



# **Power Pooling and Joint Dispatch Agreement**

## **Progress Report**

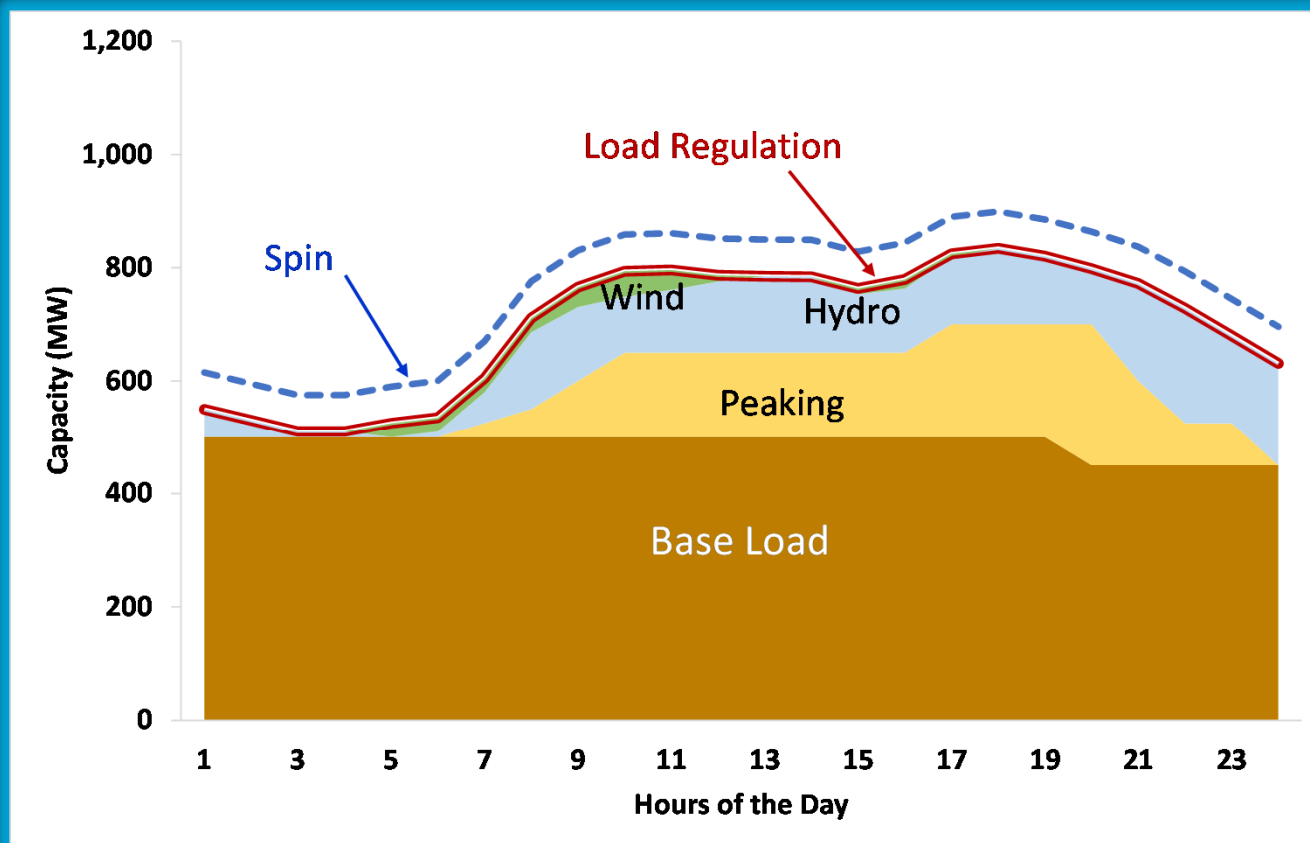
**Presentation to the Regulatory Commission of Alaska**

