

WESTERN AREA POWER ADMINISTRATION

Who Is CRSP? (Colorado River Storage Project)

Lynn Jeka

CRSP Manager

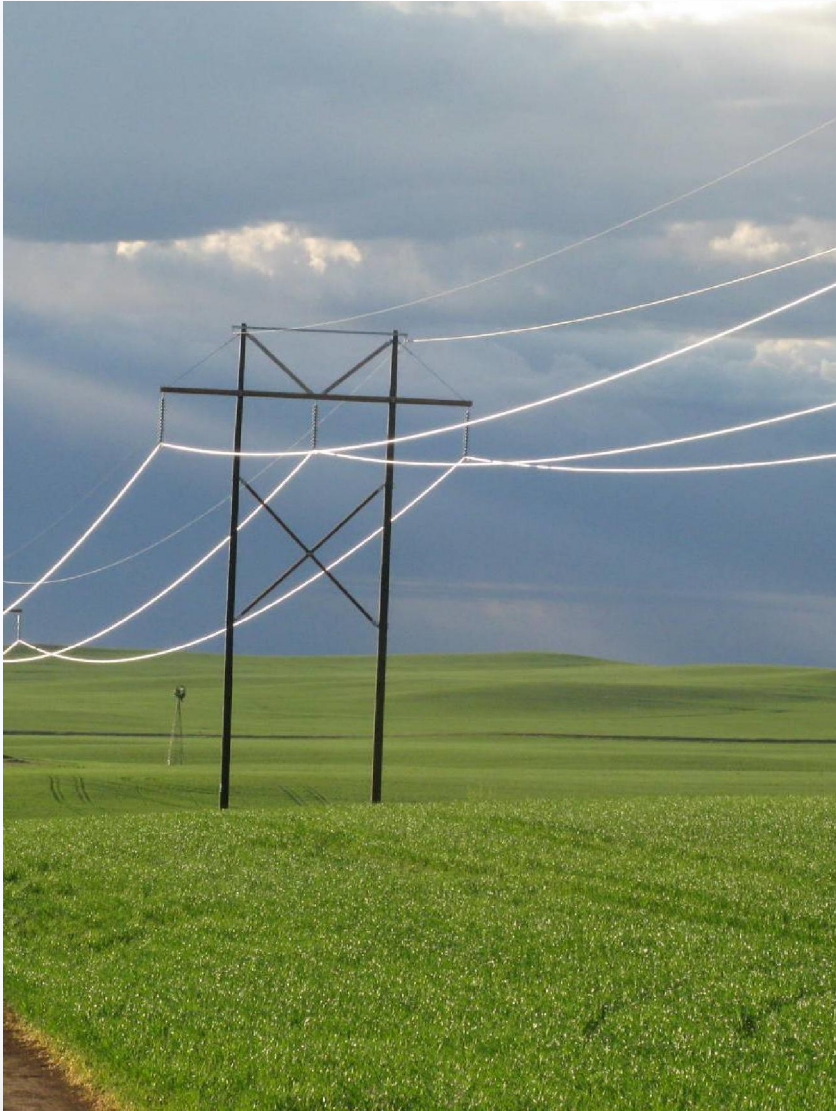
Western Area Power Administration



Western's mission

Market and deliver clean,
renewable, reliable, cost-based
federal hydroelectric power and
related services

