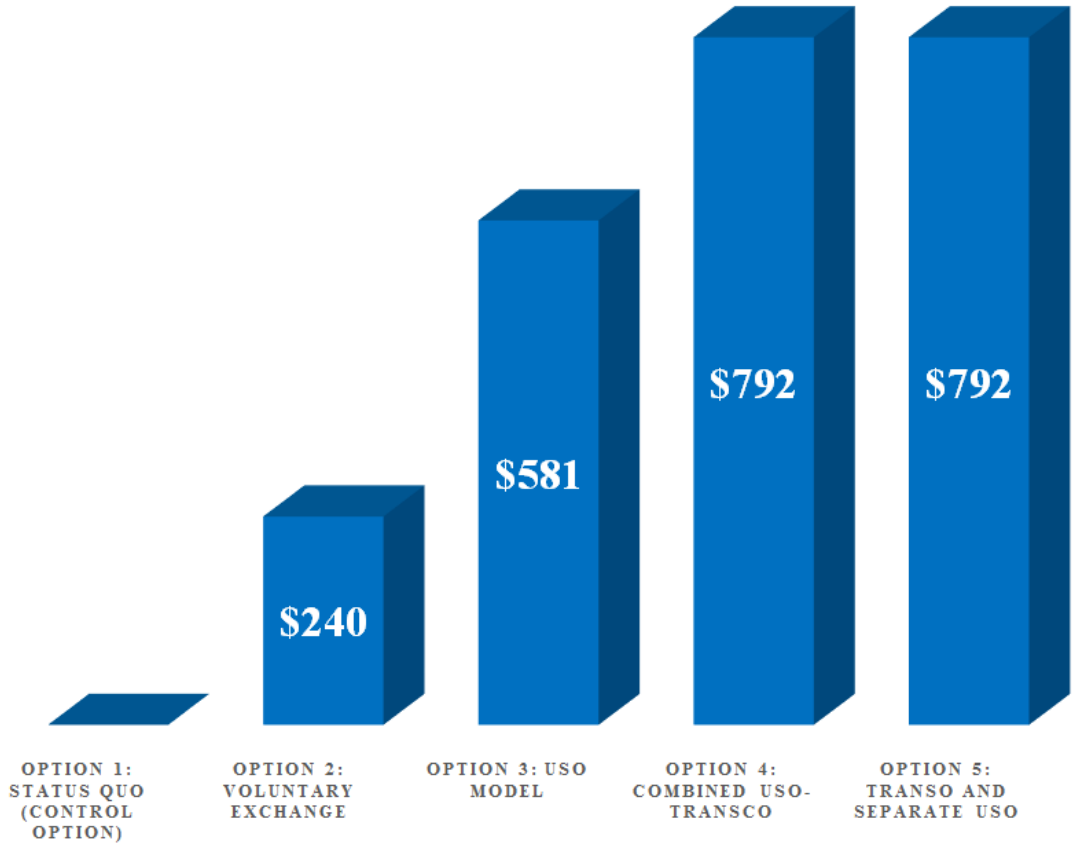
2. An area-wide perspective, and planning and approval process, for transmission planning and investment for each major area in its jurisdiction.

One nuance of the differences between a potential Railbelt solution and the FERC solution concerns the concept of economic dispatch. In both the "FERC world" and the Railbelt, a fundamental goal of restructuring is to achieve efficient regional economic dispatch. However in the FERC world, due to the large size of the markets concerned, efficient production and pricing outcomes can be achieved through market forces. In contrast, due to the small size of the Railbelt, a straight-forward cost-based security constrained regional economic dispatch is appropriate and a market-based solution for the Railbelt is not practical.

1.3. Summary of Findings

This report is intended to support the RCA's assessment of the situation in the Railbelt, and in particular it provides a preliminary independent economic assessment of the options set out earlier, including the cases for a Unified System Operator ("USO") and for a transmission-only utility ("Transco") in Alaska. These preliminary results indicate that Alaska is indeed "leaving money on the table" by not implementing the two FERC-style reforms just listed, as shown in Figure 1-1.

Figure 1-1: 50 Year Net Present Value of Table 1-1 Options (Millions $, 2015)



Our main conclusions regarding these five options are as follows:

1. Maintaining the *status quo* is the worst option, requiring Alaskan electricity consumers to pay as much as $792 million (NPV, $2015) more for their electricity than would otherwise be the case. This option also fails to deliver significant other available benefits (albeit not exhaustively quantified in this report) in the form of reliability benefits, system resilience benefits, environmental benefits, economic benefits to the state of Alaska, and other benefits.

2. Maintaining the *status quo* with new bilateral agreements between utilities where possible could potentially deliver incremental benefits over the *status quo* (in the order of $240

million). It should be noted however that achievement of these benefits may be largely theoretical without utilities being willing and able participants in such agreements.

3. Establishing a new Unified System Operator for the Railbelt is by itself expected to deliver net savings of approximately $581 million, compared to the *status quo.* (This benefit is calculated under Base scenario conditions, which we describe later, however even in the most pessimistic scenario we evaluated in which coal plants are never retired, LNG is available at Fairbanks, and GVEA load falls considerably, the NPV benefit is approximately $380 million.)

4. Establishing a new combined Transco and USO for the Railbelt results in significant additional benefits above Option 3 in the Base scenario because in addition to the benefits of a USO alone, this structure would deliver the Railbelt an effective means to achieve efficient Railbelt-wide transmission investment in the future – yielding additional production cost savings by decongesting the grid. The NPV benefit of this option, compared to the *status quo* and taking into account of the cost of the transmission projects it would involve, is $792 million. Importantly, the only benefits quantified as part of this calculation are energy production cost savings (fuel and variable operations and maintenance costs of generation). The fact that the NPV of this option exceeds that of Option 3 is particularly notable since the measure of benefits does not include any quantification of reliability benefits or any quantification of system resilience benefits. Transmission projects in the lower 48 are typically justified by reliability benefits alone, and the reliability benefits available in Alaska may well be larger than those typically available in the lower 48 given the single-line nature of much of the Railbelt grid.

5. Separately establishing a new Transco and a new USO for the Railbelt is the same as Option 4, except the Transco and USO are now separate entities. The governance and ownership arrangements of each entity are different. NERA has not attempted to quantify the NPV of benefits for Option 4 and Option 5 separately; we attribute the same quantified benefits to Option 5 as we do to Option 4 here. However we believe that Option 5 is a better model for governance purposes and that this has been borne out by experience in the Lower 48. In particular, potential conflicts of interest between USO functions and Transco functions would be avoided. Separation allows the Transco to be a for-profit company able to pursue economic investments where efficient to do so, without the conflict of interest of also being responsible for planning protocols and reliability standards. It also better assures the independence of the ISO from generation interests.

In summary, based on this preliminary Cost-Benefit Analysis, the case for a USO and a Transco seems very promising with a NPV of $792 million and a benefit-to-cost ratio of 2.0. *Maintaining the status quo appears to be unnecessarily costly in the long term for Alaskan electricity consumers*.

Again, it is important to note that the benefits quantified in this calculation *include only energy generation cost savings* (fuel and variable operations and maintenance costs). In particular:

- An estimate of *reliability benefits* has not been quantified and this is important because transmission enhancement projects in the lower 48 are almost always justified by reliability considerations. Energy generation cost savings are normally minor in comparison. In the Railbelt however the reliability benefits of the transmission enhancements considered herein are likely to be substantial because the Railbelt grid suffers from a lack of redundancy (i.e. a lack of alternative transmission paths in the case of a failure on a specific facility) compared to the lower 48.

- Likewise, an estimate of *resilience benefits* has not been quantified and this is important because transmission enhancement projects could deliver significant advantages in this regard. Resilience benefits refer to the ability of the system to respond efficiently to major changes. These benefits can take the form of both providing upside opportunities and mitigating risks of downside loss. For example, an upside benefit of enhanced transmission might be the enabling of a new mine or other industry to readily access the grid to meet its significant electricity requirements, where that access would not have otherwise been possible or would have otherwise had a significant disruptive impact on other Railbelt users. An example of mitigating the risk of downside loss might be the case of a major long-term generating plant failure such as a fire. Enhanced transmission might better allow alternative sources of energy to access the region concerned, lowering production costs and reducing risks to consumers.

- *Other benefits* not quantified in the analysis herein include ancillary services cost savings (i.e. reduced regulation and spinning reserve costs), economic benefits to the state of Alaska outside the power sector (for example, associated with construction, and employment, and access by consumers to lower-cost electricity), potential for improved reservoir optimization, improved integration of renewable resources, potential for deferral of construction of generating capacity and economic benefits of central construction planning that are possible with an integrated transmission system.

If Option 5 is to be developed further it will be necessary to recognize that achievement of the benefits identified – quantified or non-quantified in this report – will require RCA leadership. With the current business and regulatory model, with utilities operating in a balkanized and uncoordinated fashion, benefits from greater coordination of transmission investment and operation of generation cannot be achievable for the following reasons:

- Operating generation more efficiency requires security-constrained Railbelt-wide economic dispatch which cannot occur in the current model.

- The transmission enhancement projects identified require Railbelt-wide planning that is outside the purview of any individual utility in the current business model.

- The allocation of the benefits of greater coordination vary widely from utility to utility depending on a number of factors such as the relative generation costs of each utility. Currently, however, the responsibility for the costs, including the costs of transmission investment, are utility-specific. This leads to the free-rider problem because the benefits will not align with the costs when measured separately for each utility.

- The coordination benefits quantified in this Cost-Benefit Analysis result from reductions in fuel and purchased power costs, not from increased revenue. However under the current model, fuel and purchased power costs are passed through to consumers; this model does not provide an incentive for utilities to finance cost-effective transmission assets that reduce these fuel costs.

In order to remedy these maladies of the current model, the following must occur:

- State government and, in particular, the RCA, would have to provide leadership to establish a new coordinated organizational structure, such as a USO.

- A Transco or equivalent needs to be created that allows for a Railbelt-wide perspective for transmission investment.

- Since the benefit of greater coordination outweighs the costs, a rate structure must be established to ensure sufficient revenue to recover investment costs, and also to pass on the net savings (i.e., savings from reduced fuel costs less the investment costs) to consumers.

Currently the individual utility governing boards have no mechanism to justify investments that have a Railbelt-wide benefit but must be paid for by utility-specific customers. Successful reform will need to remedy this coordination problem and will require not just the establishment of a USO and a Transco, but also reform of cost-allocation and tariff reform. Of course, RCA leadership will be required to deliver each of these reforms.

As a final comment, an important element of the benefits identified in this report relate to the benefits of transmission enhancement projects that could be planned and implemented by the USO and Transco, which the existing Railbelt structure is unable to deliver. Naturally, a more comprehensive Cost-Benefit Analysis will be required before a commitment can be made to the scale of transmission investment outlined in this report. That comprehensive analysis could potentially either reject that level of transmission investment, or support it. The preliminary evaluation here indicates that it would be supported. In any event, it is worthwhile noting that a decision to move to a USO and Transco structure does not *require* a commitment to this large investment. Rather, a much more modest step, and more modest costs. It involves creating the platform or organizational structure by which production cost savings can be achieved (by the USO), and by which the *option* of making beneficial region-wide transmission projects is made available (i.e. the Transco). The expected production cost savings, alone, from this platform significantly exceed the expected costs of the USO *and* the expected costs Transco. With this platform in place, regional transmission investment decisions can be made which: a) are properly

evaluated against all relevant criteria; and b) can actually result in new transmission assets being built when and if such investment is found to be in the public interest. The *status quo* does not deliver this logical decision-making process.

2. Background

This section of the report summarizes some relevant background of the Railbelt and the lower 48 states. It then discusses FERC's role in addressing some of the relevant issues and outlines the opportunity as we perceive it in Alaska.

2.1. The Railbelt

The Railbelt electrical grid consists of the electrical transmission (69 kilovolts and above) and electrical generation facilities constructed to serve the consumers of the Alaskan Railbelt. Geographically, the Railbelt extends from Katchemak Bay on the south, north to Fairbanks and Delta Junction. From east to west it reaches from The Matanuska Glacier on the Glenn Highway and Whittier on Price William Sound to Tyonek Village and the on-shore gas processing plants of West Cook inlet. The Grid consists of three load-generation areas or "areas". Furthest north is the Fairbanks Area stretching from Healy to Fairbanks to Delta Junction. The mid-Railbelt extends from the Anchorage- Mat-Su area reaching from Willow to South Anchorage and from Beluga to the Matanuska glacier. In the south, the Kenai Area runs from Seward to Cooper Landing to Katchemak Bay. Single transmission lines interconnect these three areas. These single-transmission lines have limited transfer capacity and outages to one of them can cause shedding of electrical load and instability in connected areas. Electrically, the Railbelt serves an 850MW peak demand, a 375 valley demand, and delivers approximately 5,000 GWH of energy annually to nearly 250,000 meters.

Chugach has a geographically central role in the Railbelt. For 30 years Chugach was the power supplier for a significant proportion of the Railbelt, acting as a single system operator serving Chugach, MEA, HEA and the City of Seward and for significant period of time dispatching incremental generation for GVEA. The Railbelt has recently moved towards decentralized localized dispatch, operations and planning of individual utility systems. In particular, as of the time of writing this report, both of Chugach's major wholesale power contracts have expired and these wholesale customers are pursuing independent operation. [2]

The current Railbelt business structures (municipal and cooperative certificated vertically-integrated utilities with dedicated service territories) are clearly capable and competent at the distribution of electric power to their certificated service-territory consumers. However, from a regional perspective, this model cannot deliver the best solution for the Railbelt consumers as a whole. Due to the legitimate fiduciary responsibilities inherent in the cooperative/municipal-certificated service territory business model, the current structure cannot optimally plan, develop and economically dispatch the Railbelt-wide transmission and generation grid.

Clearly there are concerns about the gradual moves to decrease coordination, rather than increase it. These concerns have been expressed by Chugach and others in Alaska, and they are reflected

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[2] HEA/Chugach Agreement for Sale of Electric Power and Energy 3-85, AEGT/MEA/Chugach Modified Agreement for the Sale and Purchase of Electric Power and Energy (Modified Tripartite Power Sales Agreement) 4-89

by Question 1 of Order 1 of this Docket in which the RCA asks whether the creation of an independent system operator or similar structure for electric utilities in the Railbelt is the best option for effective and efficient electrical transmission. Ultimately, the objective of all in the power sector in Alaska must be to maintain reliability and provide power at minimum cost to consumers. Lowering the overall costs to end-use consumers, and improving the reliability and resilience of the electric system will sustain and promote economic growth. There is a strong case to be made that improving coordination and integration (such as through an ISO or similar arrangement) will help facilitate these goals, whereas decreased coordination and localization will work in the opposite direction. The analysis in this report tests that hypothesis.

2.2. The Lower 48

The Railbelt is not subject to regulation by either the Federal Energy Regulatory Commission (FERC) in economic terms (or by extension of FERC) the North American Electric Reliability Corporation (NERC) in terms of reliability. However, it has the benefit of their nearly two decades of thoughtful and considered analysis and measured experimentation in restructuring. Further, the state commissions of Texas, Wisconsin and California, all early proponents and adopters of restructured electrical wholesale markets, have made significant and meaningful contributions to this body of work.[3]

In 1996, FERC adopted Order No. 888 in order "*to remove impediments to competition in the wholesale bulk power marketplace and to bring more efficient, lower cost power to the Nation's electricity consumers*."[4] Order No. 888 required all FERC-jurisdictional public utilities that own, control or operate facilities used for transmitting electric energy in interstate commerce to have on file open access non-discriminatory transmission tariffs that contain minimum terms and conditions of non-discriminatory service.[5]

Independent System Operators (ISOs) grew out of Order No. 888 where FERC suggested the concept of an ISO as one way to satisfy the requirement of providing non-discriminatory access to transmission. In 1999, in Order No. 2000,[6] FERC encouraged the voluntary formation of

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[3] For a more detailed discussion of the history of electric restructuring, *see e.g., Evolution of the Electric Industry Structure in the U.S. and Resulting Issues*, Navigant Consulting, October 8, 2013.

[4] *Promoting Wholesale Competition Through Open Access Non-Discriminatory transmission services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities,* Order No. 888, FERC Statutes and Regulations, Regulations Preambles January 1991-June 1996 ¶31,036 (1996) (Order No. 888) *order on reh'g,* Order No. 888-A, 81 FERC ¶61,248 (1997), *order on reh'g* Order No. 888-B, 81 FERC ¶61,248 (1997), *order on reh'g.* Order No. 888-C, 82 FERC ¶61,046 (1988), *aff'd. in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom., New York v. FERC*, 535 U.S. 1 (2002). Order No. 888 can be accessed at http://www.ferc.gov/legal/maj-ord-reg/land-docs/order888.asp

[5] It also permitted public utilities and transmitting utilities to seek recovery of legitimate, prudent and verifiable stranded costs associated with providing open access and transmission services.

[6] *Regional Transmission Organizations*, Order No. 2000, FERC Statutes and Regulations, Regulations Preambles July 1996-December 2000 ¶31,089 (1999), *order on reh'g*, Order No. 2000-A, FERC Statutes and Regulations, Regulations Preambles July 1996-December 2000 ¶31,092 (2000), *aff'd sub nom. Pub. Util. Dist. No. 1 of Snohomish County, Washington v. FERC*, 272 F.3d 607 (D.C. Cir. 2001) (Order No. 2000). Order No. 2000 can be accessed at http://www.ferc.gov/legal/maj-ord-reg/land-docs/RM99-2A.pdf

Regional Transmission Organizations (RTOs) to administer the transmission grid on a regional basis throughout North America (including Canada). Order No. 2000 was meant to build upon the ISO concept by encouraging smaller transmission entities to join into larger RTOs to gain efficiencies and by pushing all transmission operators and regions to develop plans for participation in an RTO. While Order 2000 did not technically mandate participation in an RTO, the Order required all transmission owners to submit progress reports detailing their plans to participate in an RTO.

As a result of FERC's initiatives, and the initiatives of others, the last twenty years of power sector reform in the lower 48 states has demonstrated that to optimally schedule and dispatch the system, subject to security constraints, it is necessary to have a scheduling and dispatch entity which has grid-wide scope. Successes include organizations such as: PJM, being a large and competitive market that is often at the forefront of RTO design; the Electric Reliability Council of Texas (ERCOT) as a model for a State mandated regional transmission organization (aka USO); and the Wisconsin-based American Transmission Company (ATC) as a model that provides a blueprint for a transmission-only utility focused on regional planning. ATC is a for-profit entity owned and governed by a number of investor owned, cooperative and municipal utilities. These are just a few examples in the lower 48; there are other good examples from which Alaska can pick and choose, always keeping in mind the uniqueness of the Railbelt in terms of size and isolation.

2.3. Key Elements of FERC's Policies

FERC has already considered many of the issues now facing the RCA, and FERC policy has come out strongly in the past two decades in favor of:

1. An integrated and common system-wide security-constrained economic dispatch process for each major area in its jurisdiction; and

2. An area-wide perspective, and planning and approval process, for transmission planning and investment for each major area in its jurisdiction – and, through the Electric Reliability Organization (i.e. NERC), regionally appropriate and enforceable reliability standards, though this was mandated by Congress.

2.3.1. Integrated System Operations

The basis of FERC's policy on the first point (Integrated System Operations) is reflected in well-documented studies quantifying the benefits of integrated scheduling and dispatch across otherwise independently dispatched but interconnected utility control areas.[7] A closely-related key concern of FERC throughout the 1990s and 2000s was the inefficiency of *pancaking*; i.e. of

[7] Refer for example to the following Cost-Benefit Analyses: US Department of Energy, Impacts of the Federal Energy Regulatory Commission's Proposal for Standard Market Design, April 2003, CSEM, Estimating the Benefits of Restructuring Electricity Markets: An Application to the PJM Region, September 2003, ICF Consulting, Analysis of the Benefits of the Midwest ISO's Day-2 Market, October 2005, Sponsored by MISO.

having a separate transmission tariff charge for each utility in a region, thus driving a wedge between efficient transactions that might otherwise be made between entities within one service territory and another. As an example of pancaking in the Alaskan context, if ML&P wishes to sell power to Fairbanks or perhaps beyond, ML&P will need separate transmission rates and agreements with three or four utilities. This "pancaked rate" structure is an obstacle to economic dispatch and new generator development.[8]

2.3.2. The Free-Rider Problem

The basis of FERC's findings on the second point (transmission planning and investment) is rooted in the physics of electricity transmission systems.

> *Electric energy does not travel on a pre-set path but rather along all available pathways in accordance with the laws of physics. Continuous fluctuations in the demand for power and generation operations affect power flows throughout the transmission grid. This means that the electric energy received by an individual customer at any one time could be delivered over any number of transmission facilities that constitute the transmission grid. Changes in demand for or supply of electricity at any point in the system will change flows on all the transmission lines to varying degrees, often in ways that are not easily controlled.*[9]

Physically, an interconnected high-voltage power system is a single machine, i.e., all generators regardless of their physical location and electrical capacity, operate in nearly perfect synchronism. Thousands of complex mechanical and computer controlled protective devices supervise these generators. These generators are interconnected to each other and the loads they serve via similarly controlled and protected transmission lines. This integration increases reliability and reduces costs. Added resource diversity, both in terms of generation resources and transmission paths, increases reliability and economic dispatch. The sharing of reserves (standby generation, both on and offline) is particularly important in reducing costs.[10]

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8 FERC has made clear that a central goal of its regional transmission organization ("RTO") policy is the elimination of rate pancaking; therefore, "it prohibited RTOs from assessing customers multiple access charges for the same transaction to recover fixed costs (i.e., pancaked rates)." See e.g., *American Electric Power Service Corporation v. Midwest Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C, 122 FERC ¶ 61,083 at P 4 (2008).* According to the Commission, "RTOs provide increased efficiency to wholesale markets by **eliminating pancaked rates**, internalizing parallel flow, managing congestion efficiently, and operating markets for energy, capacity and ancillary services." *Midwest Independent Transmission System Operator, Inc., 126 FERC ¶ 61,139 at P 60 (2009)*. Emphasis added.

9 *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, FERC Stats. & Regs. ¶ 31,323 at P 486 (2011), *order on reh'g*, Order No. 1000-A, 139 FERC ¶ 61,132 at P 559, *order on reh'g and clarification*, Order No. 1000-B, 141 FERC ¶ 61,044 (2012).

10 Reserve sharing is an important part of this. One benefit of the reserve sharing pool is the deferred capacity cost of constructing standby generation. Another benefit is spinning reserves; spinning reserves are the most costly components of the reserve pool. Spinning reserves are generating units that are partly unloaded or idling to maintain the supply and demand balance on a "moment by moment" basis in the face of an unanticipated generating unit or transmission line outage. Units providing spinning reserves are the first line of defence against large-scale cascading power supply outages, and, therefore, necessary. However spinning reserves also increase system costs significantly. Therefore, the management of

FERC recognized the implication of the reality of the integrated transmission system as it relates to transmission investment decisions: the problem is that when transmission systems are locally planned and operated they are often undervalued by neighboring transmission users. Individual utilities have no reason to seek transmission investments that are beneficial to the system as a whole; rather they are concerned with their own costs and benefits. Even where total system benefits are recognized, traditional franchise rates do not practically allow for recovery from non-native load customers. When costs are concentrated in one area, and the benefits are diffused across the entire system, traditional rate structures will not stimulate investment on an efficient basis. FERC described the investment issue in this way:

> *…the risk of the free rider problems associated with new transmission investment is particularly high for projects that affect multiple utilities' transmission systems and therefore may have multiple beneficiaries. With respect to such projects, any individual beneficiary has an incentive to defer investment in the hopes that other beneficiaries will value the project enough to fund its development.*[11]

There is a straightforward illustration of the issue in Alaska. This issue is faced by Chugach by virtue of the fact of its central geographic position in the Railbelt, and because it built transmission assets to supply load centers and to support contracts for those load centers – but the contracts have now expired. Chugach faces a dilemma that will become more acute over time. Chugach is the owner of a significant portion of the Railbelt transmission structure outside of its certificated service territory. These are assets that Chugach constructed to serve the loads of MEA and HEA and assets for which it now bears the cost of maintenance, operations and up-keep. Chugach has no meaningful way to collect the revenue to maintain these assets, assets that technically form the "heart" of the Railbelt Transmission grid. These assets directly deliver spinning and non-spinning reserves and provide voltage support to ML&P, MEA, GVEA, Chugach, and by extension of the balance of the Chugach system to HEA and SES. Currently, there is no cost recovery mechanism for the provision of these services.

Chugach's open access tariff would recover a portion of these costs on energy or capacity transfers; unfortunately, this revenue is small and uncertain in comparison to the relative costs. This revenue stream is neither sufficiently assured nor significant enough in magnitude to justify capital expenditures.

Chugach has provided NERA with a specific illustrative of this situation as follows. It relates to the 230 kV submarine circuits between the Joint Chugach ML&P 230 kV station and Point Mackenzie north of Knik arm:

> *These circuits form the primary transmission path for energy and reserves moving from Anchorage and the Kenai to GVEA and MEA and vice versa. These 230 kV*

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spinning reserves within an interconnection is similar to managing risk in an insurance pool. One of the best ways to reduce this risk is to increase the size of the pool. Further, the smaller the pool, the larger cost per pool member.

[11] Order No. 1000, FERC Stats. & Regs. ¶ 31,323 at P 486 (2011).

> *submarine cables are approaching 40 years old and will need replacement eventually, perhaps sooner rather than later. The failure of one of these cables will have very significant impacts on the Railbelt (particularly MEA and GVEA). Submarine cable repair and replacement will cost $20-$50M. However, Chugach as a utility with no firm load north of Knik arm would be remiss in its fiduciary responsibility to its membership (and bondholders) to attempt this project absent a rate structure that allowed recovery from all ratepayers that receive benefit from cables both in terms of energy transfers and reserve sharing.*

This dilemma applies to other Chugach transmission assets, and similar dilemmas may undoubtedly apply to other Railbelt utilities to one extent or another. As described above, this is the classic "free rider" problem addressed by FERC in Order No. 1000.

Order 1000 requires transmission providers to participate in a regional transmission planning process. Part of Order 1000 mandates coordination and collaboration on allocation of costs between regions on large-scale, interregional transmission projects. Regarding transmission rates, FERC stated:

> *In order to determine a utility's cost of providing a transmission service, the Commission typically treats a transmission network ... as an integrated system. In other words, all of the individual facilities used to transmit electricity are treated as if they were part of a single machine. The Commission takes this approach on the ground that a transmission system performs as a whole; the availability of multiple paths for electricity to flow from one point to another contributes to the reliability of the system as a whole. This principle has a strong basis in the physics of electrical transmission for there is no way to determine what path electricity actually takes between two points or indeed whether the electricity at the point of delivery was ever at the point of origin.*
>
> *As a corollary, in determining permissible prices for transmission services, the Commission treats each transmission customer not as using a single transmission path but rather as using the entire transmission system.*[12]

In the current Alaskan Railbelt context, while all utilities rely on the integrated grid, the manner in which transmission and generation is planned, developed and paid-for fails to reflect this reality. It would be necessary to establish an entity with broader oversight of the entire electric grid to facilitate the timely and efficient expansion and maintenance of the Railbelt transmission system.

The conclusion just stated as it relates to the Railbelt is not new and, as far as NERA is aware, should not be controversial. It was clearly set out in AEA's 2010 Black and Veatch Railbelt

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[12] Order No. 1000-A, 139 FERC ¶ 61,132 at P 560 (quoting *Northern States Power Co. v. FERC*, 30 F.3d 177, 179 (D.C. Cir. 1994) (emphasis supplied); *see also Western Massachusetts Electric Company v. FERC*, 165 F.3d 922, 927 (D.C. Cir. 1999) (stating that "[w]hen a system is integrated, any system enhancements are presumed to benefit the entire system").

Integrated Resource Plan, which listed two "organizational level-general risks" to the Railbelt as follows:

> *The lack of a regional entity with the responsibility for implementing the RIRP will lead to suboptimal solutions, resulting in higher costs, lower reliability and the inability to manage the successful integration of DSM/EE and renewable resources into the Railbelt system;* and
>
> *To date, the Railbelt utilities have not been able to take full advantage of economies of scale for several reasons. Absent taking a regional approach to future resource planning and development, these realities will continue.*[13]

2.3.3. FERC-Style Reforms Applied to Alaska

In Alaska the type of FERC-style reforms discussed above would provide an opportunity for a continuation of the reliability benefits of interconnection of the utilities which now exists, but potentially with decreased electricity production costs resulting in lower rates to Railbelt consumers. These types of reforms would potentially ensure that transmission projects which are in the interest of the Railbelt customers as a whole get built, rather than being left on the drawing board because the total project costs outweigh the share of benefits received by any single utility. This would ensure that Railbelt consumers continue to receive safe, reliable, stable low-cost energy to incent economic growth well into the future. Absent some type of reform it likely that the reliability degradation that has been seen since disaggregation began will continue to deteriorate and even accelerate. A deterioration of this nature will likely prove to be difficult, time consuming and costly to turn around.

In any initiatives by the RCA to restructure the Alaskan Railbelt, it can look to examples from the lower 48 and choose appropriate components of the most successful systems. Of course it must always be cognizant of the fundamental differences between the Railbelt and the interconnections (grids) of the Lower 48 – for example the small electrical size and vast and extreme geographical area of the Railbelt. For this size reason alone it does not seem possible that a competitive *spot market* for electricity, along the lines of the markets in the lower 48, would be viable in Alaska. Being in the order of 1,000 MW in size, the Railbelt is simply too small and has too few participants to be sufficiently competitive. Further, in comparison to the more extensive interconnections of the lower 48, any Railbelt ISO or similar arrangement would likely involve a simplified business structure and basic joint economic dispatch. It is unlikely to require sophisticated day-ahead, hour-ahead, and real-time arrangements like those which exist in the major RTOs. Also it might be the case that the reliability standards of larger more stable grids may be unachievable within the acceptable cost structure of the Railbelt.

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[13] Alaska Railbelt Regional Integrated Resource Plan (RIRP) Study (2/2010)

3. The Opportunity in Alaska

The history of the Railbelt's evolution to date involves a pattern of bilateral and multi-lateral agreements between utilities. There is no reason to believe that any one of these contracts was unjustified in its own right. NERA understands that these agreements naturally focused on specific issues or projects; they are complex, often involving implicit and explicit *quid pro quo* concessions and benefits that prove difficult if not impossible to unwind without a regional solution. The terms of these contracts may in some cases have outlived the circumstances that made the agreements relevant. The agreements have generally served their purpose of delivering incremental savings out of existing arrangements or resources but nevertheless are essentially incapable of rationally advancing the Railbelt grid beyond its current structure.

It is evident from a comparison of the *status quo* in Alaska to the outcomes of the reforms in the lower 48 states that a potential opportunity exists to improve the effectiveness and efficiency of the Railbelt power system. Whether a change in the organization of the Railbelt will deliver benefits or not, however, depends on the relationship between the costs of change (including the risks associated with change) and the benefits that change is expected to deliver. In order to evaluate whether acting on this opportunity is in the best interests of Railbelt consumers, and to assess whether there is a case for change, we set out a four-step methodology:

1. Define the opportunity;

2. Set out criteria by which reform options should be evaluated;

3. Develop specific reform options; and

4. Evaluate the reform options against the criteria established in order to identify the best option.

We expand upon these four steps below, and then use them as the basis for our quantitative analyses contained in the sections of this report which follow.

3.1. Define the Opportunity

When comparing the *status quo* in Alaska to the situation in many of the lower 48 states, the key concern is that money might be being left on the table. That by not reforming, the Railbelt will be less efficient than it should be, and that Railbelt customers will pay more for their electricity than they need to. Further, there are concerns that the situation may get worse over time, not better, if nothing is done. And the concerns are not only about economic efficiency. There are concerns about the robustness of the power network.

3.1.1. Out of Merit Dispatch Costs

The main concern investigated and quantified in this report is out-of-merit dispatch costs, i.e. that the cost of generating electricity to meet the needs of Alaskan consumers, from the existing set of generators, is higher than it could be.

Analysis of dispatch patterns shows that virtually every hour there are generators with high production costs running while other lower-cost ones are sitting idle or at low levels of output. The extra costs incurred in this situation are referred to as "out of merit dispatch costs". These are real costs that Alaskan consumers are paying through their electricity tariffs.

In principle, some out of merit dispatch costs can exist even in a power system that is optimally planned and optimally dispatched. This is referred to as an "efficient level of transmission congestion". Having some out-of-merit dispatch costs can be efficient if the alternative, of fully relieving all transmission congestion, would cost more. However it is not clear that the current level of out of merit dispatch costs in Alaska *is* efficient. A key purpose of the Cost-Benefit Analysis in this report is therefore to evaluate whether or not this is the case.

The root of the issue concerning the level of out of merit dispatch costs in the Railbelt is that individual Railbelt utilities both *dispatch* and *plan* their systems on a localized and separate basis.[14]

3.1.1.1. Dispatch

From a dispatch perspective the concern is simply whether several utilities each performing an economic dispatch on their own sub-system independently, with limited trading of energy between utilities, will achieve the same level of cost minimization in meeting load as an integrated dispatch which is conducted over the entire Railbelt in its entirety.

3.1.1.2. Planning

From a planning perspective the concern is whether the transmission system is built to achieve the lowest long-term total of Railbelt transmission investment plus electricity generation costs. (Since under-investment in transmission will result in high levels of out-of-merit dispatch costs.)

Consider an example from a planning perspective: a transmission investment in Location A might cost $100m and might have a gross benefit to the Railbelt of $250 million (on a NPV basis) in the form of reduced future fuel and variable O&M generation costs. The net benefit to Railbelt customers would therefore be $150 million. If, however, the gross benefit to the utility in Location A is only $50 million, the utility would naturally be unwilling to fund the project itself and the investment might never occur.

This is exactly the concern that was central to FERC's reforms in the lower 48 under Order 1000 which was discussed above "*... that the risk of the free rider problems associated with new transmission investment is particularly high for projects that affect multiple utilities' transmission systems and therefore may have multiple beneficiaries. With respect to such*

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[14] Again, acting on a local perspective is consistent with the utilities' fiduciary responsibility to their local membership and to the consumers in their certificated service territories. However, acting on a local perspective is not necessarily consistent with obtaining the best outcome for Railbelt consumers as a whole. It is not consistent with obtaining the best outcome for the State of Alaska.

projects, any individual beneficiary has an incentive to defer investment in the hopes that other beneficiaries will value the project enough to fund its development."[15]

Further, the nature of the Railbelt transmission system lends itself to accentuate the concern that FERC identifies: a sparse network, covering large distances, with multiple transmission owners, with high costs and divergent costs across inter-reliant utilities, and a critical importance to maintain transmission reliability due to extreme climatic conditions.

3.1.2. Other Opportunities for Improvement

In addition to the opportunity to potentially reduce the cost of generating electrical energy by reforming dispatch and planning processes, other opportunities for improved outcomes in the Railbelt exist. These include opportunities for:

- *Reliability benefits*: Several significant load centers are connected by only single lines to the rest of the Railbelt system. New transmission investment, in particular, would increase the robustness of the Railbelt grid.

- *Wider economic benefits*: Lower and more stable electricity prices would deliver opportunities to the economy of Alaska, as would any major construction program to develop new transmission infrastructure.

- *Environmental benefits*: Reduction of out-of-merit dispatch costs would tend to have a direct and corresponding reduction in reduced emissions since generation from less efficient units is replaced by generation from more efficient ones.

- *Other benefits*: Potential areas for improvement may exist in areas such as potential for reducing the cost of ancillary services, in better accommodating the addition of renewable generators to the system, and in other areas.

3.1.3. Going Forward

Going forward, it appears reasonable to assume that the magnitude of all of the opportunities just described will increase as the Railbelt is increasingly planned and operated on a regional basis.

3.2. Criteria by Which Reform Options Should be Evaluated

For the purpose of the preliminary assessment set out in this report we have proposed that a Cost-Benefit Analysis be undertaken in which the expected energy redispatch savings of a reform option (i.e. the reductions in fuel and variable operations and maintenance costs for the production of electrical energy) are compared to the preliminary estimate of the cost of implementing the option concerned. All other benefits are considered on a qualitative basis.

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[15] Order No. 1000, FERC Stats. & Regs. ¶ 31,323 at P 486 (2011).

Importantly, this approach does not involve any quantification of reliability benefits. Transmission projects in the lower 48 are typically justified by reliability benefits alone, and the reliability benefits available in Alaska may well be larger than those typically available in the lower 48 given the single-line nature of much of the Railbelt grid. ***It is likely, therefore, that quantified benefits provided in this report could be considerably understated.***

3.3. Reform Options

Based on NERA's understanding of the power sector in Alaska and our experience of best practices of power sector restructuring in the lower 48 states and overseas, NERA believes there are five main approaches worth considering:

1. Maintain the *status quo*;
2. Maintain the *status quo* with new bilateral agreements between utilities where possible;
3. Establish a new Unified System Operator (USO) for the Railbelt;
4. Establish a new combined transmission and USO company for the Railbelt; and
5. Separately establish a new transmission-only utility and a USO for the Railbelt.

3.3.1. Maintain the *Status quo*

Option 1, maintaining the *status quo,* is the control option against which the other options are compared for evaluation purposes.

3.3.2. Maintain the *Status quo* with New Bilateral Agreements between Utilities where Possible

Option 2, maintaining the *status quo* with new bilateral agreements between utilities where possible, is an option defined by an integrated dispatch between a central region pool (Chugach ML&P and MEA) and low hurdle rates between the Central Pool and GVEA, and the HEA pool somewhat constrained in terms of transfers north. This scenario assumes there is no system-wide grid transmission entity and associated reforms which enable the development of major new efficient grid transmission projects. (No USO or Transco.)

3.3.3. Establish a USO

Option 3, establish a new USO for the Railbelt, is an option defined by a least-cost security-constrained dispatch which is conducted over the entire Railbelt by a new USO (a not-for-profit private entity), but which assumes there is no system-wide grid transmission entity and no associated reforms which enable the development of major new efficient grid transmission projects. (USO, but no Transco.)

Section 4.1 elaborates the potential role of the USO in this context.

3.3.4. Establish a Combined USO and Transmission Company

Option 4, establish a new USO and transmission company for the Railbelt, is an option defined by a least-cost security-constrained dispatch conducted over the entire Railbelt by a new USO, and which assumes there *is* a system-wide grid transmission entity and there *are* associated reforms which enable the development of major new efficient grid transmission projects. These projects are those which are set out in the AEA Report. (Combined USO and Transco.)

Section 4.2 sets out the potential role of the Transco.

3.3.5. Separately establish a new USO and a Transco

Option 5 is the same as Option 4 except the governance and ownership arrangements of each entity are different. Separation allows the Transco to act without the conflict of also being responsible for planning protocols and reliability standards.

3.4. Evaluation of Reform Options

The preliminary evaluation of these reform options is contained in the remainder of this report following the elaboration of the roles of the USO and Transco in Section 4. Specifically:

- The overall Cost-Benefit Analysis of these options is set out in Section 5.
- Benefits of the reform options – quantified and non-quantified – are evaluated in Section 6.
- Costs are evaluated in Section 7.
- Scenario analyses are set out in Section 8.

4. A Railbelt USO and a Stand-Alone Transco

Options 3, 4 and 5 in the previous section of this report involve the development of a Railbelt USO, and Option 5 involves the development of a stand-alone Transco. This section expands on the definition of these two entities. The potential roles and responsibilities set out here are the result of discussions between Chugach and NERA as to how these entities might be organized to best meet the needs of the Railbelt.

4.1. USO

A USO would be a stakeholder-governed, non-asset owning, not-for-profit entity. It would have responsibilities for setting policy, maintaining reliability, performing economic dispatch, planning and conditioning projects, and mandating and ensuring non-discriminatory open access under a universal tariff.

4.1.1. Key Objectives

The key objectives of the USO would be the following:

- *Establish Railbelt reliability standards*: Mandatory reliability standards are a critical element to maintaining a reliable system. The USO could initially adopt North American Electric Reliability Corporation (NERC) based reliability standards similar to those approved by the Intertie Management Committee (IMC) for the Railbelt.

- *Administer reliability standards*: The USO could impartially administer the established standards. This would involve administering planning and operating reliability standards, as well as ensuring that required ancillary services are provided.[16]

- *Perform Economic Dispatch*: Security-constrained least-cost scheduling and dispatch conducted on a Railbelt-wide basis would result in more efficient use of the generation resources in the Railbelt. This would lower costs to consumers, the quantification of which is estimated in the subsequent sections of this report.

- *Coordinate Transmission Planning*: Coordinated transmission planning would help ensure reliability is maintained without incurring costs of unnecessary facilities. It would

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[16] The primary functions of the USO would be to ensure the reliability, efficiency, and non-discriminatory operation of the interconnected generation and transmission system. In order to carry out these functions, detailed operating and planning standards (and protocols) would need to be developed. These standards are best developed by people with expertise in operating and planning bulk power systems. All stakeholders/participants in the USO have expertise to contribute and should have input into the development of these standards. Standards should be developed through an inclusive stakeholder process set out in the bylaws or procedures of the USO and approved by the RCA.

The RCA and its staff should also have the opportunity to provide input in the standards development process. In addition, the RCA should approve those standards if it determines they are developed in a fair and equitable manner according to the approved process and are in the public interest. The RCA should also the RCA have a key role in ensuring adherence to those standards by the USO and stakeholders.

facilitate the efficient, timely and orderly expansion of and/or modification to the transmission system.

- *Assist the RCA in administering transmission tariffs*: The USO could facilitate the application of transmission tariffs by transmission service providers.

- *Facilitate compliance with applicable state laws and regulatory obligations*.

The USO would possess a regulatory compact that authorizes it to use an RCA approved and stakeholder driven process to develop and administer planning, operating and reliability standards, and to administer or perform a system wide economic dispatch. Decisions of the USO would be subject to appeal to the RCA in instances where its actions were perceived to be inconsistent with the USO's own adopted standards and protocols. Through its regulatory compact, the USO would have authority over the entire Grid with its costs spread over all rate payers, perhaps in a manner similar to the current Regulatory Cost Charge (RCC).

4.1.2. Checklist

The following is a checklist of potential main principles, characteristics and functions to guide the establishment of a USO, together with a list of potential key aspects of its regulatory compact.

Regarding *principles*, a USO would:

- Act on a regional basis, meaning in the best interests of the Railbelt as a whole;

- Create a non-discriminatory level playing field for all stakeholders;

- Ensure the most efficient and reliable system practical, recognizing economic constraints;

- Strive to ensure equitable distribution of costs and benefits across the region; and

- Recognize value and assure recovery for existing investments.

The following main *characteristics* would define the USO:

- Independence ensured organizationally by a professional stakeholder-appropriate Board of Directors;

- Possession of operational authority over the Railbelt transmission system;

- Exclusive authority to maintain Railbelt reliability;

- Participation by all entities using interconnected transmission system; and

- Maximize the use of existing resources to avoid duplication of facilities.

The ISO's main *functions* would be to:

- Mandate non-discriminatory open access transmission;
- Adopt, maintain and enforce Railbelt reliability standards – it could initially adopt North American Electric Reliability Corporation (NERC) based reliability standards similar to those approved by the Intertie Management Committee (IMC) for the Railbelt;
- Plan, coordinate and condition necessary transmission additions and upgrades;
- Condition and authorize the interconnection of new generation;
- Assists the RCA in administration of a universal tariff that employs a transmission pricing system that will promote efficient use and expansion of transmission and generation facilities; and
- Function as a single control area operator, facilitating regional power pooling/ security-constrained economic dispatch to maximize generation efficiency. As part of this function it would manage parallel path flow and transmission congestion.

The *regulatory compact* would involve that:

- The RCA approves rate recovery throughout the planning, permitting and construction phases of projects planned and conditioned in accordance with USO developed protocols and pre-approved by the RCA;
- The RCA honors existing agreements and allows cost recovery of existing investments;
- The RCA ensures that standards and tariff rates are just, fair and reasonable to all ratepayers and allows transitional ramp-in rates to minimize individual utility rate impacts; and
- Existing transmission assets used for the benefit of the Railbelt region will receive full cost recovery.
- Finally, the USO reviews, approves, and submits long-term, large inter-regional projects to the RCA for pre-approval and application of formula rates and accelerated cost recovery. Projects so submitted and determined by the USO and RCA to have met the USO's predetermined stake-holder developed planning protocols are assured such rate recovery.

4.1.3. USO Governance

The USO would function as a non-profit corporation governed by an independent Board of Directors. The Board would guide the direction of the USO, select its Chief Executive Officer and approve selection of other executive management, approve its budget and approve the

planning and operating standards. Stakeholder representatives should make up a part of the membership of the Board since actions the USO takes have a direct effect on their assets, system costs, and the reliability of the system the stakeholders depend upon. They would also bring expertise in the system operated by the USO and the interests of entities the USO serves. This expertise is vital for the USO to fulfill its mission.

The initial USO board membership would logically be comprised of electric industry professionals who have direct operational experience in transmission or generation infrastructure and should also include relevant stakeholder segments that will expand over time as those segments develop. A typical structure might be composed of a 17 member board, including representatives from the 6-legacy utilities, 1-Transco, 2-IPP, 2-renewable sector, 2-Industrial sector, 1-the Chair of the RCA (ex-officio--voting or non-voting), CEO of the USO (ex officio voting) and 2-non-utility electrical professional from the community at large (a compensated position) and 1 members of the economic development community. Changes to the composition of the board could be discussed as stakeholder groups coalesce.

4.1.4. Funding the USO

The USO would be an independent, non-profit organization, with no ownership in generation, transmission, or distribution assets, and no other assets except those required to administer and dispatch the grid – for example, office space, SCADA/EMS systems, and so on. The USO's annual budget would be approved by the RCA. Load-serving members of the USO would then pay an assessment for participation in the USO proportionate to a predetermined RCA approved formula. These fees would cover the operating costs of the USO and would be recovered through the rates of all load serving entities, paid for by the end-use customers.

4.1.5. Comparison to Typical ISO in the Lower 48

The USO business model is something of a subset of the typical ISO business model in the lower 48. In particular the USO business model is not designed to support and operate a competitive spot market for wholesale electricity. As noted above, this analysis assumes that the lack of a sufficient number of market participants prohibits the development of truly competitive Railbelt markets. Rather, the USO business model is both financially prudent and economically necessary due to the lack of sufficient market participants in the Railbelt. The USO business model would ensure a continuation and improvement of the reliability benefits now yielded by the Railbelt grid, and would deliver increased economic efficiency through a system-wide economic dispatch.

4.2. Stand-Alone Transco

A stand-alone Transco would be an asset-owning utility responsible for planning, financing, constructing, operating, and maintaining all or part of the Railbelt transmission system in a non-discriminatory fashion in accordance with the protocols and direction of the USO. A Transco would not own generation and therefore would be independent of the generation function. In Option 5 of this report, the Transco would also be independent of the USO.

Utility participation in the Transco may involve a transfer of the utility's transmission assets, and could consist of all or part of the Railbelt's transmission assets.

4.2.1. Checklist

The following is a checklist of potential main principles, characteristics and functions to guide the establishment of a Transco.

Regarding *principles*, a Transco would:

- Be a certificated public utility planning and operating in accordance with RCA and USO approved policies, standards and protocols;
- Propose, finance, and develop transmission projects having a demonstrable benefit to the Railbelt grid;
- Maintain independence from generation resources and provide non-discriminatory open access;
- Operate and maintain transmission assets in the most reliable manner practical, recognizing economic constraints; and
- To the extent feasible use existing and local resources for operations, maintenance, design, and construction of transmission assets.

The following main *characteristics* would define the Transco:

- A Board of Directors composed of transmission owners and equity partners and community electric industry professionals;
- Field operational authority over the Railbelt transmission system;
- It executes USO directives to maintain Railbelt reliability;
- Voluntary participation by entities owning interconnected transmission system;
- It maximizes the use of existing resources to avoid duplication of facilities; and
- Assumption of pre-existing contracts: addresses historical agreements and resolves conflicts in a manner that promotes independent, non-discriminatory access to transmission service and continued investment.

The Transco's main *functions* would be to:

- Work in concert with the USO to provide non-discriminatory open access transmission;

- Implement Railbelt reliability standards at the direction of the USO;
- Plan, finance, and develop USO and RCA-approved Railbelt transmission additions and upgrades;
- Operate and maintain transmission assets of its owner companies;
- As required, construct authorized interconnection of new generation;
- Operate under an RCA approved Tariff that allocates transmission costs across all Railbelt end-users;
- Subject to independence requirements, might contract to perform economic dispatch and load balancing for the USO;
- At the discretion of the USO and subject to independence requirements, might function as a single control area operator facilitating regional power pooling or economic dispatch to maximize generation efficiency;
- Provide services under system-wide postage stamp rates: a single transmission tariff, based on an allocation of Transco operating costs to wholesale customers as a function of load; and
- Facilitates future transmission investments by being a transmission-only entity with a stable balance sheet and reliable tariff structure to support debt and equity investment in the Railbelt transmission infrastructure.

4.2.2. Transco Governance

The initial Transco board membership would logically be comprised of electric industry professionals who are representatives of the owner organizations, equity partners and electric industry professionals. One potential structure could have a board member representing the contributing utilities (up to 6); an equal number of non-contributing board members (up to 6), and the CEO of the Transco.

4.2.3. Funding the Transco

A Transco may or may not involve the transfer of assets. A Transco could be responsible for regional transmission system operations, but may not own any existing Railbelt transmission assets. Another option would involve a Transco that excluded existing assets but invested strictly in new transmission assets. Alternatively, the Transco might focus on new assets initially with an eventual melt-up to some or all assets over a multi-year transitional period. In any case, participation in the Transco must be voluntary, but should be encouraged by the

Commission – much like FERC policies encourage transmission ownership by Transcos.[17] However, irrespective of participation, the transmission costs of the Transco must be spread equitably over the entire aggregate load of the Railbelt to reflect use of the "single machine" that comprises the Railbelt transmission system.

One potential method for financing the Transco is the American Transmission Company (ATC) model. Under the ATC model, utilities transferred their transmission assets to ATC in exchange for equity ownership interests in ATC and capital on a 50/50 basis. Transmission assets transferred to ATC were generally valued at their "contribution value," which generally is defined as the original cost less accumulated depreciation and adjusted for deferred taxes; excess deferred taxes and deferred investment tax credits. However, given the grant-funded nature of a significant portion of the Railbelt infrastructure, a fair market value approach or some combination of the two approaches may be necessary to ensure that the Railbelt Utilities receive the appropriate compensation and equity ownership in the Transco.

The ATC model has several potential benefits. Railbelt utility divestiture of ownership and control of transmission facilities furthers the objective of a creating a transparent single rate for transmission service by separating the transmission function from the generation and distribution functions of the utilities. Such an arrangement also replaces existing balkanized arrangements through the creation of a single rate zone, centralized tariff administration and transmission facility operation, as well as an enhanced ability to expand the transmission system. Finally, Railbelt-wide standardization of O&M procedures will enhance safety and increase economies of scale providing additional benefit.

It is important to note the under the ATC model each local utility's existing, trained and experienced staff continues to physically operate and maintain the legacy assets and new assets within its footprint that have been transferred to the Transco. Under the ATC model, the Transco contracts with the legacy utility to perform this service in accordance with Transco developed and approved operation and maintenance standards. This maintains and leverages local talent and experience while achieving the benefits of standardization and economies of scale. Implementation of a Transco would maintain the expertise of existing Railbelt operations as the grid is further developed, including the efficient operations and maintenance of these assets.

Regardless of the extent of utility participation in a Transco, the costs of the Transco must be combined with any costs of transmission owners not participating in the Transco, and spread over all Railbelt end users. Non-Transco transmission owners would submit their costs to the RCA through the USO for approval and inclusion in a universal system rate.

Regarding recovering the cost of new transmission investments, the Transco's investment in transmission infrastructure would be studied and approved by the USO. This approval, including

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[17] Chugach recognize that involvement in the Transco may require a lengthy transition process. This transition process is necessary to ensure financial stability since participating organizations bond covenants and debt ratings are closely tied to the assets pledged in bond indentures some of which may be involved in the asset transfer. During the transition process control of these transitional assets could be transferred to the Transco through temporary operating agreements.

pre-approval by the RCA, would be used to ensure timely recovery of the costs of such investment in the Railbelt-wide transmission tariff, regardless of the stage of "used and usefulness".[18]

4.2.4. Contrasts between the Railbelt and the Lower 48

The Railbelt is unique among interconnected systems in the US in that there are no investor-owned utilities in the Railbelt; therefore, there are no shareholders in the Railbelt. In the Railbelt, the end-consumer is the owner and is the final bearer of all benefits and costs. For the Railbelt to move forward efficiently transmission and system operation costs and benefits should be shared fairly over the entire region (most likely based on some ratio of fixed costs and usage). Obviously, there must be a mechanism residing within the USO to adjudicate inclusion or exclusion of transmission assets into the revenue requirement of the USO/Transco structure. Appropriately, and similar to the FERC approach, there would be a strong presumption of roll-in unless it was demonstrated that the assets provided no value to the Grid and had no significant effect on it.

4.2.5. Development Plan

For the purpose of the Cost-Benefit Analysis contained in this report, the transmission development plan associated with the establishment of a Transco is deemed to be the plan which is set out in the AEA Report. The plan in the AEA Report was developed on an integrated "total Railbelt" basis – i.e. on a both an area-wide and inter-area basis, and not limited to the scope of just an individual utility. The Cost-Benefit Analysis assumes that the establishment of a Transco would facilitate this investment plan going ahead, and that without a Transco this plan would not go ahead for the reasons already described. The AEA Report summarizes this development plan as follows:

> *Electric Power Systems ("EPS") has completed an analysis to determine the recommended future transmission system in the Railbelt. The need for the transmission plan was driven by the changes in the Railbelt generation and transmission system since the completion of the 2010 Regional Integrated Resource Plan ("RIRP") administered by the Alaska Energy Authority ("AEA").*
>
> *The recommended transmission system improves reliability, mitigates future cost increases to Railbelt rate payers, allows unconstrained energy transfers and the*

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[18] Currently, a Railbelt utility cannot recover the costs related to their incremental transmission investments until after the investment is "used and useful", it has filed a rate case with the RCA, and the RCA has allowed such new rates to be effective – irrespective of whether there is general agreement (or even regulatory pre-approval) that such investment was prudent/necessary and in the interest of customers. This backward-looking rate structure limits investments to a fairly short time-frame and is a strong disincentive (due to the carrying cost of construction capital) to the development of long-term high benefit projects such as those identified in the AEA study. Further, there is no mechanism for rate recovery for a utility except from that utility's native load consumers. Therefore, there is no practical mechanism to recover costs associated with projects having interregional benefits since benefits of such projects are seldom if ever evenly distributed among participants. In addition, because vertically integrated utility "rate cases" involve many issues beyond establishing a utility's transmission revenue requirement, these proceedings are often contentious and costly.

