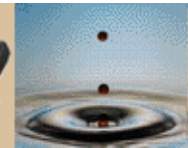
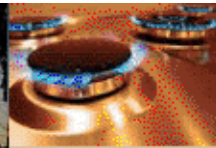


USAID/NARUC East Africa Regional Regulatory Partnership

Commissioner Olan W. Reeves



Arkansas
Public Service Commission





Arkansas

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COMMISSION INFORMATION



*Commissioner
Elana C. Wills*



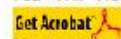
*Chairman
Colette D.
Honorable*



*Commissioner
Olan W. Reeves*

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Tax Division Staff	Annual Reports to the Governor
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	Arkansas Government Financial Transparency Website

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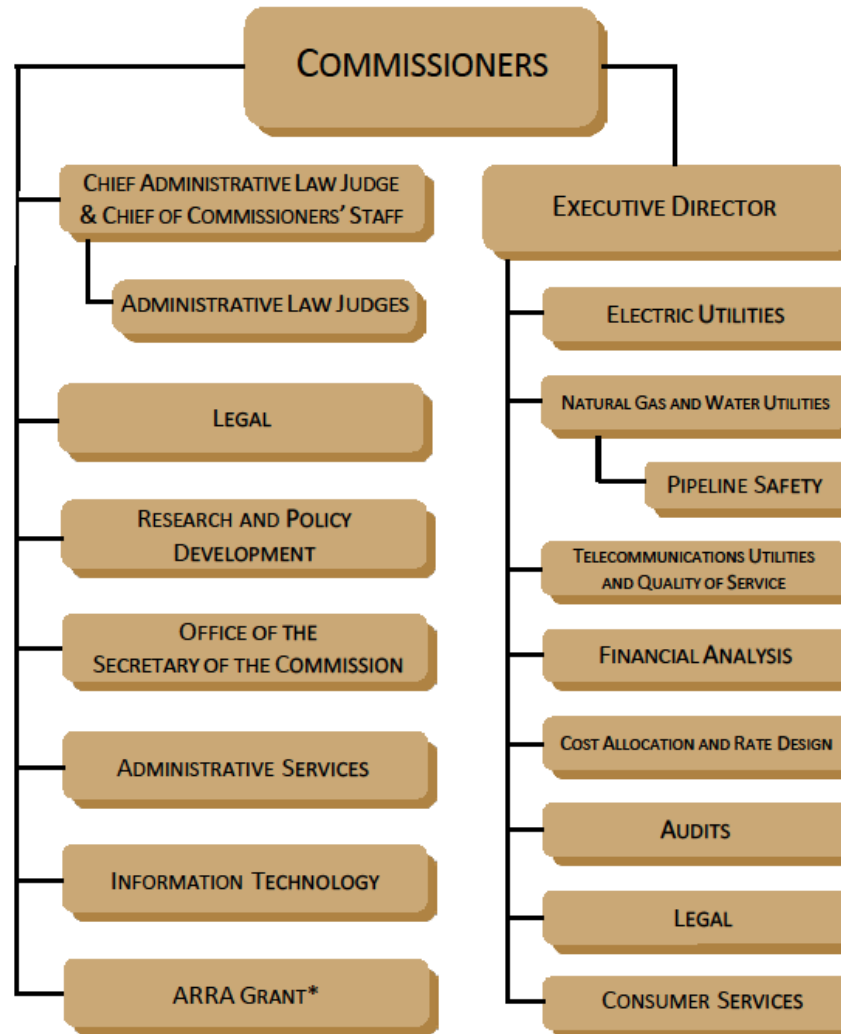
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Arkansas Public Service Commission Organizational Chart



**The powers of the Arkansas Public Service
Commission Are enumerated in Arkansas
Code Annotated §23-2-304.**

Arkansas Electric Utility Statistical Information

Utility Company	Customers	Distribution Lines	Transmission Lines	Generation Capacity
AECC	515,000	72,000 Miles		3,420 MW
EDE	4,386 (167,000 Total)	206 Miles	34 Miles	1,422 MW (Total 4 states)
EAI	700,395	38,241 Miles	4,850 Miles	5,199 MW
OG&E	65,583	3,007 Miles	278 Miles	0 in AR
SWEPCO	114,708	3,342 Miles	1,045 Miles	1,054 MW

Electric Generation in Arkansas by Fuel Type

Total Electric Power Industry

Coal	43.74%
Hydro	3.45%
Gas	26.33%
Nuclear	23.83%
Other	2.65%

Electric Generating Capacity

Coal	30.44%
Hydro	7.49%
Gas	49.52%
Nuclear	10.24%
Other	2.31%

Overview of Southwest Power Pool (SPP)

Fast Facts

As a Regional Transmission Organization (RTO), SPP is mandated by the Federal Energy Regulatory Commission to ensure reliable supplies of power, adequate transmission infrastructure, and a competitive wholesale electricity marketplace. SPP also serves as a Regional Entity of the North American Electric Reliability Corporation.