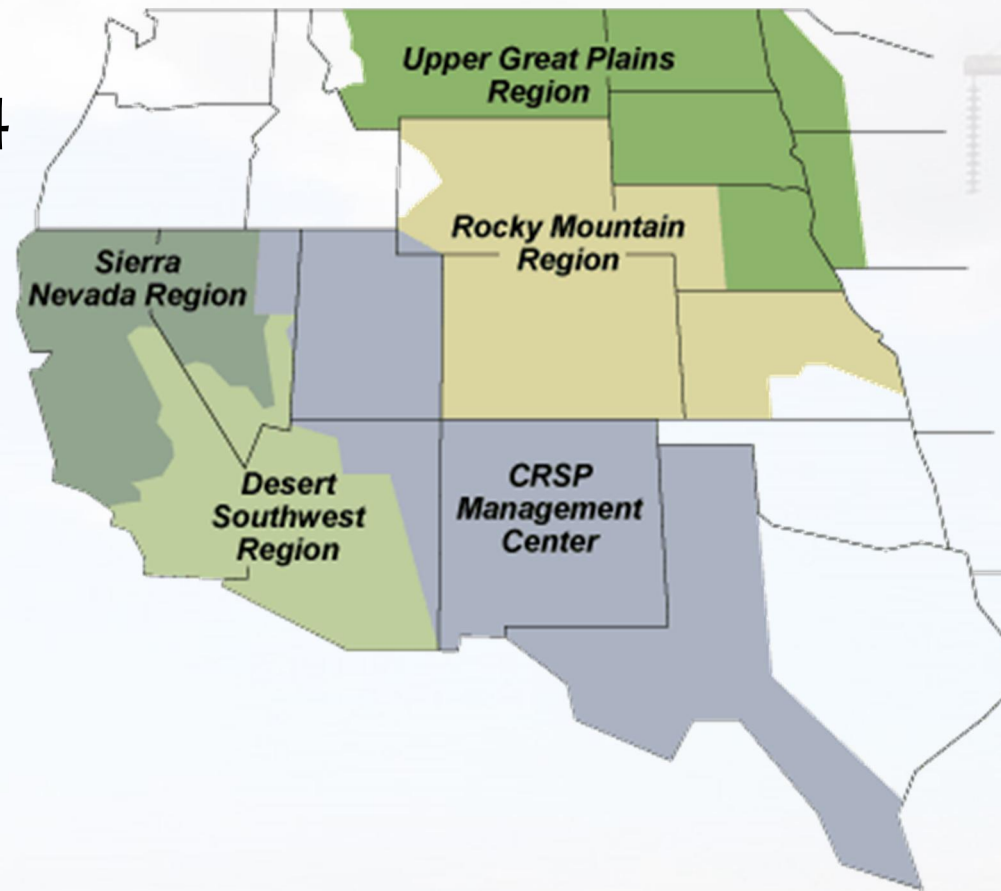
What is Western?



- Power marketing administration
- Created in 1977 to market and deliver, power generated at federal hydroelectric power plants throughout the western United States
- Responsibility previously held by BOR
- Wholesale electricity supplier

Western's service territory

- Serving customers from 4 regional offices and the CRSP MC
- 56 hydropower plants
- 10,505 MW of installed capacity



Western/CRSP responsibilities

- Partner with BOR (Generating Agency)
- Power marketing
- Rate setting
- Basin Fund management
- Support electrical grid reliability
- Environmental and cultural resource compliance
- Electrical system studies, power system economic and financial analysis

