

**EXHIBIT H
TO
AMENDED AND RESTATED
ALASKA INTERTIE AGREEMENT**

**RESERVE CAPACITY
AND
OPERATING RESERVE RESPONSIBILITY AGREEMENT**

Date: 12-1-17 Exh # H-46
Regulatory Commission of Alaska
U-16-094 By: APS U-17-008
Northern Lights Realtime & Reporting, Inc.
(907) 337-2221

EXHIBIT H

AMENDED AND RESTATED ALASKA INTERTIE AGREEMENT

RESERVE CAPACITY AND OPERATING RESERVE RESPONSIBILITY AGREEMENT

This Addendum No. 1 is made this 23rd day of December, 1985, ~~1984~~, by the Utility Participants, THE MUNICIPALITY OF ANCHORAGE, ALASKA, d.b.a. MUNICIPAL LIGHT & POWER; CHUGACH ELECTRIC ASSOCIATION, INC.; THE CITY OF FAIRBANKS, ALASKA, MUNICIPAL UTILITIES SYSTEM; GOLDEN VALLEY ELECTRIC ASSOCIATION, INC.; and ALASKA ELECTRIC GENERATION AND TRANSMISSION COOPERATIVE, INC., signatories to the Alaska Intertie Agreement, dated December 23, 1985, hereinafter referred to as "Agreement". The signatory parties are hereinafter referred to as "Utility Participants".

WITNESSETH

WHEREAS THE MUNICIPALITY OF ANCHORAGE, ALASKA, d.b.a. MUNICIPAL LIGHT & POWER; CHUGACH ELECTRIC ASSOCIATION, INC.; THE CITY OF FAIRBANKS, ALASKA, MUNICIPAL UTILITIES SYSTEM; GOLDEN VALLEY ELECTRIC ASSOCIATION, INC.; and ALASKA ELECTRIC GENERATION AND TRANSMISSION COOPERATIVE, INC. are all Utility Participants and signatories to the Alaska Intertie Agreement; and

WHEREAS the ALASKA POWER AUTHORITY is a Participant and signatory to the Alaska Intertie Agreement; and

WHEREAS the signatories to the Alaska Intertie Agreement desire to have a separate agreement involving only Utility Participants with reserve requirement responsibility on the interconnected system;

NOW THEREFORE, the Utility Participants agree as follows:

ARTICLE A
Reserve Capacity

Section A-1.1

A-1.1.1 Each Utility Participant expects and is expected to maintain utility responsibility for its own load and, as a part of such responsibility, shall maintain or otherwise provide for annually, Accredited Capability in an amount equal to or greater than its maximum System Demand for such year plus such Utility Participant's Reserve Capacity Obligation, as set forth in Subsection A-1.1.2 of this Section.

A-1.1.2 The Reserve Capacity Obligation of a Utility Participant, for any year, shall initially be

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equal to thirty (30) percent of the projected Annual System Demand of that Utility Participant. The Reserve Capacity Obligation of the Participants may be adjusted from time to time by the Operating Committee.

- A-1.1.3 The Operating Committee may determine the annual Accredited Capability for each Utility Participant.

ARTICLE B
Responsibility for Operating Reserve

Section B-2.1 Operating Reserve

- B-2.1.1 Each Utility Participant shall provide Spinning Reserve and Non-Spinning Reserve as required by Section B-2.2 of this Article equal to or greater than the Operating Reserve Obligation of the Participant. As soon as practicable, but not to exceed four hours, after the occurrence of an incident which uses Operating Reserves, each Utility Participant shall restore its Operating Reserve Obligation by the procedures determined by the Operating Committee.
- B-2.1.2 The Operating Reserves, Operating Reserve Obligation and Utility Participant's Allocation may be modified or adjusted from time to time by the Operating Committee.

Section B-2.2 Total Operating Reserve Obligation

- B-2.2.1 The Total Operating Reserve Obligation at any time shall initially be an amount equal to 150 percent of the capability of the largest generating unit contingency in operation on the interconnected systems of the Utility Participants.
- B-2.2.1.1 The Spinning Reserve portion of the total Inertie System shall not be less than an amount equivalent to 100 percent of the Declared Capability of the largest generating unit contingency in operation on the interconnected systems of the Utility Participants. The Declared Capability will be as determined by the Utility Participant.
- B-2.2.1.2 The balance of the Total Operating Reserve Obligation shall be maintained with Non-Spinning Reserve.

B-2.2.2 Generating unit capability for Operating Reserves shall be determined by the following criteria:

- a. It shall not be less than the load on the machine at any particular time nor greater than (b) below.
- b. It shall not exceed that maximum amount of load (MW) that the unit is capable of continuously supplying for a two-hour period, or immediately supplying through action of automatic governor controls.

B-2.2.3 The criteria specified in this section may be modified or changed by the Operating Committee.

Section B-2.3 Utility Participant's Allocation of Operating Reserves

B-2.3.1 The Operating Reserve Obligation of a Utility Participant shall be that percentage of the Total Operating Reserve Obligation determined by the Operating Committee in accordance with the following formula based on the capability of largest generating unit contingency in operation at each Utility Participant.

B-2.3.1.1 Individual Utility Participant Reserve Allocation Formula

$$IOR = TOR \times U_s / U_t$$

IOR = Individual Utility Participant
Operating Reserve Requirement

TOR = Total Operating Reserve
Requirement

U_s = A Utility Participant largest
on-line generation unit capability

U_t = Sum of each Utility Participant's
U_s

Section B-2.4 Operating Reserve Calculation

B-2.4.1 System Spinning Reserve shall be calculated at any given instant as the difference between the sum of the net capability of all generating units on line in the respective system and the integrated Systems Demand of the system involved.