> *use of peaking capacity from the Bradley Lake hydroelectric project, provides improved and increased energy transfers between all areas of the Railbelt, and facilitates the addition of the Watana large hydro project.* [19]

The study recommended three main groups of transmission improvements. These are listed below, illustrated in the following maps, and described in the AEA report in detail:[20]

1. Kenai – Anchorage transmission;
2. Improvements to the Southcentral transmission; and
3. Improvements to the Northern Railbelt transmission.

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[19] AEA Report, p. 8. For power flow and transient contingency analysis the AEA Report used three seasonal power flow cases: summer valley; summer peak; and winter peak; and utilized version 32.1.1 of Power Systems Simulator Engineer ("PSS/E"). The study assumed that load growth is negligible.

[20] Id., pp. 10-15 and Section 5 (pp. 25-41).

Figure 4-1: Northern Proposed Transmission System

Source: Alaska Energy Authority

Figure 4-2: Kenai and Southcentral Proposed Transmission System

Source: Alaska Energy Authority

5. Cost-Benefit Analysis

Table 5-1 summarizes the outcome of the quantified Cost-Benefit Analysis we have performed. Again, Option 1, maintaining the *status quo*, is the control option against which the other options are compared for evaluation purposes and so it is regarded as the zero benefit/ zero cost option for reference purposes.

Table 5-1: Summary of Cost-Benefit Analysis in the Base Case

Option No.	**Option 1**	**Option 2**	**Option 3**	**Option 4**	**Option 5**
Option Name	Status Quo	Status Quo + New Bilateral Agreements between Utilities where Possible	Establish a USO	Combined USO and Transmission Company	Separate USO and Transmission Company
NPV Gross Benefits ($m	-	$259	$640	$1,603	$1,603
NPV Costs ($m)	-	$18	$58	$811	$811
NPV Net Benefits ($m)	-	**$240**	**$581**	**$792**	**$792**
NPV Ratio	-	14.2	11.0	2.0	2.0
Comment	This is the do nothing option	Benefits might be difficult or impossible to achieve in practice	Central transmission upgrades assumed	Option contains potential conflict of interest	Potential conflict of interest avoided, compared to Option 4

Table 5-1 indicates that the largest net benefits, NPV $792 million in 2015 dollars, are achieved in Option 4 and Option 5. The ratio of NPV costs to NPV benefits is 2.0 for these options. Option 4 and Option 5 are modeled to be identical from a quantitative analysis perspective for the purpose of this report – each involves a USO that performs a security-constrained least-cost dispatch across the whole Railbelt, each involves a transmission entity that has planning scope over the whole Railbelt and which acts on the transmission enhancement projects which are demonstrated to be cost-effective from a system perspective – no difference in this respect was expected.

What does vary between these two options is that the governance and ownership arrangements of each entity are different. Option 4 involves the USO and Transco being part of a single company – with the USO business unit being not-for-profit and the Transco business unit being for-profit. This arrangement is not impossible, and precedents do exist internationally. This arrangement might also offer some (relatively modest) economy of scale advantages – for example, a common payroll system. Experience in the lower 48, and FERC policy in general, indicates it is far from ideal with regards to objectives of independence and non-discrimination, and ultimately of economic efficiency. An inherent conflict of interest would exist between the two business units, where the for-profit Transco would tend to benefit from USO decisions regarding reliability standards and planning arrangements which resulted in attractive Transco investment opportunities. The concern is that the combined entity would tend to prefer transmission solutions to generation solutions, for example, to address a specific reliability issue, because it would have a financial stake in any transmission investment. This situation could place a continual burden on the RCA to confirm that USO investment decisions were genuinely made in the consumer's interest rather than in self-interest. This potential conflict of interest would not exist, or at least would be substantially mitigated, if the USO and Transco were separate entities.

Another consideration is that a Transco may have Railbelt utility shareholders (i.e. shareholders who are also generators) and if the Transco is also the USO there might be a potential conflict between these generation interests and the USO in its role as the least-cost dispatcher of generators (in which the USO is expected to independently produce a security-constrained Railbelt-wide economic dispatch). The concern would be that the USO might favor the generators of its main shareholder(s) and apart from efficiency concerns this would disadvantage smaller utilities.

Without a full analysis of potential codes of conduct, potential governance arrangements of each option, for the purpose of this report our view is that Option 5 is the better model for the Railbelt in particular because conflicts of interest between USO functions and Transco functions tend to be avoided. Separation allows the Transco to be a for-profit company without the conflict of also being responsible for planning protocols and reliability standards.

Evaluation of Option 3 (establish a USO alone) yields a substantial positive NPV, of $581 million. (The calculation of the benefits of this option, while not assuming a Transco, does assume that a means would be found for the relatively small *central* transmission upgrades to go ahead – these upgrades have a cost of slightly more than $20 million.) The ratio of NPV costs to NPV benefits is 11.0 for Option 3, demonstrating that considerable savings could be delivered for relatively little cost outlay.

Collectively, these results indicate that there is a strong case for the establishment of a USO, and likely an even stronger case for the establishment of both a USO and a Transco. Regarding the Transco in particular it will of course be the case that a more comprehensive Cost-Benefit Analysis will be required before a commitment can be made to the scale of transmission investment outlined in this report. That comprehensive analysis could potentially either reject that level or transmission investment, or support it. The preliminary evaluation here indicates that it would be supported. In any event, it is worthwhile to note that a decision to move to a USO and Transco structure does not require a commitment to this large investment. Rather, it involves a much more modest step, and more modest costs. It involves creating the organizational structure which allows the *opportunity* for these sorts of benefits to be identified and seized. Building this organizational structure to allow this opportunity would involve a much lower level of expenditure than building the actual transmission infrastructure itself. Remaining with the *status quo,* however, would mean that the potential opportunity continues to be unavailable.

Option 2, the *status quo* but with new bilateral agreements between utilities where possible, shows a promising NPV of $240 million and a benefits to cost ratio of 14.2. This result, however, should be treated with particular caution because it assumes significant coordination between the Railbelt utilities, and effectively partial integration of the Railbelt to three economically-dispatched control areas, with continuous and instantaneous trading of economy energy on a bilateral basis between and within each. The benefits to cost ratio is high because it is assumed that the only expenditures involved are the central transmission upgrades. These benefits are likely difficult or impossible to achieve in practice without some form of significant

coordinated reform and at least partial integration of the Railbelt which to date the utilities have not by themselves achieved.

Table 5-2, Table 5-3, and Table 5-4 show the derivation of the above results, respectively. All values shown are in 2015 real dollars, and a representative 5% real discount rate has been applied. Benefits and costs have been evaluated and discounted over a fifty-year planning horizon (although note that for simplicity only figures through 2027 are shown in the tables that follow – each year beyond 2027 is assumed to have the same benefits and costs as 2027). For simplicity and for illustrative purposes it is assumed that go-ahead on whichever option is chosen would occur at the start of 2016, and that the first benefits would start to accrue in 2017.

Scenario analyses for these results are set in Section 8 of this report.

Table 5-2: Derivation of Costs and Benefits in Base Case – Option 2 (*status quo* with new bilateral agreements between utilities where possible)

	Total	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027 +
Benefits													
Fuel and VOM savings	781.7	-	8.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
Costs													
USO													
Establishment	-	-	-	-	-	-	-	-	-	-	-	-	-
Operation	-	-	-	-	-	-	-	-	-	-	-	-	-
less Transfer of Existing Personnel	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal USO	-	-	-	-	-	-	-	-	-	-	-	-	-
Transco													
Establishment	-	-	-	-	-	-	-	-	-	-	-	-	-
Operation	-	-	-	-	-	-	-	-	-	-	-	-	-
less Transfer of Existing Personnel	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal Transco	-	-	-	-	-	-	-	-	-	-	-	-	-
Transmission Projects													
Kenai – Anchorage Transmission	-	-	-	-	-	-	-	-	-	-	-	-	-
Southcentral Transmission	20.5	10.7	9.8	-	-	-	-	-	-	-	-	-	-
Northern Railbelt Transmission	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal Transmission Projects	**20.5**	**10.7**	**9.8**	-	-	-	-	-	-	-	-	-	-
Total Costs	**20.5**	**10.7**	**9.8**	-	-	-	-	-	-	-	-	-	-
Net Benefits	**761.2**	**(10.7)**	**(1.7)**	**16.1**	**16.1**	**16.1**	**16.1**	**16.1**	**16.1**	**16.1**	**16.1**	**16.1**	**16.1**

NPV Gross Benefits	**$259**
NPV Costs	**$18**
NPV Net Benefits	**$240**
NPV Ratio	**14.2**

All figures in real $2015, discount rate of 5%

Table 5-3: Derivation of Costs and Benefits in Base Case – Option 3 (USO only)

	Total	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Benefits													
Fuel and VOM savings	1,933.0	-	19.9	39.9	39.9	39.9	39.9	39.9	39.9	39.9	39.9	39.9	39.9
Costs													
USO													
Establishment	25.3	25.3	-	-	-	-	-	-	-	-	-	-	-
Operation	202.6	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
less Transfer of Existing Personnel	(153.0)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)
Subtotal USO	**74.9**	**26.3**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
Transco													
Establishment	-	-	-	-	-	-	-	-	-	-	-	-	-
Operation	-	-	-	-	-	-	-	-	-	-	-	-	-
less Transfer of Existing Personnel	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal Transco	-	-	-	-	-	-	-	-	-	-	-	-	-
Transmission Projects													
Kenai – Anchorage Transmission	-	-	-	-	-	-	-	-	-	-	-	-	-
Southcentral Transmission	20.5	10.7	9.8	-	-	-	-	-	-	-	-	-	-
Northern Railbelt Transmission	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal Transmission Projects	**20.5**	**10.7**	**9.8**	-	-	-	-	-	-	-	-	-	-
Total Costs	95.4	37.0	10.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Net Benefits	1,837.6	(37.0)	9.1	38.9	38.9	38.9	38.9	38.9	38.9	38.9	38.9	38.9	38.9

NPV Gross Benefits	**$640**
NPV Costs	**$58**
NPV Net Benefits	**$581**
NPV Ratio	**11.0**

All figures in real $2015, discount rate of 5%

Table 5-4: Derivation of Costs and Benefits in Base Case – Options 4 & 5 (USO and Transco)

	Total	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027+
Benefits													
Fuel and VOM savings	**5,565.4**	-	**19.9**	**39.9**	**39.9**	**39.9**	**39.9**	**39.9**	**39.9**	**104.0**	**126.9**	**126.9**	**126.9**
Costs													
USO													
Establishment	25.3	25.3	-	-	-	-	-	-	-	-	-	-	-
Operation	202.6	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
less Transfer of Existing Personnel	(153.0)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)
Subtotal USO	**74.9**	**26.3**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
Transco													
Establishment	23.5	23.5	-	-	-	-	-	-	-	-	-	-	-
Operation	328.9	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
less Transfer of Existing Personnel	(121.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)	(2.4)
Subtotal Transco	**231.1**	**27.7**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**	**4.2**
Transmission Projects													
Kenai – Anchorage Transmission	402.2	48.5	60.0	75.0	60.0	48.0	38.3	32.4	15.0	25.0	-	-	-
Southcentral Transmission	20.5	10.7	-	-	-	-	-	9.8	-	-	-	-	-
Northern Railbelt Transmission	485.7	39.5	40.5	25.4	40.5	45.5	50.5	45.8	75.5	63.0	59.5	-	-
Subtotal Transmission Projects	**908.4**	**98.7**	**100.5**	**100.4**	**100.5**	**93.5**	**88.8**	**88.0**	**90.5**	**88.0**	**59.5**	-	-
Total Costs	**1,214.4**	**152.7**	**105.6**	**105.5**	**105.6**	**98.6**	**93.9**	**93.1**	**95.6**	**93.1**	**64.6**	**5.1**	**5.1**
Net Benefits	**4,351.0**	**(152.7)**	**(85.7)**	**(65.7)**	**(65.8)**	**(58.8)**	**(54.1)**	**(53.3)**	**(55.8)**	**10.8**	**62.2**	**121.7**	**121.7**

NPV Gross Benefits	**$1,603**
NPV Costs	**$811**
NPV Net Benefits	**$792**
NPV Ratio	**2.0**

All figures in real $2015, discount rate of 5%

6. Benefits

The only benefits quantified in this report are energy production cost savings. Other benefits such as reliability benefits, ancillary services cost benefits, and so on are however discussed in this section.

6.1. Quantified Benefits

For the purpose of this Cost-Benefit Analysis, the quantified benefits consist entirely of production cost savings in the form of reduced variable production costs of energy from power plants i.e., reduced fuel costs and reduced variable operations and maintenance (VOM) costs.

Slater Consulting was asked to examine the impacts of the proposed USO and Transco transmission upgrades on the Railbelt system production costs. Slater updated a previous benefits analysis, conducted for the AEA Report, using more recent data where appropriate and where available, and using additional scenarios customized for this Cost-Benefit Analysis.[21]

All benefits estimates produced by Slater and used in this Cost-Benefit Analysis are based on one years' worth of production cost benefits, specifically a study year of 2020. All generation additions and retirements currently committed or anticipated are included, as are all forecast changes in system loads through 2020. Consistent with the study contained in the AEA Report, all transmission additions and changes currently planned to be completed by that date have been included. The Cost-Benefit Analysis assumes that the production cost benefits identified remain constant in real terms throughout a fifty-year time horizon. This is deemed to be reasonable on the basis that load growth is assumed to be negligible in the near term and few significant changes to the generating fleet of the Railbelt are envisaged in subsequent years.

The objective of the various analyses carried out by Slater for this Cost-Benefit Analysis was to determine the level of production cost savings that can be realized if the USO is established and

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[21] Data changes since September 2013 include:

- Unit Updates:
  - Eklutna — Changes to minimum operating capacity, scheduled maintenance, heat rate, VO&M
  - MLP 5 — Retires before 2020
  - Bradley — Changes to Bradley Spin in unpooled runs
  - MLP2A — Changed maintenance to 2 x 1-week/yr
  - MLP2A and SPP: Heat Rate Adjustments
- Fuel Updates:
  - MEA gas — MEA gas priced same as CEA gas
- System Updates:
  - Load Updates — Loads changed to match loads provided by CEA 9/2014
  - CEA/SES — CEA/SES modeled as two areas within one company

some or all of the transmission upgrades proposed are implemented by a Transco. To ensure that these savings are not exaggerated, conservative assumptions were made by Slater Consulting where such choices were available.

6.1.1. Modeling Approach

The software employed in this study was PROMOD IV®. The PROMOD model used in this study is not a simple economic model that is used to represent the changes to power system production costs due to changes in various major input items. Instead, it is a very detailed probabilistic production planning model of a power system, with all of its individual components, that examines time periods from one week to many years in hourly time intervals. In its functioning, it closely resembles a real-time model that would be used to perform the economic dispatch of a real power system and also resembles a model of a transmission system used to track the state of that system and monitor its security. It also utilizes features which resemble a "day-ahead, week-ahead" scheduling model for planning the unit commitment of the system.

Each utility company and load area, thermal generating unit, fuel, environmental effluent and product of combustion, hydro plant, renewable resource, transmission line, transformer, bus bar and hourly bus bar load is separately modelled. Physical parameters such as individual unit heat-rate curves, emission rates, random forced and maintenance outage probabilities, planned outages, fuel quality and availability, hydro and renewable energy availability, transmission impedances and outages, system and company reserve and regulation requirements, transmission line ratings, transmission stability limits, etc. are represented on hourly, daily, monthly, or seasonal bases as appropriate. Economic parameters, such as fuel costs, fixed and variable O&M costs, emission costs, etc. are represented monthly.

6.1.2. Benchmark

A particularly important part of any study is the assembly and verification of the necessary dataset. The development of the dataset used in this Railbelt analysis had begun in 2012 and was contributed to and refined at every opportunity since that time. Shortly before its use in this work, it was benchmarked against utility recorded data for the 2013 calendar year. The benchmark process consisted of setting up utility data such as company loads, unit outages and derations, fuel costs etc. as PROMOD inputs, running the model, checking the output against the actual inputs, and then making appropriate adjustments to the model data. A good benchmark does not resort to having the program simply report values that have been provided in the input. Therefore, substantial repetition is usual in the process as particular outputs can be the result of many individual inputs, more than one of which requires adjustment.

In this particular benchmark, the load balanced to within 0.1%, the company generations to within 1 or 2% and intercompany sales and purchases to within 2 to 6%.

The benchmark was judged to be a good demonstration of the soundness of the modeling.

NERA understands that:

- The transmission modeling within the analysis includes the bus-by-bus distribution of generation and load and allows for the monitoring and respecting of thermal, stability and other operating limits and the calculation of transmission losses.

- The starting point of the company generation and load data was the data used in the 2012 Susitna-Watana studies, as modified by consultations with utility personnel input. Further modifications and clarifications were provided as interim results were viewed and discussed. Company specific hourly deterministic dispatch results proved to be useful for this purpose.

- The detailed transmission data was obtained from two power flow outputs provided by EPS Inc., one for the system with no transmission upgrades, and the second with all upgrades. Transmission upgrade scenarios that included a subset of upgrades were created within the PROMOD model by starting with one of the original power flow representations and replacing certain elements with appropriate elements from the other power flow.

- Stability and interface flow limits, as determined from EPS's studies were provided for each transmission upgrade scenario to be examined.

As discussed above, before using the model to estimate benefits, Slater, working with the Railbelt utilities, calibrated the model for a test year of 2013 in a scenario with no USO and no Transco transmission development plan, to validate that the unit-level dispatch quantities and production cost estimates were reasonable.

6.1.3. Base Scenario Assumptions

The Base scenario begins with a representation of the present mode of operation, with the existing transmission, and a continuation of the present plans for generation additions and retirements. It progresses through a series of changes as the new transmission elements are added and advances are made towards a single system wide dispatch.

The representation of current operation in the initial case, (Case 1), of the Base scenario was accomplished by representing the Railbelt system as five "pools" one for each company (GVEA, MEA, ML&P, CEA/SES and HEA). Each company pool carried its own share of the Railbelt operating reserve requirements. To control this, "commitment" hurdles were in place between each pair of pools to limit firm purchase/sale transactions to those which produced a saving at least equal to the hurdle setting. "Dispatch" hurdles ensured that each pair of company pools only participated in interruptible economy transactions that resulted in at least a given level of savings. The Case 1 settings for these hurdles were judged to allow approximately the same levels of intercompany transactions as observed in the 2013 benchmark.

All cases run for the Base scenario used company loads and fuel prices for the 2020 year, as forecast from an early 2014 perspective.

6.1.4. Alternative Cases

For the Base scenario, in addition to Case 1 as described in Section 6.1.3, five other cases were developed to model different modes of operation that would become possible as the new transmission elements come into service and the overall Railbelt dispatch develops. These six cases are described as follows.

1. *No Transmission Upgrades - Five Pools - High Hurdles*

   This is the Case 1 described in Section 6.1.3 above. The level of the commitment and dispatch hurdles are described as high to indicate that they are higher than in the subsequent cases.

2. *Central Transmission Upgrades – Three Pools – Varying Hurdles*

   This is Case 1 plus the completion of the central transmission upgrades and the addition of centralized dispatch, within a single pool, of the resources of MEA, ML&P and CEA/SES without intervening transaction hurdle rates. The resources of GVEA and HEA are dispatched within their own individual pools to the north and south of the central pool. Low hurdles, more in keeping with cost based charges, are placed between GVEA and the central pool, while high hurdles exist between the central pool & HEA.

3. *Central Transmission Upgrades – Three Pools – Low Hurdles*

   This is Case 2, plus the hurdles between the central pool and the southern pool are reduced to low hurdles.

4. *Central Transmission Upgrades – Two Pools – Low Hurdles*

   This is Case 3 plus incorporating GVEA into the central pool. There are now only two pools, GVEA, MEA, ML&P and CEA/SES form the central pool, sharing reserves and transacting just on economics, while HEA operates as a separate pool, with low hurdles between it and the much larger pool. To provide acceptable security to Fairbanks during winter months, NPCC 3 remains a must run unit.

5. *Northern and Central Transmission Upgrades – Two Pools – Low Hurdles*

   This is Case 4 plus the completion of the northern transmission upgrades. With this configuration, NPCC 3 operates as an economic unit during all months.

6. *Northern, Central and Southern Transmission Upgrades –Single Pool*

   This is Case 5 plus the addition of the southern upgrades and the integration of HEA into the central dispatch of the Railbelt system. It represents the complete upgrade of the transmission and the establishment of a single central commitment and dispatch for the Railbelt.

The 2020 annual system production costs in each of these six cases for the Base scenario are displayed in Table 6-1.

Table 6-1: Summary of Base Scenario Annual Production Costs for Cases 1 through 6 ($000)

Case	Description	Production Costs
Case 1 (Base Case)	Data Changes + High Hurdles between all 5 pools	$473,354
Case 2	Case 1 + Central Transmission Upgrades + 3 Pools (GVEA, Central, HEA); Low Hurdles between GVEA and Central	$457,236
Case 3	Case 1 + Central Transmission Upgrades + 3 Pools (GVEA, Central, HEA); Low Hurdles between all pools	$ 462,044
Case 4	Case 2 + 2 Pools (Central/North, HEA); Hurdles between 2 pools	$433,497
Case 5	Case 4 + Northern Transmission Upgrades; NPCC economic	$369,401
Case 6	Case 5 + Southern Transmission Upgrades (Single Pool)	$346,466

The difference between the production costs in Case 1 and Case 6, for example, shows that the establishment of a USO and a Transco implementing all three of the transmission upgrade projects described above would reduce the Railbelt system energy production costs by approximately $127 million per year.

6.1.5. Interpretation of Results

The relative production cost differences between cases just described was used to estimate the benefits associated with each of the options described in Section 5. An illustrative start year of 2016 was used for the beginning of the establishment of reforms in each option.

For Option 4 and Option 5 (USO and Transco):

- No benefits are assumed in 2016 because it is assumed it would take 18 months for the USO to be operational;
- Case 4 benefits (i.e. the cost difference between Case 1 and Case 4) are assumed to begin in 2017, once the USO begins to be operational. (50% of benefits between Case 1 and Case 4, rising to 100% in 2018 onwards);
- Case 5 benefits (i.e. the cost difference between Case 1 and Case 5) are assumed to apply in 2025, corresponding to the assumed completion date of the Kenai – Anchorage transmission upgrade projects; and

- Case 6 benefits (i.e. the cost difference between Case 1 and Case 6) are assumed to apply in 2026, corresponding to the assumed completion date of the Northern Railbelt transmission upgrade projects.

Option 3 (USO only):

- No benefits are assumed in 2016; and
- Case 4 benefits are assumed to begin in 2017, once the USO begins to be operational. (50% of benefits between Case 1 and Case 4, rising to 100% in 2018 onwards).

Option 2 (*status quo* with new bilateral agreements between utilities where possible):

- No benefits are assumed in 2016; and
- Case 2 benefits are assumed to begin in 2017. (50% of benefits between Case 1 and Case 2, rising to 100% in 2018 onwards).

6.2. Reliability Benefits

Reliability benefits were not quantified for this report. However the existence of a USO and Transco will increase the robustness of the Railbelt. A key measure of this robustness is the extent of unserved energy. In particular, there is a direct relationship between increasing the strength of the transmission system and reducing the frequency of unscheduled consumer outages. Conversely the current disaggregation of the Railbelt can be expected to reduce reliability.

Reducing unserved energy, and thereby reducing the economic cost of electrical outages to consumers, is normally a significant driver of the business case for transmission upgrade projects. In the lower 48 the vast majority of transmission upgrade projects are economically justified on reliability grounds, and do not necessarily result in materially lower production costs. It is a testament to the relative fragility of the existing Railbelt transmission system that significant production cost benefits would arise in Alaska, even before reliability benefits are considered.

Apart from potential reliability benefits resulting from a Transco, there are a number of functions of the USO that would enhance reliability, including:

- The USO would facilitate the development and documentation of operating and planning reliability standards that it and utilities and generators in the Railbelt would follow.
- The USO would also monitor compliance with those standards.
- The USO would monitor the status of the entire Railbelt interconnection 24 hours a day, seven days a week. It would also perform regular “what if” contingency analyses of the system with the goal of the system being able to withstand the unexpected outage of any single generator or transmission line and still remain stable with no facility overloads or

unacceptable voltage levels. It would do this by directing generators to come on line or increase or reduce output or transmission facilities to be switched in or out of service.

- Longer term, the USO would coordinate planning of the transmission system to make sure future reliability needs are known and define what additions will meet those needs.

6.3. Resilience Benefits

Grid resiliency is another potential benefit related to reliability. Resiliency is the ability of the Grid to sustain or weather changing conditions either economic or technical. Changes such as the addition of a large mine load north of Fairbanks, electrification of pumping stations for the proposed LNG pipeline, increased emissions regulation or required reduction in coal based power production, significant counter cyclical changes in oil vs natural gas pricing or disruptive technologies, and so on. Resiliency also means the ability of the grid and the wider Railbelt economy to rebound or take advantage of unanticipated events, events with either potentially positive or negative consequences. Examples of such events are: on the downside, ability to minimize the economic rate impact of an unexpected failure of a major generator or transmission line by revised efficient economic dispatch. On the upside, resiliency includes having sufficient transmission and generating capability to take advantage of a proposed new mine, pipeline, or industrial facility. Currently, the Railbelt has limited ability to efficiently manage significant disruptions or to respond positively to significant load additions.

Reliability and resiliency benefits have not been quantified as part of this Cost-Benefit Analysis, but they should be expected to be substantial given the current radial nature of the Railbelt grid and the lack of alternative transmission paths to a number of key load centers. Further analysis should be conducted to quantify reliability and resilience benefits.

6.4. Economic Benefits to the State of Alaska

Apart from the direct benefits associated with construction and related activities, increased reliability in the supply of electricity, and improved efficiency, lower cost electricity and reduced barriers to new generation and transmission providers should all contribute to economic development in the state. These benefits will make the Railbelt area more attractive to new businesses and foster economic development.

The prospect of coordinated regional transmission enhancement projects could be particularly beneficial. As an illustration, the potential development of several large mines (~100MW) in relative close proximity to the Railbelt region is constrained by the cost of energy. For example, energy can represent as much as 20 % of the total annual operating cost of a copper or gold mine.[22] Significant reduction in energy cost can proportionally lower the bar for mine development. To put this opportunity in context, Chugach advise that the International Tower Hills Mine's 20M oz., $2.8B mining project located in interior Alaska near Livengood has a

[22] http://www.fcx.com/sd/env/energy_manage.htm Freeport McMoRan sustainability report

2013 estimated annual electricity cost of ~$113M. $113M represents 21 % of the mine's operating costs. In 2013 Tower Hills stated: "Finding ways to lower the estimated US$113 million per year electrical costs is one area to directly dial back the operating expenditures."[23] Chugach also advise that interconnection to the Railbelt Grid through transmission enhancements could reduce this cost by nearly $40M, significantly lowering the development breakeven point and reducing the electricity cost to be approximately 16% of the mines total operating cost.

Integration of large loads would potentially have immediate benefits to Railbelt consumers as fixed costs are distributed over a larger energy base. However, a potentially more significant and as yet unquantified benefit is the creation of jobs and economic activity that surrounds the construction and operations of such a project, estimated at $2.8 B in the International Tower Hills case. We understand that Donlin Creek represents another potential large mine that might benefit from interconnection into a regionally robust transmission grid. Similarly, existing mines such as the Kinross Fort Knox mine north of Fairbanks and the Sumimoto Metal Pogo Mine near Delta could enjoy life extension due to the reduced electricity costs.

6.5. Environmental Benefits

The primary impact, on the Railbelt system dispatch, of the transmission upgrades and centralized dispatch is that the more efficient and lower cost resources increase their outputs and the less efficient and higher cost resources reduce their outputs. Because these more efficient and lower cost resources tend to be less polluting there is an overall reduction in Railbelt emissions.

The change in emissions in the Base scenario between Case 1 and Case 6 are significant and amount to:

- A reduction in CO_2 emissions of 241,330 tons per year, or *about 9%*;
- A reduction in NO_X emissions of 1,784 tons per year, or *about 49%*; and
- A reduction in SO_2 emissions of 358.5 tons per year, or *about 35%.*

6.6. Other Unquantified Benefits

A number of other benefits exist that this report has not attempted to quantify, including:

1. Capacity deferral of individual utilities;
2. Further potential for reservoir optimization of the Bradley and Cooper Lake hydro plants, including the use of excess energy during high water years;

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[23] *Petroleum News* ,Vol. 18, No. 44 November 3, 2013

3. Reduced regulation and spinning reserve costs;

4. Improved integration of renewable resources;

5. The economic benefits of central construction planning that are possible with an integrated transmission system; and

6. Other benefits.

Each of these items is expanded upon in the subsections that follow.

6.6.1. Deferred Need for New Generating Capacity

The potential benefits of capacity deferral resulting from the implementation of the transmission upgrade projects are described in the AEA Report as follows:

> *Capacity deferral refers to the ability to defer the construction of new generation capacity in one utility area by using excess capacity in another utility's area. Currently, the lack of transmission infrastructure precludes the use of extensive capacity sharing among utilities.*
>
> *With the recent construction of new generation facilities in the Railbelt, there does not appear to be a need for capacity expansion or replacement in the next 10-15 years. Beyond that time frame, there appears to be a possibility of substantial capacity sharing between the Kenai, Anchorage and Fairbanks areas.*

Estimating the scale of capacity deferral made possible by the transmission upgrade projects is not straightforward however, and NERA has not attempted to quantify this benefit as part of this Cost-Benefit Analysis.

6.6.2. Better Optimization of Reservoirs

6.6.2.1. Improved Maximum Generation from Bradley Hydro

The Kenai – Anchorage transmission upgrade components of the development plan will have the effect of relieving constraints on the operation of the Bradley Lake hydro facility. One of the constraints that will be relaxed is the currently-existing limit on Bradley Lake's maximum hourly output. Maximum hourly production (operating capacity) from Bradley Lake is presently restricted, for transmission reasons, to be below the maximum capability of the hydro generating facility. Completion of the upgrade will relieve this constraint and the benefit of doing so is addition to the quantified benefits calculated in Section 6.1.

Relieving this constraint will not result in an increase of energy production by Bradley Lake, but rather will result in the use of Bradley Lake energy in a more efficient manner. The timing of energy production from Bradley Lake will be optimized taking into account this improved operating flexibility, and doing so will lower the overall cost of energy production in the Railbelt.

6.6.2.2. Reduced Excess Energy and Spillage

Additional benefits will be available from reduced excess energy and reduced spillage from Bradley Lake. Water inflows to Bradley Lake are not perfectly predictable. As a consequence, there are times when Bradley Lake has excess energy that must be used in order to avoid losing energy over the spillway, and participants have been forced to take such energy. At other times some spillage can be inevitable. An increased maximum operating capacity and greater deliverability of energy from Bradley Lake will reduce the likelihood and frequency of this excess energy and/or spill. The associated benefits are addition to the quantified benefits calculated in Section 6.1 because that analysis assumed that water inflows are predictable.[24]

6.6.3. Reduced Regulation and Spinning Reserve Costs

Under the existing Railbelt organizational structure, each utility is responsible for providing its own regulation and reserve service requirements – albeit with arrangements in place to share spinning reserves to the extent practicable. The establishment of a USO and a Transco will reduce the quantity of these services required, and will lower the cost of these services accordingly.

It is a case of the total being less than the sum of the parts. In the physical configuration of the Railbelt that exists today, with increasingly distributed generating plants, each utility generally meets its regulation and spinning reserve requirements from its own physical resources. However with an integrated dispatch the total required amount of regulation and spinning reserve carried in the Railbelt should decrease because each utility will no longer be responsible to separately provide for the requirements of its own, relatively small load. Rather, the USO will be able to take full advantage of the economy of scale of an integrated system, and of the load diversity which exists between the Railbelt load centers. The USO will optimize the Railbelt system to find the least-cost means to provide all necessary regulation and spinning reserve, just like it optimizes the system to find the least-cost means to securely serve all energy.[25]

Likewise, with a system-wide planning mandate and the development of the transmission upgrade projects described, the Transco will be able to increase the extent to which regulation and spinning reserve can be shared and delivered between utilities – thus lowering the overall regulation and spinning reserve requirements further still.

These decreased regulation and spinning reserve requirements will result in lower production costs for each of the utilities, however NERA has not attempted to estimate the benefit as part of this Cost-Benefit Analysis.

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[24] The ability to react to high inflow periods to manage the reservoir level with high energy output will likely lead to a slightly higher average lake elevation because it will no longer be necessary to keep the lake level as low as it currently is to mitigate the risk of spilling energy.

[25] Further, it will *co-optimise* the provision of energy, regulation, spinning reserve, and other necessarily ancillary services across the Railbelt system.

6.6.4. Improved Integration of Renewable Resources

In addition to the regulation and spinning reserve requirements that exist for managing the system load, some renewable generators such as Fire Island (wind) require resources to manage the variability and unpredictability of their output. Under the *status quo,* each utility is required to manage this independently rather than taking full advantage of the diversity that the full Railbelt system can provide. The establishment of a USO and a Transco will help reduce the regulation and spinning reserve costs associated with these renewable generators.

Further, in its current configuration the Railbelt system has limited capability to accept additional *new* renewable resources such as wind and solar generation without substantial costs. The limited ability to provide regulation and reserves across the transmission system requires each utility to provide reserves and regulation to cover each resource within its boundary. A single USO dispatch area covering the whole Railbelt would enable the benefits of diversity and greater economies of scale to be captured in the optimization of generating resources. This would in effect, increase the amount of renewable capacity the system could support without increasing its cost or decreasing its reliability.

NERA has not attempted to estimate the benefit of improved integration of renewable resources as part of this Cost-Benefit Analysis.

6.6.5. Benefits of Central Construction Planning

It is a foundation of this Cost-Benefit Analysis that the establishment of a Transco, or similar central entity with transmission planning responsibility, is necessary to achieve optimal future transmission investment plans.[26] The *status quo* of individual utilities each separately acting in their own best interest does not deliver transmission plans that are best for the system as a whole. However, apart from delivering transmission investment from a system-wide perspective that would not otherwise have occurred, the establishment of a Transco also has the advantage of allowing for coordinated development, benefitting from economy of scale and commissioning projects in a logic sequence of priority given the limited construction resources in the State of Alaska. That is, even if by chance the individual utilities separately planning transmission somehow managed to produce the overall best plan from a system perspective, it would still be the case that they would likely face higher construction costs, resource scheduling issues, and greater coordination issues by acting separately on their own.

In a similar vein, the establishment of a USO and Transco with their centralized planning capabilities could eventually help support better generation investment decisions by the utilities.

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[26] Again, these Transco plans would adhere to USO-developed planning protocols and reliability standards, and be subject to prudence review and pre-approval by the RCA.

6.6.6. Other Benefits

Fostering non-discriminatory open access will better enable the innovation of the private sector by creating a level playing field with transparent costs and clear rules for new investment in the Railbelt.

- *Regarding generation*: The USO will oversee the Transco's generation interconnection process for new generators. This will ensure that the process is impartial since neither the USO nor Transco has an ownership interest in any potentially competing generators. It will be a well-defined process so all developers will know what is required beforehand.

- *Regarding transmission*: The regional transmission planning process administered by the USO will make it easier to participate in the process and invest in projects of value to the system. It will also be an impartial process since the USO will not have ownership interests in any transmission facilities either. The benefits of a regional transmission planning process are well known, common interconnection rules, common operation, removal of pancaked rates and planning protocol certainty will reduce risk and increase certainty for private sector participation in the Railbelt electricity sector.

7. Costs

The estimated establishment and on-going annual operational costs for the USO used in this report are derived from Chugach estimates. Chugach advise these costs are based on a combination of bottom up and parametric estimates. In order to develop these estimates Chugach began with the proposed characteristics and functions of the USO, i.e. governance structure, planning protocol development, interconnection protocol development, economic dispatch etc. Based on these functions, subject matter experts (SMES) in these areas were consulted to identify the number and type of personnel and equipment required in order to adequately accomplish each task on an on-going basis as well to provide a rough order of magnitude estimate of start-up effort. An organizational chart was developed for each function in the organization, each position was graded according to NRECA compensation plan standards, and Alaska-adjusted NRECA salary ranges were assigned to each position. Chugach further advised that equipment office space and training costs were estimated based on typical industry values for office equipment and floor space in midtown Anchorage. Legal, regulatory and stake holder facilitation costs were estimated based on an expected effort over a 24-month implementation period. Ongoing costs of this nature were estimated at 10% of start-up recurring annually. Finally, an estimate was made of which positions would be filled by existing Railbelt employees (due to transfer of functions to the USO) and which would be new hires due to increased effort.

The estimated establishment and on-going annual operational costs for the Transco were developed by Chugach following a similar approach.

Table 7-1 summarizes the estimated establishment and on-going annual operational costs for the USO and Transco used in this Cost-Benefit Analysis.

Table 7-1: Summary of Estimated USO and Transco Costs

Cost Category	2015 $m
USO Establishment Cost	25.3
USO Annual Operation Cost	4.1
less Transfer of Existing Personnel	(3.1)
Transco Establishment Cost	23.5
Transco Annual Operation Cost	6.6
less Transfer of Existing Personnel	(2.4)

Estimated costs associated with the transmission enhancement projects considered herein are derived from the AEA Report.

8. Scenario Analysis

In addition to the Base scenario, a number of additional scenarios were developed which were then evaluated by Slater Consulting using the PROMOD model and subsequently applied to the Cost-Benefit Analysis. These scenarios consider a range of variations for key assumptions around the base Scenario including more conservative assumptions and more aggressive assumptions. The full scenario set is as follows:

1. *Base Scenario*

   This is the scenario described in Section 6.1.3.

2. *LNG at North Pole*

   This scenario is the Base scenario with the oil fuels used by the combined cycle and simple cycle units at GVEA's North Pole station replaced by LNG. This allowed the North Pole fuel price to be halved.

3. *Retire Old Coal - (Aurora/Healy 1)*

   This scenario was run to examine the possibility that increasing maintenance costs and environmental regulations would result in the closure of the Aurora and Healy #1 coal fired units. It is the Base scenario with Aurora and Healy 1 both retired. This removed a significant amount of low cost generation from GVEA.

4. *LNG + Retire Old Coal*

   This scenario combines the impacts of Scenarios 2 and 3 by retiring Aurora and Healy 1 from the Base scenario and then providing LNG to the North Pole station.

5. *Increase GVEA Load: 100 MW peak, 60 MW off-peak*

   A possibility exists that increased load could be placed on GVEA through such an event as the opening of a new gold mine in the GVEA service territory. This was examined by adding additional load to GVEA's load within the Base scenario. This additional load varied between 100 MW during peak hours to 60 MW during valley hours. It was recognized that this scenario would be inconsistent with not upgrading the northern transmission and with GVEA not being pooled with southern utilities, so only those cases which included these developments were run.

6. *LNG + Increase GVEA Load*

   This scenario combines the impacts of Scenarios 2 and 5 by increasing GVEA's load as described for Scenario 5 and then providing LNG to the North Pole station.

7. *Retire Old Coal + Increase GVEA Load*

   This scenario combines the impacts of Scenarios 3 and 5 by increasing GVEA's load as described for Scenario 5 and then retiring Aurora and Healy 1. Again, it was recognized that this scenario would be inconsistent with not upgrading the northern transmission and with GVEA not being pooled with southern utilities, so only those cases which included these developments were run.

8. *LNG + Retire Old Coal + Increase GVEA Load*

   This scenario combines the impacts of Scenarios 3 and 5 by increasing GVEA's load as described for Scenario 5, then retiring Aurora and Healy 1 and providing LNG to the North Pole units.

9. *Base + Oil at $55/bbl in 2015*

   To explore the impact of a continuation of the current significant dip in oil prices, this scenario was created from the Base scenario by reducing all Railbelt oil prices to reflect a market price for crude oil of $55/bbl.

10. *Base + Fort Knox closes (loss of 44 MW in every hour)*

    To explore the impact of a closure of Fort Knox, the load in the Base scenario is reduced by 44 MW in each hour.

11. *LNG at North Pole + Fort Knox closes (loss of 44 MW in every hour)*

    This scenario combines the impact of Scenario 2 with the loss of Fort Knox load.

Comparable to Table 6-1, the 2020 annual system production costs forecasts for these eleven scenarios is set out in Table 8-1 for the six cases. (Note that for simplicity and for internal consistency some of the scenario/ case combinations have not been run.)

Table 8-1: Summary of Annual Production Costs by Scenario and Case ($000)

Scenario	Case 1 Data Changes + High Hurdles between all 5 pools	Case 2 Case 1 + Central Transmission Upgrades + 3 Pools (GVEA, Central, HEA), Low Hurdles between GVEA and Central	Case 3 Case 1 + Central Transmission Upgrades + 3 Pools (GVEA, Central, HEA), Low Hurdles between all pools	Case 4 Case 2 + 2 Pools (Central/North, HEA), Hurdles between 2 pools	Case 5 Case 4 + Northern Transmission Upgrades, NPCC economic	Case 6 Case 5 + Southern Transmission Upgrades (Single Pool)
1. Base Scenario	473,354	457,236	462,044	433,497	369,401	346,466
2. LNG at North Pole	414,556	397,963	N/A	381,495	362,925	347,462
3. Retire Old Coal - (Aurora/Healy 1)	540,886	528,800	N/A	486,688	416,022	366,862
4. LNG + Retire Old Coal	478,374	451,503	N/A	410,290	390,242	367,503
5. Increase GVEA Load: 100 MW peak, 60 MW off-peak	N/A	N/A	N/A	N/A	487,224	436,121
6. LNG + Increase GVEA Load	588,664	562,448	N/A	513,429	462,141	435,513
7. Retire Old Coal + Increase GVEA Load	N/A	N/A	N/A	N/A	542,058	463,561
8. LNG + Retire Old Coal + Increase GVEA Load	665,545	641,352	N/A	595,321	521,739	461,115
9. Base + Oil at $55/bbl in 2015	422,801	399,763	392,714	381,785	361,134	347,260
10. Scenario 1 + Fort Knox closes (loss of 44 MW in every hour)	423,443	403,815	N/A	393,705	322,765	309,170
11. Scenario 2 + Fort Knox closes (loss of 44 MW in every hour)	369,221	352,755	N/A	341,934	321,969	309,325

Table 8-2 through Table 8-9 contain the outcomes of the Cost-Benefit Analysis for these alternative scenarios.[27] In summary:

- Even in the most conservative scenario we evaluated – Scenario 11, in which coal plants are never retired, LNG is available at Fairbanks, and GVEA load falls considerably – the NPV benefit of establishing a USO is significant, $380 million, and ratio of benefits to costs is a healthy 7.5.

- All scenarios indicate that the establishment of a USO is cost-effective, with the ratio of benefits to costs ranging from the low of 7.5 to a high of 20.7. (The ratio of benefits to costs for establishing a USO in the Base scenario is 11.0.)

- The scenario with the highest ratio of benefits to costs (20.7) for establishing a USO is Scenario 6, which combines LNG at the North Pole with increased GVEA load. The benefits increase strongly as load increases, which may suggest a lack of resilience in the existing arrangements.

- The benefits of establishing a USO are broadly similar in the alternative oil price scenario considered.

- In all but Scenario 11 the creation of a USO *plus a Transco* which completes the identified transmission enhancement projects has a benefit-to-cost ratio in excess of 1.0. (Scenario 11 has a ratio slightly below 1.0.) In the Base case and in half the scenarios the transmission enhancement projects deliver additional NPV benefits over a USO alone. Note however, as described elsewhere in this report, there would be no obligation for a

[27] Note that Scenarios 5 and 7 are omitted because these scenarios would be inconsistent with not upgrading the northern transmission and with GVEA not being pooled with southern utilities, and accordingly the Base case for these scenarios is not applicable.

Transco to complete such a set of projects if it was not deemed to be cost-effective given actual conditions at the time. With a Transco was in place, the merits of such projects would be considered given the specific system conditions as they exist and are expected to exist. The creation of a Transco provides the *option* for these projects to go ahead, but not an obligation. For this reason the quantified benefits in Scenario 2 (LNG at North Pole), Scenario 4 (LNG at North Pole + retire old coal), Scenario 9 (Base + oil at $55/bbl) and Scenario 11 (LNG at North Pole + retire old coal) are artificially low. In each of these scenarios it would be reasonable to consider the possibility that the costs of establishing and operating the Transco would be incurred but that the costs and benefits of the specific identified transmission enhancement projects would not be realized. It is also worth emphasizing again, as described elsewhere in this report, that the savings which have been quantified in this analysis are a *subset* of total benefits, and do not include reliability, resilience and other benefits.

- Finally, we reviewed the effect of LNG at North Pole across the scenarios. Figure 8-1 shows the difference in production cost savings across scenarios when LNG reduces the ratio of the price of fuel in Fairbanks to the price of fuel at Cook Inlet. Significantly, while LNG at North Pole reduces the potential savings for each scenario, in all scenarios production costs fall (though as noted above, the benefit-to-cost ratio for Scenario 11 is slightly below 1).

Table 8-2: Scenario 2 (LNG at North Pole)

Option No.	**Option 1**	**Option 2**	**Option 3**	**Option 4**	**Option 5**
Option Name	Status Quo	Status Quo + New Bilateral Agreements between Utilities where Possible	Establish a USO	Combined USO and Transmission Company	Separate USO and Transmission Company
NPV Gross Benefits ($m	-	$266	$531	$903	$903
NPV Costs ($m)	-	$18	$58	$811	$811
NPV Net Benefits ($m)	-	**$248**	**$472**	**$92**	**$92**
NPV Ratio	-	14.7	9.1	1.1	1.1
Comment	This is the do nothing option	Benefits might be difficult or impossible to achieve in practice	Central transmission upgrades assumed	Option contains potential conflict of interest	Potential conflict of interest avoided, compared to Option 4

Table 8-3: Scenario 3 (Retire Old Coal - Aurora/Healy 1)

Option No.	**Option 1**	**Option 2**	**Option 3**	**Option 4**	**Option 5**
Option Name	Status Quo	Status Quo + New Bilateral Agreements between Utilities where Possible	Establish a USO	Combined USO and Transmission Company	Separate USO and Transmission Company
NPV Gross Benefits ($m	-	$194	$870	$2,185	$2,185
NPV Costs ($m)	-	$18	$58	$811	$811
NPV Net Benefits ($m)	-	**$176**	**$811**	**$1,374**	**$1,374**
NPV Ratio	-	10.7	14.9	2.7	2.7
Comment	This is the do nothing option	Benefits might be difficult or impossible to achieve in practice	Central transmission upgrades assumed	Option contains potential conflict of interest	Potential conflict of interest avoided, compared to Option 4

Table 8-4: Scenario 4 (LNG + Retire Old Coal)

Option No.	**Option 1**	**Option 2**	**Option 3**	**Option 4**	**Option 5**
Option Name	Status Quo	Status Quo + New Bilateral Agreements between Utilities where Possible	Establish a USO	Combined USO and Transmission Company	Separate USO and Transmission Company
NPV Gross Benefits ($m	-	$431	$1,093	$1,559	$1,559
NPV Costs ($m)	-	$18	$58	$811	$811
NPV Net Benefits ($m)	-	**$413**	**$1,034**	**$748**	**$748**
NPV Ratio	-	23.7	18.7	1.9	1.9
Comment	This is the do nothing option	Benefits might be difficult or impossible to achieve in practice	Central transmission upgrades assumed	Option contains potential conflict of interest	Potential conflict of interest avoided, compared to Option 4

Table 8-5: Scenario 6 (LNG + Increase GVEA Load)

Option No.	**Option 1**	**Option 2**	**Option 3**	**Option 4**	**Option 5**
Option Name	Status Quo	Status Quo + New Bilateral Agreements between Utilities where Possible	Establish a USO	Combined USO and Transmission Company	Separate USO and Transmission Company
NPV Gross Benefits ($m	-	$421	$1,207	$2,066	$2,066
NPV Costs ($m)	-	$18	$58	$811	$811
NPV Net Benefits ($m)	-	**$403**	**$1,149**	**$1,255**	**$1,255**
NPV Ratio	-	23.2	20.7	2.5	2.5
Comment	This is the do nothing option	Benefits might be difficult or impossible to achieve in practice	Central transmission upgrades assumed	Option contains potential conflict of interest	Potential conflict of interest avoided, compared to Option 4

Table 8-6: Scenario 8 (LNG + Retire Old Coal + Increase GVEA Load)

Option No.	**Option 1**	**Option 2**	**Option 3**	**Option 4**	**Option 5**
Option Name	Status Quo	Status Quo + New Bilateral Agreements between Utilities where Possible	Establish a USO	Combined USO and Transmission Company	Separate USO and Transmission Company
NPV Gross Benefits ($m	-	$388	$1,127	$2,597	$2,597
NPV Costs ($m)	-	$18	$58	$811	$811
NPV Net Benefits ($m)	-	**$370**	**$1,069**	**$1,786**	**$1,786**
NPV Ratio	-	21.4	19.3	3.2	3.2
Comment	This is the do nothing option	Benefits might be difficult or impossible to achieve in practice	Central transmission upgrades assumed	Option contains potential conflict of interest	Potential conflict of interest avoided, compared to Option 4

Table 8-7: Scenario 9 (Base + Oil at $55/bbl in 2015)

Option No.	**Option 1**	**Option 2**	**Option 3**	**Option 4**	**Option 5**
Option Name	Status Quo	Status Quo + New Bilateral Agreements between Utilities where Possible	Establish a USO	Combined USO and Transmission Company	Separate USO and Transmission Company
NPV Gross Benefits ($m	-	$370	$658	$1,037	$1,037
NPV Costs ($m)	-	$18	$58	$811	$811
NPV Net Benefits ($m)	-	**$352**	**$600**	**$226**	**$226**
NPV Ratio	-	20.3	11.3	1.3	1.3
Comment	This is the do nothing option	Benefits might be difficult or impossible to achieve in practice	Central transmission upgrades assumed	Option contains potential conflict of interest	Potential conflict of interest avoided, compared to Option 4

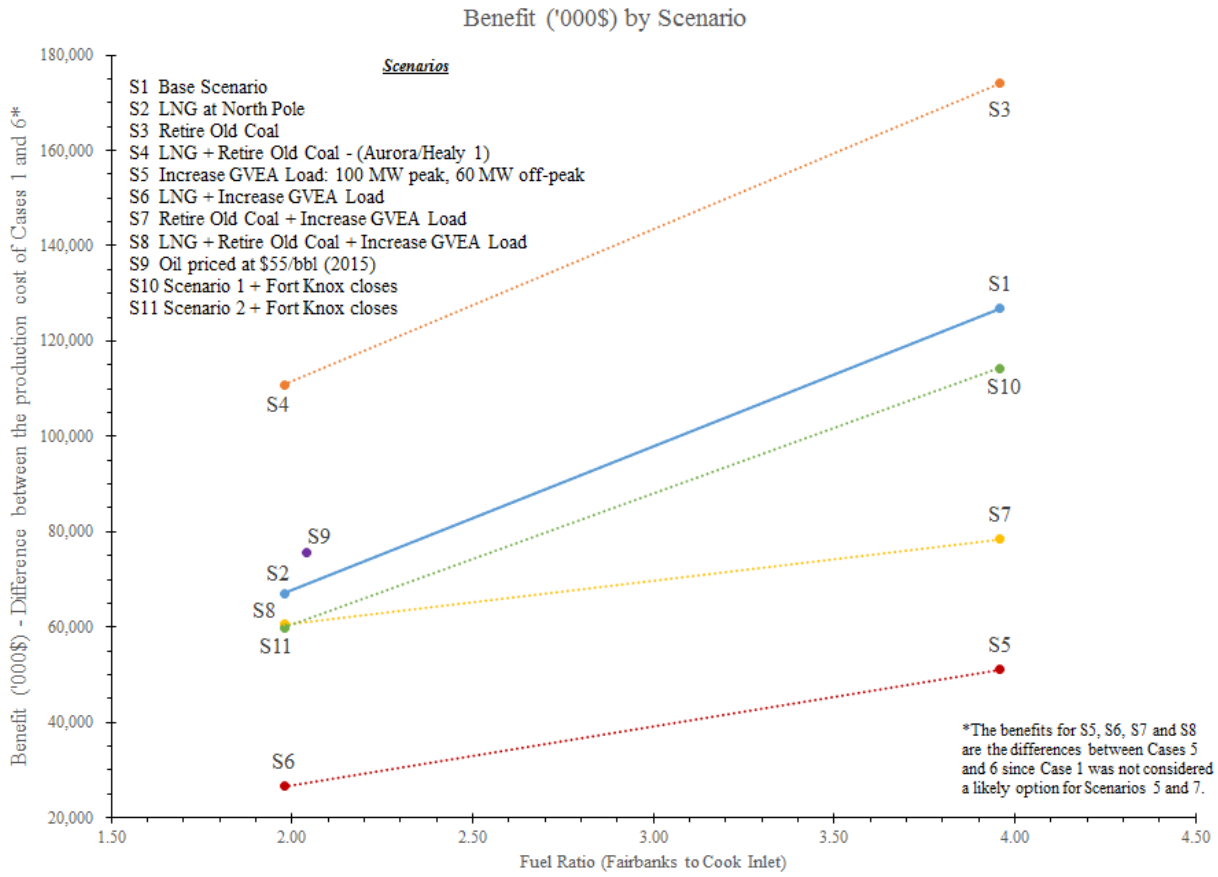
Table 8-8: Scenario 10 (Base + Fort Knox Closes - loss of 44 MW in every hour)

Option No.	**Option 1**	**Option 2**	**Option 3**	**Option 4**	**Option 5**
Option Name	Status Quo	Status Quo + New Bilateral Agreements between Utilities where Possible	Establish a USO	Combined USO and Transmission Company	Separate USO and Transmission Company
NPV Gross Benefits ($m	-	$315	$477	$1,418	$1,418
NPV Costs ($m)	-	$18	$58	$811	$811
NPV Net Benefits ($m)	-	**$297**	**$419**	**$607**	**$607**
NPV Ratio	-	17.3	8.2	1.7	1.7
Comment	This is the do nothing option	Benefits might be difficult or impossible to achieve in practice	Central transmission upgrades assumed	Option contains potential conflict of interest	Potential conflict of interest avoided, compared to Option 4

Table 8-9: Scenario 11 (LNG at North Pole + Fort Knox Closes - loss of 44 MW in every hour)

Option No.	**Option 1**	**Option 2**	**Option 3**	**Option 4**	**Option 5**
Option Name	Status Quo	Status Quo + New Bilateral Agreements between Utilities where Possible	Establish a USO	Combined USO and Transmission Company	Separate USO and Transmission Company
NPV Gross Benefits ($m	-	$264	$438	$796	$796
NPV Costs ($m)	-	$18	$58	$811	$811
NPV Net Benefits ($m)	-	**$246**	**$380**	**($15)**	**($15)**
NPV Ratio	-	14.5	7.5	1.0	1.0
Comment	This is the do nothing option	Benefits might be difficult or impossible to achieve in practice	Central transmission upgrades assumed	Option contains potential conflict of interest	Potential conflict of interest avoided, compared to Option 4

Figure 8-1: Effect of LNG at North Pole on Benefits



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STATE OF ALASKA

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BEFORE THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:	Robert M. Pickett, Chairman Stephen A. McAlpine T.W. Patch Norman Rokeberg Janis W. Wilson
In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System)	I-15-001

CHUGACH ELECTRIC ASSOCIATION, INC.'S
SUPPLEMENTAL COMMENTS

Chugach Electric Association, Inc., ("Chugach") makes this filing for the purpose of responding to other comments which have been placed into the record of this proceeding. Chugach also urges the Commission to take a step back to review the overall record before formulating a response to the legislative directive accompanying the appropriation found in Section 31 (b) of Chapter 18 SLA 14. The language asks that the Commission, Section 31(b) directs us to determine "whether creating an independent system operator or similar structure for electric utilities in the Railbelt area is the best option for effective and efficient electrical transmission."