Western and Bureau of Reclamation – who does what

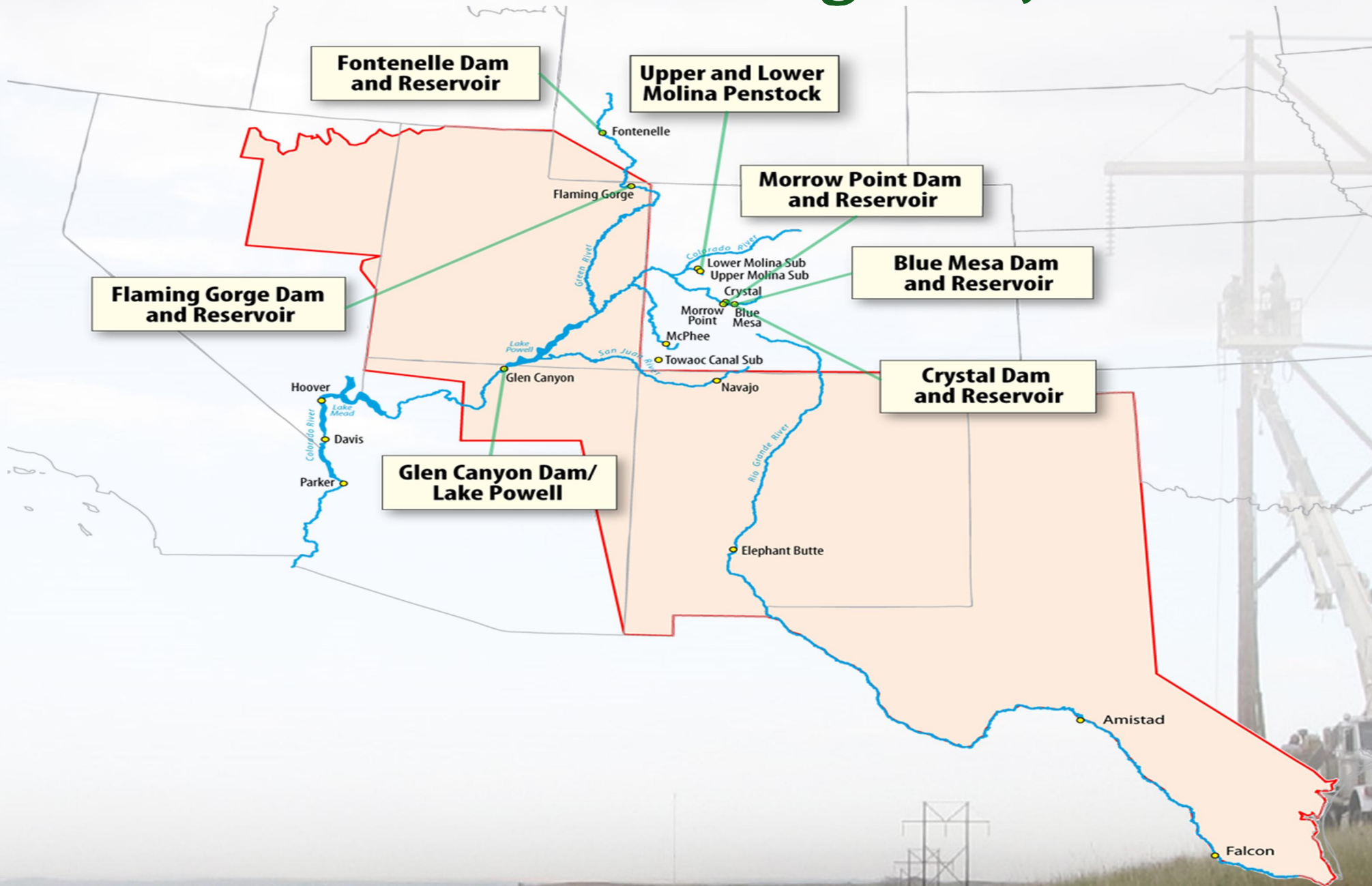
Bureau of Reclamation

- Owns dams and power plants
- Water release activities include reservoir management, irrigation, flood control, water compact deliveries, environmental activities.
- Responsible for water management from reservoirs
- Generation is handed off to Western at the plant

Western/CRSP

- Western owns and operates the transmission system infrastructure used to deliver power and energy
- Maintains regulation and reserve capacity
- Western markets available power and energy
- Western schedules and delivers generation to long term firm electric service customers
- Revenue from sale of generation is used to pay project debt to U.S. government, O&M, replacements