- B-2.4.2 A Utility Participant's Spinning Reserve may be satisfied by an automatically controlled load shedding program. The load shedding program shall assure that controlled load can be dropped to meet the requirements of Spinning Reserve and in such a manner as to maintain system stability and not cause objectionable system conditions or cascading effects in other Utility Participants' systems. The Operating Committee shall review and approve the Utility Participant's load shedding program that will be used to satisfy its Spinning Reserve requirements.
- B-2.4.3 The Operating Committee may establish procedures to assure that the Operating Reserve is available on the systems of the Participants at all times. Whenever a Participant is unable to meet its Operating Reserve Obligation, that Utility Participant will immediately, within two hours, advise all other Utility Participants and make arrangements to restore its Operating Reserve Obligation.
- B-2.4.4 Prudent Utility Practices shall be followed in distributing Operating Reserve, taking into account effective utilization of capacity in an emergency, time required to be effective, transmission limitations and local area requirements.
- B-2.4.5 A Participant may arrange for one or more other Utility Participants to supply part or all of its Operating Reserve requirement.
- B-2.4.6 In an emergency, any Utility Participant, upon request by another Utility Participant, shall supply to such requesting Utility Participant part or all of its Operating Reserve up to the full amount of its Available Accredited Capability. A Utility Participant experiencing an emergency is not required to maintain its Operating Reserve Obligation. There shall be no obligation of a Utility Participant to supply Operating Reserve if the requesting Utility Participant is not making full use of its Available Accredited Capability.
- B-2.4.7 Except as otherwise agreed, a Utility Participant supplying a portion or all of another Utility Participant's Operating Reserve during any month shall be paid by the purchasing Utility Participant an amount equal to whichever is greater of the following:

B-2.4.7.1 110 percent of the Incremental Cost of supplying such service; or

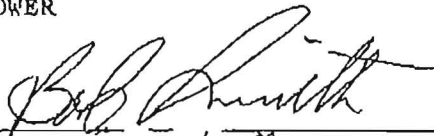
B-2.4.7.2 The Incremental Cost of supplying such service plus one-half of the overall savings involved in such transaction, which overall savings shall be equal to the difference between the Incremental Cost of the selling Utility Participant and the Decremental Cost of the purchasing Utility Participant.

B-2.4.8 If a Utility Participant fails to provide adequate Operating Reserve, other than because of a forced outage, during any such period the deficient Participant shall pay to the other Utility Participants an amount equivalent to two times the cost avoided by the deficient Utility Participant for not starting and/or operating any generating unit or units which would ordinarily be used to provide adequate Operating Reserve. Should the Utility Participant not have adequate Accredited Capability to provide the Operating Reserves, it shall pay the other Utility Participants two times the cost for starting and operating the highest cost generating unit on the deficient Utility Participant's system. This payment shall be shared by the other Utility Participants in the same proportion that their individual Annual System Demand is to the non-deficient Utility Participants' total Annual System Demand. Payments under this section B-2.4.8 of this Article B shall be waived for the first year of operation of the Intertie.

IN WITNESS WHEREOF, the Utility Participants have executed this Addendum No. 1 to the Alaska Intertie Agreement in quintuplet by their authorized officers or representatives as of the day and year first above written.

MUNICIPALITY OF ANCHORAGE,
ALASKA dba MUNICIPAL LIGHT &
POWER

By:


Municipal Manager
(Title)

SUBSCRIBED AND SWORN TO before me on the 23rd day
of December, 1985.

Barbara Dunn
Notary Public, State of Alaska
My Commission Expires: 4-11-89

CHUGACH ELECTRIC ASSOCIATION,
INC.

By: Robert Martin
General Manager

SUBSCRIBED AND SWORN TO before me on the 17th day
of December, 1985.

Susan Christanson
Notary Public, State of Alaska
My Commission Expires: 1-8-88

CHUGACH ELECTRIC ASSOCIATION,
INC.

By: Joseph M. Marsh
President of the Board

SUBSCRIBED AND SWORN TO before me on the 17th day
of December, 1985.

Susan Christanson
Notary Public, State of Alaska
My Commission Expires: 1-8-85

CHUGACH ELECTRIC ASSOCIATION,
INC.

By: Joseph M. Marsh
Vice-President of the Board

SUBSCRIBED AND SWORN TO before me on the 17th day
of December, 1985.

Susan Christenson
Notary Public, State of Alaska
My Commission Expires: 11-8-88

CITY OF FAIRBANKS, ALASKA
MUNICIPAL UTILITIES SYSTEM

By: [Signature]
CITY MANAGER
(Title)

SUBSCRIBED AND SWORN TO before me on the 19th day
of December, 1985.

Rudith C. Hanson
Notary Public, State of Alaska
My Commission Expires: 10-17-87

GOLDEN VALLEY ELECTRIC
ASSOCIATION, INC.

By: [Signature]
Gen. Mgr.
(Title)

SUBSCRIBED AND SWORN TO before me on the 16th day
of December, 1985.

Kristi J. Smith
Notary Public, State of Alaska
My Commission Expires: January 11, 1987

ALASKA ELECTRIC GENERATION and
TRANSMISSION COOPERATIVE, INC.

By: [Signature]
President
(Title)

SUBSCRIBED AND SWORN TO before me on the 17th day
of DECEMBER, 1985.

[Signature]
Notary Public, State of Alaska
My Commission Expires: 8/21/88