RTOs are like “air traffic controllers” of the electric power grid. They do not own the power grid, but independently operate the grid minute-by-minute to ensure that power gets to customers and to eliminate power shortages.

Founded in 1941, SPP is a not-for-profit organization in which membership is voluntary. The SPP RTO has 76 members in nine states, including investor-owned utilities, municipal systems, generation and transmission cooperatives, state authorities, wholesale generators, power marketers, and independent transmission companies.

SPP is based in Little Rock, Arkansas, and has approximately 575 employees.

Primary Services Provided to Members and Customers

Reliability Coordination: SPP monitors power flow throughout our footprint and coordinates regional response in emergency situations or blackouts.

Tariff Administration: SPP provides “one-stop shopping” for use of the region’s transmission lines and independently administers an Open Access Transmission Tariff with consistent rates and terms. SPP processes more than 10,422 transmission service requests per month; 2013 transmission service transactions totaled \$1.29 billion.

Regional Scheduling: SPP ensures the amount of power sent is matched with power received.

Transmission Expansion: SPP’s planning processes seek to identify system limitations, develop transmission upgrade plans, and track project progress to ensure timely completion of system reinforcements.

Market Operations: The Integrated Marketplace launched in 2014, replacing the Energy Imbalance Service market. It includes a Day-Ahead Market with Transmission Congestion Rights, a Reliability Unit Commitment process, a Real-Time Balancing Market replacing the EIS Market, and the incorporation of price-based Operating Reserve procurement. It is expected to yield its more than 115 participants up to \$100 million in annual net savings.

Compliance: The SPP Regional Entity enforces compliance with federal and regional reliability standards for users, owners, and operators of the region’s bulk power grid.

Training: SPP offers continuing education for operations personnel at SPP and throughout the region. SPP’s 2013 training program awarded 25,336 hours of continuing education to more than 900 operators from 27 member organizations.

Transmission and Operating Region*

- Service territory: 370k square miles
- Substations: 4,103
- Generating plants: 627
- Wholesale demand response: 1,563 MW (market footprint)
- Coincident peak demand: 46,136 MW (August 30, 2013: Reliability Coordinator footprint)
- Energy consumption: 230.9 TWh (market footprint)
- Miles of transmission: 48,930
 - 69 kV: 12,569
 - 115 kV: 10,239
 - 138 kV: 9,691
 - 161 kV: 5,049
 - 230 kV: 3,889
 - 345 kV: 7,401
 - 500 kV: 93
- Generating capacity: 77,366 MW



Gas	42.02%
Coal	34.06%
Wind	10.00%
Hydro	4.54%
Dual Fuel	4.06%
Nuclear	3.34%
Fuel Oil	1.83%
Other	0.18%

Strategic Plan

SPP's strategic plan, developed in 2010, contains three foundational strategies, each with associated initiatives, to position SPP for the future while balancing operational priorities and financial considerations.



The strategies align with SPP's Value Proposition, the five principles that have driven its history and frame its future: Relationship-Based; Member-Driven; Independence Through Diversity; Evolutionary vs. Revolutionary; and Reliability and Economics Inseparable.

Operating Region

SPP has members in nine states: Arkansas, Kansas, Louisiana, Mississippi, Missouri, Nebraska, New Mexico, Oklahoma, and Texas.

* As of December 31, 2013

Did You Know?

- On a typical monthly residential electric bill of \$100, SPP's cost represents only 67.5¢.
- SPP's members serve approximately 6.2 million households.
- Cost to typical residential customer for \$1 billion of incremental transmission is \$1.34 per month.
- In 2013, SPP members completed 101 transmission expansion projects totaling \$586,187,580.
- SPP's 2013 transmission and wholesale market transactions totaled \$2.58 billion.
- The 48,930 miles of transmission lines in SPP's footprint would circle the earth almost twice!
- SPP's transmission owners collect about \$1.35 billion annually to recoup costs of transmission, and have approximately \$8.4 billion in net transmission investment.