Colorado River Storage Project



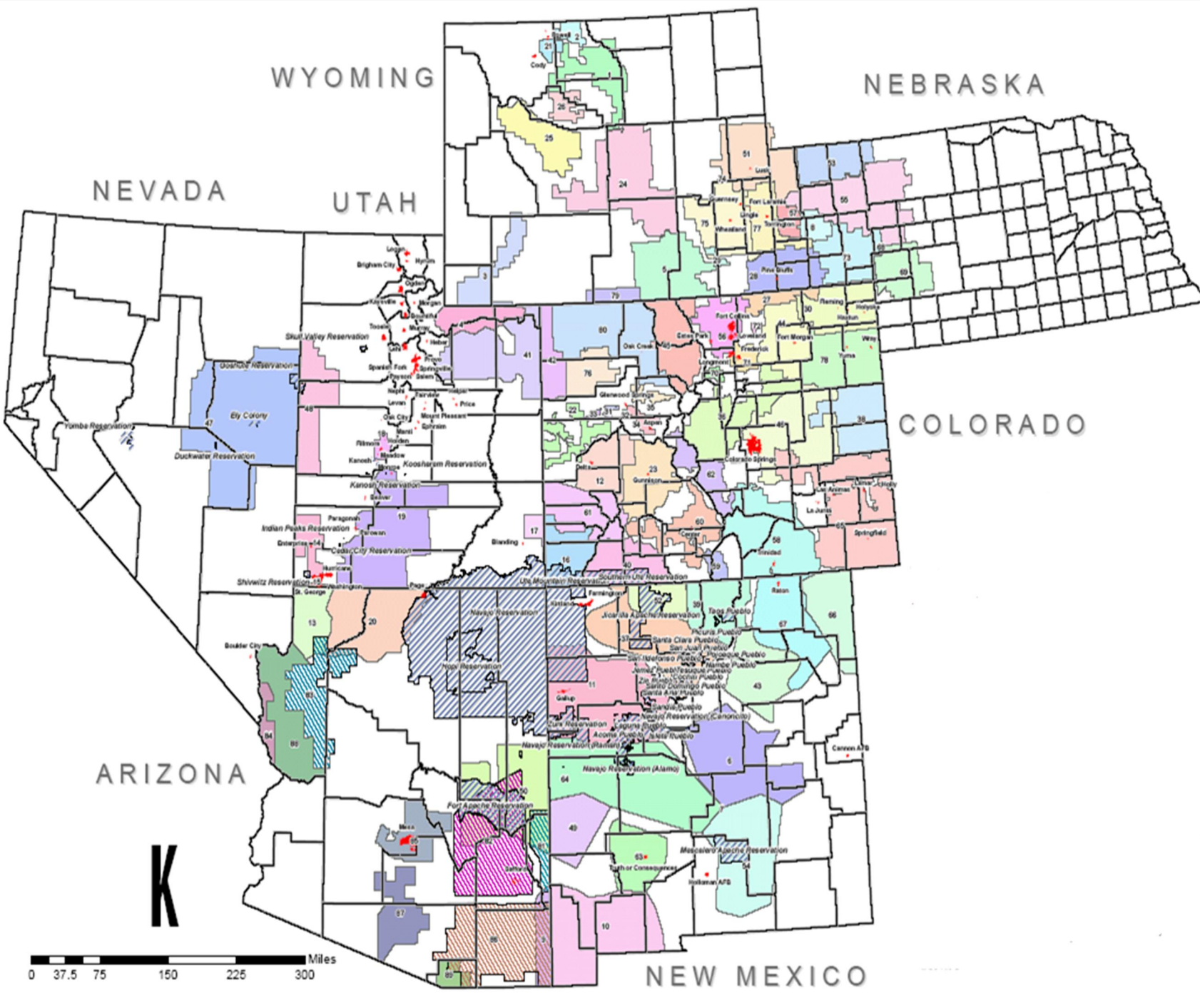
Salt Lake City Area Integrated Projects

- 11 power plants
- 24 generating units
- 1,816 MW total capacity
(73% from Glen Canyon)
- 5,642 GWh Net
Generation
(76% from Glen Canyon)
- 2,325 circuit miles
(Arizona, Colorado, New
Mexico, Utah, Wyoming)