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Preliminarily, Chugach takes responsibility for proposing this appropriation to the Legislature. Chugach believes that the vast majority of Railbelt electric consumers can and should benefit from additional cooperation among certificated public utilities and improvements to the transmission infrastructure.

Accordingly, Chugach asks that the Commission recognize that inherent in the question posed by the Legislature are a subset of similar questions regarding options for effective and efficient electrical transmission for the Railbelt. More specifically, Chugach believes that even if the Commission does not conclude that the independent system operator ("ISO") concept is the best option for the Railbelt there are <u>better</u> institutional and regulatory arrangements which can developed by the Commission through this process that will be of significant benefit to consumers. Absent pursuit of those more optimal arrangements, Railbelt consumers will be obliged to pay higher rates for electric service well into the future.

With the expiration of several long-term power supply contracts, the construction of considerable new generation and emergence of renewable and alternative energy sources, the time is optimal for the Commission to establish new policies and new regulatory arrangements in the Railbelt.

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In Chugach's view, there is no requirement, through the inquiry funding by the Legislature for the Commission to "solve" the overall challenges of improving the Railbelt electric grid. Rather, the Commission is at the preliminary stage of determining the nature of the problems and setting out an overall path and process for addressing them.

Recommendations for a "Path Forward"

Chugach believes that the following actions by the Commission are supported by the record in this proceeding and should be recognized as appropriate responses to be included in the report to the Legislature pursuant to the appropriation. Note that these responses are not dependent on one another; each could be undertaken as distinct actions:

1. Open a rulemaking docket to establish a process that will lead to the adoption of a single set of reliability standards for the Railbelt. The opening of such a docket should not preclude filings which would seek to accomplish the same result.

2. Open a rulemaking docket to establish a process that will lead to the certification of an independent entity to own, operate or develop transmission assets in the Railbelt. The opening of such a docket should not preclude applications or filings which would seek to accomplish the same result.

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3. Open a rulemaking docket to develop a process that will lead to actual economic dispatch of energy in the Railbelt. This docket may also include formulation of a request to the Legislature for statutory amendments to enable the Commission to require economic dispatch.

4. As a supplement to any of the above, the Commission may want to invite utilities or other market participants to develop joint proposals to accomplish any of the above goals.

Evaluation of the Evidence in the Record

The evidence in the docket supports findings that consumers can benefit in three primary areas through Commission action.

Savings from Improved Reliability

The work of the Alaska Center for Energy and Power ("ACEP") discussed the value of reliability in the Railbelt in multiple contexts in their six presentations to the Commission. It is fair to conclude from their presentations that they view reliability as valuable, difficult to measure, difficult to police and essential. In the presentation of April 22nd, ACEP concluded that: "Any recommendation to the legislature should probably address how reliability is to be assured." ACEP Presentation, April 22, 2015, page 14.

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While not placing a specific dollar value on reliability, Chugach's consultant NERA[1] reached the same conclusion as the combination of reliability and resiliency: "Reliability and resiliency benefits have not been quantified as part of this Cost-Benefit Analysis, but they should be expected to be substantial given the current radial nature of the Railbelt grid and the lack of alternative transmission paths to a number of key load centers. Further analysis should be conducted to quantify reliability and resilience benefits." NERA Report page 47.

Reliability, as reflected in both analyses works in conjunction with transmission investment: The more robust the transmission system, the more reliable the overall system becomes.

The RCA has a clear opportunity to take actions which will result in a more reliable Railbelt electric grid. At least one Commissioner has noted that the Commission has the authority to act in this area. The signatories to the Alaska Intertie Agreement have all agreed to a set of reliability standards based on similar standards adopted in the lower-48 states. The RCA should open a docket which will ultimately lead to the adoption of a single set of reliability standards.

[1] "Evaluation of Options Regarding the Creation of an Independent System Operator or Similar Structure for Electric Utilities in the Railbelt," NERA Economic Consulting, May 28, 2015.

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While important, Commission action in this area will not require a departure from processes previously employed by the Commission to establish utilities policies.

Needed Transmission Investment

ACEP offered extensive comments to the Commission on the value of improvements to the Railbelt transmission system. Chugach is frankly uncertain as to how ACEP has quantified the benefits of those upgrades. At a minimum, on May 20, 2015, ACEP concluded that transmission upgrades would produce "modest gains," that the 'biggest gains only possible with more robust transmission infrastructure," that "more redundant transmission infrastructure may or may not pay for itself with dispatch savings alone. Perhaps most importantly, ACEP observed that the burden to consumers of transmission upgrades would be "Unlikely to be a massive burden either," May 20th presentation, slide 5.

NERA's analysis aligns with these views but places the potential NPV of establishment of an independent transmission operator as $211 million. This estimate is arrived at by comparing option 4 of the NERA study with option 3 of the NERA study. Based on our experience, Chugach believes that ACEP overstates the ease of obtaining RUS or similar government financing for transmission upgrades and understates the costs of that financing. This difference will tend to reduce any premium that must be

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paid for by ratepayers for access to private capital through an independent transmission entity. As to establishing a pathway to permit transmission upgrades, the Commission has a clear opportunity to enable the establishment or otherwise advance the creation of an independent transmission operator. Chugach urges the RCA to open a new docket to conduct a focused inquiry on this matter. The goal of such a proceeding would be to determine if the best approach to achieve the independent transmission operator would be through certification of a new public utility or through a specific process governed by new regulations.

In so doing, the RCA can provide for new economic investment in Alaska – or, in other words, to permit *new economic development* in our still young State. This investment would allow Alaska's rudimentary and largely government supported electric infrastructure to begin to evolve and resemble the much more fully developed electrical network in the lower 48 states.

Enabling Economic Dispatch

Turning to the Commission's options to ultimately convert the estimated benefits of economic dispatch, Chugach believes that the comments of ACEP at the May 13, 2015 public meeting regarding the establishment of an independent system operator ("ISO") may be significantly misconstrued in the process of reaching conclusions in this

matter. ACEP rejection of the ISO is limited to the circumstances where and when the ISO serves as an institution to facilitate the purchase and sale of energy in fully competitive markets. Thus, Dr. Scott said:

> ISOs were created out of the need in the Lower-48 for the generation decisions to be made fully independent of the transmission assets in order to facilitate competitive provision of wholesale power. ISOs are about making markets -- wholesale markets function. I really believe that that concept should be sort of reserved for that context.
> Transcript, P. 66.

Chugach has no quarrel with this approach to evaluating whether an ISO would be the best alternative for the Railbelt but believes that there is a risk that the Commission may somehow discount the value of institutions to enable effective economic dispatch. To the extent that Dr. Scott has recommended against establishing an ISO, that limitation goes only to the "real-time" energy market function, not to the concept of economic dispatch.

Chugach has always recognized that the primary role of an ISO or unified system operator ("USO") in the Alaska Railbelt should be as an essentially neutral dispatcher of energy to consumers to ensure that those consumers receive energy at the lowest available cost of production.

Despite this somewhat jumbled and conservative analysis[2], ACEP admits that there are substantial – as much as $127 million in consumer benefits on a net-present-

[2] On April 8, 2015, the transcript of Dr. Scott's remarks reads, at pages 31-32:
"This modeling framework here unfortunately captures very little of the benefits that might be afforded by a new utility framework. If we had more robust transmission, if we had centralized dispatch, if we had joint

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value basis to be achieved by a combination of transmission upgrades and economic dispatch.

The evaluation of the benefits by NERA indicates that savings to consumers would be as much as $762 million over a fifty year period. These potential consumer benefits are far too great to ignore. It is fair to say that the evidence necessitates a finding that the likely consumer benefits range from $127 million to $762 million, depending on the assumptions used. NERA Report at 7. NERA's analysis indicates that consumers would benefit from economic dispatch of electric energy in the Railbelt under almost all scenarios.

Chugach believes the implementation of a USO or tight pool with a separate Transco is the best option for delivering low-cost and reliable energy to Railbelt consumers. Chugach believes that the details of how that result might be achieved are best left for a subsequent rule-making docket which may include voluntary agreements among market participants.

Chugach acknowledges that implementation of economic dispatch is likely the most difficult step in transitioning the Railbelt to a modern electric grid. Nevertheless, the opportunity to begin this process exists today. Chugach would support the

planning, dynamically decisions about what would get built and how it would be operated would be different. And the benefits of those might indeed be considerably greater over time than the economic dispatch benefits. That's not something that we have budget or scope to get into."

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Commission if it was deemed necessary to seek statutory amendments to achieve the goal of economic dispatch.

Evidence invites Action by Commission

AS 42.05.141(c) provides:

> In the establishment of electric service rates under this chapter the commission shall promote the conservation of resources used in the generation of electric energy.

The projected consumer benefits from reliability improvements, transmission upgrades and economic dispatch are precisely the "conservation of resources" contemplated by the statute.

Thus, once the initial inquiry from the Legislature in Section 31 (b) of Chapter 18 SLA 14 is answered, the question remaining for the Commission is what form and, in particular, what institutional and regulatory framework should be put in place by the Commission in achieving the goals of the law.

Chugach proposes that the Commission report to the Legislature that it intends to embark on a series of rulemaking dockets identified above to more fully develop new regulatory frameworks for reliability, establishing an independent transmission operator and enabling economic dispatch for the benefit of consumers.

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In his presentation to the Commission on June 17, 2015, Dr. Carl Peterson of NERA noted the price to be paid for failing to act:

"Alaska is leaving money on the table and ratepayers are paying unnecessary costs."

Chugach agrees with this analysis and urges the Commission to move forward constructively to evolve the Railbelt electric grid into a modern grid which enables economic development in the State.

Dated at Anchorage, Alaska, this 17th day of June, 2015.

_____

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BEFORE THE
REGULATORY COMMISSION OF ALASKA

Before Commissioners:

Robert M. Picket, Chairman
Paul F. Lisankie
T.W. Patch
Norman Rokeberg
Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	))))	I-15-001

COOK INLET REGION, INC.'S COMMENTS RESPONDING TO COMMISSION ORDER NO. 1

1. Would the creation of an independent system operator or similar structure for electric utilities in the Railbelt be the best option for effective and efficient electrical transmission? If not, what other approach would be best?

CIRI's response: Yes, CIRI feels strongly that many advantages will flow from the establishment of an independent system operator and that, if done correctly, the benefits will more than offset the costs of formation and ongoing operation of the ISO.

ISO benefits could include:

- The centralized daily dispatch of generation to ensure lowest cost of energy to all customers.
- A centralized authority to adopt transmission and generation plans that would serve all Railbelt customers at lowest possible costs.
- Elimination of utility by utility "reserves" and "over capacity" of generation and, in some instances, duplicative transmission assets.

- Increased reliability due to broader oversight, greater number of generation resources available for dispatch, better operations and regional planning.
- Increased integration of renewable energy for benefit of all Railbelt consumers facilitating low-cost, stably priced, sustainable, and diversified energy supply.
- Increased likelihood of independent investment in energy infrastructure at costs much lower than those historically recovered in rates by utilities.

2. To what extent does our existing statutory and regulatory authority extend to mandating the creation of an independent system operator or similar entity and to regulating the rates and practices of such an entity?

CIRI's response: CIRI does not propose to give the RCA legal advice regarding Alaska statutes. It is important to note however, that within the electric utility industry in the United States today, there are many precedents wherein the state regulatory commission does assert jurisdiction over the prudence of costs that jurisdictional utilities incur for transmission and generation of energy for consumers. In cases where existing independent transmission operators operate across multiple states, FERC is generally the agency that asserts jurisdiction over the reasonableness and non-discriminatory nature of the rates established by the ISO. In the case of the Railbelt, where an ISO would operate only within the state of Alaska, there would likely be no FERC jurisdiction. Rather than leaving the ISO without regulatory oversight, it would necessary for the RCA to assert such jurisdiction.

3. Are existing statutes and regulations governing our regulation of electric transmission adequate for us to effectively address current and future Railbelt transmission issues?

CIRI's response: CIRI provides no comment on this question.

4. If our regulations require changes, what specific changes should be considered in a rulemaking docket and is it appropriate to consider making those changes at this time?

CIRI's response: Any changes to RCA regulations that relate to this matter should generally include the principles adopted by FERC in its oversight of

similar entities and jurisdictions in the Lower 48. Such principles include but may not be limited to:

- Services provided should be made available on a non-discriminatory basis to all qualified customers.
- Qualified customers should include both utility as well as independent generation and transmission owners.
- The ISO's governance should be fair and impartial, with an open and transparent decision-making process. Utilities must not be allowed to use their market power to advantage themselves compared to independent generation and transmission owners.
- Rates for interconnection, transmission and related services should be derived based on cost of service and costs should be spread over all benefitted stakeholder groups similarly for both Utilities and Independent owners.
- The ISO should be accountable for ensuring reliability of grid operations, with control for the operation of the interconnected transmission system commensurate with that accountability.
- There should be appropriate system-wide planning processes through which short-term and long-term transmission constraints and future requirements are identified.
- There should be a voluntary dispute resolution process through which parties can manage disputes without resorting to the RCA.

5. If regulatory changes are found to be necessary, how narrow or broad should a rulemaking docket be and what scoping process should be used to determine the boundaries of the proceeding?

CIRI's response: CIRI thinks an appropriate scope of regulatory changes should be developed that allows the full implementation of the ISO so that all of the benefits can be achieved. A "baby steps" approach will not serve the best interests of the Railbelt consumers.

6. Regarding the reliability of electric service, is our authority limited to addressing utility practices and service quality within each utility's service territory, or does it extend across service territory boundaries such that, for example, we can address the effects of one utility's practices on the service quality of another utility?

CIRI's response: CIRI provides no legal advice on statutes in Alaska. It is

consistent, however, as a state agency that the RCA should have authority to protect the interests of energy consumers in all areas of Alaska. As noted above, an ISO should be accountable for ensuring reliable grid operations with control for the operation of the interconnected transmission system commensurate with that accountability.

7. Should there be a set of mandatory reliability standards for the Alaska Railbelt similar to those of the North American Electrical Reliability Corporation, and if so, do we or should we have the authority to mandate or regulate those standards (beyond the existing voluntary arrangements such as the existing Railbelt Operating and Reliability Standards)?

CIRI's response: NERC's reliability standards are not optional and should already apply to Alaska notwithstanding that FERC jurisdiction in Alaska is limited.

8. Considering our authority to "promote the conservation of resources used in the generation of electric energy" under AS 42.05.141(c), to require reasonable management practices under AS 42.05.511, to provide rate recovery of energy conservation efforts, and other statutory grants of authority, do we have the authority to order the Railbelt electric utilities to jointly and cooperatively manage their generation and transmission assets, or is our authority limited to matters within each utility's service territory? If our authority is limited to each utility's operations within its particular service area without regard to other interconnected utilities, explain why it is limited.

CIRI's response: CIRI provides no legal advice to the RCA in this regard.

9. Do AS 42.05.311(a) and other statutes provide us with authority to order system-wide wheeling rates across utility-owned Railbelt transmission facilities, even if ownership of the facilities remains with individual utilities?

CIRI's response: CIRI provides no legal advice to the RCA in this regard.

10. Does the AS 42.05 provide us with authority to review or regulate the integrated planning, determination of need for, and/or siting of new generation and transmission facilities of regulated electric utilities? If it does, how can that authority be employed to help ensure that new facilities are planned and constructed to optimize efficient and reliable provision of electric service to the entire Railbelt region?

CIRI's response: This is less clear when considering industry precedent. Generally state agencies other than the utility regulatory body will have jurisdiction over the siting of new power plants, but the state commission would commonly have the jurisdiction to confirm the need for and the reasonableness of costs proposed by utilities for new generation or transmission resources. Because most US ISO's are regulated by FERC, the ISO transmission planning processes are also FERC-regulated. FERC has encouraged regional planning, most significantly in Order No. 1000, issued in 2011.

11. What authority do we have to require or to encourage greater cooperation, power pooling, and/or centralized transmission system planning and operations among Railbelt electric utilities?

CIRI's response: CIRI provides no legal advice to the RCA in this regard. However, it would be consistent actions by regulatory commissions in other states and by FERC to approve of and encourage the cooperation of utilities so long as such cooperation was in the public interest.

Dated this 31st day of March, 2015, at Washington, D.C.

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STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:

Robert M. Pickett, Chairman
Stephen A. McAlpine
T.W. Patch
Norman Rokeberg
Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	)	**I-15-001**

GOLDEN VALLEY ELECTRIC ASSOCIATION INC.'S RESPONSE TO COMMISSION ORDER SEEKING COMMENTS

On February 27, 2015, the Regulatory Commission of Alaska (Commission) issued Order No. I-15-001(1) that required all existing Railbelt electric utilities to file responses by March 31, 2015, to the questions put forth by the Commission regarding whether creating an independent system operator or similar structure for electric utilities in the Railbelt area is the best option for effective and efficient electrical transmission.

Golden Valley Electric Association Inc. (GVEA) respectfully submits its responses to the Commission's Order seeking comments from Railbelt electric utilities.

RESPONSES TO COMMISSION QUESTIONS

Questions about Legislative Directive on Independent System Operator

1. Would the creation of an independent system operator or similar structure for electric utilities in the Railbelt be the best option for effective and efficient electrical transmission? If not what other approach would be best?

GVEA's RESPONSE:

The answer to this question depends on the characteristics of the system operator ultimately decided upon by the Commission and the evidence and findings that will be developed through the Commission's processes.

In Alaska, several forms of operators have been considered over the years including power pooling, a joint agency action, and generation and transmission cooperatives (G&TC). There are important issues yet to be determined. Would the operator be a non-profit or for-profit entity? Would the operator just control system operations and planning, or also own the transmission facilities, control grid investments, and maintain transmission facilities? Would utility participation be mandatory? Any analysis would be performed in a hypothetical vacuum until these issues are narrowed, a record is further developed, and findings are made.

As to the policy question whether a system operator is the best approach in the Railbelt region, there are potentially numerous objective benefits to this approach.

In Federal Energy Regulatory Commission's (FERC) Order No. 2000, where FERC encouraged formation of Regional Transmission Organizations throughout North America, FERC advanced the following benefits: improved efficiencies in grid management, improved reliability, less opportunity for discrimination, improved market performance, and lighter-handed regulation. *Regional Transmission Organizations*, Docket No. RM99-2-000, Order No. 2000 at 3, 89 FERC ¶ 61,285 (Dec. 20, 1999) ("Order No. 2000"). In Alaska, the potential for integrating new generation, promoting increased investment in transmission, and increasing competition in the energy markets may be obtained through the introduction of some form of regional transmission entity.

On the other hand, some utilities may benefit more than others and there is the potential for unwarranted cost-shifting. Further, an independent system operator may be less responsive to regional consumer interests (for better or for worse). Finally, complications such as asset transfer, cost allocation and disruption of existing agreements could ultimately prove unsurmountable.

2. To what extent does our existing statutory and regulatory authority extend to mandating the creation of an independent system operator or similar entity and to regulating the rates and practices of such an entity?

GVEA's RESPONSE:

Reiterating the response in Question 1, it is difficult to answer at this point whether the Commission has the requisite authority to create and regulate a system operator until farther along in the process.

Mandating the creation of an independent system operator would be a new use of the Commission's delegated power, as it has never undertaken anything of this nature. No statute specifically authorizes the Commission to form a system operator. Conversely, FERC's Order No. 2000 was predicated on its authority under section 205 of the Federal Power Act to ensure that rates, terms and conditions of transmission are just, reasonable and not unduly discriminatory or preferential, <u>and its specific authority</u> under section 202(a) of the FPA to promote and encourage regional districts for the voluntary interconnection and coordination of transmission facilities. Order No. 2000 at 5. Here, the Alaska legislature has considered, but not passed, legislation specifically to this effect. (*E.g.*, HB 182 and SB 143 to create the "Greater Railbelt Energy & Transmission Company" which failed to become established in

2010.) Still, this docket responds to the legislature's directive to study the creation of a system operator. Chapter 18 SLA 14, Section 31(b).

At this point, without explicit authorization, the Commission must rely on implied authority. In AS 42.05.141(a), the legislature delegated to the Commission general authority to do all things necessary or proper to carry out the purposes and exercise the powers expressly granted to it or reasonably implied. *See, e.g., Chugach Elec. Ass'n, Inc. v. Regulatory Comm'n of Alaska*, 49 P.3d 246, 251 (Alaska 2002) (describing the Commission as "an administrative agency that has whatever powers are expressly granted to it by the legislature or conferred upon it by implication as necessarily incident to the exercise of powers expressly granted"). In past cases, the Commission has relied on this "general power" to broadly construe a specific grant of authority. *See, e.g., id.* at 251-52 (in the context of CPCNs, agreeing the Commission may use its "general powers" as a means to limit competition); *Far N. Sanitation, Inc. v. Alaska Pub. Utilities Comm'n*, 825 P.2d 867, 874 (Alaska 1992) (in the context or ratemaking, holding the authority to declare a rate interim and refundable is implied within the broad power to establish "fair and just" rates).

Also relevant to this question posed by the Commission is AS 42.05.141(a) which authorizes the Commission to regulate <u>every public utility</u> engaged or proposing to engage in a utility business inside the state. A system operator would be a "public utility" serving the "public." ("Public utility" includes a corporation, company, or association that owns, operates, manages, or controls any system for furnishing electric transmission service to the public for compensation. *See* AS 42.05.990(6). "Public" includes a utility paying for the transmission of electric energy. *See* AS 42.05.990(5)).

Further, the Commission is expressly authorized to take certain actions with respect to "public utilities." These include: require just, fair and reasonable rates, practices, services, and facilities for a public utility (AS 42.05.141(a)(3) and AS 42.05.431(a)); regulate the service and safety of operations of a public utility (AS 42.05.141(a)(4)); take appropriate action to protect the public from inefficient or unreasonable management practices (AS 42.05.511); require a public utility to obtain a certificate of public convenience and necessity for service and attaching terms and conditions to protect and promote the public interest (AS 42.05.221(a) and AS 42.05.241)); adopt just and reasonable standards and practices for service, impose conditions, and prescribe changes necessary and proper for the safety, accommodation, and convenience of the public (AS 42.05.291(c), (d)); and require a public utility to permit another utility to use its transmission facilities when the public convenience and necessity require (*See* AS 42.05.311(a) and AS 42.05.321). The Commission has shown that it will take action under its broad authority to ensure that customers along the Railbelt have access to lower cost power under the joint use statutes. *See generally* U-03-100(4).

While it appears that the Commission may have the implied authority, without further clarity on the type of system operator, nature of utility participation (*e.g.*, voluntary, forced), and more complete evidence and findings in a record, GVEA is unable to comment on whether the Commission has the requisite implied power with any certainty or specificity. The Commission may, in the abstract, have jurisdiction, but this is necessarily tied to findings regarding the characteristics of the system operator and that such a system operator would be in the public interest. These are factual determinations based on a developed record.[1]

[1] In a past case, the Commission found the evidence did not support compelling formation of a generation and transmission cooperative, and may do so again here. *See* Order U-82-047(11), 6 APUC 471 (1985). The Commission did not decide the issue of its authority to order a public utility to form such cooperative.

<u>Questions about Regulatory Authority over Railbelt Electric System</u>

3. Are existing statutes and regulations governing our regulation of electric transmission adequate for us to effectively address current and future Railbelt transmission issues?

GVEA's RESPONSE:

Although the Commission's broad implied authority provides a great deal of regulatory oversight flexibility, the question of the Commission's authority hinges on a determination that the action is in the public interest. Whether that flexibility extends to a system operator depends on the actual developed facts.

4. If our regulations require changes, what specific changes should be considered in a rulemaking docket and is it appropriate to consider making those changes at this time?

GVEA's RESPONSE:

Existing regulations need enhancement should the Commission commence its efforts with respect to a system operator for the Railbelt. Without narrowing the type and functions of the system operator under consideration, identifying the issue being addressed and nature of utility participation, and further developing the record, it is difficult to respond to this question with specific legal analysis of which changes would be needed. Although additional regulations almost certainly would be required to implement a transition to and oversee continued operation of a system operator, it is difficult to identify any changes and/or augmentations at this early stage. Regulations would be needed to provide an appropriate framework for the new system, including, e.g., rules addressing formation and any transfer of existing assets, establishing a governance structure and staffing procedures, setting forth a transmission planning process, dealing with rates, and delineating Commission oversight. It is

conceivable that the Commission would need to arbitrate apportionment of costs to ensure an equitable approach.

5. If regulatory changes are found to be necessary, how narrow or broad should a rulemaking docket be and what scoping process should be used to determine the boundaries of the proceedings?

GVEA's RESPONSE:

Without narrowing the type of system operator, nature of utility participation, and further developing the record, it is difficult to respond to this question. The scope of the rulemaking docket necessarily depends on characteristics of the system operator.

6. Regarding the reliability of electric service, is our authority limited to addressing utility practices and service quality within each utility's service territory, or does it extend across service territory boundaries such that, for example we can address the effects of one utility's practices on the service quality of another utility?

GVEA's RESPONSE:

The Commission has previously recognized the interrelated nature of the Railbelt utilities and concluded it is in the public interest to provide "broad oversight of the generation and transmission of power to the Railbelt network and, as necessary, to direct actions which produce overall benefits for the region rather than for any individual utility at the expense of another utility." Order U-90-19(6), 11 APUC 275, 128 P.U.R.4th 281 (1991). More recently, the Commission ordered Chugach to reimburse interconnected utilities for costs incurred by the interconnected utilities as a result of the integration and regulation of the output of the Fire Island Wind Project (FIW) by Chugach. Order U-11-100(5), 293 P.U.R.4th 131 (2011). The Commission ordered Chugach to operate its system and control areas in a manner that will

prevent FIW and Chugach's integration and regulation of that output from negatively impacting other interconnected electric utilities. *Id.*

As to specific statutory authority, several provisions contemplate the interrelated nature of utilities: AS 42.05.311(a) requires a public utility to permit another public utility to use its transmission facilities (for reasonable compensation) "when the public convenience and necessity require this use" and AS 42.05.321(a) authorizes the Commission to step in where utilities fail to agree and order the use to be permitted or interconnection to be made, prescribe conditions, determine the time and manner of interconnection, and apportion the costs and responsibilities. This applies even to utilities otherwise exempt from regulation. *See* AS 42.05.321(b).

Still, the extent to which the Commission's broad implied powers extend to reliability issues is a fact-specific inquiry and, without further detail, GVEA must refrain from commenting in detail at this stage.

7. Should there be a set of mandatory reliability standards for the Alaska Railbelt similar to those of the North American Electrical Reliability Corporation, and if so, do we or should we have the authority to mandate or regulate those standards (beyond the existing voluntary agreements such as the existing Railbelt Operating and Reliability Standards)?

GVEA's RESPONSE:

It appears the Commission would have authority to mandate or regulate such standards under an overall reading of the Commission's statutes. *See, e.g.,* AS 42.05.321(a) (authorizing Commission to order shared use) and AS 42.05.511 (authorizing Commission to protect the public from unreasonable management practices). The Intertie Management Committee (IMC) has developed comprehensive set of reliability standards for users of the Alaska Intertie. The

individual members of the IMC have voluntarily embraced these reliability standards for use on their own system. GVEA believes the Commission can and should adopt comprehensive reliability standards for the interconnected Railbelt.

8. Considering our authority to "promote the conservation of resources used in the generation of electric energy" under AS 42.05.141(c), to require reasonable management practices under AS 42.05.511, to provide rate recovery of energy conservation efforts, and other statutory grants of authority, do we have the authority to order the Railbelt electric utilities to jointly and cooperatively manage their generation and transmission assets, or is our authority limited to matters within each utility's service territory? If our authority is limited to each utility's operations within its particular service area without regard to other interconnected utilities, explain why it is limited.

GVEA's RESPONSE:

AS 42.05.511 authorizes the Commission to investigate the management of a public utility for inefficient or unreasonable practices that adversely affect the cost or quality of service and take appropriate action to protect the public. In a past case, the Commission considered whether it was unreasonable management practice for Chugach to refuse to form a G&TC. Despite arguments from utilities and Staff that significant savings and coordinated power supply would result from ordering Chugach to form a G&TC, and evidence of Chugach's poor earnings history and the financial benefits that would inure to Chugach's ratepayers, the Commission concluded a "strong enough case has not been established to require formation of a G&TC." Order U-82-047(11), 6 APUC 471 (1985).

As this docket progresses, and the characteristics of the system operator are defined, GVEA will be better positioned to address whether the benefits of a system operator, compared to the status quo, make it "unreasonable management" for a utility to refuse to participate.

As to AS 42.05.141(c), which the Legislature added in 1980 to the Commission's general powers, there is nothing restrictive in the plain language of the statute. Undeniably, conservation is a state-wide issue. *See* Order U-90-19(6), 11 APUC 275, 128 P.U.R.4th 281 (1991) (Separate Statement of Commissioner Donald F. May) (concurring it was not in public interest to exempt ML&P from economic regulation and contrasting fossil-fuel-dependent ML&P with water utilities (which the Commissioner would exempt), reasoning that "wise use [of fossil fuels] is a transgenerational challenge of overwhelming regional, state, and national concern," reading AS 42.05.141(c) to require the Commission "to exercise more than ordinary care in matters dealing with electric utilities' use of resource," and concluding that economic regulation made this easier to achieve). That said, it is too early to say whether this provision would support the regulatory action that will come out of this docket. In typical cases, the Commission has applied this provision on an individual-utility basis. *See, e.g.,* Order U-90-12(2) (1991) (ordering investigation of HEA line extension policy that discouraged conservation contrary to AS 42.05.141(c)); Order U-88-33(1), 8 APUC 537, 96 P.U.R.4th 526 (1988) (concluding it was "appropriate to give some considerations of the system-wide effects [*e.g.*, increased average system-wide costs and effect on HEA's winter peak] of encouraging additional energy consumption" and ultimately rejecting rate incentive rate agreements for fish processors that encouraged consumption in violation of AS 42.05.141(c)).

9. Do AS 42.05.311(a) and other statutes provide us with authority to order system-wide wheeling rates across utility-owned Railbelt transmission facilities, even if ownership of the facilities remains with individual utilities?

GVEA's RESPONSE:

The language of AS 42.05.311(a) requires a public utility to permit other public utilities to use its transmission facilities (for reasonable compensation) "when the public convenience and necessity require this use." The Commission is authorized in AS 42.05.321(a) to order this use and determine apportionment of costs and responsibilities. Under this authority, it appears the Commission could order system-wide wheeling rates assuming the Commission had a developed record upon which to consider.

10. Does the AS 42.05 provide us with authority to review or regulate the integrated planning, determination of need for, and/or siting of new generation and transmission facilities of regulated electric utilities? If it does, how can that authority be employed to help ensure that new facilities are planned and constructed to optimize efficient and reliable provision of electric service to the entire Railbelt region?

GVEA's RESPONSE:

The Commission does not have categorical authority to review and regulate a utility's planning at such a granular level. At a high level, the Commission has authority under AS 42.05.221(d) to "take appropriate action" to eliminate any undesirable duplication of facilities, including exchange of customers and facilities to better provide public service and a catch-all "provide such other mutually equitable arrangements as would be in the public interest." Coupled with the Commission's implied powers under AS 42.05.141(a), the Commission has some authority to ensure that facilities are planned and constructed in the best interest of the

public. To actually regulate or order a planning decision, the Commission may need stronger and more explicit authority.

In Order U-85-013(18) (1987), the Commission noted that "neither the statutes nor the Commission's regulations require after initial certification that prior Commission approval be obtained before additional generation or transmission facilities are installed." The Commission went on to state that it could "institute a prior approval process for designated increments of utility plant, wholesale or retail, either generically or for individual entities, whenever the Commission believes good cause, public interest or public convenience and necessity requires such regulation and procedures."[2] The circumstances present in that case were unique. The Commission may or may not find that today good cause and public interest necessitate that the Commission take a more active role in power planning.

11. What authority do we have to require or to encourage greater cooperation, power pooling, and/or centralized transmission system planning and operations among Railbelt electric utilities?

GVEA's RESPONSE:

AS 42.05.361 (public utility must file tariffs and contracts) and AS 42.05.431 (Commission's power to fix rates) provide the Commission authority to review and approve the investments of utilities in facilities. As noted above, AS 42.05.321(a) authorizes the Commission to step in where utilities fail to agree and order the use to be permitted or interconnection to be made, prescribe conditions, determine the time and manner of interconnection, and apportion the costs and responsibilities. AS 42.05.141(a)(3) (reasonable facilities) and AS 42.05.141(c) (conservation of resources used in the generation) provide the Commission authority to determine which facilities are best able to provide energy in an

[2] *See* Commission Order No. U-85-013(18) at pp. 9-10.

economical manner to the public. The above authority, taken together would appear to provide the Commission with the requisite authority to require utilities to work together so long as all other limitations on the Commission's authority are accommodated.

Dated at Fairbanks, Alaska, this 31st day of March, 2015.

Respectfully submitted,

GOLDEN VALLEY ELECTRIC
ASSOCIATION, INC.

By: /s/ Thomas K. Hartnell _____

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RECEIVED
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STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:

Robert M. Pickett, Chairman
Stephen A. McAlpine
T.W. Patch
Norman Rokeberg
Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	)	**I-15-001**
	)	**Order No. 2**

GOLDEN VALLEY ELECTRIC ASSOCIATION INC.'S REPLY RESPONSE TO COMMISSION ORDER SEEKING COMMENTS

On February 27, 2015, the Regulatory Commission of Alaska (Commission) issued Order No. I-15-001(1) requiring all existing Railbelt electric utilities to file responses by March 31, 2015, to the questions put forth by the Commission regarding whether creating an independent system operator or similar structure for electric utilities in the Railbelt area is the best option for effective and efficient electrical transmission. In response to Order No. I-15-001(1), sixteen entities submitted comments. On April 8, 2015, the Commission issued Order No. I-15-001(2) inviting reply responses from interested parties to the sixteen comments filed pursuant to Order No. 1 in this docket.

Golden Valley Electric Association Inc. (GVEA) respectfully submits its reply response to the Commission's order seeking reply responses.

GVEA is in agreement with many of the commenters that without narrowing the type and function of the system operator under consideration and without further identifying the

issues such as utility participation, costs, benefits, and the Commission's authority, it is difficult for GVEA to fully comment on the benefits of an independent system operator without furthering the docket. Moreover, a determination of whether the Commission has the authority to take any specific action necessarily depends on such things as: (i) clear articulation of the Commission's proposed actions; (ii) fully developed records; and (iii) appropriate Commission findings.

Based on the various responses received by both Railbelt electric utilities and independent power producers, the subject matter to this docket is complex, has enormous ramifications to the future of Alaska, and therefore should be thoroughly examined.

GVEA appreciates the opportunity to participate in this proceeding and stands ready to assist the Commission.

Dated at Fairbanks, Alaska, this 30th day of April, 2015.

Respectfully submitted,

GOLDEN VALLEY ELECTRIC ASSOCIATION, INC.

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STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:

Robert M. Pickett, Chairman
Stephen A. McAlpine
T.W. Patch
Norman Rokeberg
Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	**I-15-001**

GOLDEN VALLEY ELECTRIC ASSOCIATION INC.'S SUPPLEMENTAL COMMENTS

On May 20, 2015, the Regulatory Commission of Alaska (Commission) held a Special Public Meeting and invited the Railbelt Utilities to comment on the presentations made before the Commission to date and the subject matter in general.

Golden Valley Electric Association Inc. (GVEA), hereby respectfully submits the following supplemental comments in addition to those previously filed with the Commission on March 31st and April 30th.

GVEA's Supplemental Comments:

There have been a multitude of studies over the past few years regarding system-wide planning of the Alaska Railbelt Utilities and the operation of an Independent System Operator/Unified System Operator (ISO/USO) that have identified varying amounts of potential cost savings. GVEA believes that the potential savings identified by some of the studies are overly optimistic; however, GVEA does

believe that there can be system-wide benefits and potential future cost savings to be gained through the formation of a Railbelt-wide Transmission Utility (Transco). GVEA and the other Railbelt Utilities are already voluntarily working together to evaluate the best path towards formation of a Railbelt Transco.

Improved system planning and some reliability improvements are two potential benefits from formation of a Transco but the greatest benefit is the adoption of a uniform system-wide transmission tariff that will encourage a greater degree of economic dispatch based on all Railbelt resources and should serve to make a more robust power market. The uniform system-wide tariff is one of the greatest challenges moving forward. The individual Railbelt Utilities do not have the same needs from a transmission perspective; therefore, the Railbelt Utilities will not all benefit equally from a uniform rate. Indeed, some utilities would experience an increase in their transmission related costs while others would see their transmission related costs reduced. Dr. Scott pointed out in his presentation to the RCA that some form of coercion may be required to have all of the utilities participate. GVEA believes that a solution that provides incentives for utilities to voluntary participate in a Transco would be the best approach. GVEA does not have an incentive proposal to recommend at this time; however, one incentive idea would be to ensure that the State-owned transmission assets are transferred into the Transco at the same cost basis that the utilities experience currently. For instance, the Alaska Intertie was grant funded and there is no capital recovery costs involved with the yearly O&M budget. The transfer cost in the case of the Alaska Intertie should be zero.

It is expected that the work currently underway by the Railbelt Utilities to evaluate the formation of a Transco will identify areas where the individual utilities needs are not being met, or the formation of the Transco would have a negative impact on a utility. This information would provide the basis for the incentives for individual utilities to voluntarily join the Transco. The coercion path may be as successful over time but, it could lead to legal confrontation and would more than likely take more time than an incentivized approach. Another benefit of an incentivized approach is that all of the utilities would enter the Transco in a spirit of cooperation versus retaining the baggage that may remain as a result of being coerced to become a member of the Transco.

GVEA also agrees with Dr. Scott's highly stylized "scientific" path: Transco to loose pool to (possible) USO. GVEA would also suggest there be consideration of an ISO. The formation of a Transco with uniform system rates will eliminate the present barriers to economic dispatch that arise from the "pancaking" of transmission tariffs and provide a vehicle for a more robust power market. Currently, the wheeling costs added to the cost of generation make energy purchases less economic than would be the case if there were no transmission wheeling costs involved in the transaction. A significant issue to consider is that the formation of the Transco does not eliminate or necessarily reduce the costs of transmission within the Railbelt; nevertheless, it does spread the cost of transmission evenly throughout the Railbelt essentially in the same fashion as distribution costs are handled in a utility's distribution rate base. The elimination of the barriers of "pancaked" transmission rates is a significant paradigm shift for a utility making an economic dispatch decision. Currently, a utility normally

includes transmission wheeling costs in the total cost of an energy sale or purchase. It is almost a certainty that a utility would, within reliability constraints, purchase as much economic energy as available in a power pool arrangement. The amount purchased would likely be increased without the added costs of transmission wheeling. It may be shown over time that the move to an ISO/USO would provide additional savings to the Railbelt Utilities. If additional savings could be realized from implementation of an ISO/USO, a move to an ISO/USO should be taken.

GVEA would also propose that one of the requirements for awarding a CPCN to a Transco would be the development and implementation of reliability standards and requirements. This would provide for a system-wide reliability standard that the Transco and all the Railbelt Utilities would be required to follow[1]. The reliability requirements would be a guiding document to future construction of transmission facilities so it is essential that the reliability criteria be reviewed carefully so that they would not result in a "gold plated" transmission system that significantly increases costs to the ratepayers. Another important benefit to the Railbelt is that the use of reliability requirements should eliminate the need to deal with inter-utility reliability issues as there will then be one transmission utility and there would be RCA approved reliability criteria. This approach would satisfy the areas of concern identified in this docket[2].

GVEA agrees with Chairman Pickett's observation that there have been few comments on the I Docket regarding regulation and policy. GVEA believes the work

[1] The Alaska Intertie Management Committee adopted open access rules and reliability standards for the Alaska Intertie in 2013.
[2] Specifically questions #6 & #7 as posed by the Commission in order I-15-001(1).

underway by the Railbelt Utilities on the formation of a Transco will provide proposals to the RCA for recommended changes (or updates) to existing regulations regarding transmission issues. From the generation perspective GVEA believes there is not a clear course of action at this time. GVEA concurs with Dr. Scott's observation that currently there is sufficient generation on the interconnected grid that there is no immediate need for additional generation beyond the current generating facilities in the Railbelt.

GVEA believes that the formation of a Transco, development of a uniform transmission tariff, and the operation of a loose power pool, if successful, will significantly increase the benefits of economic dispatch without the added complexities of the formation of an ISO or USO. One of the consultants presenting to the RCA on the ERCOT ISO made it clear that no two ISO are the same and all are crafted specifically to meet the needs of their specific network. The RCA and Railbelt Utilities will need to research the various regulations and governance rules that guide ISO and USO in the Lower 48. It will take significant time and effort on the part of the RCA to promulgate new regulations regarding both transmission and generation. If the Alaska legislature intends to direct the RCA to change existing regulations, it is clear that the RCA must be given the resources needed for this time-consuming and complex effort. GVEA supports such efforts.

GVEA appreciates the RCA's efforts and the opportunity to participate in this proceeding.

Dated at Fairbanks, Alaska, this 17th day of June, 2015.

Respectfully submitted,

GOLDEN VALLEY ELECTRIC ASSOCIATION, INC.

By: _____

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STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners: Robert M. Pickett, Chairman
Stephen A. McAlpine
T.W. Patch
Norman Rokeberg
Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	)))))	I-15-001

RESPONSE BY HOMER ELECTRIC ASSOCIATION TO QUESTIONS POSED IN ORDER I-15-001

By Order No. 1 the Regulatory Commission of Alaska (the "Commission") requested the individual Railbelt utilities to answer a series of questions relevant to the legislative directive in Chapter 18, SLA 14, Section 31(b) directing the Commission to determine "whether creating an independent system operator or similar structure is for electric utilities in the Railbelt area is the best option for effective and efficient electrical transmission." Homer Electric Association, Inc. ("HEA") submits the following response to the Commission's request.

1. Would the creation of an independent system operator or similar structure for electric utilities in the Railbelt be the best option for effective and efficient electrical transmission? If not, what other approach would be best?

The question implies that the current transmission system is somehow broken and/or ineffective and inefficient. HEA disagrees. The current structure of utilities operating their own transmission systems works.

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AS 42.05.311 and AS 42.05.321, provide authority to the Commission to address disputes arising from the joint use and interconnection of transmission systems. Under Alaska law, an electric utility must, for a reasonable compensation, permit another public utility to use its poles, pole lines, and other transmission facilities when the public convenience and necessity require this use and the use will not result in substantial injury to the owner or in substantial detriment to the service to the customers of the owners.

If a utility is preventing joint use or interconnection, the party seeking joint use or interconnection can apply to the Commission for an order requiring joint use or interconnection. HEA is aware of very few cases where a party seeking joint use or interconnection has had to apply to the Commission for an order, suggesting that the existing statutes and regulations are adequate for the purpose. The current system is working effectively and efficiently.

The primary deficiency in the existing Railbelt transmission system is its physical configuration. The Railbelt transmission lines are generally long, and the load centers far apart. This pattern differs significantly compared to the transmission networks of the lower 48 states. The lack of robustness in the Railbelt transmission system would not be alleviated by a change in the governance model of the Railbelt system.

Transmission lines are relatively expensive to construct in Alaska and given the extreme distance between the load centers within the Railbelt most load centers have of necessity been built with an emphasis on self-sufficiency. With a single line going north from the Anchorage area and a single line going south, increasing the reliability of large power transfers to distant utilities is not a current reality unless the state or the utilities are willing to make significant investment in additional transmission resources. Given the current state of the Alaska economy and apparent lack of interest of the Railbelt utilities to encumber their balance sheets with additional debt for transmission, the prospect of near term enhancement of the existing transmission system appears to be bleak.

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The creation of an independent system operator or similar structure for electric utilities in the Railbelt would *not* be the best option for effective and efficient electrical transmission. The utilities from time to time have discussed various proposals. The concepts of an independent system operator, USO, TRANSCO, Unified dispatcher, GRETC, REGA, AEGT and a host of other proposals is not new. These ideas have been discussed between the utilities in the last twenty to thirty years. However, the utilities have not moved forward with these proposals because they have not made economic sense. The utilities to date have not been convinced that the work and expense and additional overhead of establishing the new organization would provide adequate payback to make the process worthwhile.

The current system is relatively simple and inexpensive to operate. The Railbelt economy energy market is relatively simple given the small number of potential buyers and sellers and limited number of generation assets they control. Moving to an ISO model creates a plethora of complex issues each of which could have unintended consequences depending upon its final resolution.

Some of the issues that would probably need to be addressed would be:

- Who would bear the risk and cost of stranded assets?
- How are the invested costs for plant already in service recovered?
- Are tariffs based on current costs (including depreciated value) or on the value of the service provided (cost basis or market will bear basis)?
- Transmission in Alaska is used both for transmission services and local power delivery service (example the Eagle River Eklutna transmission line use), so how would the cost responsibility be allocated for different services on the transmission line?
- How to insure equality, fairness and competence in terms of governance?
- Can an ISO make sense economically, i.e. are significant benefits achieved that outweigh the additional cost and complexity?
- Is there a return on investment in an ISO?

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- How are the economic benefits and costs distributed?
- How does one deal with the large number of different gas related contracts?
- What about all the sunk costs invested in a configuration that may be obviated if the ISO concept is implemented?
- What is the impact of the lack of diversity in the load profiles experienced by each of the utilities?

Without a more complete and objective definition of the problem the legislature evidently believes may exist, it is impossible to posit a solution.

2. To what extent does our existing statutory and regulatory authority extend to mandating the creation of an independent system operator or similar entity and to regulating the rates and practices of such an entity?

AS 42.05.311 and AS 42.05.321, address joint use and interconnection of transmission systems. These statutes provide the Commission with jurisdiction to adjudicate interconnection disputes. However, the Commission's statutory and regulatory authority does not extend to mandating the creation of an independent system operator or similar entity and to regulating the rates and practices of such an entity.

In support of its answer, HEA will briefly discuss (i) the Commission's general statutory authority, (ii) general principles of statutory interpretation, (iii) the specific statutes, AS 42.05.311 and AS 42.05.321, which HEA believes are applicable to the Commission's question, and (iv) the statutes, AS 42.05.141(c) and AS 42.05.511, the Commission identified as potential sources of authority in Commission Question 8.

<u>i. The Commission's general statutory authority</u>

The Commission is a regulatory body established by Alaska statute. The general powers and duties of the Commission are set forth in AS 42.05.141. The Commission has the powers expressly granted to it by the legislature or conferred upon it by implication as necessary incident

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to the powers expressly granted.[1] The Commission's powers are limited. The Commission cannot operate outside of its legal powers and it cannot violate the Constitutional rights[2] of regulated utilities or customers. In fact, "the actual areas in which the APUC may exercise its adjudicatory authority are quite narrow,"[3] although within those narrow areas the Commission "may do all things necessary or proper to carry out the purposes and exercise the powers expressly granted or reasonably implied in under AS 42.05."[4]

Given the Court's interpretation of the scope of the Commission's powers, HEA respectfully suggests that the Commission does not have authority to exercise its powers in the manner it is suggesting in I-15-001. This is because the specific statutes, AS 42.05.311 and AS 42.05.321, which authorize the Commission to address transmission tariff filings and address applications for joint use or interconnection, permit the Commission to address only matters that are before it, either via a tariff filing or via an application for relief. Moreover, the statutes the Commission mentioned in Question 8, AS 42.05.141(c) and AS 42.05.511, likewise do not grant the Commission authority to exercise its powers in the manner it is suggesting in I-15-001.

ii. General principles of statutory construction

Statutory interpretation looks to the plain meaning of the statute's text."[5] It is the "most reliable guide to the meaning of a statute."[6] Courts ask "whether the language of the statute is clear or

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[1] *Chugach Elec. Ass'n v. Regulatory Comm'n of Alaska,* 49 P.3d 246, 252 (Alaska 2002)(citation omitted).

[2] "Just" rates cannot be confiscatory. *Alaska Pub. Utilities Comm'n v. Greater Anchorage Area Borough*, 534 P.2d 549, 558 (Alaska 1975) (holding that rates that force utility to operate at a loss and rates that are inadequate to meet the utility's debt retirement obligations and operating and maintenance expenses are confiscatory). Utilities are entitled to recover their cost of service and a reasonable rate of return . AS 42.05.831; *Glacier State Tel. Co. v. Alaska Pub. Utils. Comm'n*, 724 P.2d 1187, 1192 (Alaska 1986). The federal and state constitutions forbid taking property without "just compensation." U.S. CONST. amend. V; AK CONST. art. I, § 18.

[3] *Homer Electric Association v. City of Kenai*, 816 P.2d 182, 187 (Alaska 1991).

[4] AS 42.05.141(a).

[5] Ward v. State, Dep't of Pub. Safety, 288 P.3d 94, 98 (Alaska 2012) (finding that sex offender statute's plain language unambiguously stated that two or more sex offenses, rather than two or more convictions, triggered life registration requirement).

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arguably ambiguous."[7] If the intent is clear on the face of the statute, the inquiry is over. While the Commission may consult legislative history, "the plainer the language of the statute, the more convincing contrary legislative history must be."[8] Even if there is some contrary legislative history that cuts against the text, the plain meaning of an unambiguous statute should still prevail.[9] Lastly, in situations where two statutes cannot be harmonized, specific statutory provisions control over general ones.[10]

iii. AS 42.05.311 and AS 42.05.321

Under Alaska law, electric utilities must, for a reasonable compensation, permit another public utility to use its poles, pole lines, and other transmission facilities when the public convenience and necessity require this use and the use will not result in substantial injury to the owner or in substantial detriment to the service to the customers of the owners. AS 42.05.311(a). Alaska law further provides that the cost of modifications or additions necessary to a joint use will be at the expense of the utility requesting the use of the facilities. AS 42.05.311(a). Alaska law requires that the electric utility tariff include rules setting out the terms and conditions under which the utility will construct, or permit its customers of subscribers to construct, and install lines from its existing facilities to the premises of the applicants for service. AS 42.05.311(c). The Commission has jurisdiction over these tariff filings.

In addition to jurisdiction over an electric utility's transmission tariff filing setting forth the rules for interconnection, the Commission has the authority, under some circumstances, to investigate and compel joint use or interconnection. AS 42.05.321. The circumstances under which the Commission can compel joint use or interconnection are set forth on AS 42.05.321, which states in-part as follows:

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[6] *Homer Elec. Ass'n v. Towsley*, 841 P.2d 1042, 1043–44 (Alaska 1992).
[7] *Henrichs v. Chugach Alaska Corp.*, 260 P.3d 1036, 1041 (Alaska 2011).
[8] *Bartley v. State, Dep't of Admin., Teacher's Ret. Bd.*, 110 P.3d 1254, 1258 (Alaska 2005).
[9] cite
[10] *Chevron U.S.A. Inc. v. LeResche*, 663 P.2d 923, 931 (Alaska 1983).

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Sec. 42.05.321. Failure to agree upon joint use or interconnection. (a) In case of failure to agree upon the joint use or interconnection of facilities or the conditions or compensation for joint use or interconnections, the public utility, including any municipality, or an interested person may apply to the commission for an order requiring the interconnection. If, after investigation and opportunity for hearing, the commission finds that public convenience and necessity require the joint use or connection, and that the use or connection will not result in substantial injury to the owner utility or its customers, or in substantial detriment to the services furnished by the owner utility, or in the creation of safety hazards, it shall

(1) order that the use be permitted;

(2) prescribe reasonable conditions and compensation for the joint use;

(3) order the interconnection to be made;

(4) determine the time and manner of the interconnection;

(5) determine the apportionment of costs and responsibility for operation and maintenance of the interconnection.

Under AS 42.05.321, the Commission has the authority to investigate, hold hearings, and (if the statutory requirements are met) order interconnection. However, the Commission has this authority only when and if a "public utility, including any municipality, or an interested person" *applies* to the commission for an order requiring the interconnection.