Our Mission:

Helping our members work together to keep the lights on ... today and in the future.

Our Beginning

- **Founded 1941 with 11 members**
 - Utilities pooled electricity to power Arkansas aluminum plant needed for critical defense
- **Maintained after WWII to continue benefits of regional coordination**





Milestones

- 1968** Became NERC Regional Council
- 1980** Implemented telecommunications network
- 1991** Implemented operating reserve sharing
- 1994** Incorporated as nonprofit
- 1997** Implemented reliability coordination
- 1998** Implemented tariff administration
- 2004** Became FERC-approved Regional Transmission Organization
- 2007** Launched EIS market; became NERC Regional Entity
- 2009** Integrated Nebraska utilities
- 2010** FERC approved Highway/Byway cost allocation methodology and Integrated Transmission Planning Process
- 2012** Moved to new Corporate Center
- 2014** Launched Integrated Marketplace
- 2014** Became the regional Balancing Authority

The SPP Difference

- Relationship-based
- Member-driven
- Independence Through Diversity
- Evolutionary vs. Revolutionary
- Reliability and Economics Inseparable



SPP at a Glance

- Located in Little Rock
- About 600 employees
- Primary jobs —
engineering, operations,
settlements, and IT
- 24 x 7 operation
- Full redundancy and backup site



Regulatory Environment

- Incorporated in Arkansas as 501(c)(6) nonprofit corporation
- FERC — Federal Energy Regulatory Commission
 - Regulated public utility
 - Regional Transmission Organization
- NERC — North American Electric Reliability Corporation
 - Founding member
 - Regional Entity



Our Membership Profile

Category	Number
Investor Owned Utilities	15
Cooperatives	13
Marketers	12
Municipals	11
Independent Power Producers/ Wholesale Generation	11
Independent Transmission Companies	10
State Agencies	6
TOTAL	78

