BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

In the Matter of the Establishment of a Working Case Regarding the Membership of Missouri's Investor-owned Electric Utilities in Regional Transmission Organizations	))))	File No. EW-2021-0104

EVERGY MISSOURI METRO'S AND EVERGY MISSOURI WEST'S
RESPONSE TO ORDER DIRECTING RESPONSE

COMES NOW, Evergy Metro, Inc. d/b/a Evergy Missouri Metro ("Evergy Missouri Metro") and Evergy Missouri West, Inc. d/b/a Evergy Missouri West ("Evergy Missouri West") (collectively, "Evergy" or the "Company"),[1] and, pursuant to the Missouri Public Service Commission's ("Commission") *Order Directing Response* ("Order") issued in the above-captioned docket on July 25, 2022 responds as follows:

1. On October 14, 2020, the Commission issued its *Establishment of a Working Case Regarding the Membership of Missouri's Investor-Owned Electric Utilities in Regional Transmission Organizations, ("RTO")* to determine whether continued membership in an RTO is in the ratepayers' best interest. The Commission directed the Missouri Public Service Commission's Staff ("Staff") to investigate and file its report by June 30, 2021.

2. On December 21, 2020 the Commission issued an Order directing the investor-owned utilities to responds to questions from Staff. Evergy, Union Electric Company, d/b/a Ameren Missouri ("Ameren Missouri"), and The Empire District Electric Company, a Liberty Utilities company ("Liberty") submitted comments in response to the questions posed by Staff on February 16, 2021.

[1] Effective October 7, 2019, Evergy Metro Inc. d/b/a Evergy Missouri Metro adopted the service territory and tariffs of Kansas City Power & Light Company ("KCP&L") and Evergy Missouri West, Inc. d/b/a Evergy Missouri West adopted the service territory and tariffs of KCP&L Greater Missouri Operations Company ("GMO").

3. On June 11, 2021 Staff filed its report summarizing the information provided by the utilities and offering recommendations for further actions.

4. On July 25, 2022 the Commission issued an Order offering electric utilities and other stakeholders an opportunity to respond to the recommendations submitted by Staff in its June 11, 2021 report.

5. Evergy appreciates the opportunity and respectfully submits the following comments in response to the recommendations offered by Staff.

RESPONSES TO RECOMMENDATIONS FROM STAFF:

1. *Staff recommends the Commission order each electric utility to work with its respective RTO to identify the point in time at which the exit fees applicable to a given utility will reflect the most depreciation for existing projects prior to the inclusion of new projects, and file that information in this docket by December 31, 2021.*[2]

RESPONSE: Southwest Power Pool ("SPP") provided Evergy with an updated exit fee estimate on July 29, 2022, **CONFIDENTIAL Exhibit 1 – Evergy Exit Fee Estimate – July 2022,** and Evergy discussed the Staff recommendation with SPP. Based upon SPP's Membership Agreement, **Exhibit 2 – SPP Current Bylaws and Membership Agreement Tariff**, identifying "the point in time at which the exit fees applicable to a given utility will reflect the most depreciation for existing projects prior to the inclusion of new projects" will not provide a definitive basis for timing withdrawal from SPP. As stated in Section 4.2.1.a. of the Membership Agreement, notice of intent to withdraw must state a proposed date for the withdrawal no less than twenty-four (24) months prior to such date. During this two-year notice period prior to a termination of the Membership Agreement, the utility wishing to terminate the Membership Agreement will be obligated for its allocated share of the cost of the facilities that SPP has approved for construction prior to the Termination Date. Until the two years have occurred, there is no way to know what specific projects will be approved for construction. The accumulated

[2] See, *MPSC Staff Report*, June 11, 2021; Docket No: EW-2021-0104, p. 8.

depreciation for projects already in-service will increase during that minimum two-year period, thereby serving to reduce the utility's withdrawal obligation. On the other hand, new projects likely will be placed in service and additional projects likely will be approved for future construction during that two-year period. Under the Membership Agreement, all of these factors are included in the determination of the withdrawal obligation. Because none of the inputs to the potential withdrawal obligation are static, it is impractical to identify a specific point in the future where the potential withdrawal obligation will be at its lowest. Therefore, the calculation requested by Staff does not result in a clear indication as to when withdrawal obligations will be minimized.

2. *Staff recommends the Commission order each electric utility to provide in this docket, by December 31, 2021, the estimated revenue requirement impact (positive and negative) for each of the next five years of continued RTO participation. Such an estimation shall include an explanation of the level of certainty regarding those estimated revenue requirement impacts, and an identification of which costs and benefits would be flown through the Fuel Adjustment Clause.*[3]

RESPONSE: Evergy does not believe that the cost of the analysis recommended by Staff is warranted given the benefits shown in analyses already available, the cost of performing such a study, and the level of exit fees that would be required if Evergy were to leave SPP (included above). In past filings with the Commission, Evergy has provided the benefits of RTO participation as calculated by SPP in a number of different analyses, more current SPP studies are noted below.