The Commission does not have the authority to *sua sponte* investigate, hold hearings, or order interconnection unless the prerequisite (i.e. the filing of an application) has been satisfied. Moreover, once an application is filed, the Commission's authority is limited to the scope of that application. If there is no application, there is no jurisdiction. Likewise, if there is an application, the Commission's jurisdiction to investigate, hold hearings, and issue orders only extends to the scope of that application.

Alaska cases interpreting AS 42.05.311 and AS 42.05.321, support HEA's analysis.
In *Matanuska Electric Association v. Municipality of Anchorage*, 184 P.3d 19, 21 (Alaska 2008), the dispute came before the Commission when the "Intertie Participants" *applied* to the Commission for continued joint use of a transmission line owned by MEA.[11] The Commission

[11] *Matanuska Elec. Ass'n v. Municipality of Anchorage*, 184 P.3d 19, 21.

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took testimony and held a hearing on the application. The Commission ruled in favor of the "Intertie Participants" and made specific factual findings as to why the approximately 20 mile line at issue should continue to be operated at 138kV. The Superior Court affirmed the Commission and in so doing held that the Commission had jurisdiction because the issue surrounding the line's operation at 138kV posed a question of fact, not a question of law. The Supreme Court affirmed.

In *Chugach Electric Association v. Regulatory Commission of Alaska,* 49 P.3d 246 (Alaska 2002), the Supreme Court construed AS 42.05.311 and AS 42.05.321 in the context of whether there is a legislative preference for competition. The Court explained as follows:

> Chugach argues that other relevant statutes show the State of Alaska's preference for competition over state regulation. Chugach relies on AS 42.05.311, which states that a public utility having any type of distribution or transmission facilities "shall, for a reasonable compensation, permit another public utility to use them when the public convenience and necessity require this use and the use will not result in substantial injury to the owner, or in substantial detriment to the service to the customers of the owners." According to Chugach, an electric utility cannot use the facilities of a second utility for any purpose other than competition, evidencing the preference for competitive over anticompetitive conduct.
>
> Chugach fails to note the conditional language of the statute, which warrants shared use only when the "public convenience and necessity" require it. *Joint use is <u>not</u> required by statute.* Instead, *if utilities fail to agree on whether joint use is appropriate, a party <u>may apply</u> to the commission for an order mandating it.* Thus, even if the legislature intended AS 42.05.311 to engender competition, the commission may do so only after it finds that such competition is in fact appropriate.
>
> *Chugach Elec. Ass'n v. Regulatory Comm'n of Alaska,* 49 P.3d 246, 254 (citations omitted)(emphases added).

It is clear from *Matanuska Electric Association v. Municipality of Anchorage,* 184 P.3d 19 and *Chugach Electric Association v. Regulatory Commission of Alaska,* 49 P.3d 246, that the Commission's jurisdiction in this area arises only when there has been a tariff filing or application to the Commission. Indeed, the Court in *Chugach Elec. Ass'n v. Regulatory Comm'n*

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of Alaska, 49 P.3d 246 (Alaska 2002), held that, "Joint use is not required by statute ... Instead, if utilities fail to agree on whether joint use is appropriate, a party may apply to the commission for an order mandating it."

iv. AS 42.05.141(c) and AS 42.05.511

In Question 8, the Commission mentions its authority under AS 42.05.141(c) "to promote conservation of resources used in generation of electric energy" and AS 42.05.511 "to require reasonable management practices." HEA notes that those statutory sections do not grant the Commission authority to exercise its powers in the manner it is suggesting in I-15-001. AS 42.05.141(c) states that "*[i]n the establishment of electric service rates under this chapter* the commission shall promote the conservation of resources used in the generation of electric energy." Accordingly, the Commission's authority to "promote the conservation of resources used in the generation of electric energy" is limited to the Commission's establishment of service rates. AS 42.05.141(c) does not give the Commission the power the mandate the creation of an ISO. The second statute identified by the Commission in Question 8 is AS 42.05.511. Alaska Statute 42.05.511 addresses the Commission's authority to address *unreasonable* management practices. There is simply no room for arguing that the utilities are currently engaged in unreasonable management practices by having failed to turn certain of their assets over to the control of an ISO. HEA is unaware of any other arguable unreasonable management practices for the Commission to address.

For the reasons set forth above, the Commission's statutory and regulatory authority does not extend to mandating the creation of an independent system operator or similar entity and to regulating the rates and practices of such an entity.

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Questions About Regulatory Authority over Railbelt Electric System

3. Are existing statutes and regulations governing our regulation of electric transmission adequate for us to effectively address current and future Railbelt transmission issues?

It is unclear what the Commission means by "future Railbelt transmission issues." HEA interprets this question to ask whether the Commission has adequate statutory and regulatory authority to investigate and adjudicate applications for interconnection or similar matters that are filed with the RCA. Accordingly, HEA's answer is: "Yes." If the question is intended to more expansively inquire whether existing statutes and regulations are broad enough to confer upon the Commission the power to mandate involuntary participation in an ISO-type organization, then the answer is "No."

4. If our regulations require changes, what specific changes should be considered in a rulemaking docket and is it appropriate to consider making those changes at this time?

Consistent with its comments above, HEA presently has no changes to suggest related to utility generation and transmission operations.

5. If regulatory changes are found to be necessary, how narrow or broad should a rulemaking docket be and what scoping process should be used to determine the boundaries of the proceeding?

For the reasons set forth above in HEA's answer to Question 2, it is not appropriate for the Commission to adopt regulations relating to joint-use or interconnection of transmission facilities except to the extent the regulations might deal with matters originating with an application before the Commission. AS 42.05.321. The Commission does not have the authority to *sua sponte* investigate, hold hearings, or order interconnection unless the prerequisite (i.e. the filing of an application) has been satisfied. Moreover, once an application is filed, the Commission's authority is limited to the scope of that application. If there is no application, there is no jurisdiction. Likewise, if there is an application, the Commission's jurisdiction to investigate, hold hearings, and issue orders only extends to the scope of that application.

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6. Regarding the reliability of electric service, is our authority limited to addressing utility practices and service quality within each utility's service territory, or does it extend across service territory boundaries such that, for example, we can address the effects of one utility's practices on the service quality of another utility?

The Commission has jurisdiction over joint-use or interconnection tariff filings made pursuant to AS 42.05.311 and over applications made to the Commission under AS 42.05.321. Otherwise, the Commission's authority is limited to addressing utility practices and service quality within each utility's service territory. That being said, if the Commission received a complaint from a utility which alleged that another utility has interfered with its ability to service its customers, the Commission may have jurisdiction, depending upon the individual facts. However, HEA is not aware of any such complaint currently pending before the Commission.

7. Should there be a set of mandatory reliability standards for the Alaska Railbelt similar to those of the North American Electrical Reliability Corporation, and if so, do we or should we have the authority to mandate or regulate those standards (beyond the existing voluntary arrangements such as the existing Railbelt Operating and Reliability Standards)?

Under the analysis of the Commission's authority to order and determine interconnection rights as discussed under Question 2, the Commission appears to lack the authority to mandate the adoption of reliability standards. However, that is not to say that the Commission is without authority to resolve disputes concerning their application and enforcement.

From a policy standpoint, it might not even be practical for the Commission to assume an overall enforcement role of the reliability rules, absent a genuine dispute between parties affected by the rules. To do so might result in unnecessary and inefficient use of staff and Commission time. Some recent examples serve to illustrate why the Commission might prefer to regulate by adjudicating complaints rather than overseeing compliance.

The Intertie Management Committee (IMC) has adopted and filed for informational purposes with the Commission a set of "reliability standards" purporting to bind all the interconnected Railbelt utilities.

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- The IMC standards require a 45 day operation of a new or modified facility to be run for 45 days with full back up prior to declaring "commercial acceptance". However this standard was not observed in the following recent instances:
    - This standard was not applied when the Southcentral Power Plant (SPP) came on line. It can be argued that the IMC standards were not fully adopted by the time SPP was coming on line, however the standards had been drafted by then. They did exist but had not been formally adopted by all parties while the SPP plant was under test.
    - When the governors at Bradley Lake Hydro Project were changed out, the Bradley Project Management Committee (BPMC) did not impose a requirement that the plant undergo a 45 day test run to prove commercial acceptance.
    - When MEA's Eklutna Generating Station was being finalized the plant had a 96 hour run (far shorter than the 45 days required by the IMC's Standards) to prove commercial operation.
    - It is yet to be seen what standard Anchorage Municipal Light and Power will use to verify the commercial acceptance of its new combined cycle plant.
- The IMC standards require a switchyard and or substation at the point a utility interconnects with another utility or other generator yet when presented with this requirement the BPMC voted that "no action" was required.
- The IMC standards require an entity to carry a spinning reserve requirement related to a utility's MW share of ownership of a facility. The methodology used by the IMC standards for determining the amount of spinning reserves required of a utility results in the anomalous result that HEA with the smallest load of the all the interconnected generating utilities would have the largest spinning reserve requirement.
- MEA, with a plant recently constructed that can produce 170 MW, has a spinning reserve requirement under the IMC standards based on the order of 17 MW, smaller than HEA's spinning reserve requirement under the IMC standards.

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The above instances are given as examples of the types of issues the Commission's staff might be compelled to deal with if the reliability rules had been adopted by the Commission and if the Commission were responsible for their enforcement.

As a practical matter, the fact that the IMC members have chosen to ignore its reliability rules has not resulted in harm to any of the interconnected utilities. If a utility or IPP had found itself aggrieved by any violation of the rules, and applied to the Commission for relief under AS 45.05.311 and AS 45.05.321 the Commission would have had jurisdiction to resolve the dispute. In like manner the Commission will have jurisdiction over any future disputes arising under the terms of the existing reliability rules or any conflict between the IMC rules and those adopted by HEA, including unresolved spinning reserve issues, if they cannot be worked out among the parties. The key point is that the Commission's time and limited resources can best be used by adjudicating disputes after they become ripe, rather than attempting to police the existing reliability rules, and any changes to the rules.

8. Considering our authority to "promote the conservation of resources used in the generation of electric energy" under AS 42.05.141(c), to require reasonable management practices under AS 42.05.511, to provide rate recovery of energy conservation efforts, and other statutory grants of authority, do we have the authority to order the Railbelt electric utilities to jointly and cooperatively manage their generation and transmission assets, or is our authority limited to matters within each utility's service territory? If our authority is limited to each utility's operations within its particular service area without regard to other interconnected utilities, explain why it is limited.

The Commission does not have authority to order the Railbelt electric utilities to jointly and cooperatively manage their generation and transmission assets. As noted above, the Commission's powers are limited. The Commission cannot operate outside of its legal powers

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and it cannot violate the Constitutional rights[12] of regulated utilities or customers. The standard for interpreting the Commission's powers is discussed in detail in the reponse to Question 2, above.

The legislature has not given the Commission the power to compel utilities to jointly and cooperatively manage their generation and transmission assets, nor can such a power be implied from the grant as necessarily incident to either the power to conserve resources or to address unreasonable management practices. The statutes cited by the Commission demonstrate the limits on the Commission's powers. For example, under AS 42.05.141(c), the Commission has authority to "promote the conservation of resources used in the generation of electric energy," but that authority is limited to the Commission's *establishment of service rates*.[13] AS 42.05.141(c) does not give the Commission the power the mandate the creation of an ISO. AS 42.05.511 grants the Commission authority to address *unreasonable* management practices. It cannot be persuasively argued that the decision of one or more separately certificated utilities to surrender some or all of their authority to operate their generation and transmission assets is *per se* unreasonable. AS 42.05.511 does not give the Commission the power the mandate the creation of an ISO.

9. Do AS 42.05.311(a) and other statutes provide us with authority to order system-wide wheeling rates across utility-owned Railbelt transmission facilities, even if ownership of the facilities remains with individual utilities?

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[12] "Just" rates cannot be confiscatory. *Alaska Pub. Utilities Comm'n v. Greater Anchorage Area Borough*, 534 P.2d 549, 558 (Alaska 1975) (holding that rates that force utility to operate at a loss and rates that are inadequate to meet the utility's debt retirement obligations and operating and maintenance expenses are confiscatory). Utilities are entitled to recover their cost of service and a reasonable rate of return . AS 42.05.831; *Glacier State Tel. Co. v. Alaska Pub. Utils. Comm'n*, 724 P.2d 1187, 1192 (Alaska 1986). The federal and state constitutions forbid taking property without "just compensation." U.S. CONST. amend. V; AK CONST. art. I, § 18.

[13] AS 42.05.141(c) states that"[i]n the establishment of electric service rates under this chapter the commission shall promote the conservation of resources used in the generation of electric energy."

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As noted above in response to Question 2, AS 42.05.311 does not grant plenary authority to the Commission to exercise jurisdiction over interconnected facilities. The commission's exercise of jurisdiction is limited to adjudicating disputes over "conditions and compensation" for joint use of interconnected facilities. Ordering a system-wide wheeling rate does not appear to be a power necessarily incident to the power to order interconnection and joint use and to determine the conditions and compensation for the use.

Further, any such action may be limited by constitutional proscription. It is assumed that the implementation of a system-wide wheeling rate would of necessity result in a reallocation of revenues and costs, such that the customers of some utilities would enjoy lower rates than before and others would pay higher rates. Thus such a change would amount to requiring the members of one utility to subsidize another utility. Standardizing rates within the railbelt among the the various utilities will of necessity create winners and losers. The losers would have the argument that shifting cost responsibility for the neighboring transmission systems to them results in an unconstitutional taking or damage to their property interests.

10. Does the AS 42.05 provide us with authority to review or regulate the integrated planning, determination of need for, and/or siting of new generation and transmission facilities of regulated electric utilities? If it does, how can that authority be employed to help ensure that new facilities are planned and constructed to optimize efficient and reliable provision of electric service to the entire Railbelt region?

Historically the Commission has not attempted to review or regulate the integrated planning, determination of need for, and/or siting of new generation and transmission facilities of regulated electric utilities, presumably because the Commission has read AS 42.05 as neither charging the Commission with the duty, nor investing the Commission with such a power. Such an express power has not been granted by statute, nor is it necessarily incident to any power or duty provided by statute.

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11. What authority do we have to require or to encourage greater cooperation, power pooling, and/or centralized transmission system planning and operations among Railbelt electric utilities?

Within the scope of authority granted to it by the legislation the Commission can investigate the activities of Railbelt utilities. As noted above, while the Commission may lack the jurisdiction to make orders compelling the implementation of Railbelt-wide practices, the Commission nevertheless has and may exert its moral authority to spotlight areas where greater cooperation may be achieved and to recommend changes. So long as the Commission is perceived as being impartial and acting in the best interest of the consumers within the Railbelt without regard to their geographical location, the Commission's pronouncement can be expected to carry great weight with the consumers and governing boards to ultimately influence the management decisions of the utilities. In the same light the Commission has the ear of the legislature. The Commission can make recommendations to the legislature, including changes in the scope of the Commission's jurisdiction.

Respectfully submitted this 31st day of March, 2015.

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By the Regulatory Commission of Alaska on Apr 30, 2015

STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners: Robert M. Pickett, Chairman
Stephen A. McAlpine
T.W. Patch
Norman Rokeberg
Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	)))))	I-15-001

RESPONSE BY HOMER ELECTRIC ASSOCIATION TO ORDER I-15-001(2)

By Order No. 2 the Regulatory Commission of Alaska (the "Commission") has provided the Railbelt utilities and other interested parties with an opportunity to respond to the other utilities/parties' answers to Order No. 1. Although Homer Electric Association, Inc. ("HEA") appreciates this opportunity, HEA has decided to refrain from responding to the other utilities/parties' answers to Order No. 1 at this time. It has been HEA's experience that making public comments about the ideas of other parties, absent sufficient data or discussion to inform the comments, might prove counterproductive by hardening the parties' positions before a full and fair analysis of the issues and options can be achieved. HEA believes that focusing on the issues and developing solid data and forecast models that all the parties can trust should be the next step toward a balanced and complete analysis of the issues. As always, HEA will work constructively with the Commission and the participants to the extent its members' interests can be advanced, or at least not harmed, by the initiatives considered in this docket.

Although HEA will not be responding to the other utilities/parties' answers to Order No. 1, HEA does have some comments regarding the presentation by ACEP. The ACEP presentation offered some valuable insights on the issues at play and how they might be approached. HEA

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found particularly helpful ACEP's comments about the importance of service reliability and "non-billed values."

HEA agrees with ACEP that service reliability is tremendously important. This is especially true in Alaska, where transmission lines are relatively expensive to construct and where extreme distances separate the load centers within the Railbelt. The combination of Alaska's unforgiving weather conditions and lack of the Lower 48 states' redundant interconnectivity, enhance the critical importance of service reliability. This is why most load centers in Alaska have of necessity been built with an emphasis on self-sufficiency.

HEA also agrees with ACEP that "local control" (a non-billed value) is something Alaskans appreciate and maybe even demand. Indeed, as ACEP indicated, "local control" is perhaps an "Alaskan value."

Service reliability and local control are valued by HEA's members, who based on long experience, have chosen to end their dependence upon other utilities. Independence came at a cost, but the benefits include service reliability and greater control over utility choices. HEA has intentionally constructed its system in a way that provides redundant sources of generation should one source of generation fail. HEA's emphasis on self-sufficiency and service reliability through the design of its integrated machine (generation & transmission) may not be a value that other utilities emphasize to the same degree. Any initiative that would result in the utilities being forced to sell or to relinquish operational control of transmission, generation or distribution assets to a third party, poses the threat that the surrendering utility will lose control over a portion of its integrated "machine" and potentially over service reliability and the cost of service.

As the Commission begins to focus the issues in this proceeding, HEA asks the Commission to carefully consider the importance of service reliability to HEA's members, and honor their historical preference to retain control over their utility's choices.

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Respectfully submitted this 30th day of April, 2015.

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STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners: Robert M. Pickett, Chairman
Stephan A. McAlpine
T.W. Patch
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Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	)))))	I-15-001

FINAL COMMENTS BY HOMER ELECTRIC ASSOCIATION TO PRESENTATIONS AND COMMENTS BY THE COMMISSION

These comments were written in response to Chairman Pickett's invitation to the public to submit additional comments to the Commission by the 17th of June.

All participants in this docket have had an opportunity to file responses to the Commissioners' questions and/or comments on March 31 and to file reply responses on April 30. Additional material has been provided through a series of presentations by Antony Scott extending from April 8 to May 20. Mr. Scott addressed a wide range of issues including an overview of railbelt operations, reliability, modeling results of possible benefits of a Transco, economic dispatch and power pooling using 2013 data. Homer Electric Association, Inc. (HEA) is filing these comments after considering this additional information from these sources.

Current HEA Participation in Railbelt Initiatives

HEA is working other Railbelt utilities to evaluate the efficacy of a Railbelt Transmission Organization and the benefits of economic dispatch through the creation of a voluntary power pool. As signatory to both Memorandum of Understanding Commencing a Centralized Power Pool dated April 24, 2015, and a Joint Development Agreement related to a Railbelt Transco

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dated May 22, 2015, the evaluations are proceeding in an organized and structured manner. In addition, HEA has met with several consultants that have made presentations to the Commission and believe opportunities can be more fully developed that benefit all ratepayers on the Railbelt.

In HEA's original comments it was clear that there was an underlying assumption by the Commission that the current transmission system was somehow broken, and that that utilities have overbuilt new generation. The latter point will be addressed in more detail below. HEA still disagrees that the existing transmission system is being operated in an ineffective and inefficient manner. Is there room for improvement? There probably is, especially now that the cost of fuel has increased over the last ten years. HEA is discussing possibilities for coordinating and improving utility operation with other Railbelt utilities to determine whether additional improvements are possible beyond what the utilities are doing today.

The Fiction of Excess Generation

The Commission has commented during these public meetings that the utilities have overbuilt the amount of generation that the Railbelt needs. The underlying assumption is that the Railbelt utilities found themselves in this circumstance because they did not jointly plan for their future generation resources. Moreover, had they planned jointly, either voluntarily or under compulsion by regulations, the result would have been less new generation capacity built over the last few years.

HEA does not agree with this conclusion. Indeed, HEA believes that the Railbelt has the correct amount of new – both reliable and very efficient – generation for the amount of load in the Railbelt.

The attached two page schedule (Attachment 1) illustrates this very clearly. The first page represents how the Railbelt is usually pictured; it lists all the existing Railbelt units as well as the two new units that ML&P should have in operation in 2016. This table includes the year each unit was put in service, and its nameplate capacity. The total installed capacity from Homer

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to Fairbanks is 1,941 MW, and the sum of the 2014 peaks of the five[1] Railbelt utilities is 852 MW. This suggests that the Railbelt has 1,089 MW of installed capacity in excess of the connected loads in the Railbelt. This installed capacity includes a great deal of older generation that is highly inefficient and becoming less reliable and more expensive to operate & maintain.

The second page of the exhibit has the same basic information as the first page but it excludes most of the generation that was placed in service before 1985, i.e. has been in operation for more than 30 years. In addition to all thermal units placed in service in the last 30 years, the exhibit includes the three hydroelectric projects – Cooper Lake, Eklutna, and Bradley Lake – as well as GVEA's two Healy coal plants and Aurora Energy's coal units. This list of the newer generation only has 961 MW of installed capacity to meet the 852 MW of peak demand – a margin of only 13% over the 2014 peak.

The Alaskan Railbelt had explosive growth during the early 70's and much of the existing fleet of generation was built during that boom. That equipment is now on the order of 45 years old. Though the equipment can be repaired and made serviceable, technology has made that older equipment less valuable because of the inefficiencies of the technology at the time. In the 70's gas in the Railbelt could be had for $0.22 per MCF, but today it is around $7.00 per MCF. This price increase forces the utilities to embrace newer more modern efficient equipment while holding the older units in reserve. Units that are Hydro based or rely on coal as a fuel do not suffer this issue with obsolescence to the same degree that gas turbines experience.

HEA understands why there is a general impression that the Railbelt has overbuilt its generation capacity; if one adds the capacity of the older generation to the newer capacity, the total is substantially higher than one would normally expect. Older units can be kept in service far longer than their official service lives, but they become more expensive to maintain, less reliable, and significantly less efficient. There comes a time when the cost of maintaining them exceeds any savings to be gained from postponing the construction of new units. However, these old units are useful functioning as peaking or reserve units.

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[1] The Seward Electrical System was excluded due to unavailability of its information. Its share of Bradley was included in Chugach Electric's.

Reliability, Self-Sufficiency, and Local Control

In Mr. Scott's presentations, he acknowledged that trying to monetize the benefits of electric grid reliability is difficult to accurately accomplish. The Alaskan climate requires that utilities' electric service be highly reliable during the winter months. An interruption of service during the winter is far more serious than it is in the rest of the United States.

Because Alaskan load centers are some distance from one another, and the cost of constructing transmission lines is high, the Railbelt transmission system does not enjoy the high degree of redundancy that enriches system reliability in the Lower 48 states. Accordingly the transmission system and underlying system operations have been designed and constructed with more local utility self-reliance in mind than elsewhere. This sheds light on why local control is so much more important for Alaska utilities, but especially in Fairbanks and on the Kenai Peninsula where there is only a single transmission path to the rest of the Railbelt.

Uniform Reliability Standards

Reliability standards were filed with the commission by both the Intertie Management Committee (IMC) and by HEA. While HEA agrees that uniform Railbelt-wide reliability criteria could be beneficial, the it needs to be agreed upon by all parties. There is a governance issue with the 'IMC reliability standards' in that HEA is not a member of the IMC, so it has no voice concerning 'IMC reliability standards'. The principle concern that HEA has with the 'IMC reliability standards' is the commercial allocation of the Railbelt spinning reserve burden between the utilities.

While the IMC has adopted its standards, they have often been ignored by either the Bradley Lake Project Management Committee (BPMC) or the individual utilities. In HEA's comments of March 31, 2015, HEA listed seven recent violations of these standards in the last two years.

It is obvious that this process is flawed. If there are going to be uniform reliability standards, some entity needs to be designated to audit and enforce the reliability criteria, or allow the relaxing of the standards, if a cost benefit analysis suggests that would be prudent. Further

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discussions are needed to determine whether the Commission or other entity should oversee the implementation and enforcement of Railbelt-wide reliability standards.

Railbelt Cooperation

The Commission often gets a distorted picture of the relationships among the Railbelt utilities because it only hears about disputes amongst the utilities. Certainly HEA has very real disputes with other utilities, but a great deal of its staff time is spent cooperatively working with other utilities whenever possible.

For example, a great deal of effort is made by the staffs of the several utilities to coordinate outage activities. Now the utilities' staff members have weekly conference calls to discuss their outage requirements. The calls are very helpful, and all the utilities go out of their way to accommodate other utilities' outage needs even as these needs change over time.

Economic Dispatch

Absent a transparent model for economic dispatching of the Railbelt, HEA remains skeptical of the magnitude of savings to be realized by Railbelt electric customers. Constructing a model to reflect Railbelt constraints – including must-run generation units, constraints of gas contract provisions and additional reliability requirements made necessary by the topography of the Railbelt system – is not particularly difficult but requires the full cooperation of all the utilities and needs to be verified by these entities as they feel necessary.

Before this model would be useful it would need to address many additional issues. A partial list is included here:

- Capacity is important and is measured in MW or sometimes KW.
- Energy is important and is measured in MWh or sometime KWh.
- Spin is readily available capacity.
- Reserves are capacity available in a short period (like starting a unit when another fails).
- Capacity must exist on the transmission path for both the current energy transfer at the moment (in MW) and the probable Spin capacity transferred (in MW) if there were to be a problem.

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- Remote plants suffer from having to pay wheeling tariffs which can make them noncompetitive.
- Remote plants suffer from losses that are a function of the path to the load center and the congestion of that path. (Losses go up as the square of the Power transferred).
- Optimized dispatch assigns a "Penalty factor" to account for the costs of losses and tariffs.
- The ultimate dispatch scenario arrived at is a multi-constrained problem.
- At times it is not clear which constraint should govern:
    - Many gas contracts have a minimum take (may be annually, daily or even hourly).
    - Many gas contracts have a maximum take (may be annually, daily or even hourly).
    - Many gas contracts have a maximum rate.
    - Unit commitment is made in advance planning on the load to be served.
    - Once the units are committed it is like a sunk cost, there is a stiff cost to re-committing the units.
    - Load is a function of the following:
        - Day of the week
        - Weekend
        - Season
        - Temperature
        - Holiday
        - Historical trend (example: if it has been cold for 3 days the load increases more than you would see for that given temperature)
        - Believe it or not load correlates to salmon runs (freezers).
    - Having determined the probable load one then commits ones units. (This has to include spin considerations).
    - Gas is scheduled and committed to.

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- Units are started and run according to the projected load curves.
- Deviations are dealt with as one can (opportunity here for short term sales / purchases) if transmission capacity is available.

- Unit choice can be constrained by security (reliability concerns).
- Unit choice can be constrained by environmental concerns (emission constrained dispatch).
- Dispatch can be constrained by "must run" contracts.
- Dispatch can be constrained by spill conditions at a Hydro facility.
- Dispatch can be constrained by gas availability and gas contracts.

Governance

Governance is a significnt issue that should not be overlooked. Mr. Scott has raised many points about governance pitfalls and advantages. These issues would best be addressed by further discussions, but only after there is greater clarity as to the direction the Railbelt is headed.

Legal Authority of the Commission

The extent of the Commission's existing legal authority has been extensively briefed in HEA's comments of March 31, 2015. In general the Commission:

- Does not have authority to order the Railbelt electric utilities to jointly and cooperatively manage their generation and transmission assets,
- Does not have authority to *sua sponte* investigate, hold hearings, or order interconnection unless the filing of an application has been satisfied, and even the Commission's authority is limited to the scope of that application.
- Lacks the authority to mandate the adoption of reliability standards, but it does have the authority to resolve disputes concerning the application of these standards.

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What Next

There are three areas needing further investigation –technical issues, governance issues, and statutory and regulatory modifications, if any, to implement the solutions decided upon. A series of technical workshops with follow-up questions for the participants would be most effective for moving this process forward. An R-docket does not need to be opened until there is a general consensus as to what path we are taking.

HEA looks forward to participating in future workshops with the Commission. It expects to introduce additional ways to address these issues.

Dated this 17th day of June, 2015 at Kenai, Alaska.

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		Year in Service	Capacity	GVEA	Chugach	ML&P	HEA	MEA
GVEA	North Pole 1	1976	60.0	60.0				
GVEA	North Pole 2	1976	61.0	61.0				
GVEA	North Pole 3	2006	51.3	51.3				
GVEA	Northpole 4	2006	12.0	12.0				
GVEA	Aurora PP	unk	25.0	25.0				
GVEA	Zehnder #1	1975	20.0	20.0				
GVEA	Zehnder #2	1972	21.0	21.0				
GVEA	Delta Power Plant	1976	23.0	23.0				
GVEA	Healy 1	1967	28.0	28.0				
GVEA	Healy 2	2015	51.0	51.0				
Chugach	Beluga Unit 1	1968	19.6		19.6			
Chugach	Beluga Unit 2	1968	19.6		19.6			
Chugach	Beluga Unit 3	1973	64.8		64.8			
Chugach	Beluga Unit 5	1975	68.7		68.7			
Chugach	Beluga Unit 6	1976	79.2		79.2			
Chugach	Beluga Unit 7	1978	80.1		80.1			
Chugach	Beluga 8	1981	53.0		53.0			
Chugach	International 1	1964	14.1		14.1			
Chugach	International 2	1965	14.1		14.1			
Chugach	International 3	1969	18.5		18.5			
Chugach/ML&P	SPP	2013	57.4		40.2	17.2		
Chugach/ML&P	SPP	2013	47.6		33.3	14.3		
Chugach/ML&P	SPP	2013	47.6		33.3	14.3		
Chugach/ML&P	SPP	2013	47.6		33.3	14.3		
ML&P	Plant 1 Unit 1	1963	17.0			17.0		
ML&P	Plant 1 Unit 2	1964	17.0			17.0		
ML&P	Plant 1 Unit 3	2007	20.0			20.0		
ML&P	Plant 1 Unit 4	1972	35.0			35.0		
ML&P	Plant 2 unit 5/6	1976	37.4			37.4		
ML&P	Plant 2 Unit 7/6	1979	110.0			110.0		
ML&P	Plant 2 Unit 8	1984	88.0			88.0		
HEA	Bernice Lake 2	1976	19.0				19.0	
HEA	Bernice Lake 3	1978	28.0				28.0	
HEA	Bernice Lake 4	1981	23.0				23.0	
HEA	Nikiski CT	1987	42.0				42.0	
HEA	Nikiski SGT	2013	40.0				40.0	
HEA	Soldotna 1	2014	40.0				40.0	
MEA	Wartsila - 1	2015	17.1					17.1
MEA	Wartsila - 2	2015	17.1					17.1
MEA	Wartsila - 3	2015	17.1					17.1
MEA	Wartsila - 4	2015	17.1					17.1
MEA	Wartsila - 5	2015	17.1					17.1
MEA	Wartsila - 6	2015	17.1					17.1
MEA	Wartsila - 7	2015	17.1					17.1
MEA	Wartsila - 8	2015	17.1					17.1
MEA	Wartsila - 9	2015	17.1					17.1
MEA	Wartsila - 10	2015	17.1					17.1
Chugach	Cooper Lake	1960	19.2		20.0			
Jointly	Eklutna Hydro	1955	40.0		12.0	21.3		6.7
Jointly	Bradley Lake	1991	90.0	15.2	28.3	23.3	10.8	12.4
ML&P	Plant 2 Annex	2016	120.0			120.0		
	Total Installed Capacity		1,941	368	632	549	203	190
	2014 System Peak (MW)		852	202	280	161	79	130
	Capacity in excess of 2014 Peal		1,089	166	352	388	124	60
	Excess Capacity as % of 2014 I		128%	82%	126%	241%	157%	46%

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Newer Thermal Electric Generation

		Year in Service	Capacity	GVEA	Chugach	ML&P	HEA	MEA
GVEA	Healy 1	1967	28	28				
GVEA	Aurora PP		25	25				
HEA	Nikiski CT	1987	42				42	
GVEA	Healy 2	2015	51	51				
GVEA	North Pole 3	2006	50	50				
GVEA	Northpole 4	2006	10	10				
ML&P	Plant 1 Unit 3	2007	35			35		
Chugach/ML&P	SPP	2013	57		40	17		
Chugach/ML&P	SPP	2013	48		33	14		
Chugach/ML&P	SPP	2013	48		33	14		
Chugach/ML&P	SPP	2013	48		33	14		
HEA	Nikiski SGT	2013	40				40	
HEA	Soldotna 1	2014	40				40	
MEA	Wartsila - 1	2015	17					17
MEA	Wartsila - 2	2015	17					17
MEA	Wartsila - 3	2015	17					17
MEA	Wartsila - 4	2015	17					17
MEA	Wartsila - 5	2015	17					17
MEA	Wartsila - 6	2015	17					17
MEA	Wartsila - 7	2015	17					17
MEA	Wartsila - 8	2015	17					17
MEA	Wartsila - 9	2015	17					17
MEA	Wartsila - 10	2015	17					17
Chugach	Cooper Lake	1960	19		20			
Jointly	Eklutna Hydro	1955	40		12	21		7
Jointly	Bradley Lake	1991	90	15	28	23	11	12
ML&P	Plant 2 Annex	2016	120			120		
Installed Capacity In-Service after 1986			961	179	200	260	133	190
	2014 System Peak (MW)		852	202	280	161	79	130
Capacity in excess of 2014 Peak			109	(23)	(80)	99	54	60
Excess Capacity as % of 2014 Load			13%	-11%	-28%	61%	68%	46%

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MEA RESPONSES TO RCA

Pursuant to the Commission's February 27, 2015 Order in this proceeding,[1] Matanuska Electric Association, Inc. ("MEA") hereby files responses regarding the operation and regulation of the Alaska Railbelt electric transmission system.

RCA-1. Would the creation of an independent system operator or similar structure for electric utilities in the Railbelt be the best option for effective and efficient electrical transmission? If not, what other approach would be best?

Response: An independent system operator that can economically dispatch available Railbelt electricity is the logical and best option for increased electrical efficiency in the Railbelt. The system operator would be able to maximize generation efficiency subject to specific system requirements and transmission availability. The operator has to be truly independent. ARCTEC was established in part to serve as such an independent system operator.

MEA is currently under contract with Chugach to dispatch power for both utilities. This arrangement has worked successfully in the past. Should dispatch operations

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[1] Order Opening Docket and Requesting Responses, Order No. 1, Docket No. I-15-001 (Feb. 27, 2015).

proceed fairly and equitably, it is MEA's intent that this agreement move toward an economic dispatch configuration for two or more utilities. Since Chugach and MEA already share a common load balancing area under the past agreements, the next step would be to incorporate Golden Valley, and then ML&P, or other utilities, into the system, by working toward economic dispatch amongst their respective plants as soon as practical.

RCA-2. To what extent does our existing statutory and regulatory authority extend to mandating the creation of an independent system operator or similar entity and to regulating the rates and practices of such an entity.

Response: There is no express statutory authority to mandate the creation of an independent system operator or similar entity, or to regulate the rates and practices of such an entity, nor are there regulations that address the question. While the Regulatory Commission of Alaska ("RCA") could seek to establish such an independent system operator pursuant to its general regulatory authority, that effort could be subject to legal challenge.

The RCA would presumably seek to rely on its "general powers" as set forth in AS 42.05.141 which provides, in pertinent part, "The [RCA] may do all things necessary or proper to carry out the purposes and exercise the powers expressly granted or reasonably implied in this chapter."

This language is similar to statutory provisions that are included in the enabling statutes of other regulatory authorities. For example, the Maryland Public Utilities Code provides that "[t]he Commission has the implied and incidental powers needed or proper to carry out its functions under this division." PUC § 2-112(b)(2). However, such non-specific grants of authority are often interpreted to provide only such incidental authority as is necessary to effectuate a specific grant of authority provided elsewhere in the

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statute, rather than a general grant of authority to effectuate the broader purposes of the statute. For example, in *Severstal Sparrows Point, LLC v. Public Service Commission of Maryland*, 5 A.3d 713 (2010), the Maryland Court of Special Appeals reversed a final order of the Maryland commission that had temporarily increased the retail rates of a certain class of large commercial Standard Offer Service customers (i.e. customers electing to take service from existing utility providers rather than non-utility retail service providers) in order to make up for a revenue shortfall caused by a statutory rate cap. The commission had justified its decision as "consistent with the public good" despite the fact that there was no express authority for such a rate adjustment. The appeal court reversed on the ground that the commission's "implied and incidental powers" could not be used to justify a decision not otherwise authorized in the statute, since "it would be contrary to the spirit of statutory interpretation to read such a 'gap-filling' provision as granting powers otherwise not granted in the PUC Article."

Similarly, the Federal Energy Regulatory Commission ("FERC") has for more than a decade encouraged jurisdictional utilities to join large, regional transmission organizations ("RTO"s) or independent system operators ("ISO"s) responsible for the independent operation of the regional grid. There is no express statutory authority for the establishment of such organizations, and FERC has never tested or directly asserted its authority to establish them. Instead, it has both encouraged utilities to join such organizations and (in some instances) made joining a RTO or ISO a condition of a proposed merger.

Major state restructuring initiatives such as the one under consideration in this docket inevitably implicate all stakeholders in the sector, and are often the end result of lengthy and detailed processes to establish a workable and acceptable model. MEA respectfully suggests that the RCA would be well served by facilitating a stakeholder

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involved process designed to achieve maximum consensus, that would ultimately be supported by express statutory authority to support the establishment of an independent system operator.

The commission should put the horse in front of the cart, and first seek, through a stakeholder process, to explore how an independent system operator could improve the reliable operation of Alaska's electric utility system and benefit Alaska's ratepayers. Doing so will lead to secondary questions of whether there is a consensus about how required transmission issues may be addressed and to what extent statutory change is necessary to compel regional transmission regulation.

RCA-3. Are existing statutes and regulations governing our regulation of electric transmission adequate for us to effectively address current and future Railbelt transmission issues?

Response: The existing statutes and regulations were, for historical reasons, written by reference to the regulatory paradigm that governed the electric power industry during its first century: individual electric utilities, each exclusively serving a geographically defined service territory, and each of whose rates and services were to be established by the RCA.

As indicated in MEA's response to Question 2, the statute and regulations are silent on the question of the RCA's authority to establish and regulate an entity such as a transmission system operator. In addition, there is no unitary model or definition of a transmission system operator. Some models contemplate transfer of ownership and control to the independent operator. Others contemplate transfer of control but not ownership. In addition, there is no uniform template on issues such as governance or regulation. And an independent operator could perform a variety of functions, including transmission planning and development, grid operation, capacity planning, real-time and

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day-ahead markets, etc.; or it could limit itself simply to facilitating and optimizing economic interchanges between member companies. Some of these functions could potentially be accommodated under the existing law and regulations, but others might not.

All of this reinforces the central point made in MEA's response to Question 2.

RCA-4. If our regulations require changes, what specific changes should be considered in a rulemaking docket and is it appropriate to consider making those changes at this time?

Response: As discussed in our responses to Question 2 and 3, MEA believes that stakeholders and the commission should first explore whether establishment of an independent system operator is in the best interests of Alaska's ratepayers, and if so what type of system operator and/or a railbelt transmission operator would be optimal. Until those questions are explored, MEA believes that it would be premature to propose changes to the RCA's existing regulations.

RCA-5. If Regulatory changes are found to be necessary, how narrow or broad should a rulemaking docket be and what scoping process should be used to determine the boundaries of the proceeding?

Response: Please see our response to Question 4.

RCA-6. Regarding the reliability of electric service, is our authority limited to addressing utility practices and service quality within each utility's service territory, or does it extend across service territory boundaries such that, for example, we can address the effects of one utility's practices on the service quality of another's utility?

Response: This question has already been answered in the affirmative by the RCA. While it is unclear whether statutory authority exists to support the action, the RCA in recent transmission rate cases has addressed the issue of service quality between

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utilities. Unless these actions are successfully challenged in court, inter-utility authority has been established by precedent.

In U-14-001, the RCA clearly stated their objective and intent to regulate transmission across utility boundaries: "Our goal as a Commission is to ensure that the Railbelt system continues as a functioning whole for all utilities." (U-14-001 Order 9 at 26). The RCA further acknowledged that it was setting transmission policy through existing dockets: "The record in a series of adjudicatory dockets may not be the appropriate forum to set transmission policy for the Railbelt." (U-14-001 Order 9 at 44)

Further evidence of the RCA's asserted authority can be found in U-13-203, the Homer transmission rate case, where the RCA examined, among other issues, the impact of different utilities' power movement through VAR's and reactive power on the Homer system.

RCA-7. Should there be a set of mandatory reliability standards for the Alaska Railbelt similar to those of the North American Electrical Reliability Corporation, and if so, do we or should we have the authority to mandate or regulate those standards (beyond the existing voluntary arrangements such as the existing Railbelt Operating and Reliability Standards)?

Response: There already exists a mandatory set of reliability standards for the Railbelt in the Railbelt Reliability Standards. These standards have been adopted and are adhered to by all major Railbelt utilities except Homer. But, the standards are set up to require any entity that seeks to interconnect to comply with the Railbelt Reliability interconnection criteria <u>and</u> to operate their system in accordance with these standards. While the standards are not subject to RCA regulation, they are nonetheless prudent and effective reliability standards that have served to provide safe and reliable power generation and transmission throughout the Railbelt. There is no need to create and implement a separate set of redundant reliability standards.

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RCA-8. Considering our authority to "promote the conservation of resources used in the generation of electric energy" under AS 42.05.141(c), to require reasonable management practices under AS 42.05.511, to provide rate recovery of energy conservation efforts, and other statutory grants of authority, do we have the authority to order the Railbelt electric utilities to jointly and cooperatively manage their generation and transmission assets, or is our authority limited to matters within each utility's service territory? If our authority is limited to each utility's operations within its particular service area without regard to other interconnected utilities, explain why it is limited.

Response: The RCA does not have the authority to order utilities to jointly and cooperatively generate or manage transmission assets under existing statutes. The regulatory authority granted under AS 42.141(c) and AS 42.05.511 is specific to a single utility.

Under AS 42.05.141(c), the establishment of electric rates shall promote conservation. Rate is a defined term in the statutes at AS 42.05.990(5). By defining a rate is something that is charged by a utility. A utility may have more than one rate, and most do. But this definition, and the absence of any statutory authorization in AS42.05.141(c) to regulate multiple utilities under the same rate seemingly precludes the RCA from imposing cooperative generation or transmission rates on multiple utilities.

AS 42.05.511 is also specific to a single utility. It allows the Commission to investigate a utility's management practices. This does not extend authority of the Commission to requiring cooperative operation between utilities. Under AS 42.05.511(b) the Commission could seemingly order one utility to operate another in a case of extreme mismanagement, after hearing. But that would not be a cooperative operating arrangement.

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RCA-9. Do AS 42.05.311(a) and other statutes provide us with the authority to order system-wide wheeling rates across utility-owned Railbelt transmission facilities, even if ownership of the facilities remains with individual utilities?

Response: AS 42.05.311(a) does not confer authority on the RCA to order system-wide wheeling rates. This statute deals specifically with the joint <u>use</u> of facilities, not a common rate. AS 42.05.311(c) clarifies this in that it requires the tariff of each public utility to set out how others may use their lines. This clearly is a tariff requirement related to physical access to build onto existing infrastructure, and confers no ratemaking authority on the Commission.

RCA-10. Does the AS 42.05 provide us with authority to review or regulate the integrated planning, determination of need for, and/or siting of new generation and transmission facilities of regulated electric utilities? If it does, how can that authority be employed to help ensure that new facilities are planned and constructed to optimize efficient and reliable provision of electric service to the entire Railbelt region?

Response: As discussed in our responses to Questions 2 and 3, MEA believes that AS 42.05 does not squarely address the RCA's authority to "review the integrated planning, determination of need for, and/or siting of new generation and transmission facilities" other than through the commission's traditional regulation of individual utilities. To begin with, as discussed in our response to Question 2, AS 42.05.141 sets forth the RCA's "general powers and duties," and provides to the RCA only the authority to "do all things necessary or proper *to carry out the purposes and exercise the powers expressly granted or reasonably implied in this chapter.*" AS 42.05.141(a) (emphasis supplied). The provision is thus by its terms not a specific grant of authority, but rather a general grant of authority to effectuate purposes set forth elsewhere in the statute. Nor does the statutory language in AS 42.05.311 ("Joint use and interconnection of

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facilities") speak directly to the commission's authority to implement integrated planning, through an independent system operator or otherwise, for the siting and development of new generation and transmission. AS 42.05.311 specifically requires regulated utilities that own (among other things) "utilidors, poles, pole lines, . . . or other distribution or transmission facilities" to provide access to those facilities to other public utilities under certain circumstances. AS 42.05.311(a). The commission would be hard pressed to interpret this long-standing statutory provision to authorize the integrated transmission or generation planning of the Railbelt utilities as a unitary entity, whether under the auspices of an independent system operator or otherwise.

RCA-11. What authority do we have to require or to encourage greater cooperation, power pooling, and/or centralized transmission system planning and operations among Railbelt electric utilities?

Response: MEA is unaware of any existing authority vested on the RCA to require inter-utility cogeneration, power pooling or centralized transmission planning or operations in the Railbelt. See also the response to RCA-2 above.

DATED at Palmer, Alaska this 31th day of March, 2015.

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RECEIVED
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STATE OF ALASKA

REGULATORY COMMISSION OF ALASKA

Before Commissioners:

Robert M. Pickett, Chairman
Steve MacAlpine
T. W. Patch
Norman Rokeberg
Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	))))	I-15-001

COMMENTS OF MATANUSKA ELECTRIC ASSOCIATION, INC. IN RESPONSE TO COMMENTS SUBMITTED MARCH 31, 2015

As part of an investigation into Railbelt transmission issues, the Regulatory Commission of Alaska ("RCA") posted broad ranging questions on policy and authority issues relating to the formation of a TRANSCO or ISO in I-15-001. Numerous responses were received from the Railbelt electric utilities, some independent power producers, and transmission companies interested in owning and/or operating Railbelt transmission assets. The commission has now requested reply comments to the initial round of comments. Matanuska Electric Association, Inc. ("MEA") accordingly submits these reply comments for consideration by the commission.

This is a somewhat unusual process, in that the RCA is seeking apparent preemptive authorization to regulate Railbelt transmission from those potentially impacted by the formation of a TRANSCO or ISO. Input has also been sought from those who are not regulated by the RCA, such as independent power producers and transmission operating companies, seeking to own and/or operate transmission assets in the Railbelt. What is absent from the comments received to date is anything from the Attorney General ("AG") speaking for the RCA itself. The AG is presumably in the best position to ascertain what authority the RCA does or does not

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have to undertake whatever it is that it plans to do. Under normal circumstances, if regulated entities cannot come to an agreement on an issue, it is up to the regulatory agency to ascertain its authority to address the issue and, if authority exists, to render a decision. Here, the RCA, in the absence of a complaint, is asking all stakeholders if it has authority to embark on unknown and undefined rulemaking.

MEA concurs with several commenters who address their inability to provide legal advice to the RCA. Furthermore, it is impossible for any responder to provide substantive comments on the ability of the RCA to undertake unknown and unspecified actions with respect to the establishment of either an ISO or a Transco. There seems to be a broad consensus that the RCA does not have express authority to undertake actions to regulate multiple utilities on a regional basis. But, the scope of regulatory authority that may already exist for the RCA to regulate actions between utilities is subject to debate. It is clear there is no explicit existing statutory authority for the RCA to undertake what it has proposed in the questions submitted for answer in this I-docket. The scope and extent of any implied authority is unclear. As they exist, regulations are geared toward the authority that the RCA has to control and direct the actions of specific utilities rather than regional or inter-utility operations.

The uncertainty surrounding the RCA's authority was reflected in Judge Lawrence's summary of the comments received to date. Those who favor RCA involvement in Railbelt transmission feel that the RCA has more authority to act under existing laws than those who are less inclined toward required control at this time. Perhaps most telling was Judge Lawrence's observation that some utilities having a clearly defined objective and are attempting to use the I-docket process to gain RCA support to advance their objectives.

The authority of the RCA to adopt reliability standards is also in dispute. Reliability standards have been voluntarily adopted in the Railbelt, but they are not strictly adhered to or enforced. Nonetheless, as Dr. Antony Scott found in his assessment of Railbelt reliability, the system is working quite well for what it is, and reliability has been quite good over the past 20

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years. As Dr. Scott also noted, there are questions about whether or not the RCA has the technical capabilities and resources to enforce reliability standards.

Another consistent theme throughout the comments was the uncertain nature of what the RCA is proposing to do with respect to transmission. Discussions have focused on what appears to be a belief that a universal transmission rate is in order. Recent RCA action seems to enforce this notion, which will exacerbate existing economic disparity between owners and users of transmission systems. This obviously presents discriminatory concerns for those who do not own significant transmission assets and /or those who may not be transmitting power over long distances. There are also legitimate concerns about whether a transmission operator would be a nonprofit or for-profit entity and how an additional layer in this system would impact utility costs and therefore member rates. A further consideration is how and to what extent utilities would be required to pledge or commit already encumbered transmission assets to a new TRANSCO.

Missing from the consideration of a TRANSCO is the fact that all Railbelt utilities have recently built new generation, and are at or near the limit of their borrowing capacity. Given the present state economic crisis, grant funding is not available. Perhaps a preliminary question that must be answered is whether there is economic benefit to be gained by the formation of a TRANSCO without the ability of the Railbelt electrics to finance significant improvements to transmission assets.

There seems to be more consensus in comments around some type of an independent system operator or economic dispatch arrangement. But, the general questions posed in this I-docket are insufficient to ascertain the scope and extent of what the RCA may be contemplating. There are clearly questions about whether the utilities can be compelled to participate in such an organization. There are issues relating to the ability of all utilities to recover on the capital improvements that they have built with respect to both generation and transmission.

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What all commenters seem to agree upon is that the nature and scope of the RCA's existing authority is unclear. Absent a clearly defined set of parameters about what the RCA proposes to initiate, it is purely speculative for anyone to opine whether or not the commission has authority to mandate undefined and uncertain actions with respect to initiation of an ISO or a TRANSCO. MEA continues to be interested in further discussions around both concepts. More clarity and specificity is needed if this process is to advance in a meaningful manner toward something that will benefit electric ratepayers throughout the Railbelt.

DATED at Palmer, Alaska this 30th day of April, 2015.

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MATANUSKA ELECTRIC ASSOCIATION

June 17, 2015

Regulatory Commission of Alaska
Department of Commerce and
Economic Development
State of Alaska
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Anchorage, AK 99501

RE: RCA Docket I-15-001

Dear Commissioners:

In response to request for comments from Chairman Pickett for this "I" docket on transmission, Matanuska Electric Association ("MEA") submits the following for inclusion in the record and consideration by the Commission for Docket I-15-001.

The Commission has received a comprehensive report from Dr. Antony Scott, an independent economist hired by the Commission to examine various transmission options for the Railbelt. Dr. Scott provided detailed presentations to the RCA over the past few months and concluded that the most viable economic option for the Railbelt would be a loose pool concept with some type of cooperative dispatch. Beyond that, the cost of setting up a new organizational structure such as a board governed independent operator or a Transco did not provide sufficient economic benefit to warrant the substantial undertaking required for implementation. On balance, MEA agrees with the findings of Dr. Scott and believes that his proposal presents the best near-term path forward for economic efficiency at a reasonable cost in the Railbelt. While there clearly are several other options to consider, each comes at significant organizational cost and has complicated commercial and contractual hurdles to overcome. In addition, each requires additional layers of bureaucracy with associated set-up and ongoing operational expenses which would be borne by the ratepayers. Also, regulation by the RCA brings the risk of extending the business decision process beyond what is reasonable and economic for this marketplace.

There are several factors about Railbelt electric operations that Dr. Scott did not mention in his reports that are important. MEA points out these factors for RCA edification and consideration, but believes that on balance, their inclusion would not change the best path forward. Rather, these factors likely lend greater support to the loose-pool concept and gradual path forward approach that Dr. Scott recommends.

Non-current cost modeling was used for the Railbelt. Cost reporting obviously lags real time, and something has to be used as a baseline. But, as the Commission is well aware, Railbelt electric cost structures have changed significantly in the past few years with the addition of generation and the shifting of load among utilities. Decentralization of generation has increased

both reliability and control for each utility and correspondingly decreased the need for improved interconnection capacity for reliability reasons. In addition, recent substantial increases in transmission rates and the start of commissioning for the rehabilitated coal plant at Healy have dramatically decreased the economic benefits of economy energy sales either north or south of the greater Anchorage area. Now, rather than becoming more integrated and co-dependent [as Commissioner McAlpine noted] Homer Electric Association ("HEA") and Golden Valley Electric Association ("GVEA") are more independent. The existing transmission interconnection provides the ability to share reserves as necessary and economically warranted.

There already is a degree of cooperation among Anchorage utilities with Chugach Electric Association (Chugach) dispatching MEA's electricity and natural gas. In addition, there is a necessary loose-pool relationship that exists between Anchorage Municipal Light and Power (ML&P) and Chugach arising out of their joint ownership of the South Power Plant. MEA expects the loose pool arrangement to increase among the three Anchorage utilities as MEA and ML&P have surplus power for sale under their economy energy tariffs.

In addition, there are two recent developments that advance the loose-pool concept. MEA has posted economy energy for sale on a day ahead basis. ML&P has procured new economic dispatch software program and stated it will be available to all Railbelt electrics to track their unit operations and savings on a daily basis. MEA expects that these two developments will clarify and define the costs and benefits of economic dispatch and power pooling for Railbelt utilities over the next year. With that information, prudent decisions can be made about the structure and operations of economic dispatch in the Railbelt. For example, over the two days preceding the distribution of these comments, MEA has been selling all of our available excess power to ML&P. We have also had inquiries from Chugach about power for sale, but did not have the additional capacity to sell. In addition, during the times when MEA was not making sales, we have purchased spin as available from other utilities to maximize our efficiency.