CRSP profile

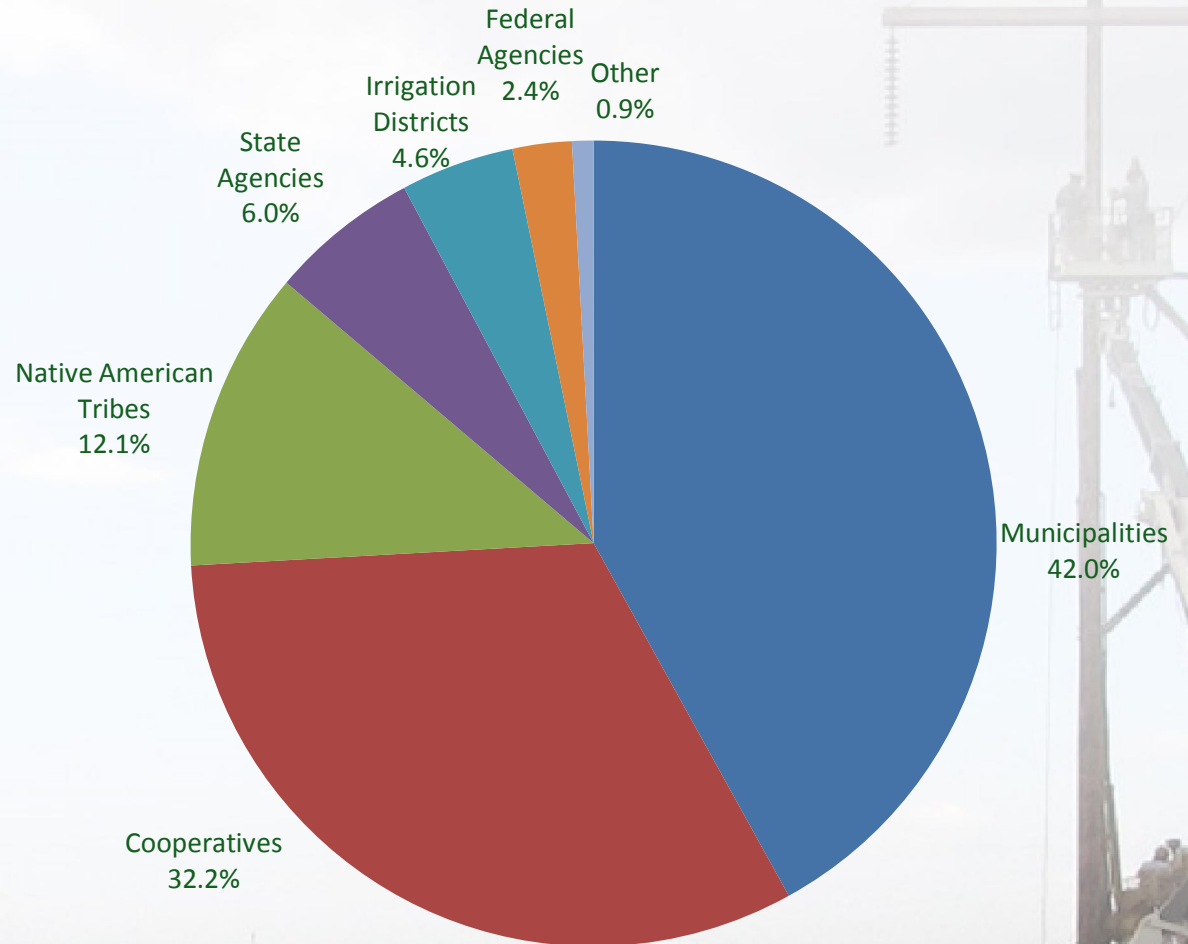
- 130 long-term customers
 - 53 Native American tribes
 - 60 Municipalities, cooperatives, irrigation districts
 - 17 Other
- Top 5 long-term energy sales customers
 - Tri-State Generation & Transmission Association
 - Platte River Power Authority
 - Utah Associated Municipal Power Systems
 - Deseret Generation & Transmission
 - Utah Municipal Power Agency



CRSP profile for FY2012

- Total investment \$2.375 billion
- Repaid investment \$986.2 million
- Total power revenues of \$196 million
- 7,514,844 MWh Sales

Where our Energy goes



Capacity and energy

- **Capacity** – the total power plant generation capability at any point in time in megawatts
- **Energy** –
 - the amount of electricity delivered over time in hours
 - must be produced at the same instant and in the same amount as it is used by customers
- Utilities are required to have enough power-generating capability (capacity) to meet anticipated demand

Capacity & energy example



10 kW Light bulb burns for 10 hours

- Capacity = 10 kW
- Energy Consumed = Capacity * Time = 100 kWh



100 kW Light bulb burns for 1 hours

- Capacity = 100 kW
- Energy Consumed = Capacity * Time = 100 kWh



- Total Capacity Needed = 110 kW
- Total Energy Consumed = 200 kWh

Energy Management and Marketing Office

- 24/7 operation
- Located in Montrose, Colorado
- Schedule and market power and transmission
- Month ahead or season ahead
 - Forecast energy availability and demand
 - Arrange purchase or sale as necessary depending on forecast