September 27, 2017 update

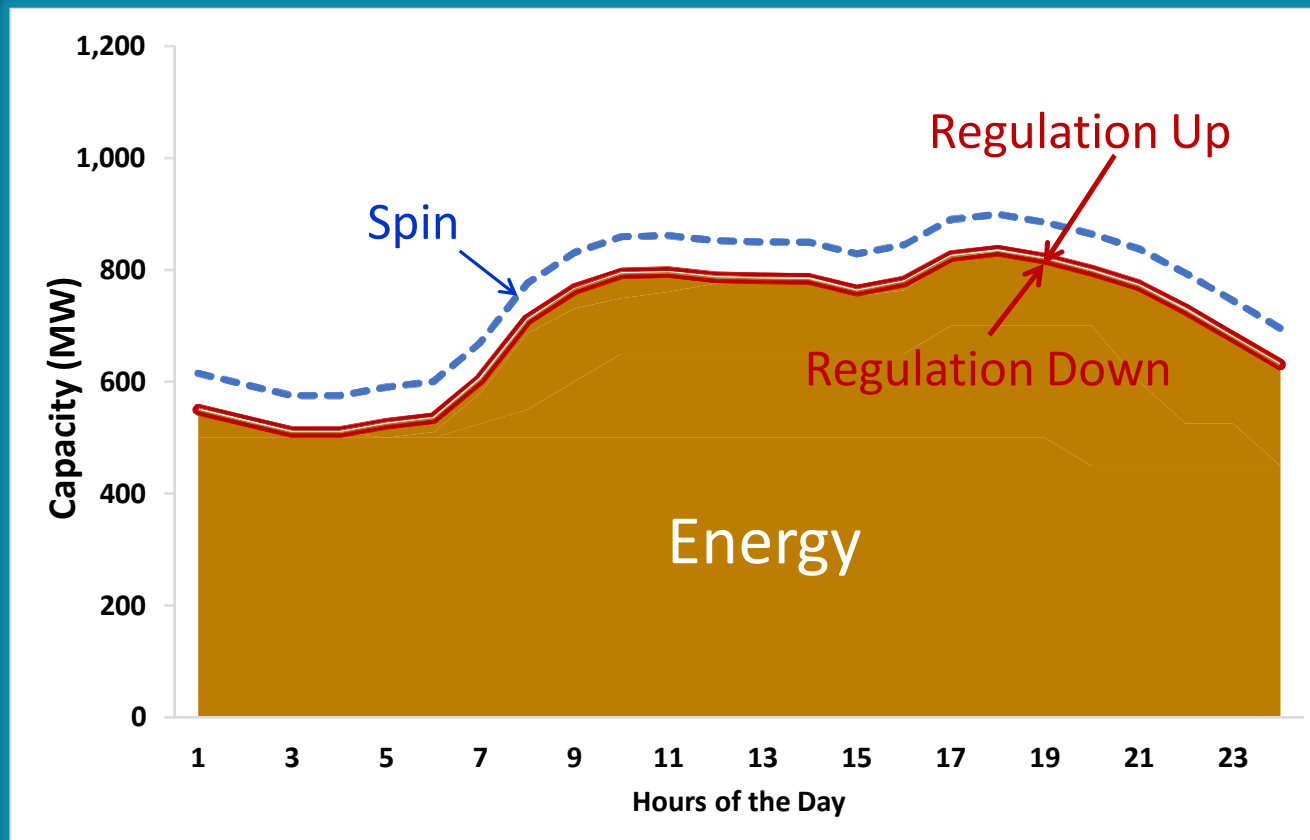
# Purpose of Presentation

- **What is the objective of the Pooling Agreement?**
- **Why is the Power Pooling Development Period Needed?**
- **Current Status**

# Key Terms



# Transaction Types



# What is the Objective of the Pooling Agreement?

## A 20-year Commitment

- Mutual Pledge of Generation and Transmission Resources for the collective benefit of the parties, through a
- joint dispatch process to capture economic efficiencies, that results in
- settlement processes obligating the parties to buy and sell power

*... it is not a simple day ahead economy energy transaction,  
from which a Party may readily exit ...*

# Development Period Major Tasks

- Developing joint dispatch processes for generation, transmission, natural gas
- Developing methods for who gets which power, spin and (in future) load regulation
- Determining details of how energy and other services are priced
- Determining how pooling parties make sales to third parties while honoring obligation to treat each other fairly
- Identifying required capital investments in communications, SCADA, and software

# Development Teams

- **Participants:** ML&P, Chugach, MEA, GVEA and HEA - more than a dozen utility employees and 4 consultants
- **Operations Committee:** Manages development activities
- **Dispatch Protocols Committee:** Develops process to jointly schedule load, operating reserves, generation and transmission resources and natural gas
- **Settlement Process Committee:** Manages settlement process
- **Supervisory Control and Data acquisition (SCADA) Committee:** Supports and manages dispatch software for joint dispatch

# Development Period Milestones

**June** – Major building blocks of Joint Dispatch and Settlement Processes

**July** – First successful Test of processes

**August** – Process refinements

**September** – Draft settlement process for Parties

Next Steps:

- Transaction process for non-Parties
- Procuring software for joint power scheduling and settlement
- Modifying system controls for joint operations
- File Pooling Agreement with RCA for approval



# Key Power Pooling Functions

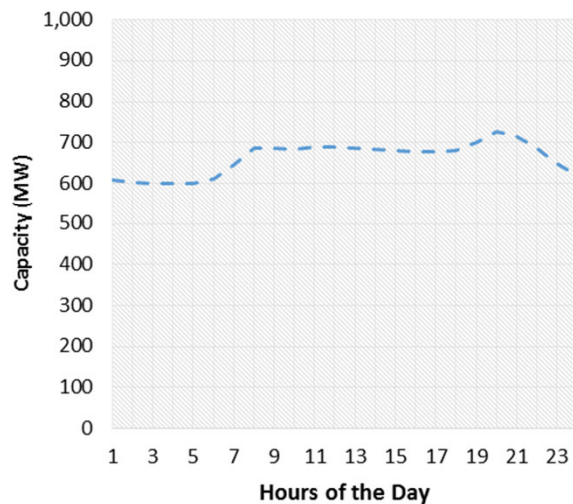
- **Central Scheduling Service**
  - Utility staff prepares single day ahead schedule for joint dispatch of ML&P, Chugach, MEA and any transactions with GVEA and HEA
  - Utility staff provides long-term hydro-thermal planning
- **Dispatch Day** – utility dispatch centers meet load real-time
- **Settlement Process Committee** – utility staff prepares post-day power pooling transaction reports