Dr. Scott referenced reliability and acknowledged that it was hard to price. He also observed that the system has worked pretty well over the past 20 years. All utilities except Homer have adopted and agreed to operate in accordance with the Railbelt Operating and Reliability Standards. There has been extensive comment about the need for the RCA to adopt formal reliability standards patterned after those used in the Lower-48. MEA believes the existing standards better serve the unique conditions of the Railbelt. These reliability standards can be administered and enforced by the Intertie Management Committee ("IMC"), which has the technical and operational expertise to do so. HEA's decision to operate with a lower level of spin is being assessed by the IMC, and appropriate decisions will be made about whether and how they may claim and use reserves.

The one thing missing from the Railbelt Operating and Reliability Standards is enforcement. Enforcement language was originally drafted and then dropped from these standards in favor of time. MEA proposes that the enforcement provisions be resurrected and included in the Railbelt Operating and Reliability standards, with enforcement handled by the Intertie Management Committee ("IMC"). Final appeal could be through the RCA.

In this transmission docket, the overriding question is what the RCA should do about transmission, ostensibly to improve economic efficiency. Unfortunately, there are two major regulatory issues complicating Railbelt transmission and the current proposals to enhance

efficiency through a System Operator and a Transco. One is existing transmission use and rate structure and the other is the ENSTAR gas transportation tariff. Both will be addressed below.

Chugach owns the vast majority of the transmission assets in the Railbelt. At present Chugach has been successful in obtaining Commission approval for a postage stamp wheeling rate on its entire transmission system. As has been articulated in prior rate cases, this imposes obvious economic constraints on the movement of power to the north and south of Anchorage. The most glaring example of this constraint is Chugach's ability to charge its system-wide postage stamp rate for all power crossing the Teeland substation, even if this is the only part of the Chugach system that the power touches under a contract path. This gives Chugach an economic advantage on all power moving north to GVEA customers. It is in direct conflict with mandates from the Governor's office to reduce energy costs in the Interior. The RCA has agreed with the Chugach assertion that their entire transmission system is necessary to support power sales north. While this provides a great economic benefit to Chugach, it is an operational fallacy. No operator can identify where and how electrons flow - they will always take the path of least resistance. In fact a power-flow study conducted by Chugach showed that a significant percentage of power for which Chugach was receiving wheeling revenue was in fact flowing over MEA and ML&P lines. Neither of these utilities is being paid by Chugach for this use of their transmission assets. If economic dispatch is to have any hope of success, transmission rates have to be distance sensitive and use a contract path. For example, a transaction wheeling power from Anchorage north to GVEA does not use and should not pay for unrelated transmission assets such as those south of University substation.

Chugach, in a promotional report prepared by its rate case experts (NERA), advocates for a USO and a Transco. In that report, the author noted that the analysis was based upon material prepared by Chugach. It is noteworthy that Chugach's consultant felt the need to reference that the conclusions were not based upon independent analysis. In fact, the conclusions were dependent on information provided by Chugach that was inconsistent with Dr. Scott's independent analysis, and that of individual's knowledgeable about Fairbanks' projections and operations. The report highlights a free-rider issue for transmission and refers to an aging submarine cable owned by Chugach that may soon need replacement. While Chugach claims the line is used by other electrics in their delivery operations, Chugach has not demonstrated that this cable field provides any significant system support that cannot be provided by other less expensive means except to Chugach's generating assets. Without debating the merits of the need for this particular asset for Railbelt transmission, it is necessary to objectively identify those transmission assets used by others, regardless of ownership and define distance-sensitive rates. Otherwise, a postage-stamp or system-wide rate will present economic hurdles to improving electrical efficiency in the Railbelt.

For example, Chugach transmission assets south of University are not part of a wheeling transmission system used by the Anchorage electrics. That part of Chugach's system was built for and serves the Kenai Peninsula and to bring Cooper Lake hydro to Anchorage. It also serves Chugach customers in Hope, Whittier, and Seward. It is Chugach customers that should pay for this part of the system. It is true that five utilities receive Bradley Lake power over these lines. But, the Bradley Lake transmission rate is set by contract and compensates Chugach for that use of its system. It may be appropriate to have a distance sensitive rate for this transmission segment, should a utility desire to engage in power transactions with Homer. However, the mistaken notion that Cooper Lake provides VAR support to MEA or that Beluga

provides black-start capability for GVEA prevents the implementation of realistic and reasonable transmission rates and will curtail economic dispatch or economy energy sale benefits.

The Railbelt electric utilities should not be economically penalized by this situation as they are not the cost-causers. While Chugach's objectives are not totally transparent, it appears they want all utilities to contribute to the recovery of their transmission system costs. This is reflected in the continued request for a system-wide rate and the assertion that while participation in a Transco must be voluntary, all non-participants must apparently include their assets in rates (NERA report sec 4.2.3). In addition, the NERA report recommends that existing utilities (Chugach) be hired to operate the system. MEA believes it would be prudent for Dr. Scott or another independent economist to review the NERA report to examine the assumptions used to see whether they incorporate existing and projected operating scenarios and prepare comments for this docket.

The second major constraint to economic dispatch is significant fuel transport restrictions imposed by ENSTAR. The recent proposed doubling of the gas transport rate for electric utilities along with very tight volume and off-take restrictions prevent the optimization of economic dispatch by the electrics. These limitations are already reducing potential cost savings for Anchorage utilities by complicating their ability to burn the lowest cost gas in the most efficient units because of volume and delivery penalties ENSTAR imposes on utilities shipping gas. This contrasts with the recent consolidation of operations by Harvest, which allows KBPL Shippers greater deliverability and volume options as well as volume reconciliation provisions without penalty. These options have been used by Chugach and MEA recently to optimize the economics of some of their generation operations to the benefit of our members.

MEA has specific comments about the Chugach/NERA document. MEA will discuss the results as if they are accurate, but is concerned that the modeling is too simplistic (i.e. projecting 50 years of costs/savings via multiplying a single year) to be realistic. The not-yet-constructed generation units in the model could already be retired by the end of that period. A risk is that the costs (for example, transmission build out) will be real, but the savings would be yet-to-be determined.

Comments on the NERA report with citation numbers are as follows:

1.3(2): Bilateral agreements could be as small or as encompassing as the bookends of the study. The value ($240M) is arbitrary and could be easily manipulated.

1.3(4): The study seems to imply that the only way to get interregional or transmission outside of one's service territory is via a Transco. The utilities did fund and cause to be built the transmission line between Bradley Junction and Soldotna. Later, in section 5, Chugach/NERA admits that forming a Transco in itself doesn't guarantee the building of any lines. This raises the question of the need for a Transco, particularly at this time.

P10, 1st bullet: Here and in other sections, Chugach/NERA is concerned with what they refer to as a free-rider problem. Elsewhere they describe how this will be alleviated, but in actuality, it transfers the problem to some other entity as ML&P has brought up in earlier meetings. As is often the case when allocating costs, someone will be disadvantaged, whether you allocate by energy, demand, or even by square feet of office space. Each utility is different and it's unlikely

that any simple ratio will be "fair" to everyone. The point being is that forming a USO or Transco will not make the free-rider problem go away.

P10, 2nd bullet: MEA strongly disagrees with Chugach/NERA that the current model of fuel and purchased power costs being passed through to consumers provides no incentive for utilities to finance cost-effective transmission assets to reduce these fuel costs. MEA's staff and board are very concerned about fuel and purchased power costs. MEA has studied and planned for a new in-service territory highly efficient and reliable transmission system for the last 7 years. The fact that those costs are simply "passed through" does not alleviate their concerns or cause them to be less important to member customers.

2.1, 2nd para: Chugach/NERA states the "Railbelt has recently moved towards decentralized localized dispatch, operations and planning of individual utility systems". It is true that MEA is no longer Chugach's wholesale customer for energy purchases, but it has always provided its own operations and planning. MEA has also demonstrated our willingness to partner with other utilities when there is value to both entities; as with our agreement to use Chugach's gas and electrical scheduling and dispatching expertise.

2.1, 4th para: Chugach/NERA states there are concerns about the "gradual moves to decrease coordination". In fact, what has decreased is the number of wholesale customers that Chugach has. Inter utility coordination has increased with the work on the IMC reliability standards and work on dynamic scheduling of Bradley for the utilities, which is soon to be in the testing phase.

P16, bottom: Chugach/NERA brings up an interesting question. The concern is that, with respect to their 230 kV submarine circuit, the revenue stream is "neither sufficiently assured nor significant enough in magnitude to justify capital expenditures" in what they later describe as cables that are "40 years old and will need replacement eventually, perhaps sooner rather than later". The question is that on one side Chugach is promoting the Transco option to obtain the assured revenue stream significant enough to justify capital expenditure, but wouldn't it be the Transco rather than Chugach that builds the replacement (assuming studies at the time implied that re-laying cables would be the best option)? And hasn't Chugach been collecting revenue for that transmission cable replacement over the past 40 years?

2.3.3 first para: "Absent some type of reform it is likely that the reliability degradation that has been seen since disaggregation began will continue to deteriorate and even accelerate". The majority of the degradation and outages that have been seen have been due to startup and shakedown of new power plants, including Chugach's South Power Plant. Having a USO or Transco will not alleviate new plant trips. There would be no reason to expect acceleration of reliability degradation of these plants after shakedown; instead one would expect them to be more reliable, at least until near the end of their useful life.

4.1.2 4th bullet: "Strive to ensure an equitable distribution of costs and benefits across the region" makes for a good mission statement, but MEA has concerns on how this will actually be implemented. How does the USO (and in a later section the Transco) handle the reality that different regions may have differing levels of reliability but they will all (ignoring transition rates) be paying the same rate.

4.1.2 6th bullet: Here, and elsewhere, the organizational structure is labeled as "Independent", but the majority of the governance is chosen because of who they represent. This is not independence at all, but more of an attempt at a wide breadth of representation. How will voting occur, i.e. simple majority, super majority, unanimity?

4.1.2 10th bullet: Here and elsewhere, there is desire to avoid duplication of facilities. Presumably Chugach/NERA recognizes that duplication in some form is necessary to avoid N-1 outage issues.

4.1.2 15th bullet: Chugach/NERA states one of the main functions of the ISO is to assist the RCA in administration of a tariff that in part promotes "expansion of transmission and generation facilities". Presumably this would be tempered to only build those facilities that are actually needed.

4.1.2 19th bullet: MEA understands the use of ramp in rates but would need more details on how they may affect MEA and for how long before it could support such a proposal.

4.1.2 20th bullet: "Existing transmission assets used for the benefit of the Railbelt region will receive full cost recovery". Little is said of how it will be determined which assets are a benefit, and possibly what are the levels of cost recovery that are less than full? How/who determines this?

4.1.2 21st bullet: Chugach/NERA promotes accelerated cost recovery. Presumably investors would like to see this, but it would tend to increase costs to the ratepayers in a most non-cost-causer, cost-payer way.

4.1.3: Chugach/NERA states that a high level of board expertise will be vital for the USO to fulfill its mission. Traditionally, it is staff that is expected to have such expertise. The section also discusses what a typical board composition may be. To the extent that it has representatives of the legacy utilities, such people will likely be appointed by the individual utilities, but how are the other positions chosen? How and where can a pool of knowledgeable independent board members be found? And, at what cost?

4.1.4: The Chugach/NERA recommendation is for the USO to ultimately be paid for by the end-use customers. As such, it would appear for example, that an IPP would not pay anything toward the USO. In a previous RCA meeting, Chugach felt the timing was good for a USO for various reasons, one of which was there were few bilaterals at this time. Does the Chugach/NERA vision of a USO still allow for bilaterals and if so, how are regulation costs (an IPP windfarm for example) handled? If not, does an IPP directly contract with the USO and how is distributed generation handled?

4.2: As utility participation may be voluntary (end of 4.2.3), MEA would like to know the pros and cons of joining a Transco.

4.2.1 18th and 19th bullet: Why does Chugach/NERA leave the door open for the Transco to be permitted to perform some of the duties of the USO when much of the document details why they should be separate and independent of each other?

4.2.2: How are the Transco board members chosen/appointed? Same issues as 4.1.3 above.

4.2.3 3rd para: The Chugach/NERA report states that "standardization of O&M procedures will enhance safety and increase economies of scale" yet elsewhere MEA was lead to believe that much of the O&M on the transmission lines will be performed by those who had historically played this role. Since most, if not all of, the Alaska vertically-integrated utilities used their own field crews for both distribution as well as transmission, it is not clear to MEA how having standardized procedures for the transmission side but possibly different procedures for the legacy distribution side for work by the same people will lead to enhanced productivity or safety.

6.1.2: Chugach/NERA performed a benchmark comparison and judged it to be "good" due to the small differences between what was modeled and what the utilities actually did. MEA has some confusion as to why in 3.1.1 the authors say that "Analysis of dispatch patterns shows that virtually every hour there are generators with high production costs running while other lower-cost ones are sitting idle or at low levels of output. The extra cost incurred in this situation is referred to as 'out of merit dispatch costs'. These are real costs that Alaskan consumers are paying through their electricity tariffs." Are the authors saying that the "out of merit dispatch costs" are unimportant or that the benchmark is not "good"?

6.2 2nd para: MEA agrees that there could be reliability benefits that the models do not attribute value to. However, the discussion in these paragraphs is one-sided. The report indicates that "disaggregation" may increase unserved energy (outages) yet it is very likely that the opposite has happened since disaggregation in general may result in more capacity being constructed than in the aggregated case. Large transmission level outages (blackouts) will necessarily take longer to restore in the USO case than in the multiple control center case where each area is independently (islanded) and simultaneously restoring their systems. At worse, the outage times could be additive between the different areas rather than simultaneous. Assuming the USO fairly restores (via coordination with the distribution control centers) loads proportionally, every utility will have some outages in their system that were near last to be put back on, whereas currently many of the smaller utilities can restore their entire load in much shorter time than those of the largest size.

6.2 1st bullet: MEA agrees operating and planning reliability standards should have developed documentation. The IMC-approved Operating and Reliability Standards of October 2013 are those documents.

6.6.3 1st para: MEA agrees that a USO and a Transco may reduce the quantity of regulation and reserves being carried, but in fairness it reminds Chugach that it, MEA and others have all had plant trips that were beyond the N-1 which the Railbelt plans for. Reduced reserves would have made those incidents worse.

6.6.3 2nd para: Similarly, a small wind farm selling to multiple parties may find that a USO carries less regulating room than the sum of the individual utilities that it was selling to.

Dr. Scott's reports contain several important points that should be considered, regardless of any action taken or recommended by the Commission. Existing utilities must have a say in both the planning and operation of electric operations in the Railbelt. These entities have the most knowledge and experience about how both gas and electric systems work and will help ensure

a well-intentioned decision does not result in unintended consequences for ratepayers. The Commission should be mindful of the fact, as noted by Dr. Scott, that despite numerous limitations and challenges, the system has been quite reliable. This is a testament to the men and women who actually operate generation and transmission on a day-to-day basis. While utility leadership have disputes about who should pay for what, each day, the lights remain on, and the cost and accounting to make this happen gets sorted out in subsequent months or years.

Any oversight change must ensure that no one utility can dominate the governing or operational process. We believe governance should also be by more than just utility representatives, however, there may be difficulty in obtaining sufficient qualified and knowledgeable people to serve who are free of potential conflicts of interest. Governing members will have to be compensated, which increases costs for oversight. Dr. Scott further noted correctly that the RCA should have an ex-officio role, as they lack the working knowledge and resources to meaningfully participate in operational decision-making. The same lack of resources and depth of expertise should be acknowledged by the Legislature and reflected in any actions they may take or contemplate.

Dr. Scott observed the only way to achieve real economic efficiencies would be through substantial transmission upgrades. He also correctly observed that such modifications rarely pay for themselves. These significant points must not be ignored in any future decisions. MEA is already able to fully transfer any excess capacity from EGS without a degradation to reliability.
Dr. Scott further noted that there are contractual constraints that could preclude transmission consolidation, including the complicating fact of ownership of some assets by the Alaska Energy Authority ("AEA"). As is set out above, there are economic winners and losers with a system-wide rate, and that won't sit well with some utilities and ratepayers. The RCA must be mindful of the fact that the changes proposed by Chugach and not recommended by Dr. Scott will come with cost increases to ratepayers, which have already expressed sensitivity to rate increases associated with new generation. In addition, the postulated saving in the NERA report are based on sketchy projections over 50 years. It is highly improbable that either the generation or transmission systems presently in use in the Railbelt will resemble their present configuration even 25 years from now. On the other hand, the rate inequities from a system-wide transmission rate would be felt immediately at implementation.

Conclusions and potential steps forward

- The most viable economic option for the Railbelt at this juncture is a loose-pool concept with some type of cooperative dispatch. Economic dispatch amongst connected utilities, coupled with an equal access program for modeling assets, assumptions and data results: a tool made available to all Railbelt electrics to track their unit operational results and savings on a daily basis.

- Freeing the economic choke hold on all power moving north to Fairbanks customers by relieving the monopoly on transmission created by the postage stamp rate granted to a single utility.

- Create incentives for distance-sensitive rates for the transmission segment actually used for wheeling should a utility desire to engage in power transactions.

- Promote the most efficient natural gas delivery by eliminating the volume and delivery penalties that Enstar imposes on electric utilities shipping gas on their pipeline system.

- Maintain the existing utilities' say in both the planning and operation of electric operations on the Railbelt, with the RCA in an ex-officio role. These utility entities have the most knowledge and experience about how both gas and electric systems work and that expertise should be capitalized-on.

Sincerely,

Evan J. Griffith
General Manager

STATE OF ALASKA

THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:	Robert M. Picket, Chairman Stephen McAlpine T.W. Patch Norman Rokeberg Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	))))	I-15-001

MUNICIPAL LIGHT AND POWER'S
RESPONSE TO ORDER NO. 1

Municipal Light and Power (ML&P) respectfully files its Response to Order No. 1 in Docket I-15-001 of the Regulatory Commission of Alaska (Commission). Due to the relatively limited amount of time available to respond to broad questions that may implicate significant legal and policy issues, ML&P's responses are necessarily preliminary. ML&P's position regarding the questions posed may vary from those provided herein after development of more specific hypothetical scenarios and a more complete record.

ML&P RESPONSES TO COMMISSION QUESTIONS

Question 1: Would the creation of an independent system operator or similar structure for electric utilities in the Railbelt be the best option for effective and efficient electrical transmission? If not, what other approach would be best?

ML&P Response:

ML&P interprets this question as inquiring specifically about an independent transmission system operator, and its comments are limited to that interpretation. ML&P has analyzed the creation of an independent system operator (i.e. Transco) and participated in presentations by parties interested in establishing a unified transmission system under such an entity. Based on our analysis, ML&P has identified two problems that need to be addressed before it could support such a system. Those problems are (1) the cost allocation mechanism utilized to recover a unified transmission system's expenses to prevent cost shifting/subsidies; and (2) a lack of concrete benefits without significant capital investment.

Cost recovery – ML&P's analysis indicates that the preferred method for a Transco to recover operating cost of a unified transmission system is based on percentage of system load. ML&P is unique among the Railbelt utilities with a compact service territory, limited transmission assets, and a significant load. ML&P's analysis indicates that this uniqueness would result in the allocation of approximately twenty percent of the operating costs of a unified system based on the "system load ratio." ML&P believes that this type of allocation would result in the shifting of transmission costs from virtually all other Railbelt utilities to ML&P customers. The effect of these subsidies would be to raise transmission costs for ML&P customers without providing any offsetting tangible benefit.

If benefits were allocated based on an entity's equity percentage in the Transco, which is usually based on assets contributed or equity investment, ML&P believes it could be harmed due to the limited assets contributed. The uniqueness of ML&P's system (i.e. significant load/limited assets) would result in its customers being allocated more cost and receiving less benefit.

Although ML&P's analysis is preliminary, it has not identified a cost allocation methodology that does not result in significant increases to the transmission costs paid by ML&P's customers.

No concrete benefits – ML&P analysis and information reviewed suggests a Transco operating the current Railbelt system would not result in any material benefit or cost reduction. In fact, ML&P believes a Transco would actually increase the cost of operating the current Railbelt system. ML&P's analysis and information gathered from discussions with potential providers indicates that implementation of a unified system could result in an increase in Railbelt utility transmission operating costs (i.e. labor). When questioned regarding their experience with other implementations, these entities have suggested that the individual participating utilities in most cases do not experience transmission staff related reductions. If this information is accurate, the Transco costs would only add to existing ratepayer transmission costs without providing any benefit.

Some have suggested that benefits occur when significant capital investment is made to the existing system. ML&P is aware of an existing study that suggests the investment needed is approximately $900 million. A Transco could provide capital to offset some of the needed investment, but at what cost? The Transco would need to earn a return on its investment, which is generally considered to be greater than the return earned by Railbelt utilities. ML&P believes the problem is not the ability to finance these proposed transmission system upgrades. It is the speculative benefits that might result from Railbelt utilities making these investments and their subsequent need to pass these increased costs on to their respective ratepayers.

Some have suggested that making these investments would result in annual savings of $60 to $140 million. While these numbers are enticing and could offset any capital investment,

ML&P does not believe they have been properly vetted. To make investments of this magnitude based on speculative savings would be imprudent. ML&P is attempting to independently determine what, if any, savings would result from capital investment. The other unresolved question is how these benefits would be shared and whether the extent of capital contributions would be tied to any potential savings.

Conclusion - ML&P believes discussion of an ISO is premature. Further study is necessary to create a basic framework that will result in benefits to all Railbelt ratepayers and not just shifting the costs from one utility to another. Currently, the Railbelt utilities have created a working group to study these issues. ML&P believes it would be appropriate to allow time for this working group to find answers to these and other questions before deciding to move forward.

Additionally, ML&P believes the Railbelt utilities can achieve the significant savings suggested by some parties without large capital investment through a Centralized Economic Dispatch or Power Pool. An effectively operated pooling entity can generate savings, reduce system operating costs, and address existing system constraints. The efficient dispatching of the respective Railbelt utility generation assets could generate savings that would allow the Railbelt utilities to make transmission system investment without adversely affecting ratepayers. ML&P believes this solution could be easily implemented without a large capital investment.

Question 2: To what extent does our existing statutory and regulatory authority extend to mandating the creation of an independent system operator or similar entity and to regulating the rates and practices of such entity?

ML&P Response:

The Commission generally has no specific statutory authority to address the subjects of the Commission's questions posed in Order I-15-001(1). There are, however, a number of general or non-specific statutes that may be interpreted to provide the authority take various actions related to those posed in this question. Determining whether the Commission has the authority to take any specific action would depend on a variety of factors, including (1) having a well-defined proposed Commission action; (2) a fully developed factual record; and (3) appropriate Commission findings of fact and policy based on in the record.

At a general statutory level, AS 42.05.141(a) gives the Commission the authority to "do all things necessary or proper to carry out the purposes and exercise the powers expressly granted or reasonably implied in this chapter." Under this statute, any power not expressly granted must be reasonably implied from another provision of AS 42.05.

AS 42.05.141(a) empowers the Commission to "regulate every public utility engaged or proposing to engage in an utility business" in the state. The Commission is authorized to take various general actions with respect to public utilities that may, depending on the specific circumstances, support the exercise of Commission authority to regulate aspects of public utilities' interactions with and through the interconnected Railbelt system. AS 42.05.221(a) requires a certificate of public convenience and necessity, which under AS 42.05.241 may

include conditions "necessary to protect and promote the public interest." For service subject to the Commission's jurisdiction, the Commission can determine just and reasonable rates, classifications, rules, regulations, practices or contract to be observed or allowed. AS 42.05.431. The Commission is authorized to investigate the management of a public utility and "take appropriate action to protect the public from the inefficient or unreasonable management practices and may order the public utility to take the corrective action the commission may require to achieve effective development and regulation of public utility services." AS 42.05.511(b). The Commission can require just and reasonable standard for services and facilities, and may require that reasonable, safe, adequate, and services or facilities be furnished. AS 42.05.291(c), (d). Somewhat more specifically, the Commission can require that utilities allow joint use of facilities, including transmission facilities, where required by the public convenience and necessity and the use will not result in substantial injury to the owner or detriment to the service provided by the owner. AS 42.05.311; AS 42.05.321.

Evaluating the Commission's authority to mandate the creation of an ISO or similar entity would depend on the form of entity, a complete factual record, the goals and policies sought by the Commission, and the adequacy of factual findings to support the exercise of authority under AS 42.05, including the statutes referenced above.

Question 3: Are existing statutes and regulations governing our regulation of electric transmission adequate for us to effectively address current and future Railbelt transmission issues?

ML&P Response:

While the Commission may have broad authority in a number of areas, ML&P cannot opine with any certainty regarding the adequacy of existing regulations without further development of the issues implicated by this request. If the Commission is asking about creating an ISO, ML&P believes that existing statutes and regulations may be inadequate.

Question 4: If our regulations require changes, what specific changes should be considered in a rulemaking docket and is it appropriate to consider making those changes at this time?

ML&P Response:

With reference to the creation or development and regulation of an ISO, ML&P believes the process likely would be improved if facilitated through appropriate regulations. However, without further factual development of the attributes of such an entity, and nature of utility participation, and the Commission's goals, ML&P cannot offer recommendations regarding specific changes to regulations.

Question 5: If regulations are found to be necessary how narrow or broad should a rulemaking docket be and what scoping process should be used to determine the boundaries of the proceedings?

ML&P Response:

As with Question 4, ML&P cannot offer recommendations regarding the scope of a regulations docket without further development of the issues and goals sought to be accomplished through regulation.

Question 6: Regarding the reliability of electric service, is our authority limited to addressing utility practice and service quality within each utility's service area, or does it extend across service area boundaries such that, for example we can address the effects of one utility's practices on the service quality of another utility?

ML&P Response:

Depending on the nature and extent of the purpose and necessity for the action contemplated, it appears that the Commission may have such authority under the general statutory provisions referenced in response to Question 2 above .

Question 7: Should there be a set of mandatory reliability standards for the Alaska Railbelt similar to those of the North American Electrical Reliability Corporation, and if so, do we or should we have the authority to mandate or regulate those standards (beyond the existing voluntary agreements such as the existing Railbelt Operating and Reliability Standards)?

ML&P Response:

ML&P supports the creation of reliability and operating standards for the Railbelt. These standards could be created by merging existing Railbelt voluntary standards with existing national standards. ML&P believes the standards should be mandatory and entrusted to an entity, either the RCA or an independent entity, with the responsibility to enforce compliance.

If adequately supported by evidence and findings indicating that it is necessary to protect the public interests implicated under the statutory provisions referenced in response to Question 2, it appears that the Commission would have the authority to mandate or regulate Railbelt reliability and operating standards.

Question 8: Considering our authority to "promote conservation of resources used in the generation of electric energy" under AS 42.05.141(c), to require reasonable management practices under AS 42.05.511, to provide rate recovery of energy conservation efforts, and other statutory grants of authority, do we have authority to order the Railbelt electric utilities to jointly and cooperatively manage their generation and transmission assets, or is our authority limited to matters within each utility's service territory?

ML&P Response:

Depending on the nature and extent of the purpose and necessity for the action contemplated, it appears that the Commission may have such authority under the general statutory provisions referenced in response to Question 2 above.

Question 9: Do AS 42.05.311(a) and other statutes provide us with authority to order system-wide wheeling rates across utility-owned Railbelt transmission facilities, even if ownership of the facilities remains with individual utilities?

ML&P Response:

If supported by evidence and findings indicating that joint use is appropriate under AS 42.05.311(a) is appropriate, it appears that the Commission would have this authority, subject to the limitations under AS 42.05.381 and AS 42.05.391 that rates be just, reasonable, and nondiscriminatory.

Question 10: Does the [sic] AS 42.05 provide us with authority to review or regulate the integrated planning, determination of need for, and/or siting of new generation and transmission facilities of regulate electric utilities? If it does, how can that authority be employed to help ensure that new facilities are planned and constructed to optimize efficient and reliable provision of electric service to the entire Railbelt region?

ML&P Response:

Without further definition of the extent of the review or regulation of these utility decisions, it is difficult to determine the extent of the Commission's authority. In the absence of any specific statutory authorization to regulate in this area, any exercise of the Commission authority would need to be based on evidence and factual findings supporting the assertion of authority under more general statutes, such as those discussed in response to question 2 above.

Question 11: What authority do we have to require or to encourage greater cooperation, power pooling, and/or centralized transmission system planning and operations among Railbelt electric utilities?

ML&P Response:

Depending on the scope and extent of what such actions would entail, the Commission probably has some such authority under the general statutes referenced in response to Question 2, provided that such action would not violate other statutory or constitutional protections or requirements.

RESPECTFULLY SUBMITTED this 3rd day of April, 2015, at Anchorage, Alaska.

The Municipality of Anchorage
d/b/a Municipal Light and Power

By: /s/ Mark A. Johnston

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RECEIVED
By the Regulatory Commission of Alaska on May 19, 2015

Subject: FW: Subject: Enclosed Letter to RCA Chair and Numbered Attachments
Date: Tuesday, May 19, 2015 4:10:58 PM
Attachments: Address to RCA Chair.doc
1. Memorandum of Understanding re Central Dispatch.doc
2. AURORA Overview - Market Prices.ppt
3. MLP Reply to Proposed ATC Transco MOU .msg
4. MEA 512-Myers-ATC.pdf

From: Trent, James A [mailto:TrentJA@muni.org]
Sent: Tuesday, May 19, 2015 10:39 AM
To: Pickett, Bob (RCA)
Subject: Subject: Enclosed Letter to RCA Chair and Numbered Attachments

Dear Chairman Pickett:
The attached letter and numbered attachments share the current status of ML&P's activities with respect to Railbelt matters. All our activities are presently fluid, but hopefully they will provide additional perspectives or insights on the Railbelt problems with which the Commission, utilities and others are now wrestling.

"Listen-Think-Solve"

Jim Trent
ML&P GM & COO
trentja@muni.org
mobile: 907-229-0422

VIA EMAIL ('bob.pickett@alaska.gov')
May 19, 2015

Commissioner Robert Pickett, Chairman
Regulatory Commission of Alaska
701 West Eighth Avenue, Suite 300
Anchorage, Alaska 99501-3469

Re: ML&P Railbelt Activities

Dear Chairman Pickett:

On several occasions recently, Anchorage Municipal Light & Power (ML&P) has been asked about pending or proposed activities that may involve us with respect to the Alaska Railbelt electric grid. We have been reluctant to share anything more than generalities to date while the other utilities are studying relevant materials. However, there appears to be some mounting urgency for information about these activities, even if not finalized at this time. Accordingly, we are submitting for the RCA's information without restriction two documents that contain at least ML&P's present viewpoints on a number of Railbelt grid issues and matters:

1. Memorandum of Understanding re Dispatch Services (Economic Dispatch MOU).[1] This document is a proposed Economic Dispatch MOU arising from an April 24, 2015 meeting among the utilities referenced in the document[2] to consider ML&P's offer of Power Pool and Economic Dispatch services to the utilities for a no-cost one year trial period. The utilities in attendance desired to accept the offer and execute an MOU reflecting their agreement and several ancillary matters.

As discussed with the utilities, ML&P will be using an exciting new program named "Aurora" to commence development of our Railbelt-wide Centralized Power Pool/Economic Dispatch services (CPPED). Submitted as Attachment 2 accompanying this letter is a power point presentation made this week at a training exercise for ML&P that illustrates or explains the far-reaching capabilities of the program. A similar presentation will shortly be made to the other utilities.

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[1] Full title of this document is "MEMORANDUM OF UNDERSTANDING COMMENCING CENTRALIZED POWER POOL AND ECONOMIC DISPATCH SERVICES, LEVELIZING TRANSMISSION CHARGES, REVISING RESERVE ALLOCATIONS AND CONFIRMING OPERATIONAL RELIABILITY STANDARDS." The document is Attachment 1 accompanying this communication.

[2] Chugach Electric Association (CEA) was unable to attend but the document makes allowance for CEA's joinder. CEA is currently planning to attend our next meeting of General Managers scheduled for the near future.

The developers of Aurora are also available to present a workshop for the RCA explaining Aurora's amazing capabilities as well as respond to any questions. ML&P believes the presentation could be of substantial value to the Commission and respectfully suggests that such workshop be scheduled in the near future.

With respect to the Economic Dispatch MOU itself, feedback to date is that the utilities are in agreement and a meeting for concurrent acceptance is tentatively scheduled for within the next two weeks.

2. ML&P Rejection of Proposed ATC Memorandum of Understanding for Development of Transco. This document enclosed as Attachment 3 contains ML&P's draft rejection of the proposed Memorandum of Understanding (MOU) by Alaska Transmission Company (ATC) for guiding future discussions leading to development of an Alaska Transco.[3] The ML&P draft rejection was circulated to the other Railbelt utilities (here including CEA) for their review and comment, with the suggestion that it be considered at the time the proposed Dispatch MOU is considered.

ML&P's belief as expressed in the rejection for reasons discussed therein is that ATC's proposed MOU on the one hand requests commitment to propositions ML&P cannot endorse at this time and, on the other, forecloses discussion on alternatives that we believe should be pursued further by us before we leave our familiar for exotica developed and more appropriate elsewhere.

Also enclosed for the Commission's convenient reference as Attachment 4 is a statement of Matanuska Electric Association (MEA) expressing reservations with the ATC proposal that substantially overlap those of ML&P.[4]

As a last thought it ought to be made clear that we very much want to continue working with ATC. It is only ATC's proposed development structure that appears too restrictive for evolution of the best final product to guide the Railbelt's future.

As stated at the outset, the attached position documents are fluid and certainly do not reflect final positions of other Railbelt utilities. The documents, however, are

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[3] Attachment 3 includes only ATC's cover letter to its proposed MOU, but does not include the actual proposed MOU in deference to ATC's unilateral styling of the proposal as confidential. As will be seen, however, the substantive ATC proposals rejected in Attachment 3 are already largely in the public record at different locations.

[4] MEA mistakenly thought the ML&P draft rejection letter had already been sent to ATC.

complementary in the sense that together they seem to address most of the issues being discussed in your "I" docket (RCA Docket 1-15-001). They also embody different conceptions, sometimes dramatically so, than those urged by others to date.

But these different positions all appear to possess at least equal if not greater merits than those earlier ones. ML&P therefore respectfully requests that the Commission consider our suggestions carefully before deciding on whether it should pursue the radical changes being advanced for seemingly illusory or at best only speculative benefits.

Sincerely

James A. Trent
Municipal Light &Power
General Manager and Chief Operating Officer

MEMORANDUM OF UNDERSTANDING COMMENCING CENTRALIZED POWER POOL AND ECONOMIC DISPATCH SERVICES, LEVELIZING TRANSMISSION CHARGES, REVISING RESERVE ALLOCATIONS AND CONFIRMING OPERATIONAL RELIABILITY STANDARDS

Alaska Railbelt electric utilities Homer Electric Association (HEA), City of Seward Light & Power Division (SL&P), Anchorage Municipal Light and Power (ML&P), Matanuska Electric Association (MEA) and Golden Valley Electric Association (GVEA) (collectively the Undersigned Railbelt Utilities) assembled at ML&P on April 24, 2015 to consider new inter-utility arrangements intended to enhance affordability and reliability of electric service in the Railbelt. As a result, the parties enter into this Memorandum of Understanding (MOU) effective as of that assembly date.

RECITALS

A. Each signatory to this memorandum is a public utility certificated by the Regulatory Commission of Alaska (RCA) to provide electric utility service to consumers within its certificated service area on or north of the Kenai Peninsula, with each signatory interconnected through the Railbelt electric transmission grid.

B. Each utility has a varying array of internal generating sources from which to meet its service obligations, generally choosing (dispatching) its sources based on each source's relative cost (including, *inter alia*, capital, operation and maintenance, and fuel costs), availability and reliability, among other possible matters at any point in time. The source dispatched therefore embodies the most favorable economic consequence available to the particular utility at that point in time.

C. Each utility at any point in time may also have generation excess to its needs that could be started or made available upon notice varying from one hour or even less to one day, and thereafter delivered for varying lengths of time. Excess generation not yielding revenue therefore embodies an unfavorable economic consequence imposed on the unused generation's owner.

D. From time to time and for shorter or longer periods of time, a dispatching utility in order to meet its service obligations might find it economically or operationally beneficial if it could avail itself of the excess generation available from another utility or entity, and such other utility or entity would be economically benefitted if the exchange could occur.

E. A system permitting such exchanges is a highly complex arrangement, involving creation and maintenance of a power pool of detailed data bases of excess generation resources and their conditions of delivery. The pool would then be dispatched at least initially pursuant to appropriate requests from purchasing utilities. Ultimately, all Railbelt generation resources might be subject to centralized economic dispatch.

F. But despite its difficulty, establishment of a Centralized-Power-Pool-Economic-Dispatch system is calculated to substantially promote affordability and reliability of electric power throughout the Railbelt. Moreover, such affordability and reliability should be further enhanced as impediments to maximally efficient functioning of the Centralized-Power-Pool-Economic-Dispatch system are ameliorated.

G. ML&P has advised that by June, 2015 it will have substantially completed installation of requisite programming tools, data bases and physical capabilities to provide a precursor to a full Centralized-Power-Pool-Economic-Dispatch system for all the Railbelt utilities. Moreover, ML&P desires to offer the system free of charge to the Railbelt utilities for a period of one year in order to validate and quantify its value, as well as enhance its data bases and identify and remove any operational difficulties that may be revealed.

H. Among the apparent organizational impediments to maximum efficiency of a Centralized-Power-Pool-Economic-Dispatch system is the current dispute as to an appropriate allocation of particularly spinning reserve requirements among Railbelt utilities, which dispute creates uncertainty as to what are each utility's actual load requirements. Different reserve requirements are contained in the separate versions of the Railbelt Operational and Reliability Standards (Reliability Standards) previously submitted as informational filings to the Regulatory Commission of Alaska (RCA) by HEA and the Intertie Management Committee (IMC), most members of which are among the Undersigned Railbelt Utilities. It was intended that a previous IMC administration would present the Standards to the RCA for adoption as regulations that would then lead to resolution of the reserves dispute, but such submission did not occur. The present IMC administration will defer such submission until after the next IMC meeting in the near future to attempt a utility resolution of the issue, as had been the prior approach for over twenty years. Other than as to reserves, there does not appear to be significant dispute as to the Reliability Standards.

I. A very significant impediment to realizing maximum affordability and reliability benefits from the power pool/central dispatch system is the presence of separate and possibly cumulative usage-based transmission tariffs in delivering otherwise least expensive generation to a potential user. This situation minimizes if not abrogates the value of certain generation sources for particular purchasers. Thus, the utilities may have to pool their transmission costs and recover them through some levelized but equitable charge on themselves, so as not to substantially burden the Centralized-Power-Pool-Economic-Dispatch system.

I. As ML&P is likely the utility most harmed by recovery of transmission costs other than on a usage basis, it should assume the lead in proposing an equitable non-usage based transmission charge for consideration by Undersigned Railbelt Utilities over the course of the offered free year of the Centralized-Power-Pool-Economic-Dispatch system’s operation.

J. It does not appear at this time that allowance of non-utility power producers to enter the Centralized-Power-Pool-Economic-Dispatch system will compromise realization of the system's benefits.

K. Chugach Electric Association did not attend the meeting generating this MOU and is therefore not among the Undersigned Electric Utilities. However, it may subscribe to this MOU at any time and otherwise participate in future discussions and join the Centralized-Power-Pool-Economic-Dispatch system at its election.

NOW, THEREFORE, in consideration of the mutual promises set forth herein and other good and valuable consideration, the parties agree as follows:

AGREEMENT

1. The Undersigned Railbelt Utilities encourage ML&P to finalize development of its Centralized-Power-Pool-Economic-Dispatch system. To the extent not constrained by contractual or other commitments, each of the undersigned will attempt to make its excess generation available to ML&P for inclusion in the pool, as well as attempt to utilize the pool for its own service needs. All obligations assumed hereunder by the Undersigned Railbelt Utilities are voluntary and may be terminated at any time.

2. Except as may be later agreed to, all transactions between purchasers and sellers through the Centralized-Power-Pool-Economic-Dispatch system shall be directly between themselves and not involve ML&P as money holder, bookkeeper or guarantor of any sort.

3. As discussed herein, ML&P shall assume the lead in developing a potential levelized transmission proposal more suitable for a Centralized-Power-Pool-Economic-Dispatch system.

IN WITNESS WHEREOF, the parties hereto have caused this MOU to be duly executed as of the dates set forth below, and **Effective** as of April 24, 2015.

Dated:_____ Party: Matanuska Electric Association, Inc.

By: _____

Title:_____

Dated:_____ Party: Homer Electric Association, Inc.

By: _____

Title:_____

Dated:_____ Party: Anchorage Municipal Light & Power.

By: _____

Title:_____

Dated:_____ Party: Golden Valley Electric Association, Inc.

By: _____

Title:_____

Dated:_____ Party: City of Seward Light & Power Division

By: _____

Title:_____

AURORA^{xmp} **Market Forecasting Model**

Market Price Forecasting

Municipal Light & Power - Background Material
May 2015

Overview - Calculation of Hourly Market Price Forecast

- Based upon “market clearing price”; the highest incremental cost dispatch unit corresponding to each “zone” identified in topography
- May be unit from within area or from adjacent area plus transmission costs
- Solution solves hourly supply/demand. Hourly demands input into each zone; supply includes resources in all zones
- Incremental changes in demand treated equivalent to resource, dispatched based upon price

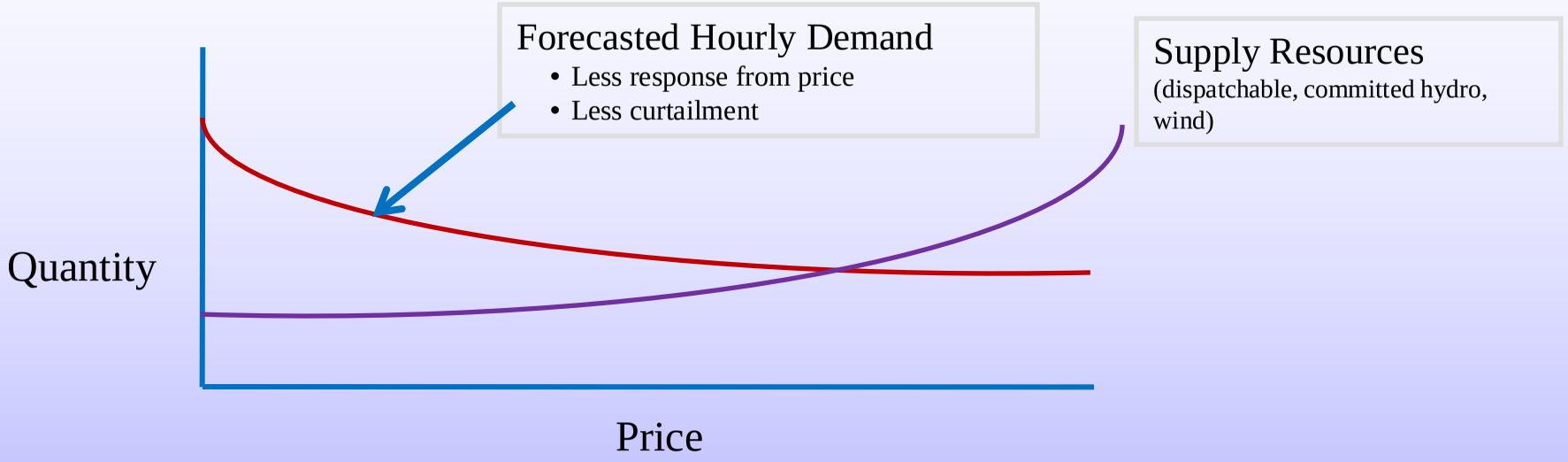
Overview - Calculation of Hourly Market Price Forecast (cont.)

- Resources available for all zones, economically dispatched to include costs of transmission wheeling and losses.
- Resource supply inclusive of individual resource operating constraints (minimum operating cycles, spinning reserve requirements, startup costs etc.,)
- Resources having minimum operating cycles are committed for operation per assessing for positive value from operation.

Overview - Determination of Marginal Cost of Operation (Dispatch Cost)

- For non-commitment units, incremental dispatch cost includes are “variable” costs incurred from operations, specifically fuel and Variable O&M
- For commitment units, operation is based upon a positive value determination over the minimum time of operation, hence value for hours when market price > variable costs at full output less hours when market price < variable costs at minimum operation is net positive.

OVERVIEW – Market Price Forecast

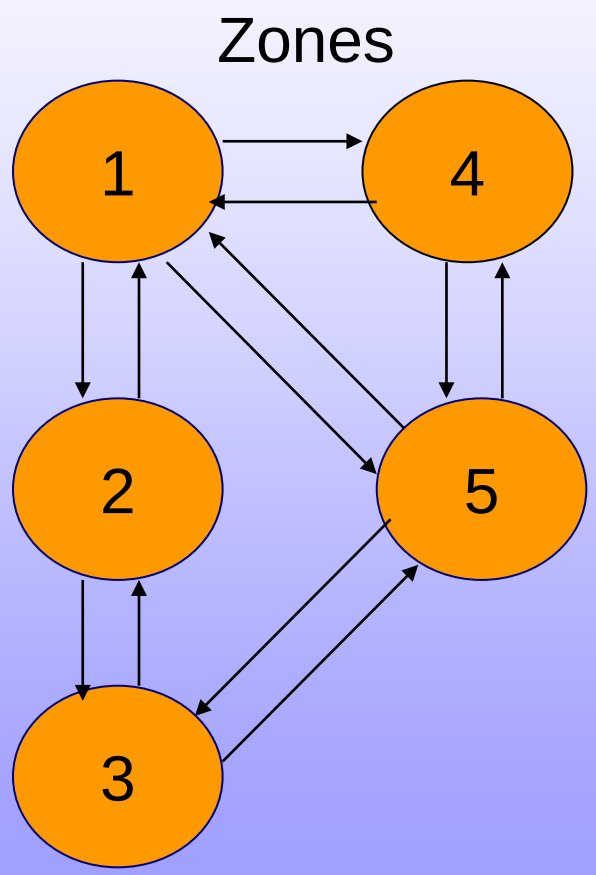


Fundamentals Applied:

- Based upon hourly forecast of supply and demand
- Resources supply provided by dispatching based upon “positive value”
- Market prices based upon marginal cost to achieve supply/demand
- Based upon competitive pricing and market concepts
- Solution based upon all interconnected loads and resources

Dispatch Logic for Inter-zonal Transport

Market prices are determined from zonal marginal resource clearing prices.



1. AURORAxmp builds a economic resource stack for each dispatch zone.

2. The marginal unit is found for each zone given the native demand.

3. Economic power flows are determined: given transmission costs, losses and constraints.

4. A small set of the most economic flows are allowed to take place.

5. The clearing price is found for each zone: given native load, imports and exports.

6. Using genetic algorithm techniques, AURORA optimizes on the potential benefits of moving power between markets. Steps 3 through 5 are repeated until no significant benefits can be obtained by additional power flows.

.

Hourly Resource Dispatch

Hourly Demand → Pre-forecast of prices

Forecast Committed Resources
1. Value of operation over minimum period
2. Commitment forecast – resources w/ positive value

Hourly Dispatch above Commitment
1. Dispatchable units (hourly)
   a. Peakers, Simple Cycle units,
   b. Hydro – energy shaped, assumes near zero dispatch cost
   c. Wind –similar to hydro, shaped hourly via net load or resource
   d. Demand (curtailment, response)

Evaluate energy flows across transmission paths
1. Allows energy to be served across transmission paths when economic
2. Accounts for transmission costs and losses

Forecast Market Energy Prices within Zones
Market price in zone equal to highest marginal cost unit, either within zone or in adjacent zone plus transmission costs

Check for consistent commitment and market prices

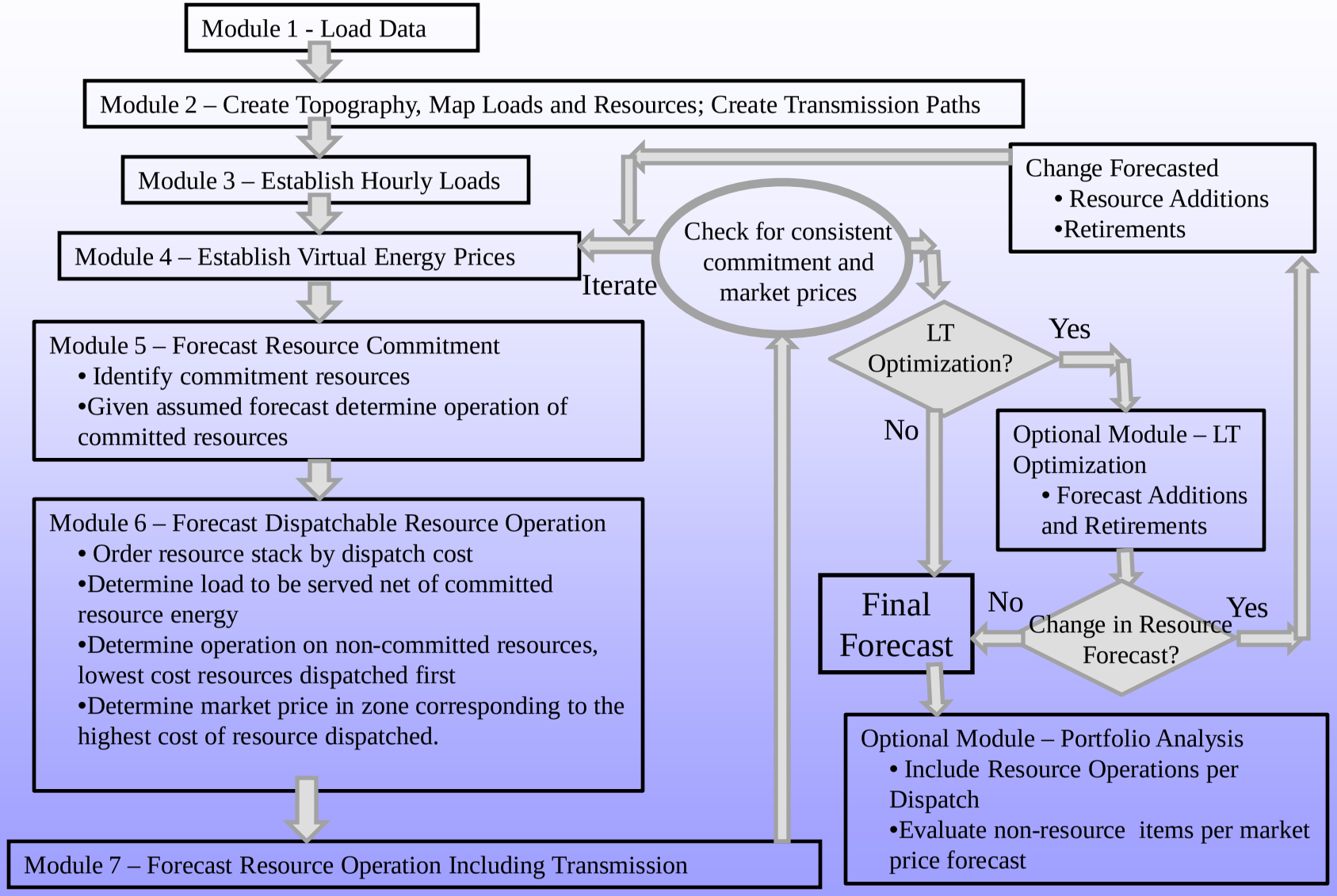
Iterate

Finish

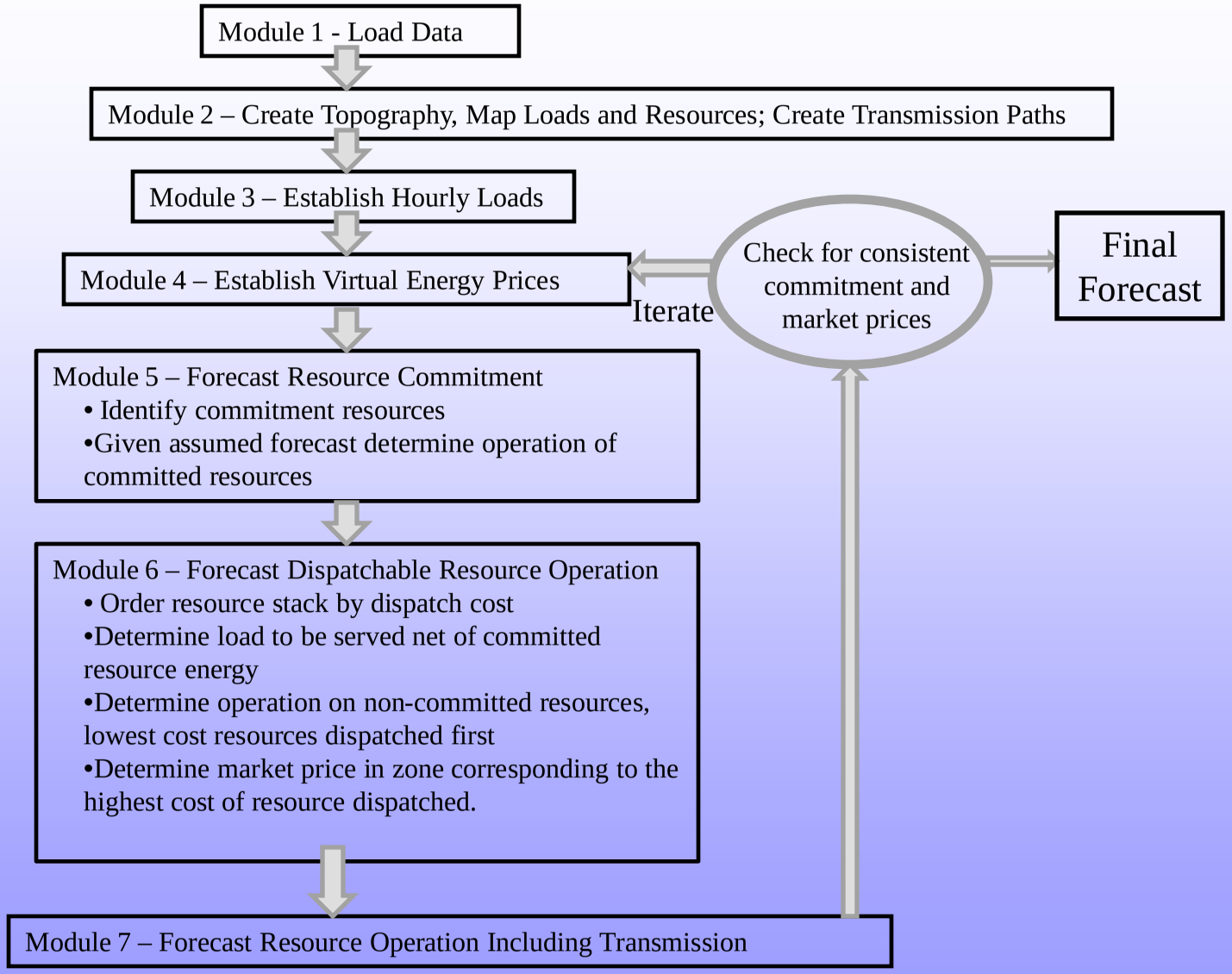
Modules in Dispatch Logic

1. Load Information from Data Base
2. Create topography. Map Loads and Resources into “Zones”
3. Establish Hourly Loads in Zones
4. Establish Virtual Energy Prices
5. Forecast Resource Commitment
   - Resources Requiring Commitment (operations > one hour)
6. Forecast Dispatchable Resource Operation
   - Forecast Energy Prices Excluding Transmission
7. Energy flows across transmission paths. Re-dispatch Resources to include efficient Transmission Utilization and corresponding Market Prices

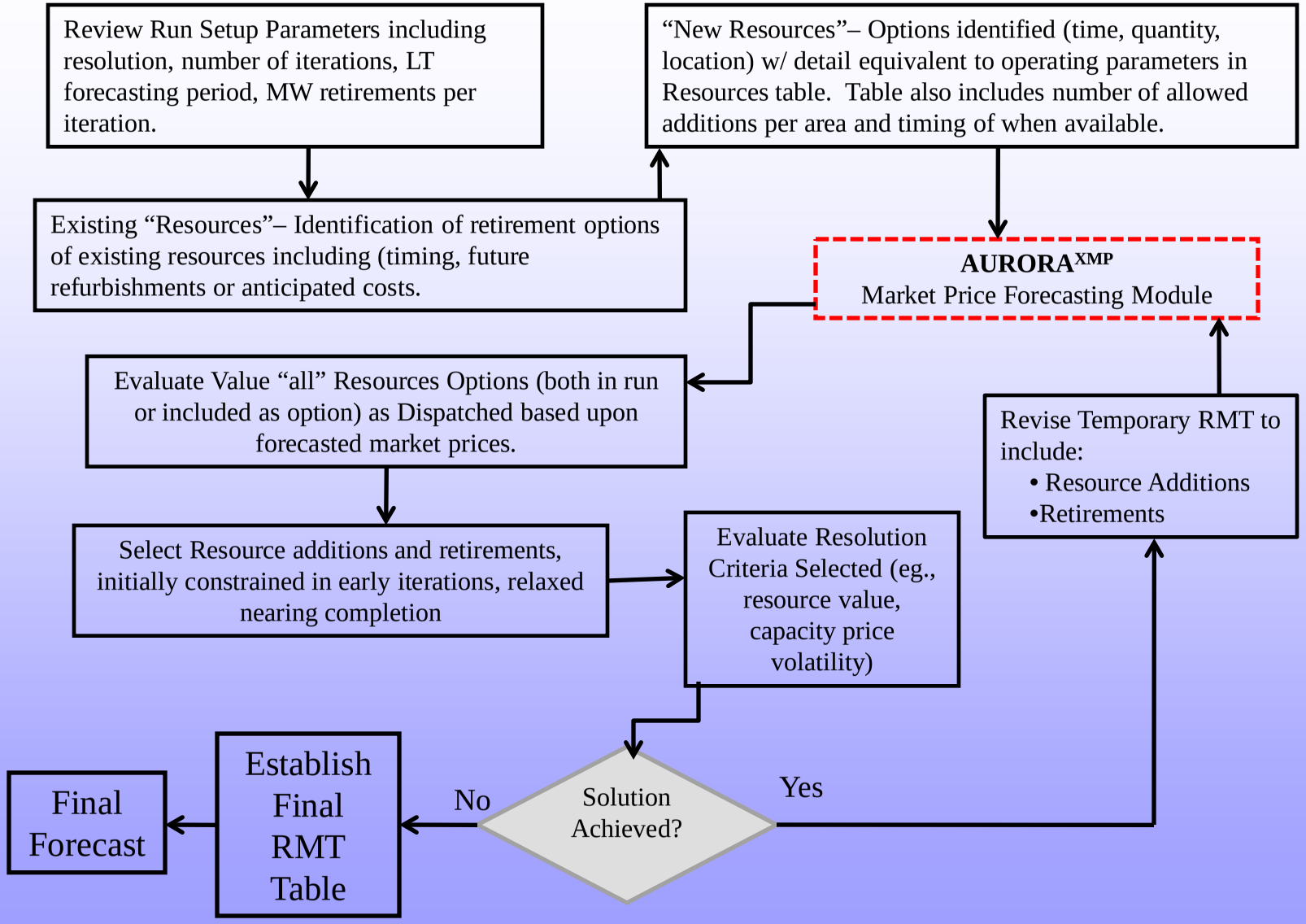
Flow Chart


Module 1 - Load Data
Module 2 – Create Topography, Map Loads and Resources; Create Transmission Paths
Module 3 – Establish Hourly Loads
Module 4 – Establish Virtual Energy Prices
Module 5 – Forecast Resource Commitment
• Identify commitment resources
•Given assumed forecast determine operation of committed resources
Module 6 – Forecast Dispatchable Resource Operation
• Order resource stack by dispatch cost
•Determine load to be served net of committed resource energy
•Determine operation on non-committed resources, lowest cost resources dispatched first
•Determine market price in zone corresponding to the highest cost of resource dispatched.
Module 7 – Forecast Resource Operation Including Transmission
Iterate
Check for consistent commitment and market prices
Change Forecasted
• Resource Additions
•Retirements
LT Optimization?
Yes
No
Optional Module – LT Optimization
• Forecast Additions and Retirements
Final Forecast
No
Change in Resource Forecast?
Yes
Optional Module – Portfolio Analysis
• Include Resource Operations per Dispatch
•Evaluate non-resource items per market price forecast

Flow Chart – Market Price Forecast



Resource Optimization - Flow Chart



Flow Chart - Portfolio Analysis

Review Run Setup Parameters – Identify period of study, resolution. Identify reporting including portfolio reports

Source of portfolio from following 3 tables w/ entries in information table req'd, others optional.