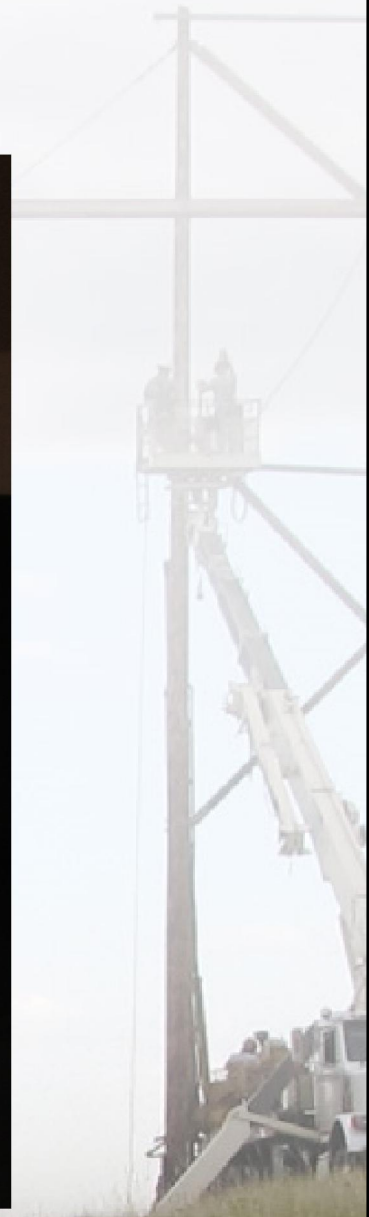
Energy Management and Marketing Office

- Day ahead
 - Coordinate pre-schedules and schedule deliveries
 - Arrange purchase or sale as necessary depending on forecast
- Real time
 - Balance energy available (resource) and loads (demand)
 - Monitor regulation capacity and reserves
 - Buy and sell resources as necessary

CRSP Real-time Desk



One of our real-time trainees after a long 12 hour night shift.....



Rate setting responsibility

- Rates are set using forecasts for a set of future years
- Annual rate calculation
- Reimbursable expenses/costs -- items the power customers are legally required to pay
 - Purchase power to “firm” contractual commitments
 - Operations & maintenance
 - Required principal & interest payments
 - Amortized capital replacements (Western & BOR)
 - Irrigation assistance for participating projects