As of September 9, 2014

Members in 9 states

Arkansas

Kansas

Louisiana

Mississippi

Missouri

Nebraska

New Mexico

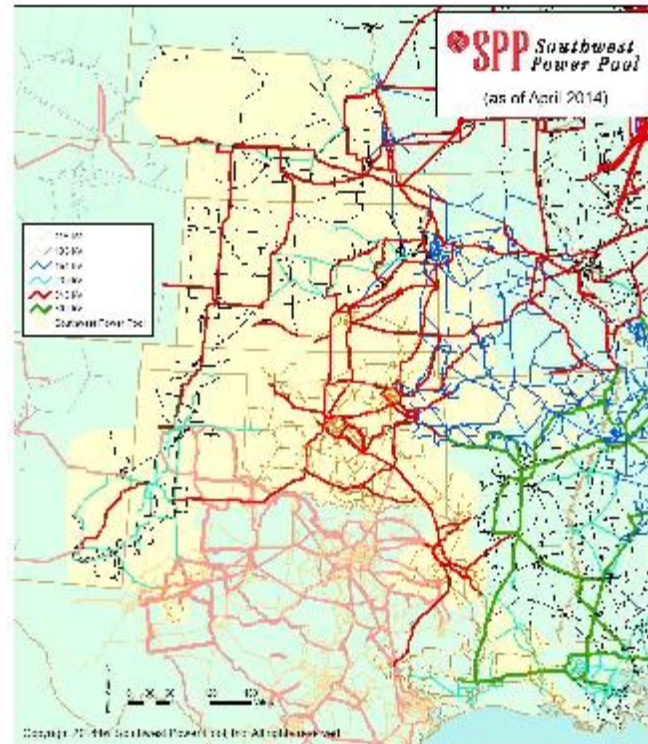
Oklahoma

Texas

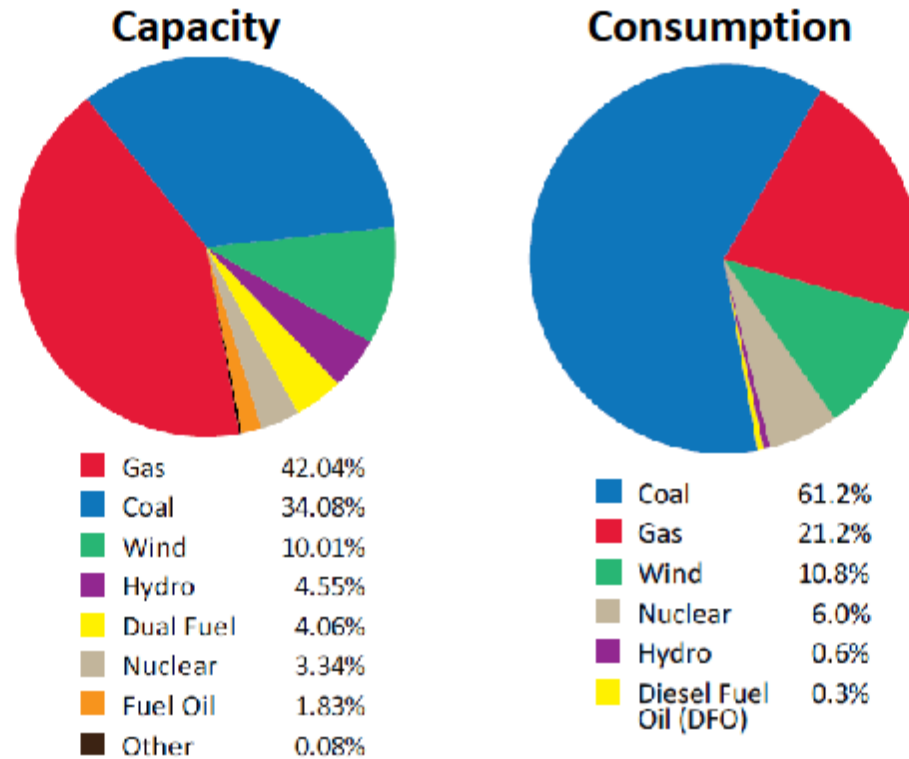


Operating Region

- 370,000 miles of service territory
- More than 15 million people
- 627 generating plants
- 4,103 substations
- 48,930 miles transmission:
 - 69 kV – 12,569 miles
 - 115 kV – 10,239 miles
 - 138 kV – 9,691 miles
 - 161 kV – 5,049 miles
 - 230 kV – 3,889 miles
 - 345 kV – 7,401 miles
 - 500 kV – 93 miles



2013 Energy Capacity and Consumption



12% annual planning capacity requirement

Market Facts

- 102 participants
- 627 generating resources
- 2013 EIS transactions = \$1.29 billion
(Integrated Marketplace went live March 1, 2014)
- 46.3 GW coincident peak load
- 1,563 MW wholesale demand response



Transmission Facts

- In 2013, SPP members completed 101 transmission projects totaling more than \$586 million
- More than \$7.7 billion in transmission grid upgrades were planned and approved in the 2000-14 planning cycles
- 48,930 miles of transmission lines in SPP's footprint would circle the earth — almost twice!



Consumer Impact

- **SPP cost = 67.5¢ of \$100 residential utility bill**
- **Cost to typical residential customer for \$1 billion of incremental transmission is ~\$1.34 per month**
- **2005 independent analysis by Charles River Associates:**
 - \$500,000 cost-benefit study
 - On behalf of state regulatory commissions
 - 270% ROI for SPP services during the next 10 years