Portfolio Information
- List of Portfolios to be included
- Identified Load/Demand corresponding to Portfolio

Portfolio Contracts
- 34 contracts uniquely identified, positive energy associated w/ energy received, negative energy delivered.
- Contracts range from firm and non-firm energy, having fixed indexed or market price
- Contract types may be used in combination providing extreme flexibility for complex contacts

Portfolio Resources
- List of identified resources in AURORA to be included either wholly or partially owned

AURORA^{XMP}
Market Price Forecasting Module

Portfolio Reporting
- Results included in aggregate of information from all positions
- Reported from information from each of 3 portfolio tables
- Inclusive of Energy and Price of all positions reported as well as aggregated view sumarized by category and total position.

Flow Chart – Portfolio/Risk Analysis

Define variables and probable range of input variables to include in stochastic run. Variables include demand, hydro and resource availability.

↓

Review Run Setup Parameters – Identify period of study, resolution. Identify reporting including portfolio reports

↓

AURORA^{XMP}
Market Price Forecasting Module

↓

Portfolio Reporting
•Results included in aggregate of information from all positions
•Reported from information from each of 3 portfolio tables
•Inclusive of Energy and Price of all positions reported as well as aggregated view sumarized by category and total position.

↓

Select next set of input variables for stochastic run w/ AURORA algorithm and defined probable range of inputs.

Source of portfolio from following 3 tables w/ entries in information table req'd, others optional.

Portfolio Information
•List of Portfolios to be included
•Identified Load/Demand corresponding to Portfolio

Portfolio Contracts
•34 contracts uniquely identified, positive energy associated w/ energy received, negative energy delivered.
•Contracts range from firm and non-firm energy, having fixed indexed or market price
•Contract types may be used in combination providing extreme flexibility for complex contacts

Portfolio Resources
•List of identified resources in AURORA to be included either wholly or partially owned

Module 1- Load Information in Database
Area Data

Tables specifying area data

Area identification

Module 1 (Continued)
Topography – Area to Zone Mapping

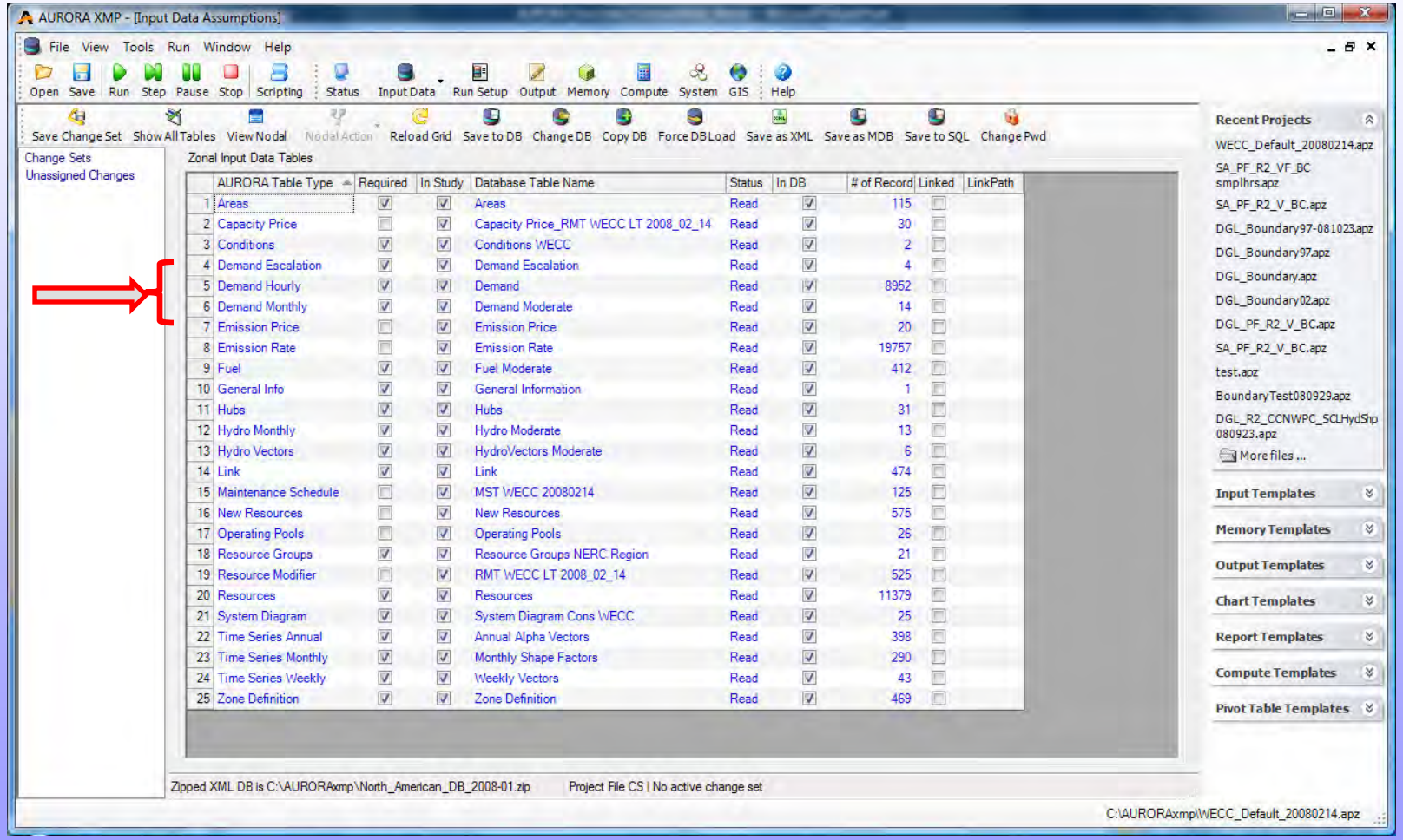
Module 1 (Continued)
Referenced Data

Referenced by Name

Time Series Tables

Input Tables for Load/Demand

Demand Input Tables



	AURORA Table Type	Required	In Study	Database Table Name	Status	In DB	# of Record	Linked	LinkPath
1	Areas	✓	✓	Areas	Read	✓	115		
2	Capacity Price		✓	Capacity Price_RMT WECC LT 2008_02_14	Read	✓	30		
3	Conditions	✓	✓	Conditions WECC	Read	✓	2		
4	Demand Escalation	✓	✓	Demand Escalation	Read	✓	4		
5	Demand Hourly	✓	✓	Demand	Read	✓	8952		
6	Demand Monthly	✓	✓	Demand Moderate	Read	✓	14		
7	Emission Price		✓	Emission Price	Read	✓	20		
8	Emission Rate		✓	Emission Rate	Read	✓	19757		
9	Fuel	✓	✓	Fuel Moderate	Read	✓	412		
10	General Info	✓	✓	General Information	Read	✓	1		
11	Hubs	✓	✓	Hubs	Read	✓	31		
12	Hydro Monthly	✓	✓	Hydro Moderate	Read	✓	13		
13	Hydro Vectors	✓	✓	HydroVectors Moderate	Read	✓	6		
14	Link	✓	✓	Link	Read	✓	474		
15	Maintenance Schedule		✓	MST WECC 20080214	Read	✓	125		
16	New Resources		✓	New Resources	Read	✓	575		
17	Operating Pools		✓	Operating Pools	Read	✓	26		
18	Resource Groups	✓	✓	Resource Groups NERC Region	Read	✓	21		
19	Resource Modifier		✓	RMT WECC LT 2008_02_14	Read	✓	525		
20	Resources	✓	✓	Resources	Read	✓	11379		
21	System Diagram	✓	✓	System Diagram Cons WECC	Read	✓	25		
22	Time Series Annual	✓	✓	Annual Alpha Vectors	Read	✓	398		
23	Time Series Monthly	✓	✓	Monthly Shape Factors	Read	✓	290		
24	Time Series Weekly	✓	✓	Weekly Vectors	Read	✓	43		
25	Zone Definition	✓	✓	Zone Definition	Read	✓	469		

Demand Inputs/Output
Example w/ Normalized, Average and Peak Load Specified

- Specified Inputs:
  - Hourly shape – *Demand Hourly Table*
  - Monthly/Annual Average Energy and Peak – *Monthly Demand Table*
  - Annual Demand Growth – *Demand Escalation Table*
- Computational steps to establish hourly output demand
  1. Normalize respective hourly shaping vector

     (hourly shape/average hourly shape)
  2. Expand or contract shape to achieve input peak

     (1-(1-normalized value))*peak/average
  3. Determine Base year demand

     Multiply “2” times Average Energy Value
  4. Escalate to Respective Year

     Multiply “3” times Accum Escalation (1+ Escalation Rate/Yr)

Hydro Shaping Computations

- Hourly hydro energy shaped to simulate general parameters identified by NW Hydro experts including:
  - Energy shaped to follow daily load cycles, providing greater energy during the on-peak period
  - Minimum, maximum and sustained maximum for a specified duration
- Option to specify yearly and monthly energies with shaping parameters or can specify hourly energy produced
- Low dispatch cost, energy provide before other dispatchable resources having higher costs.

Hydro Energy and Shaping Tables

Hydro Shaping

Hydro Shaping Computations

Objective: Optimize hydro energy within operating and environmental constraints. Hydro energy is optimized when used during period or application having greatest value corresponding to periods of highest market prices. Market prices based upon changes in supply and demand are highest during periods of high energy demand and decreases n non-dispatchable supply.

A target hourly shape for the 24-hour period is calculated using the shaping factor and the following formula:

Target Hourly Hydro Shape

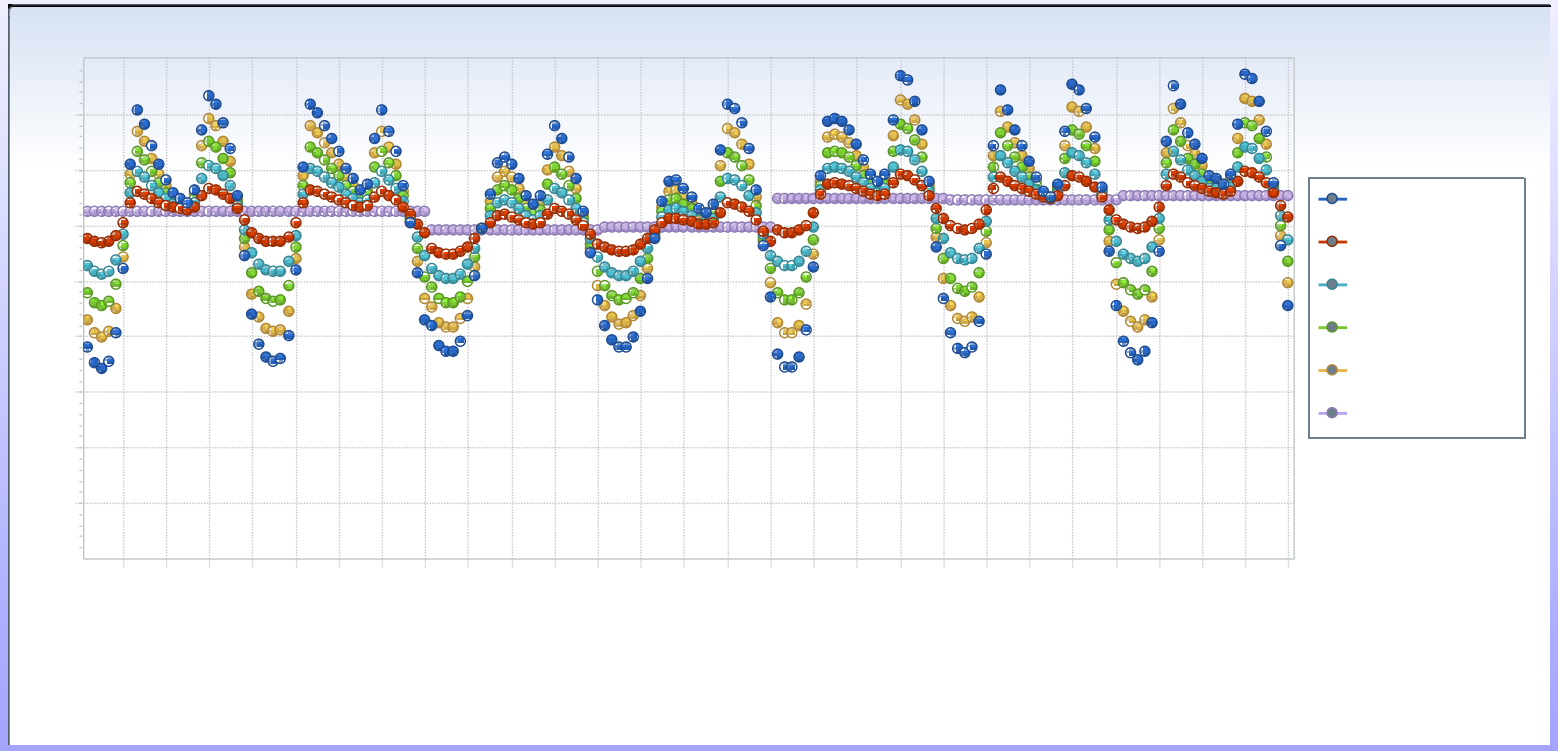
$$= \left(1 + \text{shape factor} * \left(\frac{\text{hourly demand} - \text{average daily Demand}}{\text{average daily hydro energy}}\right)\right)$$

* monthly energy factor * annual energy factor.

Example of Hydro Shaping

Shape to Specified Demand

Zero to 100 Percent



Hydro Shaping - Inclusion of Operating Constraints

Hydro is subject to many operating constraints that are both physical as well as achieve environmental goals. A significant portion of the environmental goals for hydro are based upon the biological opinion for the preservation of fish.

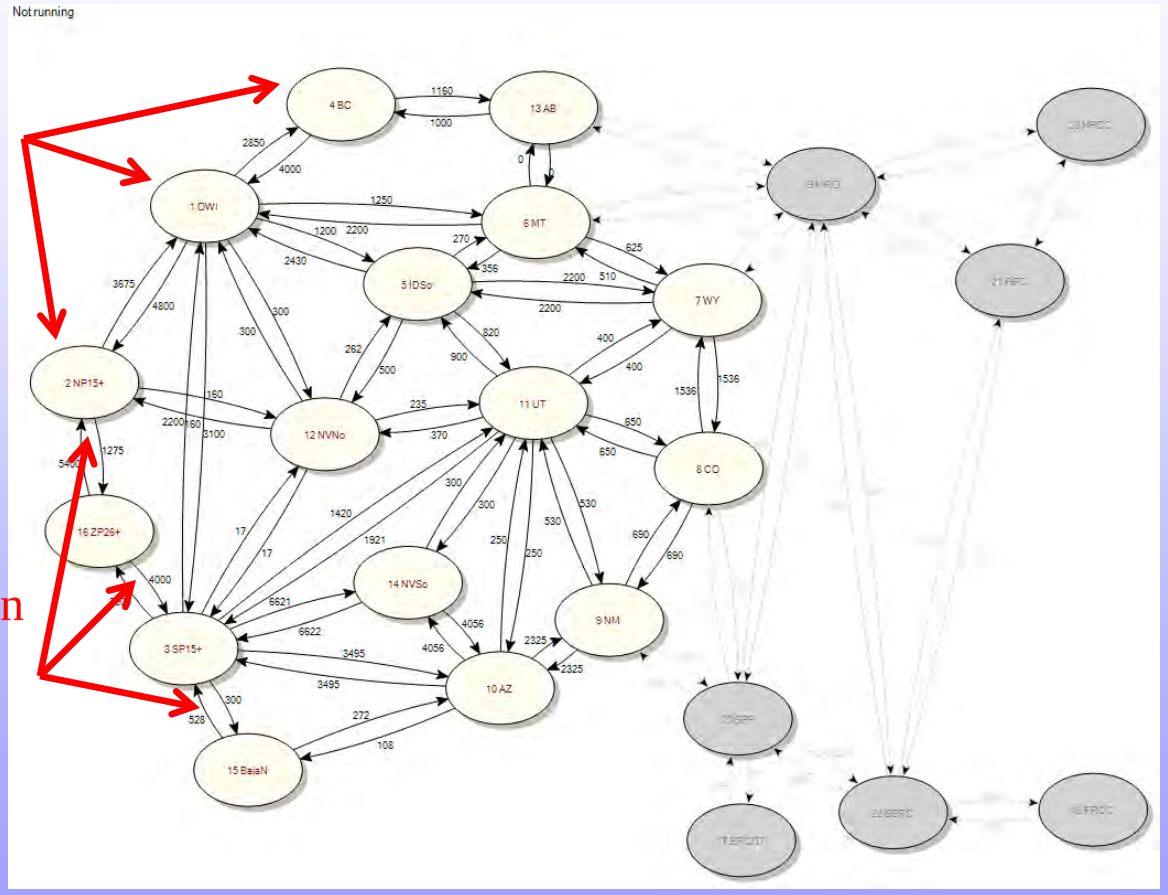
- A feasibility check is made against the instantaneous minimums and maximums specified for the hydro set. If the minimum can not be met due to insufficient energy, or the maximum due to excess energy, the binding constraint will be relaxed to allow the correct energy production for the day.
- A check is done across the day against the instantaneous maximum and minimums. If there are any violations, the excess, or underage, is spread or taken evenly from the other hours if possible.
- A check is done against the sustained maximum. Any violation is once again spread evenly to the other hours and the algorithm loops back to the maximum and minimum checks.
- If the constraints cannot be satisfied, AURORA^{xmp} will change the input shaping constraints to an instantaneous maximum=1, instantaneous minimum=0, and a sustained maximum=1 and will modify the formula to use average daily demand in the denominator. This is a pattern that by definition can be met, and essentially causes the projects in the hydro set to do proportionate load following, instead of attempting to produce a target residual load. AURORA^{xmp} will then generate a message informing the user that this has occurred.

Module 2 - Topography – “Zone” Definitions in Database

Loads and *Resources* mapped from “Areas” into “Zones”

Zones

Transmission Paths



- Data in Areas are mapped into “zones”.
- Transmission between zones are an aggregation of area to area transmission links.

Module 3
Establish Hourly Loads in Zones

- Select among AURORA options to specific load including hourly specification, hourly shapes applied to monthly/yearly averages or shaping to a specified average and peak for each month.
- Apply hourly shaping, monthly and yearly average energy, average and peak loads in each area to forecast hourly loads in areas specified in database structure.
- Combine area loads to establish a total hourly load for all areas within each zone.

Module 4
Establish Virtual Energy Prices

- For the initial forecast iteration, produce preliminary forecast assuming “rough” estimate of commitment and market price forecast
- In the continuum of forecasting into the next period, assume prices from the previous period (weekly) as an initial point to iterate a solution
- Within iterations, adopt market prices from the previous iteration as a to re-forecast commitment

Module 5
Forecast Resource Operation

- Identify hourly dispatchable and generation resources that have minimum periods of operation (commitment resources)
- Order dispatchable resources according to marginal cost (fuel plus variable O&M)

Zone “a”	Zone “b”
Resource Na	Resource Nb
Resource N-1a	Resource N-1b
…….	…….
Resource 5a	Resource 5b
Resource 4a	Resource 4b
Resource 3a	Resource 3b
Resource 2a	Resource 2b
Resource 1a	Resource 1b
Committment Resources Zone “a”	Committment Resources Zone “b”

Module 5 (Continued)
Shape Hourly Hydro Energy

- Hourly hydro energy shaped to simulate general parameters identified by NW Hydro experts including:
  - Energy shaped to follow daily load cycles, providing greater energy during the on-peak period
  - Minimum, maximum and sustained maximum for a specified duration

- Option to specify yearly and monthly energies with shaping parameters or can specify hourly energy produced

- Low dispatch cost, energy provide before other dispatchable resources having higher costs.

Module 5 (Continued)
Forecast Committed Resources

Hourly Market Price Forecast

Value of operation
- From "resources table, obtain min up and down period of operations; min and max capacity levels
- Dispatch resource
  - Hrly Price > Dispatch Cost; full operation
  - Hrly Price < Dispatch Cost; min operation
- Establish accumulative value for hours of operation

Commitment forecast
- Establish minimum commitment for resources having positive value from operations
- Extend hours of operation if resource continues to provide positive value from operations beyond minimum

Re-forecast Hourly Market Prices

Check for consistent commitment and market prices

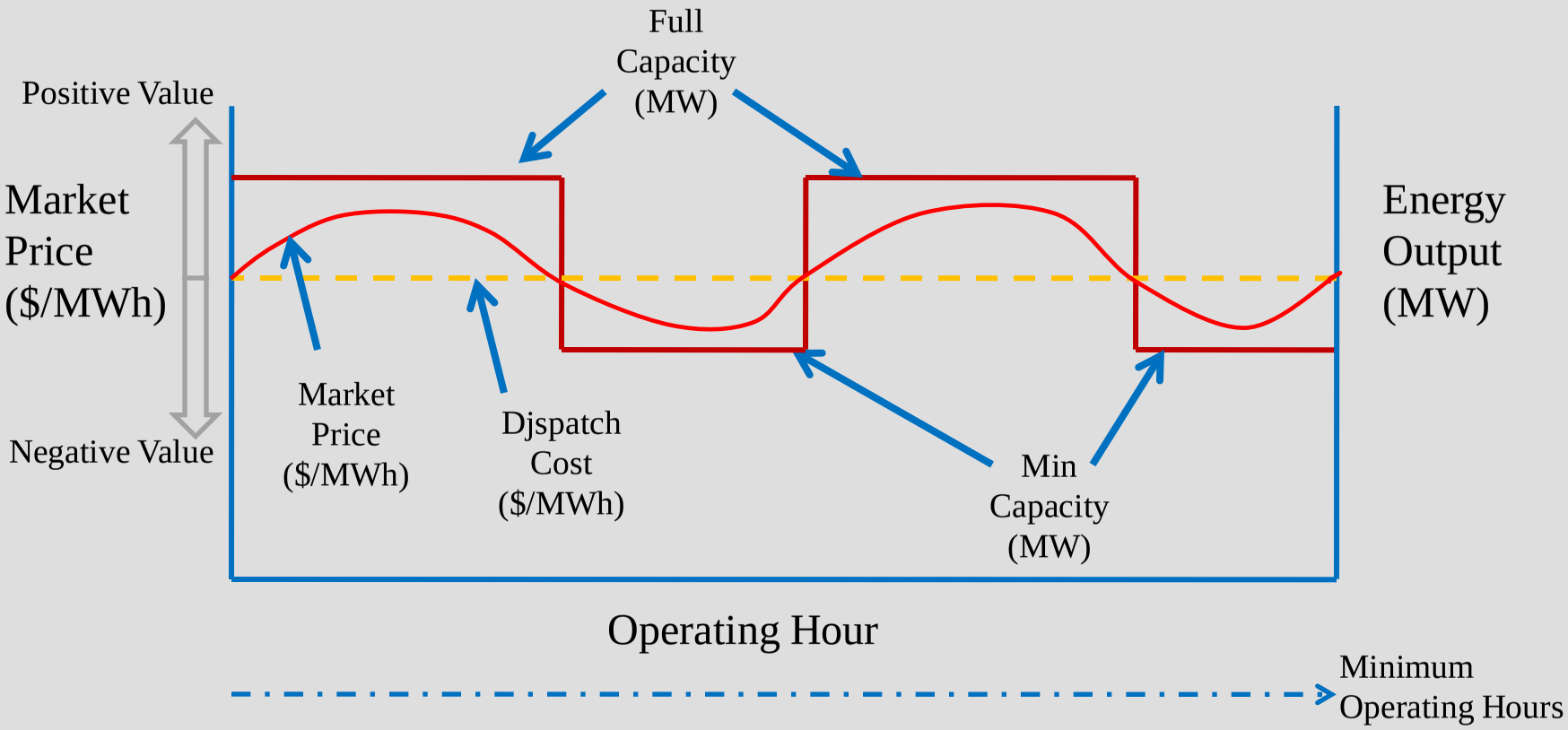
Iterate

Finish

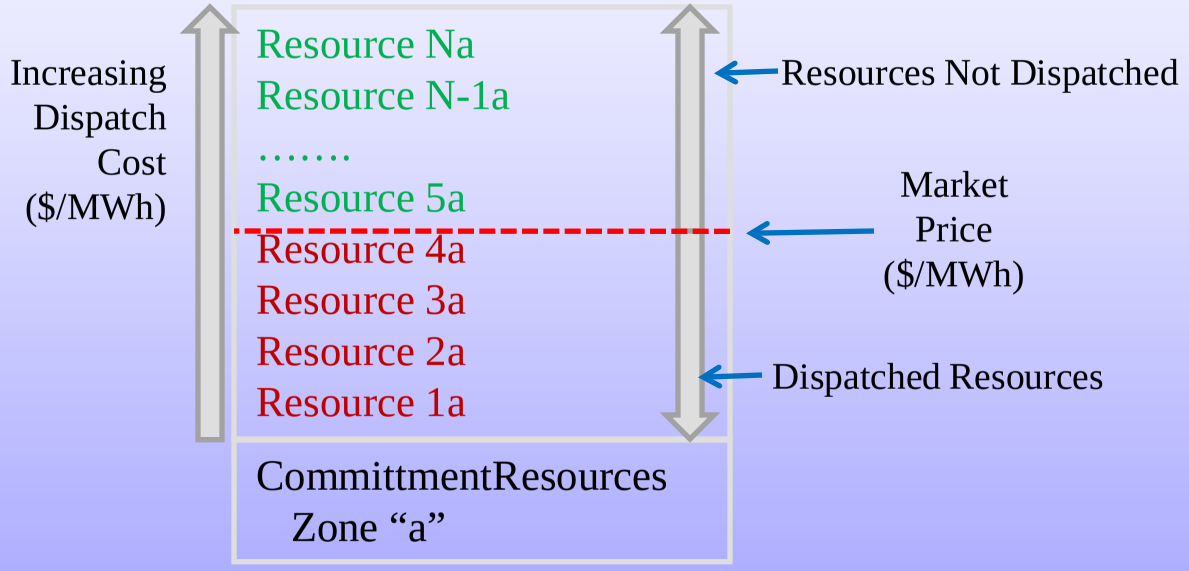
Module 5 (Continued)
Reserve Margins

- AURORA includes both planning and operating reserve margins. Operating reserves include both spinning and non-spinning margins in making all forecasts. Planning margins, in addition to operating reserve margins are included in “resource optimization”.
- Margins may be specified within “areas” or by power “pools” when identified in the “zone” definition table. Using a “pool” specification requires the optional “Operating Pool” table be activated and appropriate pools flagged for pool treatment. When using “area” specification, the minimum operating reserve is established for the “zone” (check w/ EPIS).

Module 5 (Continued)
Commitment Resource Dispatch - Example

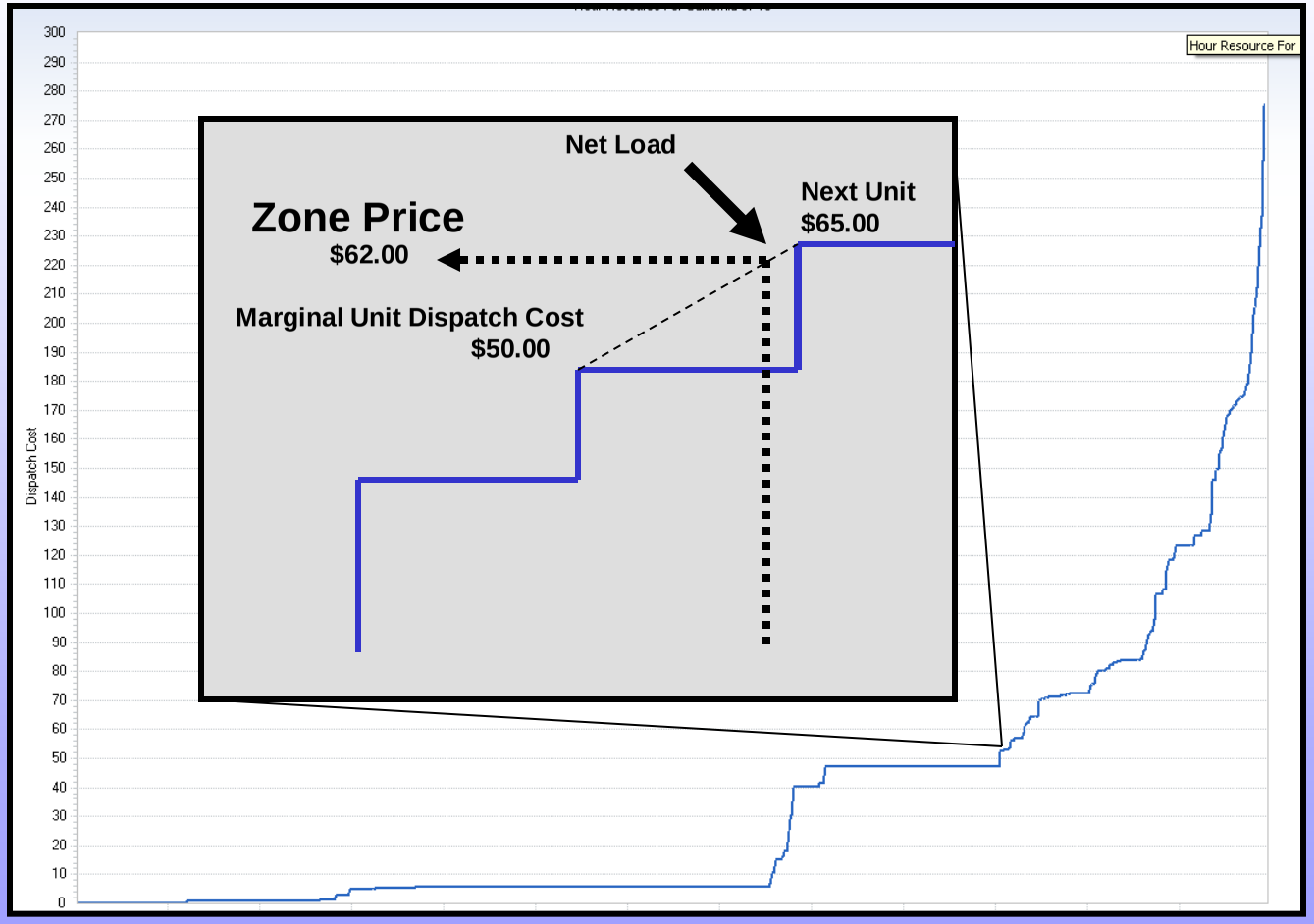


Module 6
Dispatchable Resources - Example



Module 6 (Continued)

Zone Price Based on Marginal Unit



Module 7
Energy Flows Across Transmission Paths

- Solution of energy flows across transmission paths based upon "Darwinian" solution, identifying optimal dispatch of interconnected resources across transmission paths

- Resulting flows are inclusive of available resources in each zone, transmission capacities, wheeling costs and losses

- Requires iterative process to establish optimal solution

Module 7 (continued)
Energy Flows Across Transmission Paths

Compare Hourly Market Prices Between Zones

Identify conditions where price differences between regions exceed transmission costs

- Costs include:
  - Transmission wheeling charges
  - Cost of losses – percentage applied to price in lower cost zone

Identify transmission availability

- Path identification
- Remaining unused capacity

Serve energy from lower cost area

- Re-dispatch resources in include shift in load from original zone to lower cost zone identified
- Add additional load to transmission path

Re-forecast Hourly Market Prices

Check for consistent market prices, transmission and dispatch

Iterate

Finish

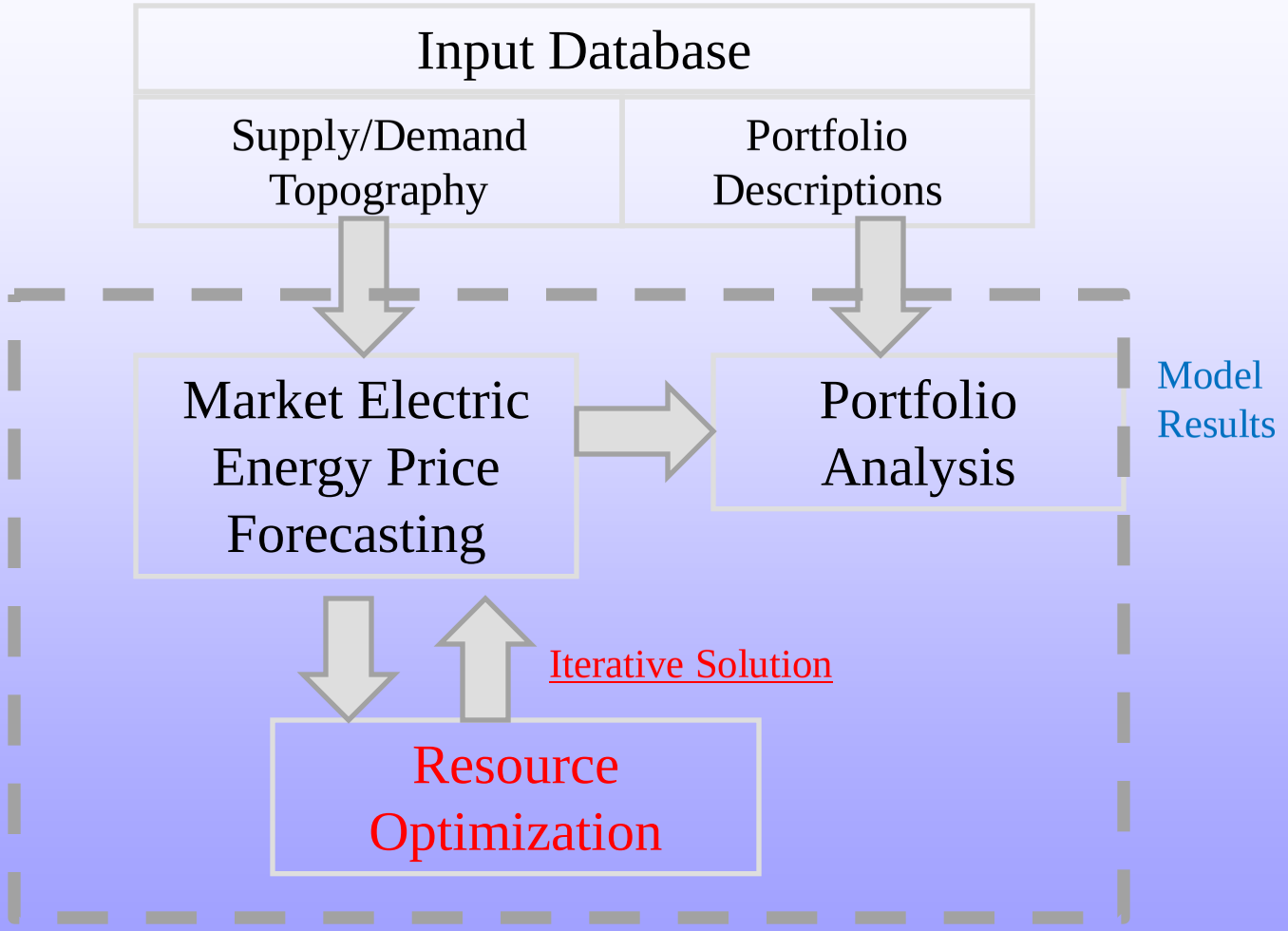
Module 7 (continued)
Transmission Data and Treatment

- Subjective inclusion of “bulk” or high voltage transmission
- Identified as “links” between “areas”; specified by Capacity, Wheeling Charge and % Energy Losses
- Transmission mapping to “zones” is a the summation of capacities of area to area capacities separated in adjacent zones, wheeling and losses are weighted by capacity.
- Transmission in “areas” consolidated within a “zone” are ignored.
- Hourly transmission flows are forecast in AURORA corresponding to market energy prices and dispatch logic

Module 7 (continued)
Inclusion of System Losses

- Losses for high voltage transmission between “zones” are forecast in the model corresponding to the hourly use of transmission between zones. This is a simple calculation of the hourly MW loading on the transmission times a percent loss factor (input).
- Market energy prices are established at the “wholesale” level, hence the level at which energy is exchanged between utilities at the transmission level.
- Distribution and sub-transmission losses (115 KV and below) are added to the loads within the zones to establish the total energy requirements.

CONCEPTUAL OVERVIEW



OVERVIEW – Resource Optimization

Market Electric Energy Price Forecast w/ Assumed Supply Resources

Value Existing and Potential Resources (all)

Select Resources w/ Positive Value

- Add new resources
- Retire existing resources

Corresponding Price / Value ? Planning Reserves?

no

yes

Overview – Portfolio Analysis

Market Forecast

- Market Electric Energy Prices
- Resource Operation

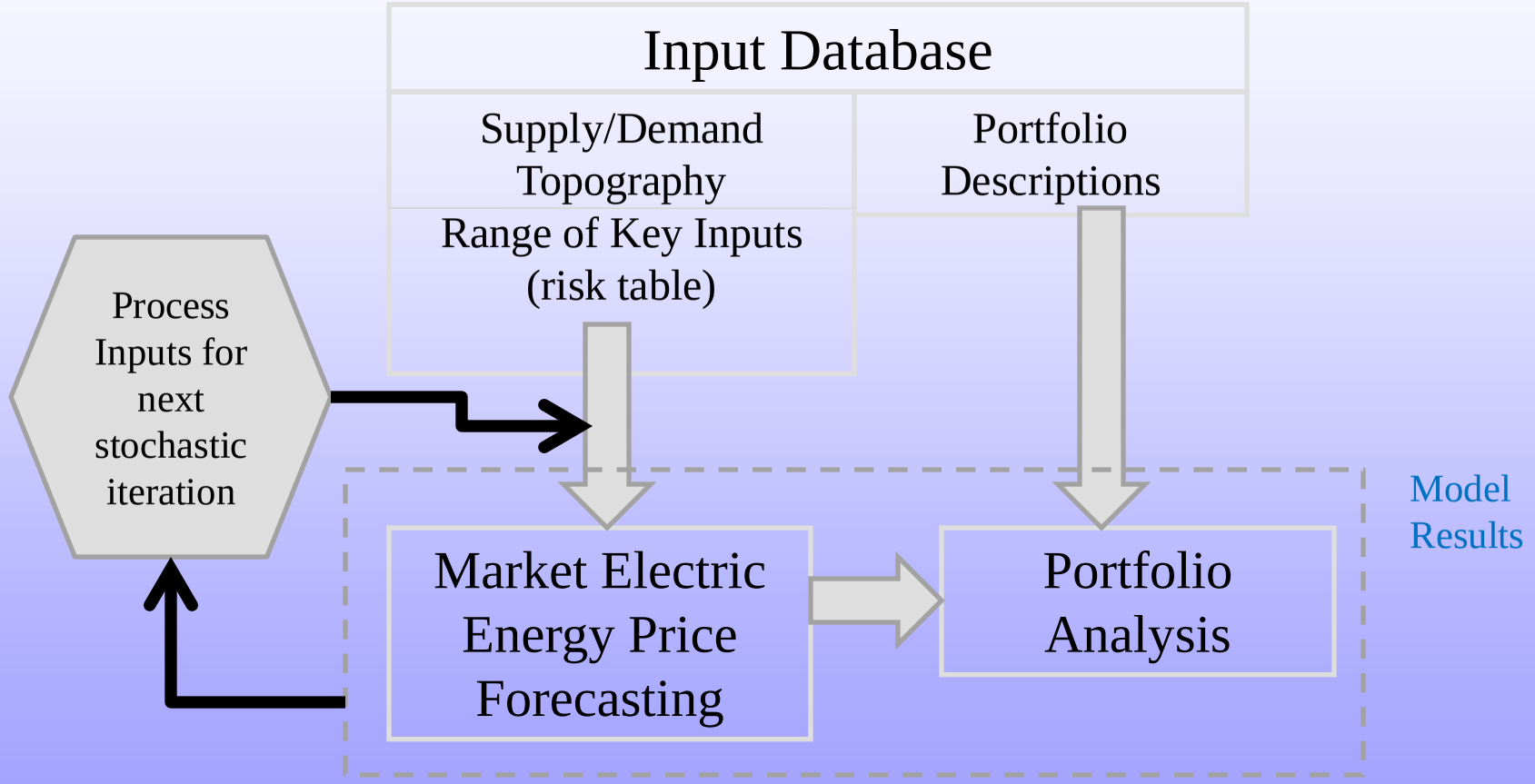
Portfolios Specified in Database

- Resources (% Owed/Entitled)
- Contracts (Purchases/Sales)
- Options/Hedges
- Loads (Customers)

Portfolio Analysis

- Resource Energy / Cost per dispatch
- Contracts exercised as per terms (Energy/Cost)
- Options/hedges exercised specific to terms and market prices
- Assess energy adequacy to fulfill energy requirements
- Long- or Short positions result in energy sales or purchases at market rates
- Report Energy and Costs of all positions within Portfolio

OVERVIEW – Risk Analysis



From:	Agi, Lou E.
To:	"Brad Janorski"; "Cory Borgeson"; "Joe Griffith (Joe.Griffith@mea.coop)"; "John Foutz"; "Brad Evans"
Cc:	Trent, James A; Warner, Jeff A.; Johnston, Mark A.
Subject:	3. ML&P Reply to Proposed ATC Transco MOU
Attachments:	FW Thank You for your time today - Draft JDA attached.htm

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Gentlemen:

Attached is a draft reply (first attachment) to the proposed ATC Transco MOU (second attachment) sent to ML&P. The reply is an explanation of the rejection Jim recommended to you several days ago. We would appreciate your review and comments if any. It's also possible you may want to make this a joint reply, as it in large part is complementary to our concurrent Central Power Pool/Economic Dispatch (CPPED) work. We can also defer any comments and discussion until we meet on the CPPED MOU.

Thanks.

Lou

To: Myers, Eric
Cc: Lundberg, Eric; Laurie Dunham (ldunham@atcllc.com); Trent, James A; Warner, Jeff A.; Johnston, Mark A.
Subject: FW: Thank You for your time today - Draft JDA attached

Attachments: 20150428ATCtoMLP DraftJDA.doc
Hello Eric:

This email is in reply to the Memorandum of Understanding (above attachment) you offered to guide discussion of our much desired collaborative effort to re-design and re-position the Alaska Railbelt electric transmission system. As you may be aware ML&P recently informed the other Railbelt utilities that it was planning to reject the MOU as presented and suggested they do likewise. The basic rationale for our intended rejection is presented in this reply. However, the first and most important point in this reply is to assure ATC that despite such rejection it remains a most welcome party in this collaborative effort and potentially a valuable participant in any future enterprise that may emerge, although an exact role for ATC has yet to be articulated and offered and, indeed, is premature as we do not yet even know the contours of the future enterprise itself.

Before discussing our actual objections to the MOU, we note at the outset that it is unclear to us whether all of the utilities will be signing or have signed the same document that is proposed to us. If so, why are we not proceeding with a common document for signature as is the traditional practice in these situations; and if there is not a common document, what is contained in the other versions and why are we proceeding with this seemingly 'divide and conquer' approach?

Turning to our rationale in not proceeding on the basis of your proposed MOU, we are first concerned with your intent to shroud the collaborative effort in the cloak of confidentiality. As you will recall from prior discussions, ML&P is uncomfortable about the possibility of inadvertent transgressions of confidentiality as well as possibly being shackled in potentially valuable or necessary candid discussions with third persons affecting ML&P's present and future situation. Presumably, even if not expressed to you, others share this discomfort. In advancing this concern, we are mindful and appreciative of your past reasonableness, even "gentleness," in administering confidentiality. But going forward, we do not want to assume the uncertainty and anxiety of confidentiality and prefer our customary mode of proceeding in an open and transparent manner. In fact, we thought this was your own commitment when discussing this MOU in advance. To be sure, no one is proposing periodic newspaper accounts or other media advisories of our progress, as we all understand that these must be private discussions if we are to make progress. However, that does not obligate oaths of confidentiality, just common prudence.

Moving beyond undesirable and really unnecessary confidentiality, your proposal also contains an "Exclusive Dealings; Cooperation" provision that seeks to prohibit ML&P (and presumably other utilities if signing the same agreement) from entering into or otherwise even considering or suggesting an Alternative Proposal" to your proposed "Definitive Agreements" during the one-year term of the MOU. This seems perhaps illegal for us and in any event a totally inappropriate compromise or restriction on our duty to conduct our affairs at all times in the best interest of our members/ratepayers. Forced blinders and exclusive pursuit of the proposed Definitive Agreements is exacerbated even further by the strange additional commitment you requested that we be obligated to affirmatively support and cooperate with any governmental

requests you make or are made on your behalf during this period, seemingly whether or not we have agreed to the request.

Moreover, discussions on the proposed Definitive Agreements appear limited to acceptance of the Term Sheet tied to the proposed MOU and negotiations of possible additions to it. In other words you are proposing we accept at least the Term Sheet as proposed on an all or nothing basis, which is hardly a constructive approach to evolving an acceptable agreement to all of us which may require deletion or at least discussion of deletion and replacement of some of those terms (and again, is this an Alternative Proposal?). This is not an idle concern as you know we consider items in the Term Sheet as either contrary to or not necessarily in the best interests of the utilities collectively or ML&P individually.

Turning to the Term Sheet's substantive proposals, your transmittal cover note (below) for the proposed MOU fairly supports what we generally understand is the three-pronged mission statement for our collaborative effort. First, the Railbelt should ultimately have a fully-functioning Centralized Power Pool/Economic Dispatch system (CPPED), which ML&P is now initiating. Second, to maximize generation economies and efficiencies we need to establish some form of a levelized or postage stamp Railbelt transmission tariff, so that CPPD exchanges are based solely on generation costs and are not compromised or even frustrated by differential or even pancaked utility transmission tariffs. Third, we need a platform or platforms for determining the necessity, cost, feasibility and financing of possible improvements to the Railbelt transmission system.

However, your Term Sheet's proposed ownership structure for the contemplated enterprise is not required by the mission statement and erects a chilling entry barrier to the cooperative endeavor (whatever ultimate business form or forms are adopted) for at least some of us. For instance, you propose that ownership, certainly for governance purposes (and most likely for any profit distribution as well), be premised on the extent of transmission assets conveyed or otherwise committed to the second premise of the mission statement, i.e., establishment of a levelized tariff. But regardless of whether that was ATC's Wisconsin approach (perhaps for reasons peculiar to your situation), it is an inappropriate supporting rationale for such allocation here in Alaska.

All legitimate costs associated with a committed asset (and I am assuming no fee conveyances will be involved, only some form or another of a leasing arrangement) will be recovered as part of the revenue requirement for the levelized tariff. There are therefore no greater risks to be associated with the size of the asset commitment; likewise, no greater benefit either in governance or profit distribution should accrue. And even more to the point, the purpose of each utility committing transmission assets is to facilitate its access to CPPED, either as seller or buyer, or both, and thereby maximize its economic benefit. Administering the contemplated enterprise for that common purpose should therefore be best accomplished by equal governance and possible profit-sharing entitlements. In short, the contemplated cooperative endeavor is not intended as an investment opportunity, and ML&P therefore objects to the prospect of being a second-class owner in an enterprise established for our mutual and equal benefit.

And even though we may enter as equal partners for governance and possible profit sharing purposes, this does not completely address the concern that some allocations of cost responsibility under a levelized tariff may impact utilities on a differential basis; one that results in some utilities enjoying a positive (i.e., lesser) transmission expense after establishment of a

levelized tariff as compared to their pre-establishment situation, while others will suffer a negative impact and have disproportionately greater transmission burdens. These incidental windfalls and losses are certainly undesirable consequences to our effort to establish a mutually and equally beneficial system, and will preclude at least ML&P from joining such an endeavor as a matter of either our discretion or even legality under our governance protocols. We therefore need a term in our enterprise that makes establishment of revenue neutrality in impact from levelized rates the first imperative of further discussions, and such term does not appear to be presently included.