- Current SPP benefit/cost studies with applied load ratio share where applicable:
- The SPP calculated load ratio share of the costs and benefits to the Missouri portion of the SPP footprint, and to EMM and EMW separately, for The Value of Transmission study, **Exhibit 3 - 2021 SPP Value of Transmission Report**.

[3] *Id.*

- The SPP calculated load ratio share of the costs and benefits to the Missouri portion of the SPP footprint, and to EMM and EMW separately, for the SPP Member Value Statement, **Exhibit 4 - 2021 Member Value Study.**
- The Missouri portion of the SPP footprint and EMM and EMW specific cost and benefit results from the Regional Cost Allocation Review III study (this report is currently being finalized by SPP with expected publication in October 2022, the preliminary operational results for RCAR III show significant benefit to cost results for the SPP region and all SPP pricing zones).

In addition to the projection of generation additions and retirements and the addition of transmission over the study period for most of the Eastern Interconnect, any analysis performed to determine the estimated revenue requirement of RTO Participation would need to factor in many RTO specific impacts including:

- Estimated SPP transmission service charges for wind resources not on the Metro/Mo West transmission system (these are charges to be incurred if no longer in SPP);
- Current SPP transmission service revenues received by Metro/Mo West;
- SPP Schedule 1-A fees (SPP Admin costs);
- SPP Schedule 11 fees (Transmission Base Plan Funding costs); and
- SPP Schedule 12 fees (FERC assessment costs).

The level of uncertainty for a five-year projection of all of these items would be significant and in aggregate would significantly diminish the value of the analysis.

Evergy has previously provided that this type of analysis would cost in the range of $500k - $1M to adequately estimate the revenue requirements. In addition to the cost aspect of the study, the time to complete the analysis with model preparation and report development would likely require six months to a year after a Commission decision on the Staff recommendation.

Finally, the Company points to the June 9, 2022, Commission Order[4] granting Ameren Missouri permission to extend indefinitely its participation in MISO, without the preparation of a costly cost-benefit study but created a process to address an event(s) or circumstance(s) in the MISO footprint that significantly effects Ameren Missouri's position in MISO. Similarly, Evergy has been operating in the SPP RTO for a number of years now providing net benefits to customers as previously described and communicated. Given this, the Company supports a similar construct for participation in the SPP, that does not require costly, unnecessary and time-consuming studies and filings every few years, but retains the Commission authority to require further proceedings respecting RTO participation based on an event(s) or circumstance(s) in the SPP footprint that significantly effects Evergy's position in the SPP. As such, there is no need to require utilities to provide the information as requested in Staff's recommendations.

Respectfully Submitted,

/s/ Roger W. Steiner

Roger W. Steiner, MBN 39586
Evergy, Inc.
1200 Main Street
Kansas City, MO 64105
Phone: (816) 556-2791
Fax: (816) 556-2787
roger.steiner@evergy.com

James M. Fischer, MBN 27543
Fischer & Dority, P.C.
101 Madison, Suite 400
Jefferson City, MO 65101
Phone: (573) 353-8647
jfischerpc@aol.com

Attorneys for Evergy Missouri Metro and Evergy Missouri West

[4] See, *Fourth Order Modifying 2012 Report and Order*, effective July 9, 2022; Docket No: EO-2011-0128.

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the above and foregoing document was served upon counsel for all parties on this 25th day of August 2022, by either e-mail or U.S. Mail, postage prepaid.

/s/ Roger W. Steiner

Roger W. Steiner

EXHIBIT 1

CONTAINS CONFIDENTIAL INFORMATION NOT AVAILBLE TO THE PUBLIC.

ORIGINAL FILED UNDER SEAL.

Governing Documents Tariff

Southwest Power Pool
Governing Documents Tariff
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SOUTHWEST POWER POOL, INC.

BYLAWS

First Revised Volume No. 4
Superseding
Original Volume No. 4

Southwest Power Pool Bylaws

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PREAMBLE

The values and principles upon which SPP is incorporated and formed include a commitment to deliver superior services, drive value beyond reliability, build and maintain trusted relationships, achieve collaboratively and engage passionately, and embrace and promote diversity. These values and principles should guide those serving this organization. The Board of Directors will endeavor to ensure equity to all Members while also assuring the continuous adaptation to controlling conditions within these stated values and principles.