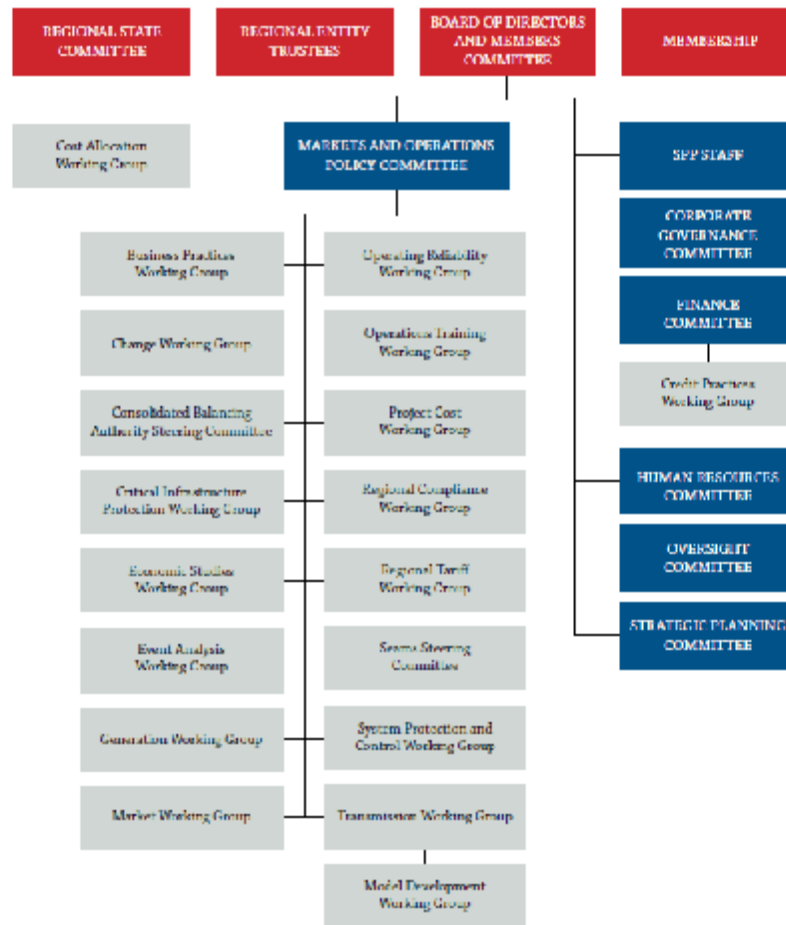
Our Major Services

- Facilitation
- Reliability Coordination
- Transmission Service/
Tariff Administration
- Market Operation
- Standards Setting
- Compliance Enforcement
- Transmission Planning
- Training
- Balancing Authority

Our Approach

- Regional
- Independent
- Cost-effective
- Focus on reliability

Facilitation



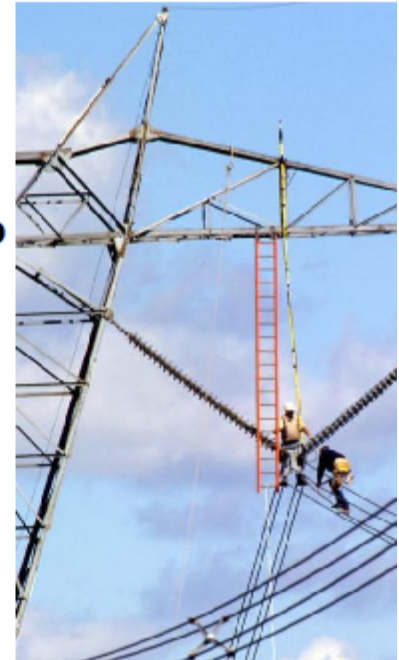
Transmission planners consider:

- What parts of grid need strengthening to “keep the lights on”?
 - Redundancies necessary to account for a line being out
- Where are current and future generations located?
- Where are electricity consumers located?
- Where on the grid do we frequently see congestion (more traffic than roads can accommodate)?
- Will laws mandating more renewable energy or a carbon tax impact traffic?
- How do coal/gas prices impact traffic?
 - People will use more coal if gas prices rise, and vice versa
- How do regional temperatures impact traffic?
 - If temperature differs across region, one area may need more energy



How does SPP decide what and where transmission is needed?

- **Integrated Transmission Planning process**
- **Generation Interconnection Studies**
 - Determines transmission upgrades needed to connect new generation to electric grid
- **Aggregate Transmission Service Studies**
 - Determines transmission upgrades needed to transmit energy from new generation to load
 - Shares costs of studies and new transmission
- **Specific transmission studies**



Integrated Transmission Planning: Economics and Reliability Analysis



ITP20

- Develops 345 kV+ backbone for 20-year horizon
- Studies broad range of possible futures



ITP10

- Analyzes transmission system for 10-year horizon
- Establishes timing of ITP20 projects



ITPNT

- Annual Near-Term plan
- Reliability is primary focus
- Identifies potential problems and needed upgrades
- Coordinates with ITP10, ITP20, Aggregate and Generation Interconnection study processes

SPP – Cost Allocation

What role do state regulators play?