Therefore, whether future discussions take place under your proposed MOU or simply pursuant to our collective desire to continue private discussions in achieving the three-pronged mission statement, the first order of business at this stage must be to produce a levelized tariff proposal with neutral revenue impacts. ML&P has agreed with the other utilities as part of our CPPD undertaking to evolve a revenue neutral levelized tariff proposal for consideration, and our thinking is to circulate a proposal within the next thirty days and convene a meeting to discuss it within the following thirty days. You are certainly welcome to join in the study effort, and in fact we anticipated the first evolution of the proposal to be undertaken with your assistance. But no matter how we proceed, development of an acceptable proposal is the linchpin to further progress.

In connection with such further discussions, ML&P cannot as yet subscribe to other terms in your Term Sheet. You anticipate some corporate undertaking in which ATC will purchase an initial equity position (currently unspecified), and thereafter have a preemptive right to acquire further equity up to a designated amount (currently unspecified) through providing expansion funding up to a designated amount (currently unspecified), with a further preemptive right to acquire additional equity to a specified level (currently unspecified) if another equity participant fails to meet a cash call (presumably although perhaps not necessarily for an expansion). This appears a very aggressive ownership acquisition program by ATC in the Alaska Railbelt transmission system, and presumably (although it is not entirely clear) it is in exchange for ATC actually sourcing any desired expansion capital. But the program generates concerns.

First, it does not appear necessary or prudent and perhaps even lawful to commit to one entity to provide financing for an unknown number of projects over an indefinite period. It would seem that the public interest demands largely project by project financing. It should also be kept in mind that feasibility for any financing will be a function of the particular project's economics and the utilities' commitment, which would support any financing not only ATC's financing or brokering. Nor by the same token would there seem to be any need for a cash call that would enhance ATC's equity position (to the detriment of the individual utility or utilities collectively), as it is the system's strength that will support financing. Moreover, although not a fatal barrier, there is a disinclination to allowing non-Railbelt entities to possess an ownership interest in Railbelt assets, although under appropriate circumstances ATC might be allowed such entry into ownership on an equivalent status with the other utilities. This disinclination is particularly strong where the non-railbelt entity is also voting on matters that that not only favor it financially but also enhance its equity position for governance and potential profit-sharing purposes. Thus the Term Sheet with respect to proposed ATC equity and financing participation cannot be accepted at the outset.

Perhaps more significant in whether to commit to ATC's proposed ownership and financing is the entire question of whether we even need a proposed corporate transco enterprise. We are not at all sure that other approaches could not more simply but just as effectively accommodate

the our three-pronged mission statement. For instance with respect to a levelized rate and revenue neutral disbursement, the proposal once established could seemingly be filed for RCA approval as simply a joint tariff offering of the Railbelt utilities. There would be no need for an additional corporate business structure to be established under this approach (with other incidental benefits possibly accruing but not necessary to explore here). Handling financial transactions both under the tariff as well as, conceivably, under the CPPED could be complex. It would certainly seem potentially very reasonable to involve ATC as the Railbelt transmission administrator in charge of any tariff and CPPEDS filings, as well as management of financial settlements between utilities themselves as well as with other users of the Railbelt transmission grid and CPPED.

With respect to the third prong of a platform for Railbelt transmission expansions including repair and replacement (R&R) work as it may become necessary, we have more than an alternate template in hand. We have the nascent structure already in existence through the Intertie Management Council (IMC) created under the Intertie Agreement (IA) and in charge of the state's (AEA) 175-mile Railbelt Intertie component of the Railbelt transmission grid and. We have previously incorporated a "program" aspect to IMC functioning so as to allow it to manage matters of Railbelt grid concern beyond the specific "asset" of the AEA-owned Intertie. Thus, under its program function, the IMC promoted development of reliability standards for the whole Railbelt grid submitted as an informational filing to the RCA. The same program function, and with ATC as Railbelt transmission administrator providing assistance, could allow the IMC to effectively address any Railbelt grid expansion using protocols already in place under the IA for dealing with Intertie expansion and replacement.

The IMC and the IA are of course not complete vehicles at this time for addressing all of the Railbelt's future needs, but a great deal of thinking has already gone into them so that there is presently meaningful guidance in expanding both to accommodate further Railbelt activity. It should also be noted that the Intertie and AEA are part of the Railbelt grid and any Railbelt grid organization will have to address that situation. In essence, therefore, what is being suggested as the possibly preferable approach is that we grow our platform for future Railbelt activities out from what is already in place rather than create new and complicating structures.

We are at your pleasure to discuss any or all of these matters further.

From: Myers, Eric [mailto:emyers@atcllc.com]
Sent: Tuesday, April 28, 2015 4:35 PM
To: Trent, James A; James A. Trent; lagi@muni.org; Warner, Jeff A.; Johnston, Mark A.
Cc: Lundberg, Eric; Jett, Paul K.; Dunham, Laurie
Subject: Thank You for your time today - Draft JDA attached

Gentlemen-central

Thank you once again for your time and hospitality today. We’re grateful that through our encouragement and most importantly your leadership the Railbelt’s utilities are finally ready to move forward with a more collaborative approach to meeting the region’s electricity needs. We are confident, and agree with you, that a demonstration of the benefits of economic dispatch, as you have proposed, will spark greater interest in cooperation.

We also remain convinced that integrated transmission operation, maintenance, planning, and investment will provide a platform for maximizing economic dispatch and promoting reliability. Please consider the attached Joint Development Agreement as a template for committing ourselves to that effort. We welcome your thoughts, suggestions and edits, and as always,

Are Very Grateful for your Partnership,

-Eric Myers

MATANUSKA ELECTRIC ASSOCIATION

May 12, 2015

VIA E-MAIL: emyers@atcllc.com

Eric Myers
American Transmission Company

Dear Eric:

MEA has reviewed the draft Joint Development Agreement that you presented on behalf of ATC. MEA has also reviewed the responsive comments sent to you by ML&P. MEA concurs with many of the concerns and issues that ML&P has raised. Because of numerous terms that do not appear to benefit MEA members and the lack of clarity around such an agreement, MEA is not in a position to sign the Joint Development Agreement.

The Joint Development Agreement states that the Parties are prepared to proceed diligently to negotiate terms to a Definitive Agreement. MEA is nowhere near this position. At this time, MEA has insufficient information to evaluate whether a Transco even makes sense for the Railbelt or for MEA. The addition of new generation at both the northern and southern ends of the Railbelt appear to drastically diminish the economic optimization that could be realized by regular power sales to either Homer or Golden Valley. This raises the question of whether a Transco makes either operational or economic sense for the Railbelt. While MEA is loathe to recommend another study of the situation, it appears that an assessment of transmission and operational options for Railbelt utilities may be a necessary first step. For example, it would seem imprudent to spend millions to build a new transmission line or substantially upgrade the existing 138kV tie to Fairbanks, for example, when future economy energy sales are projected to be far less than the existing intertie's capacity.

Another concern for MEA is ATC's position that a postage-stamp rate is the only option. Given the configuration of the new generation in the Railbelt, and the fact that all utilities appear to have adequate generation to serve their native load under normal circumstances, a tiered rate may make more sense. This could allow the Anchorage area utilities to cheaply exchange or sell power amongst themselves, while providing Homer and Golden Valley with the ability to transmit power at a reasonable rate during time of need or availability.

The Joint Development Agreement states at the bottom of page 1 that the attached Term Sheet sets forth the Parties' current understanding of provisions with respect to the Definitive Agreements. This is not true for MEA. MEA shares many of the concerns raised by ML&P about ownership percentage, captive financing, board representation, cooperation on governmental approvals and service agreements, to name a few. Rather than reiterate again what ML&P has raised, MEA will simply confirm that there are many significant issues in the Term Sheet and the Joint Development Agreement that preclude MEA from giving the draft consideration at this time.

There is a general consensus among most of the Railbelt electric utilities that some type of economic dispatch and/or power pooling is the logical first and easiest step to achieve increased efficiency in the Railbelt. MEA is prepared to direct its efforts to that end. As such, pursuit of a Transco, under the terms proposed by ATC, falls short of what MEA expects in such an endeavor.

Sincerely,

Gary Kuhn
Director of Engineering

MATANUSKA ELECTRIC ASSOCIATION, INC. • P.O. Box 2929, Palmer, Alaska 99645 • t 907.745.3231 • f 907.761.9368 • www.mea.coop

From: Patch, T W (RCA)
To: RCA Records & Filing
Subject: FW: Aurora Economic-Dispatch-Power-pooling MOU.
Date: Saturday, June 20, 2015 2:09:35 PM
Attachments: GM"s Office007232.pdf

RECEIVED
By the Regulatory Commission of Alaska on Jun 22, 2015

Please place a copy of this e-mail and the attachment into the record of Docket I-15-001

Thank you.

TWP

From: Trent, James A [mailto:TrentJA@muni.org]
Sent: Saturday, June 20, 2015 1:29 PM
To: Joe Griffith; 'Cory Borgeson'; 'Janorschke, Brad'; Brad_Evans@chugachelectric.com; Pickett, Bob (RCA); Patch, T W (RCA); 'John Foutz'; Warner, Jeff A.; 'Judy Brady'; Agi, Lou E.; Agi, Lou E.; Eidam, Greg J.; Gunn, Patsy D.; Johnson, Mio S.; Johnston, Mark A.; Jones, Beverly A.; Ori, Eugene A.; Pearson,Terrance S.; Warner, Jeff A.
Subject: Aurora Economic-Dispatch-Power-pooling MOU.

Please find attached fully executed copies of the Memorandum of Understanding for the ML&P sponsored Centralized-Power-Pool-Economic-Dispatch program collectively by the Railbelt electric Utilities (i.e. (CEA, HEA, MEA, ML&P, GVEA, SELP) [minus CEA!] to consider an innovative economic-dispatch-power-pool construct intended to enhance affordability and reliability of electric service throughout the entire Railbelt.

The ongoing point of contact for the ML&P Centralized-Power-Pool-Economic-Dispatch will be: Mr. Jeff Warner @ 907-263-5282,WarnerJA@ci.anchorage.ak.us

"Listen-Think-Solve"

Jim Trent
ML&P GM & COO
trentja@muni.org
mobile: 907-229-0422

MEMORANDUM OF UNDERSTANDING COMMENCING A CENTRALIZED POWER POOL AND CENTRAL ECONOMIC DISPATCH SERVICES, LEVELIZING TRANSMISSION CHARGES, REVISING RESERVE ALLOCATIONS AND CONFIRMING OPERATIONAL RELIABILITY STANDARDS

Alaska Railbelt electric utilities Homer Electric Association (HEA), City of Seward Light & Power Division (SELP), Anchorage Municipal Light and Power (ML&P), Matanuska Electric Association (MEA) and Golden Valley Electric Association (GVEA) (collectively the Undersigned Railbelt Utilities) assembled at ML&P on April 24, 2015 to consider new inter-utility arrangements intended to enhance affordability and reliability of electric service in the Railbelt. As a result, the parties enter into this Memorandum of Understanding (MOU) effective as of that assembly date.

RECITALS

A. Each signatory to this memorandum is a public utility certificated by the Regulatory Commission of Alaska (RCA) to provide electric utility service to consumers within its certificated service area on or north of the Kenai Peninsula, with each signatory interconnected through the Railbelt electric transmission grid.

B. Each utility has a varying array of internal generating sources from which to meet its service obligations, generally choosing (dispatching) its sources based on each source's relative cost (including, *inter alia,* capital, operation and maintenance, and fuel costs), availability and reliability, among other possible matters at any point in time. The source dispatched therefore embodies the most favorable economic consequence available to the particular utility at that point in time.

C. Each utility at any point in time may also have generation excess to its needs that could be started or made available upon notice varying from one hour or even less to one day, and thereafter delivered for varying lengths of time. Excess generation not yielding revenue therefore embodies an unfavorable economic consequence imposed on the unused generation's owner.

D. From time to time and for shorter or longer periods of time, a dispatching utility in order to meet its service obligations might find it economically or operationally beneficial if it could avail itself of the excess generation available from another utility or entity, and such other utility or entity would be economically benefitted if the exchange could occur.

E. A system permitting such exchanges is a highly complex arrangement, involving creation and maintenance of a power pool of detailed data bases of excess generation resources and their conditions of delivery. The pool would then be dispatched at least initially pursuant to appropriate requests from purchasing utilities. Ultimately, all Railbelt generation resources might be subject to a centralized economic dispatch.

F. But despite its difficulty, establishment of a Centralized-Power-Pool-Economic-Dispatch system is calculated to substantially promote affordability and reliability of electric power throughout the Railbelt. Moreover, such affordability and reliability should be further enhanced as impediments to maximally efficient functioning of the Centralized-Power-Pool-Economic-Dispatch system are ameliorated.

G. ML&P has advised that by June, 2015 it will have substantially completed installation of requisite programming tools, data bases and physical capabilities to provide a precursor to a full Centralized-Power-Pool-Economic-Dispatch system for all the Railbelt utilities. Moreover, ML&P desires to offer the system free of charge to the Railbelt utilities for a period of one year in order to validate and quantify its value, as well as enhance its data bases and identify and remove any operational difficulties that may be revealed.

H. Among the apparent organizational impediments to maximum efficiency of a Centralized-Power-Pool-Economic-Dispatch system is the current dispute as to an appropriate allocation of particularly spinning reserve requirements among Railbelt utilities, which dispute creates uncertainty as to what are each utility's actual load requirements. Different reserve requirements are contained in the separate versions of the Railbelt Operational and Reliability Standards (Reliability Standards) previously submitted as informational filings to the Regulatory Commission of Alaska (RCA) by HEA and the Intertie Management Committee (IMC), most members of which are among the Undersigned Railbelt Utilities. It was intended that a previous IMC administration would present the Standards to the RCA for adoption as regulations that would then lead to resolution of the reserves dispute, but such submission did not occur. The present IMC administration will defer such submission until after the next IMC meeting in the near future to attempt a utility resolution of the issue, as had been the prior approach for over twenty years. Other than as to reserves, there does not appear to be significant dispute as to the Reliability Standards.

I. A very significant impediment to realizing maximum affordability and reliability benefits from the power pool/central dispatch system is the presence of separate and possibly cumulative usage-based transmission tariffs in delivering otherwise least expensive generation to a potential user. This situation minimizes if not abrogates the value of certain generation sources for particular purchasers. Thus, the utilities may have to pool their transmission costs and recover them through some levelized but equitable charge on themselves, so as not to substantially burden the Centralized-Power-Pool-Economic-Dispatch system.

I. As ML&P is likely the utility most harmed by recovery of transmission costs other than on a usage basis, it should assume the lead in proposing an equitable non-usage based transmission charge for consideration by Undersigned Railbelt Utilities over the course of the offered free year of the Centralized-Power-Pool-Economic-Dispatch system's operation.

J. It does not appear at this time that allowance of non-utility power producers to enter the Centralized-Power-Pool-Economic-Dispatch system will compromise realization of the system's benefits.

K. Chugach Electric Association did not attend the meeting generating this MOU and is therefore not among the Undersigned Electric Utilities. However, it may subscribe to this MOU at any time and otherwise participate in future discussions and join the Centralized-Power-Pool-Economic-Dispatch system at its election.

NOW, THEREFORE, in consideration of the mutual promises set forth herein and other good and valuable consideration, the parties agree as follows:

AGREEMENT

1. The Undersigned Railbelt Utilities encourage ML&P to finalize development of its Centralized-Power-Pool-Economic-Dispatch system. To the extent not constrained by contractual or other commitments, each of the undersigned will attempt to make its excess generation available to ML&P for inclusion in the pool, as well as attempt to utilize the pool for its own service needs. All obligations assumed hereunder by the Undersigned Railbelt Utilities are voluntary and may be terminated at any time.

2. Except as may be later agreed to, all transactions between purchasers and sellers through the Centralized-Power-Pool-Economic-Dispatch system shall be directly between themselves and not involve ML&P as money holder, bookkeeper or guarantor of any sort.

3. As discussed herein, ML&P shall assume the lead in developing a potential levelized transmission proposal more suitable for a Centralized-Power-Pool-Economic-Dispatch system.

IN WITNESS WHEREOF, the parties hereto have caused this MOU to be duly executed as of the dates set forth below, and **Effective** as of April 24, 2015.

Dated:_____ Party: Matanuska Electric Association, Inc.

By: _____

Title:_____

Dated:_____ Party: Homer Electric Association, Inc.

By: _____

Title:_____

Dated:_____ Party: Anchorage Municipal Light & Power.

Title: General Manager

Dated: _____

Party: Anchorage Municipal Light & Power.

By: _____

Title: _____

Dated: _____

Party: Golden Valley Electric Association, Inc.

By: _____

Title: _____

Dated: 6/19/15

Party: City of Seward Light & Power Division

By: _____

Title: UTILITY MGR.

MEMORANDUM OF UNDERSTANDING COMMENCING A CENTRALIZED POWER POOL AND CENTRAL ECONOMIC DISPATCH SERVICES, LEVELIZING TRANSMISSION CHARGES, REVISING RESERVE ALLOCATIONS AND CONFIRMING OPERATIONAL RELIABILITY STANDARDS

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Title:_____

Dated:_____ Party: Anchorage Municipal Light & Power.

By: _____

Title: _____

Dated: June 18, 2015

Party: Golden Valley Electric Association, Inc.

By: Craig R Borgen

Title: President & CEO

Dated: _____

Party: City of Seward Light & Power Division

By: _____

Title: _____

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NOW, THEREFORE, in consideration of the mutual promises set forth herein and other good and valuable consideration, the parties agree as follows:

AGREEMENT

1. The Undersigned Railbelt Utilities encourage ML&P to finalize development of its Centralized-Power-Pool-Economic-Dispatch system. To the extent not constrained by contractual or other commitments, each of the undersigned will attempt to make its excess generation available to ML&P for inclusion in the pool, as well as attempt to utilize the pool for its own service needs. All obligations assumed hereunder by the Undersigned Railbelt Utilities are voluntary and may be terminated at any time.

2. Except as may be later agreed to, all transactions between purchasers and sellers through the Centralized-Power-Pool-Economic-Dispatch system shall be directly between themselves and not involve ML&P as money holder, bookkeeper or guarantor of any sort.

3. As discussed herein, ML&P shall assume the lead in developing a potential levelized transmission proposal more suitable for a Centralized-Power-Pool-Economic-Dispatch system.

IN WITNESS WHEREOF, the parties hereto have caused this MOU to be duly executed as of the dates set forth below, and **Effective** as of April 24, 2015.

Dated:_____ Party: Matanuska Electric Association, Inc.

By: _____

Title: _____

Dated: 04/29/2015 Party: Homer Electric Association, Inc.

By: _____

Title: General Manager

Dated:_____ Party: Anchorage Municipal Light & Power.

By: _____

Title:_____

Dated:_____ Party: Golden Valley Electric Association, Inc.

By: _____

Title:_____

Dated:_____ Party: City of Seward Light & Power Division

By: _____

Title:_____

MEMORANDUM OF UNDERSTANDING COMMENCING A CENTRALIZED POWER POOL AND CENTRAL ECONOMIC DISPATCH SERVICES, LEVELIZING TRANSMISSION CHARGES, REVISING RESERVE ALLOCATIONS AND CONFIRMING OPERATIONAL RELIABILITY STANDARDS

Alaska Railbelt electric utilities Homer Electric Association (HEA), City of Seward Light & Power Division (SELP), Anchorage Municipal Light and Power (ML&P), Matanuska Electric Association (MEA) and Golden Valley Electric Association (GVEA) (collectively the Undersigned Railbelt Utilities) assembled at ML&P on April 24, 2015 to consider new inter-utility arrangements intended to enhance affordability and reliability of electric service in the Railbelt. As a result, the parties enter into this Memorandum of Understanding (MOU) effective as of that assembly date.

RECITALS

A. Each signatory to this memorandum is a public utility certificated by the Regulatory Commission of Alaska (RCA) to provide electric utility service to consumers within its certificated service area on or north of the Kenai Peninsula, with each signatory interconnected through the Railbelt electric transmission grid.

B. Each utility has a varying array of internal generating sources from which to meet its service obligations, generally choosing (dispatching) its sources based on each source's relative cost (including, *inter alia,* capital, operation and maintenance, and fuel costs), availability and reliability, among other possible matters at any point in time. The source dispatched therefore embodies the most favorable economic consequence available to the particular utility at that point in time.

C. Each utility at any point in time may also have generation excess to its needs that could be started or made available upon notice varying from one hour or even less to one day, and thereafter delivered for varying lengths of time. Excess generation not yielding revenue therefore embodies an unfavorable economic consequence imposed on the unused generation's owner.

D. From time to time and for shorter or longer periods of time, a dispatching utility in order to meet its service obligations might find it economically or operationally beneficial if it could avail itself of the excess generation available from another utility or entity, and such other utility or entity would be economically benefitted if the exchange could occur.

E. A system permitting such exchanges is a highly complex arrangement, involving creation and maintenance of a power pool of detailed data bases of excess generation resources and their conditions of delivery. The pool would then be dispatched at least initially pursuant to appropriate requests from purchasing utilities. Ultimately, all Railbelt generation resources might be subject to a centralized economic dispatch.

F. But despite its difficulty, establishment of a Centralized-Power-Pool-Economic-Dispatch system is calculated to substantially promote affordability and reliability of electric power throughout the Railbelt. Moreover, such affordability and reliability should be further enhanced as impediments to maximally efficient functioning of the Centralized-Power-Pool-Economic-Dispatch system are ameliorated.

G. ML&P has advised that by June, 2015 it will have substantially completed installation of requisite programming tools, data bases and physical capabilities to provide a precursor to a full Centralized-Power-Pool-Economic-Dispatch system for all the Railbelt utilities. Moreover, ML&P desires to offer the system free of charge to the Railbelt utilities for a period of one year in order to validate and quantify its value, as well as enhance its data bases and identify and remove any operational difficulties that may be revealed.

H. Among the apparent organizational impediments to maximum efficiency of a Centralized-Power-Pool-Economic-Dispatch system is the current dispute as to an appropriate allocation of particularly spinning reserve requirements among Railbelt utilities, which dispute creates uncertainty as to what are each utility's actual load requirements. Different reserve requirements are contained in the separate versions of the Railbelt Operational and Reliability Standards (Reliability Standards) previously submitted as informational filings to the Regulatory Commission of Alaska (RCA) by HEA and the Intertie Management Committee (IMC), most members of which are among the Undersigned Railbelt Utilities. It was intended that a previous IMC administration would present the Standards to the RCA for adoption as regulations that would then lead to resolution of the reserves dispute, but such submission did not occur. The present IMC administration will defer such submission until after the next IMC meeting in the near future to attempt a utility resolution of the issue, as had been the prior approach for over twenty years. Other than as to reserves, there does not appear to be significant dispute as to the Reliability Standards.

I. A very significant impediment to realizing maximum affordability and reliability benefits from the power pool/central dispatch system is the presence of separate and possibly cumulative usage-based transmission tariffs in delivering otherwise least expensive generation to a potential user. This situation minimizes if not abrogates the value of certain generation sources for particular purchasers. Thus, the utilities may have to pool their transmission costs and recover them through some levelized but equitable charge on themselves, so as not to substantially burden the Centralized-Power-Pool-Economic-Dispatch system.

I. As ML&P is likely the utility most harmed by recovery of transmission costs other than on a usage basis, it should assume the lead in proposing an equitable non-usage based transmission charge for consideration by Undersigned Railbelt Utilities over the course of the offered free year of the Centralized-Power-Pool-Economic-Dispatch system's operation.

J. It does not appear at this time that allowance of non-utility power producers to enter the Centralized-Power-Pool-Economic-Dispatch system will compromise realization of the system's benefits.

K. Chugach Electric Association did not attend the meeting generating this MOU and is therefore not among the Undersigned Electric Utilities. However, it may subscribe to this MOU at any time and otherwise participate in future discussions and join the Centralized-Power-Pool-Economic-Dispatch system at its election.

NOW, THEREFORE, in consideration of the mutual promises set forth herein and other good and valuable consideration, the parties agree as follows:

AGREEMENT

1. The Undersigned Railbelt Utilities encourage ML&P to finalize development of its Centralized-Power-Pool-Economic-Dispatch system. To the extent not constrained by contractual or other commitments, each of the undersigned will attempt to make its excess generation available to ML&P for inclusion in the pool, as well as attempt to utilize the pool for its own service needs. All obligations assumed hereunder by the Undersigned Railbelt Utilities are voluntary and may be terminated at any time.

2. Except as may be later agreed to, all transactions between purchasers and sellers through the Centralized-Power-Pool-Economic-Dispatch system shall be directly between themselves and not involve ML&P as money holder, bookkeeper or guarantor of any sort.

3. As discussed herein, ML&P shall assume the lead in developing a potential levelized transmission proposal more suitable for a Centralized-Power-Pool-Economic-Dispatch system.

IN WITNESS WHEREOF, the parties hereto have caused this MOU to be duly executed as of the dates set forth below, and **Effective** as of April 24, 2015.

Dated: 6-11-15

Party: Matanuska Electric Association, Inc.

By: Acting GM

Title: Director of Engineering

Dated: _____

Party: Homer Electric Association, Inc.

By: _____

Title: _____

Dated: 6/01/15

Party: Anchorage Municipal Light & Power.

By: _____

Title: Pres & CEO

Dated: _____

Party: Golden Valley Electric Association, Inc.

By: _____

Title: _____

Dated: _____

Party: City of Seward Light & Power Division

By: _____

Title: _____

STATE OF ALASKA

REGULATORY COMMISSION OF ALASKA

Before Commissioners:

Robert M. Pickett, Chair
Stephen McAlpine
T.W. Patch
Norman Rokeberg
Janis W. Wilson

In the Matter of the Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System	)))	I-15-001

OFFICE OF THE ATTORNEY GENERAL'S RESPONSE TO ORDER I-15-001(1)

Pursuant to Order I-15-001(1) the Office of the Attorney General, Regulatory Affairs and Public Advocacy section (RAPA) responds to Commission questions.

1. **Would the creation of an independent system operator or similar structure for electric utilities in the Railbelt be the best option for effective and efficient electrical transmission? If not, what other approach would be best?**

RAPA does not have sufficient information to respond to this question and has not developed a positon.

2. **To what extent does our existing statutory and regulatory authority extend to mandating the creation of an independent system operator or similar entity and to regulating the rates and practices of such an entity?**

The Commission has the authority to take this action if it is in the public interest and is required for the public convenience and necessity.

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Under AS 42.05.141, the legislature granted the RCA broad powers.[1] The RCA has the power to "'do all things necessary or proper to carry out the purposes and exercise the powers' it is granted in the law."[2] The Alaska Supreme Court explained the scope of power under AS 42.05.141:

> This provision presents two guiding principles for determining the extent of the [commission]'s jurisdiction under specific provisions of the Act. On the one hand, it includes a principle of limitation, restricting the [commission]'s power to the specific jurisdictional areas of its "stated purposes." On the other hand, it includes a principle of expansion, mandating that the [commission]'s power to act within its specific areas of jurisdiction "is to be liberally construed."[3]

The Commission's powers are to be "liberally construed to accomplish its stated purpose."[4] The RCA also has implied powers under AS 42.05.141, but "must first conduct an investigation and hold a hearing before exercising its implied authority."[5]

> "[T]he Commission is empowered to amend, modify, suspend, or revoke a certificate after notice and opportunity to be heard. AS 42.05.271 provides in part: Upon complaint or upon its own motion, the commission, after notice and opportunity for hearing and for good cause

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[1] *Matanuska Elec. Ass'n, Inc. v. Chugach Elec. Ass'n, Inc.*, 58 P.3d 491 (Alaska 2002).

[2] *Id.* at 494.

[3] *Id.* (alteration in original).

[4] *Alaska Fed'n for Community Self-Reliance v. APUC*, 879 P.2d 1015, 1025 (Alaska 1994); *see also Colville Envtl. Servs., Inc. v. North Slope Borough*, 831 P.2d 341, 346 (Alaska 1992).

[5] *APUC v. Municipality of Anchorage*, 902 P.2d 783, 788 (Alaska 1995).

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shown, may amend, modify, suspend or revoke a certificate, in whole or in part."[6]

A Railbelt electric utility's certificate of public convenience and necessity typically states the the utility is authorized to operate a public utility as defined by AS 42.05.990(6)(a), which includes furnishing transmission and generation service.[7]

After notice and hearing, if good cause exists the RCA has the authority to modify each Railbelt utility's CPCN to remove or eliminate that utility being allowed to operate the transmission system within a service area. This could apply to each Railbelt utility that owns transmission assets (or generation assets). Likewise, the RCA can transfer that transmission and/or generation utility service to another public utility. That public utility could provide the services of an ISO or a TransCo.

3. Are existing statutes and regulations governing our regulation of electric transmission adequate for us to effectively address current and future Railbelt transmission issues?

As noted above, the RCA has the authority to act under the current statutory scheme. Additional regulations might be needed depending on what action the Commission might decide to take. In the interim, the Commission can adopt policy on a

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6 *Colville Envtl. Servs., Inc.*, 831 P.2d at 347.

7 *See e.g.*, CPCN No. 8 (Chugach).

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case-by-case basis as needed until a structured regulatory framework is established.[8]

4. If our regulations require changes, what specific changes should be considered in a rulemaking docket and is it appropriate to consider making those changes at this time?

To avoid or reduce regulatory uncertainty, regulations might establish or address an appropriate framework to regulate an ISO/TransCo. This can be developed in an R-docket where the scope of the docket can be determined and the input of the utilities, RAPA, independent power producers and any other interested participants could be considered.

5. If regulatory changes are found to be necessary, how narrow or broad should a rulemaking docket be and what scoping process should be used to determine the boundaries of the proceeding?

Scoping should be set early on in any R-Docket process given statutory deadlines imposed by law. Comments from interested participants on the appropriate scope could provide the RCA direction, including limiting and identifying issues outside the scope of the docket. This was done recently in Docket R-13-001 (IXC COLR regulation docket).

6. Regarding the reliability of electric service, is our authority limited to addressing utility practices and service quality within each utility's service territory, or does it extend across service territory boundaries such that, for example, we can address the effects of one utility's practices on the service quality of another utility?

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[8] *See Amerada Hess Pipeline Corp. v. Alaska Pub. Utilites Comm'n*, 711 P.2d 1179, 1178 (Alaska 1986) ("As a general rule, absent statutory restrictions and due process limitations, administrative agencies have the discretion to set policy by adjudication instead of rulemaking.")

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The Commission's authority is not necessarily limited to "utility practices and service quality within each utility's service territory." This is because one utility's practices can adversely impact another utility and its consumers.[9]

AS 42.05.291 provides the Commission additional authority. This statute addresses standards of service and facilities. Subsection (c) gives the RCA express authority to adopt regulations and practices that will be followed by "public utilities." Such regulations are expected to apply to multiple electric utilities on issues of service, facilities, crossing of facilities, just and reasonable standards, classifications, standards for measurement of quantity, quality, initial voltage, supply of service of public utilities, testing of service and measurement of service, standards for accuracy of meters and other issues for service.

7. Should there be a set of mandatory reliability standards for the Alaska Railbelt similar to those of the North American Electrical Reliability Corporation, and if so, do we or should we have the authority to mandate or regulate those standards (beyond the existing voluntary arrangements such as the existing Railbelt Operating and Reliability Standards)?

Reliability standards that protect and benefit the rate paying public appear to be appropriate and in the public interest. But, RAPA does not have sufficient information

[9] For example, in Order 87-002(9), the Commission addressed a problem faced by ENSTAR. Its utility customers, ML&P and Chugach, were considering whether to abandon ENSTAR as a gas supplier if alternate gas supplies could be found at a more favorable price. Because ENSTAR's investments were made in order to ensure an adequate gas supply for these customers, the Commission barred each utility from entering into any gas supply contracts without first securing Commission approval.

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at this time to determine whether standards similar to the standards of North American Electrical Reliability Corporation would be appropriate for the Railbelt.

8. Considering our authority to "promote the conservation of resources used in the generation of electric energy" under AS 42.05.141(c), to require reasonable management practices under AS 42.05.511, to provide rate recovery of energy conservation efforts, and other statutory grants of authority, do we have the authority to order the Railbelt electric utilities to jointly and cooperatively manage their generation and transmission assets, or is our authority limited to matters within each utility's service territory? If our authority is limited to each utility's operations within its particular service area without regard to other interconnected utilities, explain why it is limited.

The Commission appears to have the broad authority to "jointly and cooperatively manage" Railbelt utility generation and transmission assets. The ability to do so is inherent in the Commission's duty to ensure captive consumers' interests are protected.[10]

In addition to the broad grant of authority the RCA enjoys, AS 42.05.221(d) addresses a situation when two public utilities are furnishing identical service. The Commission is authorized to "(5) provide such other mutually equitable arrangements as would be in the public interest."

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[10] *See* Order U-87-002(9) at 3 ("The goals of the Commission are even broader than represented by parties in this proceeding. As stated by the Arkansas Public Service Commission: 'We are constrained by the need to balance the interests of all gas consumers: large and small; those who can bypass and those who have no alternative supplies; those who can transport and those whose only supplier is the LDC [local distribution company]. We must balance the interest of the various classes of consumers and the interests of the utility. Our decisions must insure the continued viability of the utilities while maintaining economical gas supplies for all customers.'")

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In recent Dockets U-13-007, U-13-203 and U-14-001, the issue of whether the Railbelt is a single integrated machine has been discussed. Also in those Dockets, witnesses discussed the possible benefits a utility's transmission system provides to parts of the Railbelt beyond the boundary of a particular utility. For example, there have been claims that Chugach's transmission system benefits the capacity to wheel power north to GVEA beyond Chugach's Teeland Substation; claims by HEA that its transmission system benefits the capacity to wheel power over Chugach's transmission line from Quartz Creek to University; and power flow studies showing that power sent from Chugach to GVEA transverses ML&P's system and MEA's systems. There were also claims of providing reactive power and voltage support beyond the boundary of a utility's system, which were countered by claims that other utilities were actually providing these benefits to power being transmitting over the Railbelt.

Each example above shows utility actions can have ramifications beyond a particular utility's service area. Each docket also implicates the Commission's inherent authority to decide such issues by ensuring the public interest is fully protected.

9. Do AS 42.05.311(a) and other statutes provide us with authority to order system-wide wheeling rates across utility-owned Railbelt transmission facilities, even if ownership of the facilities remains with individual utilities?

Yes. Particularly when considered in tandem with AS 42.05.141, AS 42.05.311(a) provides in part that "[a] public utility having . . . transmission facilities shall, for a reasonable compensation, permit another public utility to use them

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when the public convenience and necessity requires this use will not result in substantial injury to the owner, or in substantial detriment to the service to the customers of the owner." The fact that the Legislature made shared-use mandatory by using "shall" and required anyone opposing the shared use to meet the high burden of showing "substantial" injury or detriment in service indicates that the RCA has the authority to set a Railbelt wide wheeling rate for any such shared use.

The breadth of the shared use requirement applies to all utilities, as is shown in AS 42.05.321(b), which states: "This section and *AS 42.05.311 apply to all utilities* whether or not they are exempt from regulation under AS 42.05.711." (emphasis added).

10. Does the [sic] AS 42.05 provide us with authority to review or regulate the integrated planning, determination of need for, and/or siting of new generation and transmission facilities of regulated electric utilities? If it does, how can that authority be employed to help ensure that new facilities are planned and constructed to optimize efficient and reliable provision of electric service to the entire Railbelt region?

This issue warrants extensive research which cannot be accommodated at this time given RAPA's demands in other dockets. But since the answers to this question implicates safe and reliable utility service and will impact consumer rates, the likely answer appears to be that the Commission has the authority to "review or regulate the integrated planning, determination of need for, and/or siting of new generation and transmission facilities of regulated electric utilities."

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AS 42.05.141(a) grants the Commission broad authority to do "all things necessary or proper" to carry out its duties. One duty is to ensure utilities "furnish and maintain adequate, efficient, and safe service and facilities." AS 42.05.291(a). Another is to control the duplication of facilities. AS 42.05.221(d). Necessarily limiting the Commission's review authority to an after-the-fact examination of utility decision-making would seem to work at cross purposes with these mandates.[11] Although the Commission has usually refrained from interjecting itself into utility planning decisions, this does not mean it is without authority to do so.

The Commission can and has also reviewed planning decisions in advance. In Order U-10-041(1), the Commission opened an investigation for the advance determination of prudence and cost recovery for the Southcentral Power Project (SPP). The Commission noted its authority to investigate this issue was "discretionary." If the

[11] This issue is particularly complicated in the context of Railbelt utilities. These entities are cooperatives and municipally-owned utilities. Once bonds or other debt instruments are issued, AS 42.05.431(a) obligates the Commission to ensure rates are adequate to cover these debt obligations. *See APUC v. Municipality of Anchorage*, 555 P.2d 262 (Alaska 1976). Cooperatives present another problem in this analysis. Any after-the-fact determination that a cooperative utility was imprudent in its planning might become an exercise in futility. Since cooperative utility ratepayers are also the utility's members, a decision to bar rates from including imprudently incurred plant expenditures will still likely impact ratepayer-members.

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Commission lacked authority to exercise such discretion, it could not have issued the order Chugach sought and the Commission ultimately granted.[12]

RAPA has not developed a position as to the best method to implement any integrated planning. But, RAPA notes that other state commissions, like Hawaii, have opened investigations into reliability standards,[13] or whether to conduct a bidding process for adding additional generation.[14]

11. What authority do we have to require or to encourage greater cooperation, power pooling, and/or centralized transmission system planning and operations among Railbelt electric utilities?

See RAPA's answer to Question 10 above. The same analysis would appear to apply.

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[12] Chugach's Petition at 7 pointed out the numerous statutory bases authorizing such advance Commission action. It also noted most state commission are active in this role: "As demonstrated in the Affidavit of Karl McDermott, pre-approval of the prudence of utility infrastructure construction expenditures, including, but not limited to generation investment, has become commonplace in the United States as a result of the recognition that investors are demanding more certainty with respect to how expenditures will be treated by future regulators. This policy, in turn, can benefit customers by lowering lending costs and assuring adequacy of supply. Regulators have used both explicit statutory authority and general supervisory authority to implement various approaches to pre-approval designed to meet the needs of each jurisdiction." A link to the Petition is: http://rca.alaska.gov/RCAWeb/ViewFile.aspx?id=41d0e011-39b7-4ebe-aac4-6355285f84aa.

[13] *See e.g., in re Pub. Utilities Comm'n Instituting a Proceeding to Investigate the Implementation of Reliability Standards*, Docket No. 2011-0206, Order No. 32053, 2014 WL 2448813 (Hawai'i PUC).

[14] *See e.g., in re Pub. Utilities Comm'n Instituting a Proceeding Related to a Competitive Bidding Process for 200 MW or more of Renewable Energy-Delivered to or on Oahu*, Docket No. 2011-0225, Order NO. 31911, 2014 WL 768399 (Hawai'i PUC).

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DATED March 31, 2015, at Anchorage, Alaska.

CRAIG W. RICHARDS
ATTORNEY GENERAL

By:

Jeffrey J. Waller
Assistant Attorney General
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DATED March 31, 2015, at Anchorage, Alaska.

CRAIG W. RICHARDS
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By:

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June 17, 2015

Office of the Commissioners
Regulatory Commission of Alaska
701 W. 8th Ave., Ste. 300
Anchorage, AK 99501

Re: Docket I-15-001

Dear Commissioners:

On behalf of Providence Health and Services ("Providence"), I am writing to provide comments in Docket I-15-001, regarding the Commission's evaluation of the operation and regulation of the Alaskan Railbelt electric transmission system.

Providence operates Providence Alaska Medical Center, the largest private electric utility customer in Alaska, and as such has a substantial interest in the structuring of electric utility services in the Railbelt. Including its extensive Anchorage campus, Providence operates 28 facilities throughout Alaska, including in the Railbelt communities of Seward, Soldotna, Palmer, and Eagle River. Providence thanks the Commission for this opportunity to provide comments regarding potential implementation of an Independent System Operator (ISO) for the Railbelt electric utilities, as stated by Chairman Pickett at the special public meeting of June 3, 2015 (page 5, line 6 and 7 of the transcript).

As the Commission is aware, Providence is participating as an intervenor in the pending Municipal Light & Power rate case (U-13-184). A major issue in that case is whether ML&P is justified in developing additional generating resources in the face of flat or declining loads. In that context, I was dismayed at testimony from ML&P's

witnesses to the effect its need for additional generation is driven in part by the fact that the Railbelt utilities do not cooperate in the utilization of their generating resources. Whether this results from competing commercial interests, from differing operational cultures, or other causes, this type of Balkanization hurts all retail customers.

Providence believes very strongly that the interests of retail customers throughout the Railbelt will be better served if generating resources are dispatched on an economic basis; only then will customers receive the least costly power available. Although I am not a transmission expert, and would not presume to advise the Commission on the exact regulatory structure for achieving this goal, I urge the Commission to seriously consider an ISO as a way of assuring that the Railbelt trasmission system facilitates least-cost dispatch by empowering an entity that can ensure that intra-utility lack of cooperation does not interfere with those economies.

Providence has wide experience with many utilities, since it operates a total of 294 facilities in 5 states, and is a customer of 28 different electric power providers. Its experience has been positive in other jurisdictions with ISOs or other mechanisms that facilitate economic dispatch, and we believe that such mechanisms work well and provide efficiencies that benefit all utility customers. It is particularly important that an ISO be in place at this time, when the utilities are seeking to add large amounts of new generation capacity at considerable expense, capacity that Providence believes to be redundant now, and even more redundant with an ISO.

Sincerely,

Richard Beam

Richard Beam

System Director of Energy Management Services

REAP | Renewable Energy Alaska Project

R.C.A.
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15 APR -1 PM 4:34

April 1, 2015

To: Regulatory Commission of Alaska (RCA)

Fr: Renewable Energy Alaska Project (REAP)

Re: Comments on I-15-001

Renewable Energy Alaska Project (REAP) respectfully requests leave to submit this comment regarding I-15-001 one day late.

REAP was established in 2004 and since has grown into a coalition of over 80 organizations including electric utilities, independent power producers, Alaska Native organizations, businesses and NGOs. As an education and advocacy group, REAP is committed to increasing the production of renewable energy and promoting energy efficiency across the state of Alaska.

Beginning in March 2014, REAP began looking at the issue of establishing an independent system operator (ISO) for the Railbelt grid. One of REAP's primary interests in the creation of an ISO is the establishment of a transparent, universal transmission tariff for the grid, and the elimination of "pancaked" transmission tariffs that are destroying the economics of moving renewable energy across the system. The combined transmission tariffs that Cook Inlet Region Inc. (CIRI), would have had to pay to Chugach Electric Association, Anchorage Municipal Light and Power and Matanuska Electric Association to move electricity from its proposed Fire Island II wind farm to Golden Valley Electric Association in Fairbanks is just the latest example of how pancaked tariffs have thwarted development of renewable energy in the Railbelt.

Between March and October 2014, REAP held eight Public Policy Committee meetings to educate its members about both ISOs and transmission companies (TRANSCOs). REAP understands that a TRANSCO may be formed to consolidate and own the assets of the seven Railbelt transmission owners (including the Alaska Energy Authority). However, REAP has put most of its focus on the formation of a non-asset owning ISO to do region-wide transmission planning, establish a universal transmission tariff and set the reliability rules for the grid, all with an eye toward economic dispatch of the entire system over one large balancing area. REAP would like to see the Regulatory Commission of Alaska have the requisite tools and resources to develop and form an ISO. On the other hand, REAP anticipates that the formation of a TRANSCO will be a transaction among the parties that own transmission, and other private sector actors.

REAP believes the RCA has the authority to establish an ISO on behalf of Railbelt consumers in the name of conservation of resources. However, REAP is also

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requesting action from the state legislature to direct the RCA to establish an ISO. In October 2014 the REAP board of directors passed a resolution based on a REAP Public Policy Committee recommendation to support the creation of an ISO by the RCA. That resolution contains seven general principles that REAP believes should guide the formation of an ISO. Since that resolution was passed, REAP has been educating legislators and asking them to give direction to the RCA to develop an ISO with those seven principles in mind. Those principles are attached, and incorporated by reference into this comment.

REAP understands an ISO and TRANSCO would serve very different functions, with a TRANSCO as the entity that essentially executes the rules and protocols that an ISO sets out. Since a TRANSCO is likely to be dominated by the interests of the utilities that currently own transmission assets, it will be imperative that the ISO be a truly independent entity that is governed by a wide range of stakeholders. REAP does not see a "TRANSCO only" model as a viable way forward, and will continue to educate policy makers on the need for Railbelt transmission reform that establishes an ISO to break down barriers for both independent power producers and incumbent utilities to move renewable electricity across the Railbelt grid.

REAP appreciates the Commission's strong interest in this matter, and hopes that its comments will be considered.

Respectfully,

Chris Rose

Chris Rose
Executive Director

Independent System Operator Principles
Approved by the REAP Board of Directors October 29, 2014

REAP believes that the creation of an Independent System Operator (ISO)[1] for the Railbelt would be beneficial for a number of reasons, including providing fair, predictable and non-discriminatory access to the transmission system for more renewable energy providers. REAP believes any proposed Railblet ISO must:

1. Be an efficient, non-profit, non asset-owning entity governed by an impartial independent board of directors.

2. Have mandatory participation of all utilities in the Railbelt.

3. Set terms and conditions for a universal Railbelt transmission tariff that would provide non-discriminatory open access to the transmission grid for all utilities and independent power producers.[2]

4. Maximize the use of existing and future infrastructure to achieve least cost economic dispatch.[3]

5. Have operational authority over the transmission system, including planning and siting authority over new transmission.[4]

6. Have authority over reliability.[5]

7. Be regulated by the Regulatory Commission of Alaska (RCA).

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[1] An ISO is also sometimes known as a Regional Transmission Organization (RTO). However, an ISO and RTO are not the same as a TRANSCO, which is often, but not always, a for-profit, asset owning company.

[2] This is essential to provide certainty to those wishing to interconnect into the grid, and to avoid "pancaking" rates through multiple utility balancing areas. The ISO would be responsible for conditioning and authorizing new interconnections, and for administering the universal transmission tariff, though the Regulatory Commission of Alaska would hear disputes about those interconnections and the transmission tariff.

[3] Economic dispatch is a powerful driving force behind efforts to establish an ISO. The ISO would do this in part by choosing which generation units to run based on natural gas costs, heat rates and line losses.

[4] The ISO would be the body responsible for planning and coordinating new transmission, as well as setting conditions upon it. Parties would have the ability to appeal transmission plans to the RCA, including requests for transmission lines that have been omitted. "Siting," as contemplated by REAP in this context, refers to the general authority to plan new transmission lines rather than the specific authority to permit and route those lines. Giving the ISO operational authority over the transmission system does not answer the question of who will own the transmission assets. Currently, the leading proposal to resolve that issue is to fold transmission assets into a for-profit transmission company called a TRANSCO that would finance and execute transmission upgrades authorized by the ISO.

[5] The ISO would adopt and enforce reliability standards.

From:	Chris Rose
To:	Beard, Brian F (RCA)
Subject:	I-15-001
Date:	Thursday, June 18, 2015 9:46:17 AM
Attachments:	REAP Testimon76-17-15.doc
Importance:	High

RECEIVED
By the Regulatory Commission of Alaska on Jun 18, 2015

Hi Brian

I've attached the testimony I read from at yesterday's Commission hearing on I - 15-001. Sorry I couldn't figure out how to submit it as a public comment online. Thank you.

Best,

Chris

Chris Rose
Executive Director, Renewable Energy Alaska Project (REAP)
907-232-0908 (mobile)
chris@realaska.org

> On Jun 17, 2015, at 5:16 PM, brian.beard@alaska.gov wrote:
>
>
> Notification of new filing.
>
> Tracking Number: TR1504407
> Description: Comments for I-15-001 by C.R Baldwin of Homer Electric Association
> Received: 6/17/2015.
>
> Filed on behalf of (only if a company related to this filing): Homer Electric Association, Inc.; Alaska Electric and Energy Cooperative, Inc.; .
> Filed in docket (only if a docket related to this filing): I-15-001.
>
> Evaluation of the Operation and Regulation of the Alaska Railbelt Electric Transmission System
>
> Filed by: Charles R Baldwin.
>
>
> It is available on the RCA website via the following link:
> <http://rca.alaska.gov/RCAWeb/Filings/FilingDetails.aspx?id=de86e576-f7d9-458f-a89f-43afc7864748>
>
>
> The filing contains the following files (links will open the file):
>
> * Final Comments 6-17-15.fnl.pdf (Comments for I-15-001 by C.R Baldwin for Homer Electric Association)
> <http://rca.alaska.gov/RCAWeb/ViewFile.aspx?id=186d6b93-6f68-4d79-9393-aa9186e97472>
>
>
>
> Note: If a link is split between lines, copy and paste the portions of the link into your browser's address line, removing the line break(s).
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Renewable Energy Alaska Project (REAP)

Testimony to the RCA on I Docket 15-001

June 17, 2015

Good morning, and thank you for the opportunity to make some remarks this morning. My name is Chris Rose, and I'm the Executive Director of Renewable Energy Alaska Project, or REAP. I'm here to testify in support of the creation of an Independent System Operator for the Railbelt transmission system.

REAP is a coalition of over 80 organizations including several Railbelt utilities, independent power producers, Alaska Native organizations and NGOs who share the goal of increasing the production of renewable energy in Alaska. Since 2004, REAP has been educating the public and policy makers about the benefits of renewable energy and energy efficiency, and advocating for more renewable energy in the state.

REAP believes renewable energy is important because it is local, clean and inexhaustible. Most importantly, renewable energy is stably priced. The Bradley Lake and Fire Island power purchase agreements are examples of long-term contracts that have locked in predictability and certainty for both Railbelt consumers, and those wishing to invest in our state.

In an increasingly uncertain world, the value of predictably priced energy for an entire region is difficult to calculate, but I would argue it is worth a lot.

Today, the Railbelt is still more 90% gas fired. However, there is uncertainty over the price of natural gas in Southcentral Alaska, and contracts for gas are for much shorter terms than in the past. As Alaska moves towards its goal of shipping North Slope gas off of a proposed gas pipeline we must remember that that export price is going to drive the price of natural gas for people here in Alaska. Unfortunately, Alaska's market is far too small to influence the price of gas. Indeed, we've been producing oil here in the state for almost 50 years and we've never been able to influence the price of oil, or get a hometown discount for the oil we produce. It will be the same with natural gas.

Since the future of natural gas prices in the Railbelt is very much uncertain, particularly over the 25 year plus time frame that new natural gas assets recently constructed in the region are expected to operate, the Railbelt, the heart of Alaska's economy, faces a very unpredictable energy future without the addition of non-fuel based renewable energy.

One of the primary reasons that REAP is involved in this proceeding is an understanding that without transmission system reform, it will be very difficult for more renewable energy to penetrate the system. This is true for a number of reasons.

First, the pancaking transmission tariffs that are now allowed destroy the economics of any new project that wants to use the transmission system to ship power, whether that power is renewable or not. The recent example of Fire Island II demonstrated what happens if a willing buyer and willing seller want to negotiate a PPA with the current transmission system that we have. By the time wind power from Fire Island II would have reached Fairbanks, the agreed upon wholesale price would have more than tripled with the addition of the allowed transmission tariffs.

Second, without a more robust grid, the integration of more variable renewable energy resources like wind can be more challenging. In the Lower 48 over the last 15 years there has been over 60,000 MW of wind installed without any energy storage. This is because the transmission system itself is robust and the balancing areas are large. The flexibility created by large, robust transmission systems makes it much easier for wind and solar to be integrated.

This leads to a third and related point. With at least four balancing areas in the Railbelt grid now, we are heading in the exact opposite direction of where we should be going. With a half million people and just over 600 MW of average annual load, the Railbelt is a very small market. Allowing more islanding, and creating more balancing areas, makes it harder for renewable energy, or any other form of energy, to move *where* it needs to go, *when* it needs to be there.

The decision by the large and diverse REAP board of directors to support the creation of an ISO in the Railbelt was not made lightly. REAP's public policy committee, which includes representatives from Railbelt utilities, IPPs and NGOs, spent eight months discussing the issue before bringing it to the full board. The result was a board resolution supporting several principles we think should govern the establishment of an ISO in the Railbelt. REAP has previously submitted those principles to the Commission, and the legislature.

We understand that the concept of an ISO represents a major change for the Railbelt. Change is never easy. However, *waiting* to change will only make the inevitable shifts we must make in the Railbelt that much more difficult and expensive.

We also understand that asking the Commission to develop and then regulate an ISO is a heavy lift for a body that is already understaffed and underfunded. Please be aware that REAP is ready and willing to be an advocate for the Commission to receive all the authority, funding and staff necessary to accomplish the task of bringing order to the Railbelt transmission system, and leveling the playing field for renewable energy.

REAP does not have an economist on staff that can juggle assumptions and calculate what the exact benefits and costs of establishing an ISO would be. However, we believe the benefit of a universal transmission tariff is self-evident. Renewable energy projects must be able to compete on a level playing field. The costs of

generating renewable energy through technologies such as solar and wind continue to decrease. Wind is already at price parity in many regions of the country. Last year, the average PPA price for wind power from large installations in the Midwest was well under 3 cents/kWh, including the PTC.[1]

Alaska cannot afford to box out flat-priced renewable energy resources with antiquated transmission rules. Nor can we afford to be inefficient in the way we move power up and down the grid.

REAP deeply appreciates all the time and consideration that the Commission has given to this issue. We look forward to a recommendation to the legislature that includes creating a central operator for the Railbelt grid that can make necessary reforms and help chart a more predictable domestic energy future for Alaska.

Thank you.

[1] Including the federal production tax credit (PTC).

STATE OF ALASKA

BEFORE THE REGULATORY COMMISSION OF ALASKA

Before Commissioners:	Robert M. Pickett, Chairman Stephen McAlpine T.W. Patch Norman Rokeberg Janis W. Wilson

In the Matter of the Evaluation of the Operation And Regulation of the Alaska Railbelt Electric Transmission System	))))	Docket No. I-15-001

RESPONSE OF XCEL ENERGY TO ORDER NO. 1

Xcel Energy Services Inc. ("XES"), on behalf of Xcel Energy Transmission Holding Company, LLC ("XET Holdings") (collectively, "Xcel Energy"), hereby submits this response to the questions posed in Order No. 1 issued by the Regulatory Commission of Alaska ("Commission") in this docket on February 27, 2015. In Order No. 1, the Commission requested that the Railbelt electric utilities,[1] the Attorney General, the Alaska Power Association, the Alaska Energy Authority, independent power producers, and other interested persons respond to eleven (11) questions to assist the Commission in its determination of "whether creating an independent system operator or similar structure for electric utilities in the Railbelt area is the best option for effective and efficient electrical transmission."