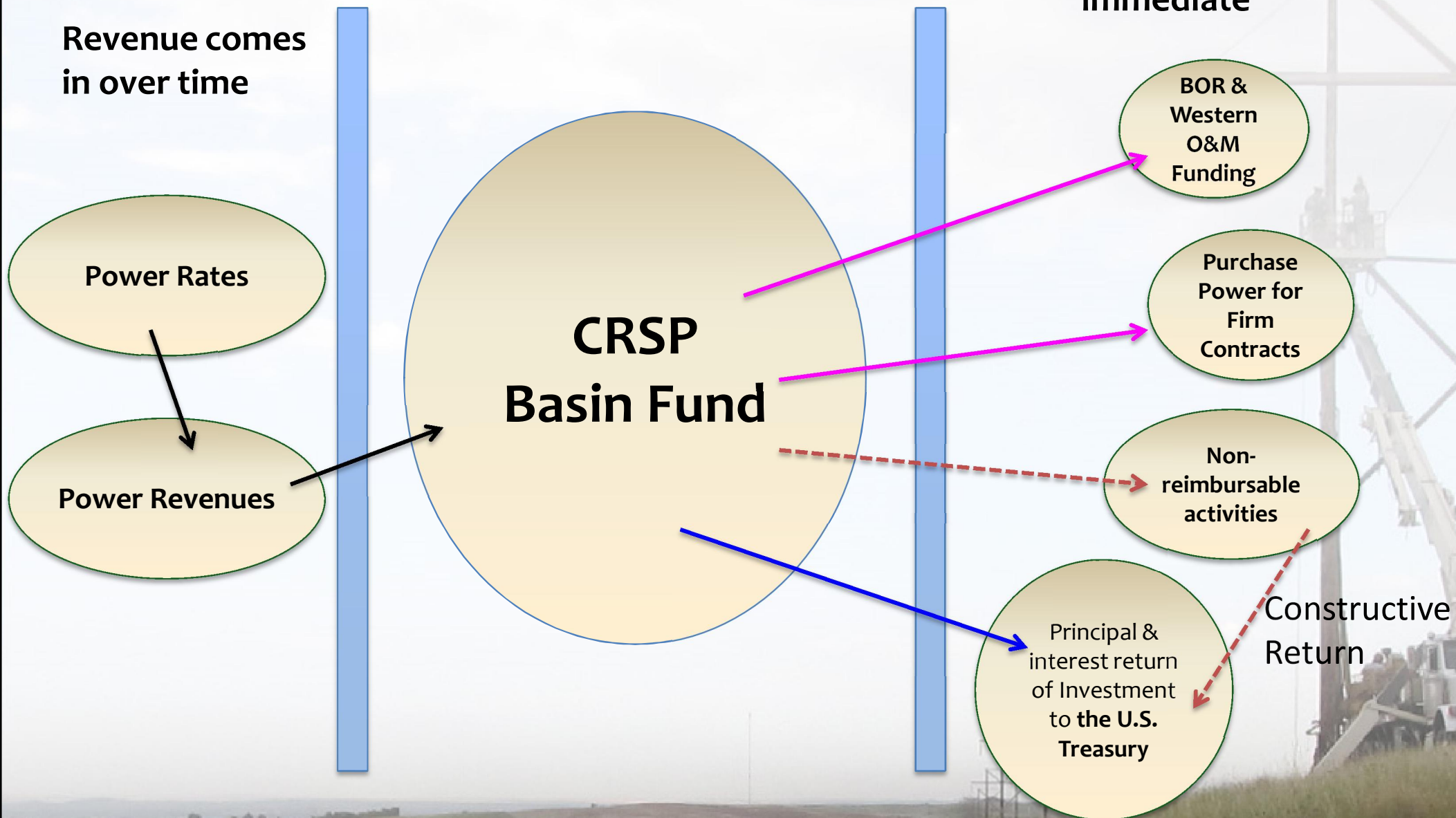
Annual rate calculation

- Revenue requirement is the sum of all reimbursable expenses
- $\text{Rate} = \text{revenue} / \text{projected energy sales}$
- If revenue less reimbursable expenses results in a positive number -- then no rate change
- Basin Fund balance is not a component of the rate
- Example:
 - \$200 required revenue to cover reimbursable costs
 - Contracts = 200 KWh of energy delivery
 - $\text{Rate} = \$1.00/\text{KWh}$

Basin Fund cash flow

Revenue comes in over time

Cash outlays are immediate



Environmental and cultural resources

- Environmental programs (non-reimbursable expense) paid from the Basin Fund
 - Upper Colorado Recovery Program – endangered fish species program - \$6 million, annually
 - San Juan Recovery Program – endangered fish species program - \$2 million, annually
 - Glen Canyon Dam Adaptive Management Program – environmental program in the Grand Canyon - \$10 million, annually
 - Salinity Control Program – reduce salt in Colorado River water - \$2 million
- Ensure compliance with NHPA Section 106

Benefits of CRSP

- Delivery of clean, reliable, renewable, cost-based federal hydroelectric power
 - Over the last 10 years, Glen Canyon has offset over 25 million tons of CO₂, or over 2.5 million tons annually
- O&M for generation & transmission assets
- Repayment of federal investment
- Funding for non-reimbursable activities
 - Adaptive Management & Recovery Programs
 - High-flow experiments

The background of the slide is a faded photograph of a utility worker on a power line tower. The worker is positioned on a bucket or platform, working on the tower's structure. The tower is a lattice steel structure. In the background, there is a rural landscape with rolling hills and a clear sky. The overall tone is light and professional.

Questions?

WESTERN AREA POWER ADMINISTRATION

Contact information

Lynn Jeka

CRSP Manager

jeka@wapa.gov

801-524-6372