- **Regional State Committee — Retail regulatory commissioners from:**

Arkansas

Nebraska

Oklahoma

Kansas

New Mexico

Texas

Missouri

Louisiana maintains active observer status

- **Primary responsibility for:**
 - Cost allocation for transmission upgrades
 - Approach for regional resource adequacy
 - Allocation of transmission rights in SPP's markets





RSC and Cost Allocation for Reliability Projects

- **By May 2004 the RSC began to see transmission expansion and cost allocation in two phases**
 - First phase was base plan funding for reliability projects
 - Second phase was funding for supplemental economic projects
- **In November 2004, the RSC adopted Base Plan Funding which regionally allocated 33% of the costs of reliability projects**
- **The RSC, CAWG and stakeholders next began to discuss cost allocation of economic projects**



RSC and Cost Allocation for Economic Projects

- The 2005 SPP Strategic Plan encouraged the development of a funding plan for upgrades for economic benefits
- The first step towards addressing funding economic projects were sponsored projects
 - With “sponsored projects”, costs were directly assigned to sponsors who receive credits from use of the facility
 - This approach was presented to the RSC in October 2006 and approved in January 2007



RSC and Cost Allocation – Balanced Portfolio

- **In January 2007, the CAWG presented the RSC with initial thoughts on an alternative for funding economic projects**
 - **Move from a project-by-project approach to developing a portfolio of economic projects**
- **In its January 2008 meeting the RSC approved a draft concepts paper on the balanced portfolio**
- **The Balanced Portfolio of projects was approved by the RSC in April 2009**
 - **Costs were regionally allocated with benefit/costs of each zone being “balanced”**



Highway/Byway





- The development of the Highway/Byway was an outcome of the SPPT report and reflects months of analysis by SPP, the RSC and stakeholders
- The H/B regionalizes the cost allocation of regionally-focused transmission solutions
- Until the development of the H/B methodology, the focus of planning was on local, reliability based transmission solutions
- There was a recognition that transmission solutions should be developed that met the needs of the region for the future



Highway/Byway

- The H/B methodology reflects the principle that large scale, EHV facilities tend to provide benefits across a wider region, while smaller facilities benefit more discrete areas within that region.
- The H/B represented a significant shift from evaluating projects based on project type to evaluating projects based on the operating voltage of the facility

Who pays for transmission?

Type	 Reliability "Base Plan Funding"	 Sponsored	 Economic "Balanced Portfolio"	 Highway/ Byway
Funded	33% / 67%	Directly assigned w/ revenue credits	"Postage Stamp" for 345 kV projects with balancing transfers	Postage Stamp
Reason	Criteria or Designated Resource	Sponsor(s) nominate projects	Aggregate and Individual Transmission Owner Benefits / Cost ≥ 1	ITP projects
Effective	2005	2005 & 2008	2008	2010
RSC Vote	Unanimous	Unanimous	Unanimous	6-1*

Highway/Byway

Voltage	Paid for by Region	Paid for by Local Zone
300 kV and above	100%	0%
above 100 kV and below 300 kV	33%	67%
100 kV and below	0%	100%



Reasonableness of H/B

- In order to evaluate the reasonableness of allocating costs of lower voltage facilities to the local zone and the allocation of costs of higher voltage facilities regionally SPP performed two analyses
- A Transmission Distribution Analysis was performed to determine which types of facilities are used mostly for regional flows and which types of facilities are used more at the local level.
- An Injection Withdrawal Transmission Utilization Analysis was completed to estimate the proportion of local utilization versus other utilization of EHV facilities in the SPP Region.

RCAR Benefit Metrics	Calculated in RCAR I	Calculated in RCAR II	RCAR I Approximate Benefit (\$M)*
Adjusted Production Cost (APC)	✓	✓	\$3,020
Emission Rates and Values	✓	✓	(Included in APC)
Ancillary Service Needs and Production Costs	✓	✓	(Included in APC)
Benefits of Mandated Reliability Projects	✓	✓	\$2,475
Increased Wheeling Through and Out Revenues		✓	\$540
Mitigation of Transmission Outage Costs	✓	✓	\$340
Marginal Energy Losses Benefits		✓	\$332
Benefits from Meeting Public Policy Goals	✓	✓	\$296
Capacity Cost Savings due to Reduced On-Peak Transmission Losses	✓	✓	\$155
Avoided or Delayed Reliability Projects	✓	✓	\$97

MOPC & SPP Board Approved

SPP Board Approved

*These are approximations of 40-year NPV benefit, and are based primarily on RCAR I results. RCAR II results may differ.