# Daily Tasks

## Central Scheduling Service

### Day Ahead Schedule

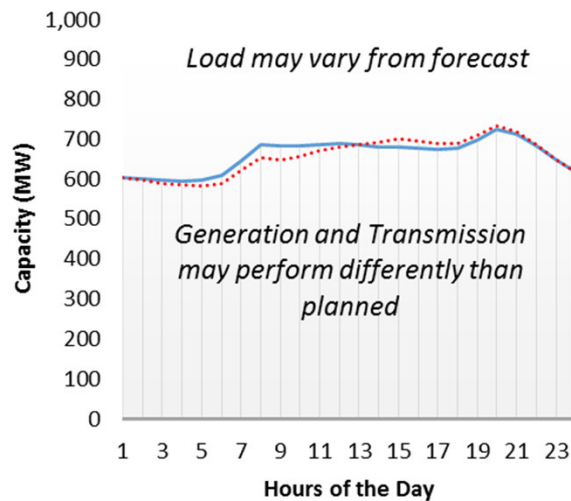
Forecast the load, plan generation



## Utility Dispatch Centers

### Actual Dispatch Day

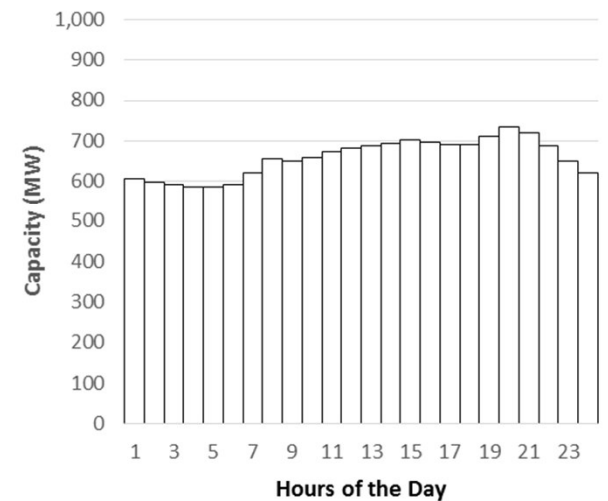
Meet the load real-time



## Settlement Process Committee

### Post Dispatch Day

Settle Transactions



# Seller and Buyers

## How are Sellers and Buyers determined?

- Central Scheduling Service develops a merit order dispatch that ignores generation ownership
- Parties that produce more energy than their native load are energy Sellers; Buyers produce less energy than their native load
- Parties that produce more spin, regulation up or regulation down than their requirements may be sellers; Buyers produce less than their requirements

# Settlement Process Principles

- Each party remains responsible for the fixed costs of its system
- Each party provides all fuel used to generate its power
- Operational savings are split between buyers and sellers
  - Buyers receive half the savings as reduced fuel and operating cost
  - Sellers receive half the savings as revenue

Utility	Energy (MWh)	Buyer's Alternative Energy Cost (\$/MWh)	Seller's Energy Cost (\$/MWh)	Difference (\$/MWh)	Split the Difference (\$/MWh)	Buyer's Benefit (\$)	Seller's Benefit (\$)
Buyer	20	\$120	\$70	\$50	\$25.00	\$500.00	
Seller	20				\$25.00		\$500.00

# Power Pooling Transactions with Third Parties

- **Central Scheduling Service** - develops optimal dispatch for parties and Subscribers. Subscribers are not party to the Pooling Agreement, but have transactions with the pooling parties through standard dispatch process.
  - **Parties** receive savings from merit order joint dispatch before transactions with Subscribers
  - **Subscribers** receive the next incremental benefit of merit order dispatch if they commit to the power pooling dispatch processes

# Transition from Loose to Tight Pool Operation

- Existing loose pool operation captures a majority of tight pool operation savings
- Tight pool operation
  - Is expected to fully capture the available savings
  - Formalizes the dispatch and transaction processes
  - Provides certainty in savings and operational processes for the long-term
- Tight pool operations development costs include communications, SCADA, and software additions

# Railbelt System Integration

## **The Power Pooling**

- Effectuates merit-order security-constrained economic dispatch
- Automates energy transactions and ensures a transparent and fair settlement process
- Facilitates joint planning of the Parties

## **Outside Power Pooling Scope**

- Railbelt generation and transmission planning
- Development and enforcement of system standards

# Questions