This docket represents an important step in the ongoing stakeholder dialogue to identify the best options for achieving effective and efficient electrical transmission in the

[1] The public utilities that provide electric service in the Railbelt region are Chugach Electric Association, Inc., Golden Valley Electric Association, Inc., Homer Electric Association, Inc., Matanuska Electric Association, Inc., Municipality of Anchorage d/b/a Municipal Light & Power, and Seward Electric System.

Railbelt region. Through its business units operating in the Lower 48, Xcel Energy has a long and successful track record of proposing and implementing enhancements to existing electric systems and facilities to deliver meaningful benefits to consumers, including projects developed cooperatively with other utilities and stakeholders. Xcel Energy believes that similar opportunities exist to work cooperatively with others to enhance the Railbelt electric system. Xcel Energy appreciates this opportunity to submit its response to the questions raised by the Commission in Order No. 1.

PRELIMINARY COMMENTS

Who Is Xcel Energy And Why Is It Submitting This Response?

XES is the centralized service company for the Xcel Energy Inc. holding company system and provides services to Xcel Energy Inc. and its subsidiaries. Xcel Energy Inc. is subject to the holding company regulations of the Federal Energy Regulatory Commission ("FERC"), while XES is subject to FERC's regulations governing centralized services companies. Xcel Energy Inc.'s subsidiaries include:

- The Xcel Energy Operating Companies: (i) Northern States Power Company, a Minnesota corporation; (ii) Northern States Power Company, a Wisconsin corporation; (iii) Southwestern Public Service Company; and (iv) Public Service Company of Colorado. Each of the Xcel Energy Operating Companies is a vertically-integrated public utility company and a wholly-owned, first-tier subsidiary of Xcel Energy Inc. that owns and operates generation, transmission, and distribution facilities, and provides transmission service, wholesale power supply service, and retail electric service.

- XET Holdings: a first-tier subsidiary of Xcel Energy Inc. established in 2014 as a holding company to focus on opportunities to invest in and own transmission projects.

Xcel Energy's business objective in Alaska is to establish a long-term partnership with Railbelt electric utilities that results in investment in, and ownership of, new transmission facilities. Key to meeting this objective is to identify new transmission facilities that deliver value to customers in the Railbelt region. By working collaboratively with the Railbelt electric utilities, Xcel Energy's objective is to use its experience to develop new transmission projects efficiently and cost-effectively.

Xcel Energy's collaborative approach contemplates jointly investing in new transmission facilities with the Railbelt electric utilities. This could include investments by an Xcel Energy subsidiary and by interested Railbelt electric utilities in one or more transmission projects. In pursuing such co-investment opportunities, Xcel Energy plans to draw on its experience assisting with the CapX2020 project. This is a collection of transmission projects located in the states of Wisconsin, Minnesota, South Dakota, and North Dakota, which are owned collectively by eleven (11) utilities. Of these, three (3) are investor-owned utilities, three (3) are cooperatively-owned utilities, and five (5) are municipally-owned. In Xcel Energy's view, regulatory policies that barred or discouraged the Railbelt electric utilities from making such co-investments in new transmission projects would be inconsistent with the goal of achieving more effective and efficient electrical transmission in the Railbelt.

Overview of Xcel Energy's Response to Order No. 1.

Taken together, the questions posed in Order No. 1 fall within two broad topics. First, are there new regulatory concepts and institutions—such as the creation of "an independent system operator or similar structure for electric utilities"—that represent the "best option" for effective and efficient electrical transmission in the Alaska Railbelt? Second, is the best way to achieve more effective and efficient electrical transmission in the Railbelt (i) to rely on the tools available to the Commission under the state's existing statutes and regulations, or, instead, (ii) to establish new statutory and regulatory tools to assist the Commission and stakeholders in their efforts to meet these goals?

Although Order No. 1 directly addresses more effective and efficient "transmission," inherent in these topics is a broader goal: to implement new systems and new facilities that allow better coordination of existing generation and transmission resources in ways that contribute to a reduction in the delivered cost of electric energy in the Railbelt. This goal requires new ways of planning and developing transmission facilities, and of pricing transmission service over those facilities. This goal also requires system-wide coordination of transmission functions that currently are undertaken separately by the Railbelt electric utilities. And finally, this goal requires (i) the development of a Railbelt-wide and coordinated approach to the dispatch of generation resources, followed at a later stage by (ii) the development of a common set of rules governing the operation of the wholesale energy market. The development of new facilities and systems will better integrate existing resources to deliver economic benefits to electric utilities and consumers in the Railbelt.

A. Establishing A Railbelt System Operator Through Discrete Changes To The State's Public Utility Laws May Be One Of The Best Options For Effective And Efficient Electrical Transmission In The Railbelt.

Xcel Energy believes that one of the best options for "effective and efficient electrical transmission" in the Railbelt region would be the establishment of a Railbelt System Operator. In the Lower 48, the term "independent system operator" has had different meanings in various regulatory contexts. To avoid any unintended meanings, in this response, Xcel Energy has referred to its proposed industry "structure" as a System Operator.

As discussed below, the state's existing public utility laws provide the Commission with a range of tools that could be used to enhance the Railbelt electric transmission system. However, significant advantages could be gained if this effort is formalized through specific changes to the state's public utility laws. The advantages of revising the state's public utility laws include: (i) confirming, at the start of this process, that there is widespread stakeholder agreement about the goals of enhancing the Railbelt electric system; (ii) removing any potential uncertainty about the legal authority of the Commission under current law to adopt a System Operator-based approach to enhancing the Railbelt electric system; (iii) avoiding disputes and delays experienced in other venues, such as FERC or state commissions in the Lower 48, when they relied on unchanged laws to initiate electric industry restructuring efforts; and (iv) by securing legislative consensus and direction at the start of this process, minimizing the concern that, if some stakeholders are dissatisfied with the direction taken by the Commission, those stakeholders will turn to the legislative process to block or modify the Commission's efforts.

Xcel Energy encourages the Commission and Railbelt stakeholders to pursue ways to cooperatively enhance the Railbelt electric transmission system. In Xcel Energy's view, this

process would be assisted by the passage of guiding legislation, which would allow the Commission to implement its new mandate, rather than requiring the Commission to start this restructuring process by challenging existing practices as unreasonable.

B. Xcel Energy's Suggested Approach Is Not The Only Way To Achieve Effective And Efficient Electrical Transmission In The Railbelt.

In Xcel Energy's experience, an integrated set of changes to the way the electric transmission system is managed, with the changes focusing on establishing a separate System Operator, is one of the best ways to achieve more effective and efficient electrical transmission. However, other approaches could provide meaningful benefits to electric utilities and consumers in the Railbelt. One alternative approach is to establish an organized power pool, which is a systematic way for coordinating the dispatch of generating units owned by multiple utilities. Xcel Energy's proposed approach is intended to further the dialogue between Railbelt stakeholders. Xcel Energy is interested in discussing the full range of other options put forward by interested stakeholders.

RESPONSE TO THE COMMISSION'S SPECIFIC QUESTIONS

Questions About Legislative Directive On Independent System Operator

Question 1:

Would the creation of an independent system operator or similar structure for electric utilities in the Railbelt be the best option for effective and efficient electrical transmission? If not, what other approach would be best?

Response to Question 1:

Based on its experience in other regions, Xcel Energy believes that an integrated set of changes to the way the electric transmission system is managed, with the changes focusing on establishing a separate System Operator, is one of the best ways to achieve more effective and efficient electrical transmission. As used here, the term System Operator means a separate legal entity that maintains functional control[2] of, but does not own or perform day-to-day operations or maintenance of (i) the electric transmission facilities currently owned and operated by the Railbelt electric utilities and (ii) new electric transmission facilities located in the Railbelt.

In Xcel Energy's view, the following characteristics are essential to establishing a System Operator that could successfully enhance the Railbelt electric system:

1. Functional Separation. The Railbelt System Operator would have functional control over, but would not own or physically operate, transmission facilities. The System Operator would be functionally separate from the owners of the transmission facilities, which means that:

[2] "Functional control" is defined here as maintaining day-to-day oversight and operational awareness of facilities subject to the System Operator's tariff. This would enable a coordinated view of system operations. However, the owners of the facilities would continue to physically operate and maintain the facilities.

(a) the System Operator, its employees, and non-stakeholder directors would not have a financial interest in any market participant;

(b) the System Operator would have a decision-making process that (i) is not controlled by a single market participant or by a class of market participants, and (ii) assures fair stakeholder representation in the selection of the System Operator's directors; and

(c) the System Operator would have authority that is independent of the owners of the transmission facilities to propose rates, terms, and conditions of transmission service over the facilities that comprise the Railbelt transmission facilities.

2. Regional Tariff. The rates, terms, and conditions applicable to service over the transmission facilities operated by the Railbelt System Operator would be defined in the System Operator's tariffs and agreements. All users of the System Operator-controlled transmission facilities, including the owners of those transmission facilities, would take transmission service from the System Operator pursuant to the terms and conditions of the System Operator's tariffs and/or agreements.

3. Transfer of Functions. The System Operator would provide electric service to the Railbelt electric utilities only after the System Operator submits an appropriate filing with the Commission. The functions performed by the Railbelt System Operator would be formalized through agreements and/or tariffs that would be filed with the Commission for approval, and those

agreements and/or tariffs could be revised only through appropriate filings with the Commission.

4. Non-Profit. The Railbelt System Operator would be a non-profit entity that charges customers for service over the transmission assets operated by the System Operator and then pays to the transmission asset owners their respective share of such revenues. Other than recovering its expenses, the System Operator will not have a financial stake in the transmission service revenue it collects from customers.

Railbelt stakeholders also should consider whether the functions of the System Operator should be put into effect in phases, rather than all at once. Likewise, other details about the characteristics and functions of the Railbelt System Operator can and should be developed in the course of further stakeholder and regulatory processes. To support this process, Xcel Energy has included, as Attachment 1 to this response, proposed legislative principles for establishing a Railbelt System Operator. This proposal describes one approach to defining the characteristics and functions of a Railbelt System Operator. Xcel Energy offers this proposal for the Commission's consideration and to help foster continued dialogue by stakeholders as they evaluate approaches to achieve more effective and efficient electrical transmission in the Railbelt.

Question 2:

To what extent does our existing statutory and regulatory authority extend to mandating the creation of an independent system operator or similar entity and to regulating the rates and practices of such an entity?

Response to Question 2:

A. Under Current Law, The Commission Has Clear Authority Over Filings Submitted By A Voluntarily Formed System Operator.

If a Railbelt System Operator or another transmission operator was formed voluntarily and sought to provide electric service within the state, the Commission has the authority under the Alaska Public Utilities Regulatory Act ("the Act")[3] to (i) require that the System Operator file for a certificate of public convenience and necessity, and (ii) regulate the services, rates, and practices of the System Operator. Once in operation, the System Operator would be a "public utility" under AS 42.05.990(6), which defines an electric "public utility" to include "every corporation whether public, cooperative, or otherwise, [or] company…that owns, operates, manages, or controls any plant…or system for (A) furnishing, by generation, transmission, or distribution, electrical service to the public for compensation[.]" None of the unique characteristics of the proposed Railbelt System Operator (such as the fact that it would operate, but not own, electric transmission facilities) appears to undermine the conclusion that the System Operator would be a "public utility" under AS 42.05.990(6).[4]

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[3] AS 42.05.

[4] Service to the "public" includes not only service to "(A) a group of 10 or more customers that purchase the service or commodity furnished by a public utility," but also includes service to "a utility purchasing the product or service or paying for the transmission of electric energy…that [is] re-sold to a person or group" in part (A) or "that [is] used to produce the service or commodity sold to the public by the utility." AS 42.05.990(5). Thus, the System Operator would be a regulated public utility under the Act, even if it provides service only to Railbelt electric public utilities and not directly to end-use consumers in the state.

As a public utility operator of electric transmission facilities in the Railbelt, the System Operator could provide transmission service to the Railbelt electric utilities only after securing a certificate to do so. AS 42.05.221(a) states: "A public utility may not operate and receive compensation for providing a commodity or service without first having obtained from the commission under this chapter a certificate declaring that public convenience and necessity require or will require the service." In reviewing such a voluntary certificate filing by the Railbelt System Operator, the Commission must find that the System Operator "is fit, willing, and able to provide the utility services applied for" and that the filed-for services "are required for the convenience and necessity of the public."[5] Once such a certificate is issued to the System Operator, the Commission will have significant authority to modify, suspend, or revoke the System Operator's certificate.[6]

It also appears that the Commission would have the authority to reconcile any overlap between the voluntary System Operator's certificate and the certificates of the existing Railbelt electric utilities. When the Commission grants a certificate of public convenience and necessity, that certificate is exclusive to the extent that the Commission has not issued a second certificate authorizing another utility to provide the same service within the same area. "The plain language of AS 42.05.221(a) requires an additional certificate prior to any utility providing an additional type of service."[7] When a public utility's certificate overlaps with another utility's certificate, the Commission has the authority to modify one or both of the

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[5] *See* AS 42.05.241.

[6] *See* AS 42.05.271 (upon complaint or its own motion, the Commission, "after notice and opportunity for hearing and for good cause shown, may amend, modify, suspend, or revoke a certificate, in whole or in part"). The statute provides five examples of what constitutes "good cause," one of which is "the requirements of public convenience and necessity." *Id*.

[7] *Chugach Electric Ass'n, Inc. v. Regulatory Commission of Alaska*, 49 P.3d 246, 253 (Alaska 2002).

certificates.[8] To the extent the Commission resolves a potential conflict between certificates in favor of the Railbelt System Operator's proposed certificate, the Commission has the power under AS 42.05.271 to modify the existing certificate if required by the public convenience and necessity.

B. Under Current Law, It Is Not Clear That The Commission Has The Authority To "Create" A Railbelt System Operator.

The question of whether the Commission could "create" a Railbelt System Operator is distinct from the question of whether the Commission has the power to "regulate" such an entity. With one exception, the general powers and duties of the Commission, as specified in AS 42.05.141(a), expressly apply only to existing public utilities. Only AS 42.05.141(a)(1), which is one of the broadest expressions of the Commission's powers, authorizes the Commission to "regulate every public utility engaged or *proposing to engage* in a utility business inside the state, except to the extent exempted by AS 42.05.711[.]"[9] Thus, without a filing by an entity that is engaged in or "proposing to engage" in being the Railbelt System Operator, AS 42.05.141(a)(1) does not appear to grant the Commission the authority to act.

[8] In a 2001 decision, the Supreme Court addressed whether the Commission had followed the proper procedures when it modified a utility's existing certificate in response to a request from that utility that the Commission eliminate an area of overlapping service territory with its neighboring utility. *Tlingit-Haida Reg'l Elec. Auth. v. State*, 15 P.3d 754, 761-63 (Alaska 2001). The Supreme Court found that the Commission's failure to give the current certificate holder "formal notice" that its certificate might be modified "amounted, at most, to harmless error" because the current certificate holder had been provided with actual notice that its certificate might be modified and had an opportunity to be heard. *Id.* at 762.

[9] AS 42.05.141(a)(1) (emphasis added).

Questions About Regulatory Authority Over Railbelt Electric System

Question 3:

Are existing statutes and regulations governing our regulation of electric transmission adequate for us to effectively address current and future Railbelt transmission issues?

Question 4:

If our regulations require changes, what specific changes should be considered in a rulemaking docket and is it appropriate to consider making those changes at this time?

Question 5:

If regulatory changes are found to be necessary, how narrow or broad should a rulemaking docket be and what scoping process should be used to determine the boundaries of the proceeding?

Question 8:

Considering our authority to "promote the conservation of resources used in the generation of electric energy" under AS 42.05.141(c), to require reasonable management practices under AS 42.05.511, to provide rate recovery of energy conservation efforts, and other statutory grants of authority, do we have the authority to order the Railbelt electric utilities to jointly and cooperatively manage their generation and transmission assets, or is our authority limited to matters within each utility's service territory? If our authority is limited to each utility's operations within its particular service area without regard to other interconnected utilities, explain why it is limited.

Question 9:

Do AS 42.05.311(a) and other statutes provide us with the authority to order system-wide wheeling rates across utility-owned Railbelt transmission facilities, even if ownership of the facilities remains with individual utilities?

Question 10:

Does the AS 42.05 provide us with authority to review or regulate the integrated planning, determination of need for, and/or siting of new generation and transmission facilities of regulated electric utilities? If it does, how can that authority be employed to help ensure that new facilities are planned and constructed to optimize efficient and reliable provision of electric service to the entire Railbelt region?

<u>Question 11</u>:

What authority do we have to require or to encourage greater cooperation, power pooling, and/or centralized transmission system planning and operations among Railbelt electric utilities?

<u>Response to Questions 3-5 and 8-11</u>:

As a participant in this process, Xcel Energy would benefit from new comprehensive rules, established up front, that would provide Xcel Energy and other stakeholders with a roadmap for establishing a more efficient and effective approach to electric transmission in the Railbelt. Establishing a comprehensive approach up front is likely to create a more durable investment climate, which would help Xcel Energy and other Railbelt investors and stakeholders to identify, plan, and construct new transmission facilities effectively and efficiently. For these reasons, Xcel Energy proposes that stakeholders investigate establishing new statutory and regulatory tools to assist the Commission and stakeholders in these efforts. Xcel Energy has included one suggested legislative approach for addressing these issues in Attachment 1 to this response.

As the questions posed in Order No. 1 show, however, there is a range of approaches that stakeholders in Alaska can pursue to achieve more effective and efficient electrical transmission in the Railbelt. Adopting new policies by relying solely on existing state laws could make progress uncertain. Despite these uncertainties, Xcel Energy believes that the Commission has tools under the state's existing statutes and regulations to improve transmission in the Railbelt. If efforts to enhance the Railbelt electric system go forward through Commission initiatives rather than through new legislation, Xcel Energy remains

ready to work with other stakeholders to look for ways to enhance the Railbelt transmission system.

A. The Commission's Existing Authority Could Be Used To Enhance Transmission In The Railbelt.

Under the Act, the Commission has broad authority it can use to encourage the Railbelt electric utilities to achieve the policy objectives identified in the questions posed in Order No. 1, such as "jointly and cooperatively manag[ing] their generation and transmission assets," "order[ing] system-wide wheeling rates," "help[ing] ensure that new facilities are planned and constructed to optimize efficient and reliable provision of electric service to the entire Railbelt region," and engaging in "cooperation, power pooling, and/or centralized transmission system planning." The Alaska Supreme Court has held that the Commission's jurisdiction over public utilities is "plenary" and "as broad as the specific provisions of the Act permit."[10] The Act also empowers the Commission to "do all things necessary or proper to carry out [its] purposes and exercise the powers expressly granted or reasonably implied."[11]

B. If The Commission Relies Solely On Its Existing Authority To Enhance Transmission In The Railbelt, New Policies Could Be Difficult To Achieve.

Although the Commission has extensive authority over electric transmission in the Railbelt, applying pre-existing laws in novel ways could delay enhancements to the Railbelt transmission system and could interfere with specific components of plans to make

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[10] *Homer Elec. Ass'n, Inc. v. City of Kenai*, 816 P.2d 182, 187 (Alaska 1991).

[11] AS 42.05.141(a).

transmission in the Railbelt more effective and more efficient. For example, AS 42.05.311 states that a public utility having transmission facilities

> shall, for a reasonable compensation, permit another public utility to use them when the public convenience and necessity require this use and the use will not result in substantial injury to the owner, or in substantial detriment to the service to the customers of the owners. The cost of modifications or additions necessary to a joint use shall be at the expense of the public utility requesting the use of the facilities.[12]

This statutory authority may not be flexible enough to enhance the Railbelt electric transmission system. In many situations, the best approach would be to incorporate the costs of transmission system upgrades into the average cost of the entire transmission system and then to calculate a new system average rate applicable to all users of the Railbelt transmission system. In contrast, AS 42.05.311 requires that the costs of such modifications or additions be charged directly to the entity "requesting" the joint use.

Relying on existing laws to implement new Railbelt transmission policies seems likely to result in disputes over whether the Act truly authorizes any particular policy change. This approach is likely to take longer, cost more, and make the final results of the policy changes less certain. Enhancing the Railbelt transmission system is likely to require a wide range of business, operational, and policy-based decisions. If possible, a single approach, defined up front by statute, would be the best way to achieve this goal. Working within that statutorily-defined framework, the Commission and its stakeholders could then develop and implement the specific provisions governing the new approach. Such provisions could include a transition period designed to more gradually implement new approaches to operating and using of the Railbelt transmission system.

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[12] AS 42.05.311(a).

C. A Challenge-Based Approach To Implementing New Policies Would Be Costly And Uncertain.

Under several of the Act's existing provisions, the Commission cannot change a utility's practices unless a challenge to the utility practice is filed, either by a complainant or by the Commission on its own motion. Such a challenge-based approach to implementing new policies is likely to be costly, and the outcome of such an approach is likely to be uncertain. For example, AS 42.05.511 gives the Commission broad authority to investigate and correct "unreasonable" management practices.[13] The Commission could use this authority to require Railbelt electric utilities to "jointly and cooperatively manage their generation and transmission assets"—at least up to a point. For example, the Commission might be able to rely on AS 42.05.511 to find that a Railbelt electric utility is unreasonable if its planning process fails to consider Railbelt-wide solutions to reliability or operational problems experienced on its own facilities. The Commission could then order Railbelt electric utilities to take "corrective action" by imposing new standards applicable to the way those utilities plan their systems.

The short-coming of this approach is that, under AS 42.05.511, each step forward to adopt new approaches to transmission in the Railbelt would begin with a round of criticism of the existing utilities, and would likely require contentious administrative proceedings where the Commission bears the burden of proof, followed by legal challenges. Such a challenge-based approach does not seem to be the best way to achieve effective and efficient electrical transmission in the Alaska Railbelt. Such a challenge-based approach is likely to

[13] *See also* AS 42.05.291(d) (providing another challenge-based tool with which the Commission can require that utilities provide "reasonable, safe, adequate, sufficient service or facilities," but only after finding unreasonable, unsafe, inadequate, insufficient, or unreasonably discriminatory services or facilities).

move forward only incrementally and to trigger disputes and disagreements between stakeholders in the Railbelt.

FERC has used similar challenge-based powers to restructure the electric industry in the Lower 48. Using its authority under Section 206 of the Federal Power Act ("FPA"),[14] FERC proceeded by finding, sometimes on a case-by-case basis and sometimes on an industry-wide basis, that public utility rates or practices were "unjust, unreasonable, unduly discriminatory or preferential." FERC then prospectively modified those rates or practices so that they were deemed just and reasonable. In this way, FERC has mandated open access non-discriminatory transmission service, joint transmission system planning, and now regional transmission system planning under which, in some circumstances, the local incumbent transmission owner may not be selected to build new facilities.[15] Although the courts eventually confirmed that FERC had the legal authority to achieve much of its agenda on industry restructuring,[16] this challenge-based approach has taken more than 20 years and has required a multitude of agency proceedings and court challenges.

For all of these reasons, Xcel Energy encourages the Commission and Railbelt stakeholders to pursue ways to cooperatively enhance the Railbelt electric transmission system. Elements of such a policy change could be adopted by relying on the Commission's authority under existing laws and regulations. But in Xcel Energy's view, enhancing the

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[14] 16 U.S.C. § 824e (2012).

[15] *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Servs. by Pub. Utils.; Recovery of Stranded Costs by Pub. Utils. and Transmitting Utils.*, Order No. 888, FERC Stats. & Regs. ¶ 31,036 (1996) (subsequent citations omitted); *Preventing Undue Discrimination & Preference in Transmission Serv.*, Order No. 890, FERC Stats. & Regs. ¶ 31,241 (2007) (subsequent citations omitted); *Transmission Planning & Cost Allocation by Transmission Owning & Operating Pub. Utils.*, Order No. 1000, FERC Stats. & Regs. ¶ 31,323 (2011) (subsequent citations omitted).

[16] *See New York v. FERC*, 535 U.S. 1 (2002) (affirming the Order No. 888 series of orders); *S.C. Pub. Serv. Auth. v. FERC*, 762 F.3d 41 (D.C. Cir. 2014) (affirming the Order No. 1000 series of orders).

Railbelt transmission system would be assisted by the passage of guiding legislation, which would allow the Commission to implement such a new mandate more effectively and more efficiently.

<u>Question 6</u>:

Regarding the reliability of electric service, is our authority limited to addressing utility practices and service quality within each utility's service territory or does it extend across service territory boundaries such that, for example, we can address the effects of one utility's practices on the service quality of another utility?

<u>Question 7</u>:

Should there be a set of mandatory reliability standards similar to those of the North American Electric Reliability Corporation, and if so, do we or should we have the authority to mandate or regulate those standards (beyond the existing voluntary arrangements such as the existing Railbelt Operating and Reliability Standards)?

<u>Response to Questions 6-7</u>:

Xcel Energy believes that adopting a defined set of minimum reliability standards for the Railbelt transmission system—standards that would be mandatory and enforceable— is a worthy goal. The interconnected nature of utility operations necessitates a reliance on one another and that reliance on one another should be underpinned by mandatory reliability standards that provide visibility into how the utilities design, construct, and operate their systems.

In this regard, the experience in the Lower 48 is a useful starting point for Railbelt stakeholders to consider. In Attachment 2 to this response, Xcel Energy has included proposed "legislative principles" for establishing Railbelt reliability standards. These legislative principles are modeled on Section 215 of the FPA, which was enacted in 2005. FPA Section 215 resulted in the development of mandatory and enforceable reliability

standards in the Lower 48, administered in the first instance by the North American Electric Reliability Corporation ("NERC"), subject to oversight by FERC.

Xcel Energy's legislative proposal does not dictate the content of the Railbelt reliability standards. The reliability standards developed under this system could and should be customized to meet the priorities and needs of the Railbelt transmission system, its geography, and other factors. Railbelt stakeholders could evaluate whether particular NERC reliability standards are appropriate for the Railbelt. The standards could then evolve over time as the Railbelt transmission system evolves.

Once again, Xcel Energy's proposal is being submitted for consideration by the Commission and by stakeholders. Other approaches, such as developing more comprehensive voluntary reliability standards, or by establishing a system where the Commission or the System Operator develops and enforces new reliability standards, may be appropriate. Xcel Energy remains ready to work with other stakeholders to look at different ways to enhance the reliability of the Railbelt transmission system.

CONCLUSION

Xcel Energy appreciates the opportunity afforded by the Commission to respond to the topics posed in Order No. 1. The steps ultimately taken by the Commission and by stakeholders to address these topics could enhance existing systems and facilities in the Railbelt, thereby delivering additional value to electric utilities and consumers. Combined with the expertise of the Railbelt electric utilities, Xcel Energy hopes to use its experience and business practices to help achieve these goals.

Respectfully submitted,

XCEL ENERGY

/s/ Kenneth B. Driver

Daniel P. Kline
Director, Strategic Transmission Initiatives
Xcel Energy Services Inc.
414 Nicollet Mall, 5th Floor
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kbdriver@jonesday.com
ptmetz@jonesday.com

March 31, 2015

Attachment 1
To Xcel Energy's March 31, 2015
Response to Order No. 1
Docket No. I-15-001

Attachment 1

To Xcel Energy's March 31, 2015 Response to Order No. 1
Docket No. I-15-001

Establishing a Railbelt System Operator
Proposed Legislative Principles

The principles proposed below present one approach to enhance the way transmission facilities are operated and used in the Railbelt. Such principles could include a transition period designed to implement more gradually any new approach to operating and using the Railbelt transmission system and facilities.

I. Certification of a Railbelt System Operator

- The Commission will promulgate new regulations implementing the requirements of the new statute within 180 days after the statute's enactment.
- Once the new regulations are in place, any person may apply to be to the System Operator for the transmission facilities located in the Railbelt.
- The Commission would be required to issue a certificate of public convenience and necessity to the System Operator if the Commission determines that the System Operator satisfies the following minimum characteristics for initial operations:

  (1) Functional Separation. The System Operator must be functionally separate from any market participant, which means that:

  (A) the System Operator, its employees, and non-stakeholder directors would not have a financial interest in any market participant;

  (B) the System Operator's decision-making process (i) would not be controlled by a single market participant or by a class of market participants, and (ii) would assure fair stakeholder representation in the selection of the System Operator's directors; and

  (C) the System Operator would have the exclusive authority to propose rates, terms, and conditions of transmission service over the facilities that comprise the Railbelt transmission facilities.

  (2) Other characteristics. As defined in more detail by the Commission's implementing regulations, the System Operator must have (i) operational authority for all transmission facilities under its control, (ii) the technical and administrative resources to perform the functions associated with the System Operator's operational control of the Railbelt transmission system, and (iii) a fair and equitable method for recovering its costs, including formation costs, from the users of the Railbelt transmission system.

II. Transfer of Operational Authority to the System Operator

- Within 120 days after the certification of the System Operator, the System Operator and each owner of facilities that comprise part of the Railbelt transmission system would submit one or more applications with the Commission to transfer operational control of the Railbelt transmission facilities to the System Operator.
- The Commission would be required to approve the transfer of operational control over the Railbelt transmission facilities to the System Operator if the Commission finds that the System Operator is capable of performing the Day 1 functions listed below.
- As part of this transfer, the Commission would be required to amend or modify the existing tariffs and certificates of public convenience and necessity of the Railbelt electric utilities to the extent necessary to implement the transfer.

III. Day 1 Functions

Prior to assuming operational control of the Railbelt transmission system, the System Operator would submit a filing with the Commission to show that the System Operator is capable of performing the following functions:

(1) Short-term reliability. The System Operator would maintain the short-term reliability of the Railbelt transmission system, which would include (i) performing the balancing authority function, (ii) possessing the authority to order redispatch of generators connected to the Railbelt transmission system, and (iii) possessing authority to approve or disapprove all requests for scheduled outages of Railbelt transmission facilities.

(2) Security coordinator. The ISO would be the security coordinator for the Railbelt transmission system.

(3) Tariff administration and design. The System Operator would administer its own transmission tariff and employ a regional transmission pricing system for both existing transmission facilities and for future transmission facilities selected through the System Operator's transmission planning process that will promote efficient use and expansion of transmission and generation facilities.

(4) Access to transmission service. The System Operator would file with the Commission an open access transmission tariff of general applicability governing transmission services, including ancillary services, over the facilities that comprise the Railbelt transmission system. This open access tariff would include (i) generator interconnection procedures and a form of generator interconnection agreement, and (ii) a coordinated transmission planning process open to the Railbelt electric utilities and to all other interested parties, which would be consistent with existing utilities and new entities, or some combination of both, investing in, building, and owning new transmission facilities.

(5) Simple economic dispatch. The System Operator would file with the Commission a tariff that establishes a system administered by the System Operator providing for the economic dispatch of generation resources connected to the Railbelt transmission system.

IV. Day 2 Functions

After the System Operator assumes operational control of the Railbelt transmission system and after consultation with its stakeholders and members to determine the efficacy of potential enhancements to the Railbelt electric system, the System Operator is free to submit one or more filings to the Commission proposing that the System Operator undertake additional functions, including, but not limited to:

(1) Organized wholesale energy market. The System Operator may file with the Commission a tariff that replaces the Day 1 simple economic dispatch identified above and replaces it with a system administered by the System Operator that establishes (i) an auction-based day ahead wholesale market for the sale of electric energy in the Railbelt, and (ii) an auction-based real-time wholesale market for the sale of electric energy in the Railbelt.

(2) Organized wholesale forward capacity market. The System Operator may file with the Commission a tariff that establishes a system administered by the System Operator establishing an auction-based wholesale market for the sale of forward electric capacity in the Railbelt.

(3) Congestion management. The ISO may submit tariff changes to ensure the development and operation of market mechanisms that manage transmission congestion.

(4) Market monitoring. The System Operator may submit tariff changes to establish procedures for the objective monitoring of markets it operates or administers to identify market design flaws, market power abuses, and opportunities for efficiency improvements, as well as propose appropriate corrective actions.

V. Amendments to Existing Laws

AS 42.05.321(b) would be amended as follows: "This section and AS 42.05.311 do not apply to transmission facilities planned or operated by the Railbelt ISO pursuant to AS 42.05.XXX-1. With the exception of a utility's transmission facilities planned or operated by the Railbelt ISO pursuant to AS 42.05.XXX-1, ~~This~~ this section and AS 42.05.311 apply to all utilities whether or not they are exempt from other regulation under AS 42.05.711.

Attachment 2
To Xcel Energy's March 31, 2015
Response to Order No. 1
Docket No. I-15-001

Attachment 2

To Xcel Energy's March 31, 2015 Response to Order No. 1
Docket No. I-15-001

Establishing a Railbelt Electric Reliability Organization
Proposed Legislative Principles

The principles proposed below present one approach to establishing an Electric Reliability Organization for the Railbelt bulk-power system. Any such principles could include a transition period designed to implement more gradually any new approaches to reliability in the Railbelt.

I. Certification of a Railbelt Electric Reliability Organization

- The Commission will promulgate new regulations implementing the requirements of the new statute within 180 days after the statute's enactment.
- Once the new regulations are in place, any person may apply to be to the Electric Reliability Organization ("ERO") for the bulk-power system located in the Railbelt.
- The Commission would be required to certify the ERO if the Commission determines that the ERO:

  (1) has the ability to develop and enforce reliability standards that provide for an adequate level of reliability of the bulk-power system; and

  (2) has established rules that—

    (A) assure its independence from the users, owners, and operators of the Railbelt bulk-power system, while assuring fair stakeholder representation in the selection of its directors and balanced decision-making in any ERO committee or subordinate organizational structure;

    (B) allocate equitably reasonable dues, fees, and other charges among end users for all activities under this section;

    (C) provide fair and impartial procedures for enforcement of reliability standards through the imposition of penalties (including limitations on activities, functions, or operations, or other appropriate sanctions); and

    (D) provide for reasonable notice and opportunity for public comment, due process, openness, and balancing of interests in developing reliability standards and otherwise exercising its duties.

II. Development of Reliability Standards

- The ERO would develop reliability standards and submit them to the Commission for approval.
- The Commission would approve each proposed standard, by rule or order, if it finds that the standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest. A proposed standard would take effect upon approval by the Commission.
- If the Commission denies approval of a reliability standard, the Commission would remand the standard to the ERO for further consideration.
- The Commission, upon its own motion or upon complaint, may order the ERO to submit a proposed reliability standard.

III. Enforcement of Reliability Standards

- The ERO will have the authority to impose penalties on a user or owner or operator of the bulk-power system that violates an approved reliability standard.
- The ERO would notify the Commission of any such penalty.
- A penalty assessed by the ERO could be reviewed by the Commission, on its own motion or upon application by the party penalized by the ERO.
- On review, the Commission would issue an order to affirm, set aside, reinstate, or modify the penalty, and, if appropriate, remand the matter to the ERO for further proceedings.
- On its own motion or upon complaint, the Commission would be able to order compliance with a reliability standard and may impose a penalty against a user or owner or operator of the Railbelt bulk-power system if the Commission finds that the user or owner or operator has engaged or is about to engage in any acts or practices that constitute or will constitute a violation of a reliability standard.
- Any penalty imposed for a reliability violation must bear a reasonable relation to the seriousness of the violation and shall take into consideration the efforts of such user, owner, or operator to remedy the violation in a timely manner.

IV. Changes in the ERO's Rules

The ERO would be required to file with the commission for approval of any change in its rules. The Commission, upon its own motion or complaint, could propose a change to the ERO's rules. Any such rules change would take effect after a finding by the Commission that the change is just, reasonable, not unduly discriminatory or preferential, and is in the public interest.

CERTIFICATE OF SERVICE

I hereby certify that on March 31, 2015, a copy of the Response of Xcel Energy to Order No. 1 was served on the persons listed below by U.S. Mail.

/s/ *Patrick T. Metz*

Steven DeVries
Chief Assistant Attorney General
State of Alaska Department of Law
1031 W 4th Ave Ste 200
Anchorage, AK 99501

Samuel Cason
Assistant Attorney General
Department of Law, RAPA
1031 W 4th Ave Ste 200
Anchorage, AK 99501

Jeffrey Waller
Assistant Attorney General
Office of the Attorney General
1031 W 4th Ave Ste 200
Anchorage, AK 99501

Alaska Environmental Power, LLC
3411 Airport Way
Fairbanks, AK 99709

Alaska Independent Power Producers Association
8585 Old Diary Road
Juneau, AK 99801

Alaska Energy Authority
813 W Northern Lights Blvd
Anchorage, AK 99503

Alaska Industrial Development & Export Authority
813 W. Northern Lights Blvd.
Anchorage, AK 99503

Cook Inlet Region, Inc.
2525 C St Ste 500
Anchorage, AK 99503-3330

Nicholas Wyck
3705 Arctic Blvd #1150
Anchorage, AK 99503

Maricarmen Cruz-Guilloty
Alaska Community Action on Toxics
505 W Northern Lights Blvd Ste 205
Anchorage, AK 99503

Pamela Brodie
Sierra Club
750 2nd Ave Ste 100
Anchorage, AK 99501

Patrice Lee
676 Hillcrest Drive
Fairbanks, AK 99712

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:09:09 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Ryan Astalos [mailto:ryanasto1@gmail.com]
Sent: Wednesday, June 17, 2015 10:05 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

Additionally, by decreasing competitive barriers to grid access for renewable projects, and delivering carbon-based generation on the Railbelt more efficiently, an ISO will also lead to decreases in carbon emission along the Railbelt. The Environmental Protection Agency's Clean Power Plan considers implementation of an ISO one of the ways that can help a state achieve its required power plant carbon emissions.

I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Ryan Astalos
2900 w northern lights blvd
Anchorage, AK 99517
4407088147

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:03:55 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Andy Baker [mailto:andybaker@yourcleanenergy.us]
Sent: Wednesday, June 17, 2015 10:22 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Andy Baker
308 G Street #215
Anchorage, AK 99501
907 274 2007

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:10:33 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Laura Baldwin [mailto:laura.baldwin.ak@gmail.com]
Sent: Wednesday, June 17, 2015 9:52 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Laura Baldwin
1401 Cordova St Apt 5
Anchorage, AK 99501
907-333-3333

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:11:08 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Kenton Bloom [mailto:Seabrightz@hotmail.com]
Sent: Wednesday, June 17, 2015 4:30 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Kenton Bloom

99603
907-235-6600

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Tuesday, June 16, 2015 10:13:39 AM

RECEIVED
By the Regulatory Commission of Alaska on Jun 16, 2015

-----Original Message-----
From: Susan Braun [mailto:susanb@mtaonline.net]
Sent: Monday, June 15, 2015 8:51 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

I would add more to this form letter if it didn't already say everything that needs saying. This seems like a great idea to me.

Thanks,

Susan Braun
PO Box 222
Healy, AK 99743
9076832654

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:09:44 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Michael Coumbe [mailto:mcoumbe@gmail.com]
Sent: Wednesday, June 17, 2015 9:57 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Michael Coumbe
PO Box 240343
Anchorage, AK 99524
277-2444

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:03:21 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Laurie Daniel [mailto:lauriedanieltnc@hotmail.com]
Sent: Wednesday, June 17, 2015 10:43 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Laurie Daniel
PO Box 3713
Homer, AK 99603
(907) 235-4349

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Tuesday, June 16, 2015 10:12:10 AM

RECEIVED
By the Regulatory Commission of Alaska on Jun 16, 2015

-----Original Message-----
From: John Gaedeke [mailto:jgaedeke@gmail.com]
Sent: Tuesday, June 16, 2015 8:56 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

Additionally, by decreasing competitive barriers to grid access for renewable projects, and delivering carbon-based generation on the Railbelt more efficiently, an ISO will also lead to decreases in carbon emission along the Railbelt. The Environmental Protection Agency's Clean Power Plan considers implementation of an ISO one of the ways that can help a state achieve its required power plant carbon emissions.

I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

John Gaedeke
3083 Moose Mt. Rd.
Fairbanks, AK 99709
(907) 385-7633

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:02:26 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Gail Garber [mailto:garber.ak@gmail.com]
Sent: Wednesday, June 17, 2015 10:53 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Gail Garber

AK 99504
907 337-2937

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:00:35 PM

-----Original Message-----
From: Ed Gonzalez [mailto:edgonzalezfnp@gmail.com]
Sent: Wednesday, June 17, 2015 11:44 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Ed Gonzalez
799 Duckwood Ct
Fairbanks, AK 99712
9078421519

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Tuesday, June 16, 2015 10:13:19 AM

RECEIVED
By the Regulatory Commission of Alaska on Jun 16, 2015

-----Original Message-----
From: Maureen Knutsen [mailto:maureen.knutsen@gmail.com]
Sent: Monday, June 15, 2015 9:56 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Maureen Knutsen
PO Box 134
Naknek, AK 99633
907-246-6675

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:09:58 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Kyla Kosednar [mailto:Kylakosednar@gmail.com]
Sent: Wednesday, June 17, 2015 9:54 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Kyla Kosednar
1505 crescent dr
Anchorage, AK 99508
907-365-9332

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 12:59:37 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: james kowalsky [mailto:jimkowalsky@yahoo.com]
Sent: Wednesday, June 17, 2015 12:30 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.
Costs of electricity where I live are very high and threaten our ability to remain in Alaska without real relief.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

Additionally, by decreasing competitive barriers to grid access for renewable projects, and delivering carbon-based generation on the Railbelt more efficiently, an ISO will also lead to decreases in carbon emission along the Railbelt. The Environmental Protection Agency's Clean Power Plan considers implementation of an ISO one of the ways that can help a state achieve its required power plant carbon emissions.

Something must be done to improve
the viability of life in Alaska and reducing electrical costs is a major consideration.

I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

james kowalsky
pobox 10640
820 Amanita rd
faurbanks, AK 99710
907 488 2434

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:01:26 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Robyn Lauster [mailto:robynkcl@gmail.com]
Sent: Wednesday, June 17, 2015 1:01 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I have lived in Alaska since 1962 and over the years have been aware of the challenge of supplying power, especially to isolated communities. I have lived in Anchorage, Fairbanks, and Hope. There are unique problems with all communities.

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

Additionally, by decreasing competitive barriers to grid access for renewable projects, and delivering carbon-based generation on the Railbelt more efficiently, an ISO will also lead to decreases in carbon emission along the Railbelt. The Environmental Protection Agency's Clean Power Plan considers implementation of an ISO one of the ways that can help a state achieve its required power plant carbon emissions.

I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Robyn Lauster
3003 W. 32nd Ave.
Anchorage, AK 99517
907 280 9455

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:08:37 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Sue Libenson [mailto:suelibenson@gmail.com]
Sent: Wednesday, June 17, 2015 10:12 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Sue Libenson
Box 1064
Haines, AK 99827
907-766-2841

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Tuesday, June 16, 2015 10:16:24 AM

RECEIVED
By the Regulatory Commission of Alaska on Jun 16, 2015

-----Original Message-----
From: Lucas Merli [mailto:Merli.lucas@gmail.com]
Sent: Monday, June 15, 2015 8:29 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Lucas Merli
4435 N. Douglas hwy
Juneau, AK 99801
907-321-1783

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:04:59 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Cynthia Monroe [mailto:c.monroe.writes@gmail.com]
Sent: Wednesday, June 17, 2015 10:14 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Although this is a "canned" letter, the sentiments it expresses are my own. Energy efficiency and climate-clean energy are imperative to our future, including the long-term viability of the petroleum industry.

Thanks,

Cynthia Monroe
7721 Port Orford Drive
Anchorage, AK 99507
907-339-7234

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:00:18 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Stephen Nickel [mailto:Danglesfrombranches@gmail.com]
Sent: Wednesday, June 17, 2015 12:07 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Stephen Nickel
6309 Libra pl
Anchorage, AK 99518
907-351-4310

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:02:09 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: De Patch [mailto:depatchalaska@gmail.com]
Sent: Wednesday, June 17, 2015 11:07 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

De Patch
39042 Cannonbal cir
Homer, AK 99603
9072351267

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 12:58:59 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Bridget Paule [mailto:silene.acaulis@gmail.com]
Sent: Wednesday, June 17, 2015 12:37 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Commissioners,

Let me add my voice in I support of an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Bridget Paule
1008 w. 30th ave
#4
anchorage, AK 99503
907-230-9903

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:11:30 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Don Pendergrast [mailto:ranger.don46@gmail.com]
Sent: Tuesday, June 16, 2015 9:22 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Don Pendergrast
1358 Spring Glade Rd
Fairbanks, AK 99709
907-479-2964

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:00:50 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Amanda Piatt [mailto:Amandampiatt@gmail.com]
Sent: Wednesday, June 17, 2015 11:35 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Amanda Piatt
744 w 16th ave
Anchorage, AK 99501
9079479800

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:04:19 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: James proch [mailto:james.proch@ccstudent.edu]
Sent: Wednesday, June 17, 2015 10:21 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

James proch
1402 west 27th ave apt 10
anchorage, AK 99503
907-782-7931

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:14:17 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Denis Ransy [mailto:conga33@hotmail.com]
Sent: Tuesday, June 16, 2015 2:18 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Denis Ransy
POB 344
Talkeetna, AK 99676
907-373-9773

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:08:49 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Francie Roberts [mailto:francie.roberts@gmail.com]
Sent: Wednesday, June 17, 2015 10:06 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Francie Roberts
495 Mountain View Dr.
Homer, AK 99603
9072351068

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Tuesday, June 16, 2015 10:12:53 AM

RECEIVED
By the Regulatory Commission of Alaska on Jun 16, 2015

-----Original Message-----
From: MICHAEL SALLEE [mailto:mikesallee@gmail.com]
Sent: Tuesday, June 16, 2015 6:06 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

Additionally, by decreasing competitive barriers to grid access for renewable projects, and delivering carbon-based generation on the Railbelt more efficiently, an ISO will also lead to decreases in carbon emission along the Railbelt. The Environmental Protection Agency's Clean Power Plan considers implementation of an ISO one of the ways that can help a state achieve its required power plant carbon emissions.

I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

MICHAEL SALLEE
VALLENAR POINT-GRAVINA ISLAND
KETCHIKAN, AK 99901
9072542203

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:04:32 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Paula Sayler [mailto:sayler.paula@gmail.com]
Sent: Wednesday, June 17, 2015 10:19 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Paula Sayler
2210 Sunrise Dr
Anchorage, AK 99508
9073378630

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Tuesday, June 16, 2015 10:16:50 AM

RECEIVED
By the Regulatory Commission of Alaska on Jun 16, 2015

-----Original Message-----
From: Kevin Shaffer [mailto:shaffer.kevin@gmail.com]
Sent: Monday, June 15, 2015 8:23 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Kevin Shaffer
123 Post Office Dr
Moose Pass, AK 99631
907-288-3146

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:03:43 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: John Shows [mailto:john.shows@gmail.com]
Sent: Wednesday, June 17, 2015 10:43 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

John Shows
54455 Wilderness Lane
Homer, AK 99603
9072997315

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:01:48 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: James Sullivan [mailto:Sullivanjuneau@gmail.com]
Sent: Wednesday, June 17, 2015 11:29 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

James Sullivan
305 B st
Douglas, AK 99824
9079576371

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:08:24 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Peg Tileston [mailto:pegt@gci.net]
Sent: Wednesday, June 17, 2015 10:13 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Peg Tileston
4780 Cambridge Way
Anchorage, AK 99503
907-561-0540

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:09:22 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: DAVID VOUGHT [mailto:dvalaska@yahoo.com]
Sent: Wednesday, June 17, 2015 9:58 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

DAVID VOUGHT
9340 CARLSON RD
ANCHORAGE, AK 99507
9073015317

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:10:20 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Nancy Wallace [mailto:gecko@computer-lizards.com]
Sent: Wednesday, June 17, 2015 9:54 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Nancy Wallace
1500 Norene St
Anchorage, AK 99508
9072507209

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Tuesday, June 16, 2015 10:11:31 AM

RECEIVED
By the Regulatory Commission of Alaska on Jun 16, 2015

-----Original Message-----
From: Michael Wilson [mailto:Inuksugak@gmail.com]
Sent: Tuesday, June 16, 2015 7:53 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Michael Wilson
5050 Sams
Wasilla, AK 99654
9073735518

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:12:01 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Anne Yoshino [mailto:Aayoshino@gmail.com]
Sent: Tuesday, June 16, 2015 7:59 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Anne Yoshino
16655 Hidden Hills
Willow, AK 99688
520-400-5614

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 12:59:20 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Ken Zafren [mailto:kenzafren@gmail.com]
Sent: Wednesday, June 17, 2015 12:31 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I strongly support an Independent System Operator (ISO) for the Railbelt. I believe it is the best option for effective and efficient electrical transmission.

This ISO will save Railbelt consumers money on their electric bill, make transmission of electricity more efficient, and incentivize renewable energy generation. The ISO approach has been applied to regional transmission systems in the lower 48 for years with success, and we should look to those models to solve the way our current system operates - adding pancaked tariffs on as electrons make their way through the grid, and to the consumer at an unnecessary higher price.

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I support the RCA's effort to examine the benefit of an ISO and I support an ISO for the Alaska Railbelt grid in order to increase renewable energy and make the current generation and transmission more efficient.

Thanks,

Ken Zafren
10181 Curvi St.
Anchorage, AK 99507
(907) 346-2333

From: Dianne Holmes
To: Mail, RCA (RCA sponsored)
Subject: I-15-001 ISO for railbelt
Date: Tuesday, June 16, 2015 8:44:53 AM

RECEIVED
By the Regulatory Commission of Alaska on Jun 16, 2015

Dear RCA Commissioners,
Having just received notice of the above case, I offer my comments and concerns for an ISO (or similar) for the railbelt.

I've read Chugach Electric's lengthy and complex report to you. While the whole issue of utility regulation is something few residents understand, I can appreciate that something needs to be done with the current railbelt system.

1) A non-profit ISO or USO is needed for the railbelt.

2) However, ensure that a monopoly is NOT created in the process and that only a nonprofit entity operates/administers the new system.

3) Ensure that renewable energy must be a part of any ISO or USO.

Sincerely,

Dianne Holmes

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - I support an ISO for the Railbelt
Date: Wednesday, June 17, 2015 1:11:46 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Karl Kassel [mailto:canoe907@icloud.com]
Sent: Tuesday, June 16, 2015 8:25 PM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - I support an ISO for the Railbelt

Dear Regulatory Commission of Alaska Commissioners,

I believe the only reasonable way to operate the Railbelt electrical transmission system is with an Independent System Operator (ISO). I understand how our existing system has evolved, but now it is time to change, and dramatically improve the efficiency and make renewable energy more functional.

The old system is antiquated, overly expensive, and blocking progress. Let's move Alaska forward, and create new opportunities by switching to an ISO.

Thanks for listening,
Karl Kassel

Karl Kassel
4615 Old Murphy Dome Rd
Fairbanks, AK 99709
907-455-6115

From: Pickett, Bob (RCA)
To: Wilde, Ann (RCA)
Subject: FW: Docket I-15-001 - System operator
Date: Wednesday, June 17, 2015 1:03:01 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

-----Original Message-----
From: Charles Kennedy [mailto:kennedycf@gci.net]
Sent: Wednesday, June 17, 2015 10:51 AM
To: Pickett, Bob (RCA)
Subject: Re: Docket I-15-001 - System operator

To: Regulatory Commission of Alaska Commissioners,

I strongly support the idea of a Independant System operator for the connected electical utilities.

I am long-time resident (1953) and have been a member of at least three of the utilities at one time or another. Now Chugach Electric Member.

The present arrangement under-utilizes the system hydro peaking --especially Bradley Lake -- which was after all a statewide-sponsored project.

The need for non-carbon emitting power, now evident, very much puts this matter as the first and essential step.

Sincerely,

Charles F. Kennedy
3400 W 30th Ave
Anchorage 99517-1659

Charles Kennedy
3400 W 30th Ave
Anchorage, AK 99517
9079475679

R.C.A.
RECEIVED

15 JUN 15 PM 12: 0

Becky Long
POB 1088, Talkeetna AK 99676

Regulatory Commission of Alaska
701 W. Eighth Ave Suite 300
Anchorage AK 99501

June 12, 2015

Re: Docket 1-15-001

This testimony supports the establishment of an Independent System Operator (ISO) for Railbelt transmission. This testimony of support is based on information heard in the House and Senate Special Committees on Energy of the Alaska State Legislature.

The inability of additional Fire Island wind power turbines to be built and come online due to high transmission tariff costs has shocked the railbelt public. This situation has spurred the public like myself to look for solutions to this transmission dilemma.
The current transmission rules for the railbelt are unacceptable. We need more efficient power dispatch with lower dispatch costs.

Regional challenges cannot be solved with the current system. Bradley Lake hydroelectricity is stranded. Renewable energy sources can't be developed. Barriers to renewable energy are not due to technology. The barriers are due to policy, operations, and contracts.

The state's renewable energy goal cannot be met under current conditions except through large centralized projects like the proposed Susitna Dam. But the state cannot afford to pursue large projects in our economic climate. We need smaller, dispersed electrical generation projects in the railbelt. But the current transmission cannot accommodate such.

Basically, railbelt transmission system needs: efficient economic dispatch, open and non-discriminatory access, regional planning of future transmission infrastructure, and reduced end-user costs.

I urge you to recommend to the Alaska Legislature that an Independent System Operator for the Railbelt be established.

Thank you for your consideration and work on this.

Becky Long Becky Long

From: Sharon Waisanen
To: RCA Webmaster
Subject: RCA Website Feedback
Date: Wednesday, June 17, 2015 12:47:05 PM

RECEIVED
By the Regulatory Commission of Alaska on Jun 17, 2015

Re: Docket I-15-001

I do not support an Independent System Operator (ISO) for the Railbelt.

This ISO will only create another layer of management at the expense of rate payers. The additional cost should be clearly defined.

Additionally, participation by utilities should be voluntary.

Rate payers are already paying excessive amounts of money for energy.

I do not believe this will increase renewable energy opportunity. It simply is not true.

Thank you.

Sharon Waisanen
44932 Eddy Hill Dr.
Soldotna, AK 99669