1.0 Definitions

Affiliate Relationships

Affiliate Relationships are relationships between SPP Members that have one or more of the following attributes in common:

(a) are subsidiaries of the same company;

(b) one Member is a subsidiary of another Member;

(c) have, through an agency agreement, turned over control of a majority of their generation facilities to another Member;

(d) have, through an agency agreement, turned over control of a majority of their transmission system to another Member, except to the extent that the facilities are turned over to an independent transmission company recognized by FERC;

(e) have an exclusive marketing alliance between Members; or

(f) ownership by one Member of 10% or greater of another Member.

Articles of Incorporation

SPP's articles of incorporation as filed with the state of Arkansas.

Board of Directors

The Board of Directors of SPP, which shall manage the general business of SPP pursuant to these Bylaws.

Bylaws

These bylaws.

Criteria

Planning and operating standards and procedures as approved by the Board of Directors.

ERO

The Electric Reliability Organization under FERC jurisdiction that regulates reliability of the electric power grid.

Existing Obligations

Certain financial obligations as defined in Section 8.7.1 of these Bylaws.

Federal Power Marketing Agency

This term shall include the term “Federal Power Marketing Administration” and have the same definition that is set forth in the Federal Power Act at 16 U.S.C. § 796(19), which defines “Federal power marketing agency” as “any agency or instrumentality of the United States (other than the Tennessee Valley Authority) which sells electric energy[.]”

Federal Power Marketing Agency Amendments

The amendments and revisions to the SPP Bylaws, the SPP Membership Agreement, and Section 39.3 of the OATT that are required by a Federal Power Marketing Agency for membership in SPP at the time of the Federal Power Marketing Agency's initial membership or as they may be revised in the future by mutual agreement between the Federal Power Marketing Agency and SPP.

FERC

The Federal Energy Regulatory Commission or successor organization.

Member

An entity that has met the requirements of Section 2.2 of these Bylaws.

Membership

The collective Members of SPP.

Membership Agreement

The contract, that specifies the rights and obligations of the parties, executed between SPP and an entity seeking to become an SPP member.

NERC

The North American Electric Reliability Corporation or successor organization.

Net Energy for Load

The load served by transmission facilities under the SPP Open Access Transmission Tariff.

OATT

Open Access Transmission Tariff.

Officers

The officers of SPP as elected by the Board of Directors. The Officers consist of the President and the Corporate Secretary, at a minimum. Any Officer must be independent of any Member organization.

Organizational Group

A group, other than the Board of Directors and the Members Committee, comprising a committee or working group that is charged with specific responsibilities toward accomplishing SPP's mission.

Regional Criteria

SPP planning and operating standards and procedures as approved by the Board of Directors.

SPP

Southwest Power Pool, Inc. or successor organization.

Staff

The technical and administrative staff of SPP as hired by the Officers to accomplish SPP's mission.

Terminated Member

An entity that was a Signatory to the Membership Agreement but whose membership in SPP has been terminated under Section 4 of the Membership Agreement.

Transmission Owning Member

A Member that has placed more than 500 miles of non-radial facilities operated at or above 60 kV under the independent administration of SPP for the provision of regional transmission service as set forth in the Membership Agreement.

Transmission Using Member

A Member that does not meet the definition of a Transmission Owning Member.

Western Area Power Administration-Upper Great Plains Region ("Western-UGP")

A division of the Western Area Power Administration that markets and transmits Federal power from reservoir projects under the control of the Department of the Army or the U.S. Bureau of Reclamation to Statutory Load Obligations, including preference power customers in Iowa, Minnesota, Montana, Nebraska, North Dakota, and South Dakota located in a defined marketing area. Western-UGP operates the WAUW Balancing Authority Area in the Western Interconnection, where certain of its transmission facilities are located.

2.0 Membership

2.1 Qualifications

Membership in SPP is voluntary and is open to any electric utility, Federal Power Marketing Agency, transmission service provider, any entity engaged in the business of producing, selling and/or purchasing electric energy for resale, and any entity willing to meet the membership requirements, including execution of the Membership Agreement. Membership also is open to any entity eligible to take service under the SPP OATT. These entities desire the greater efficiency and service reliability gained through better coordination by voluntary association in SPP as constituted herein and in the SPP Articles of Incorporation. Members recognize that such association has a significant effect upon the availability and reliability of the bulk electric power supply of the region, and thereby affects the reliability of the nation's electric power supply.

2.2 Applications

Membership by an entity shall be obtained upon meeting the following requirements:

(a) Meeting membership qualifications;

(b) Providing an application for membership to the SPP President; and

(c) Executing the Membership Agreement and delivering a signed copy to the President.

The President shall review applications, approve those meeting membership qualifications and promptly give written notice of the new Member to all other Members. The Board of Directors will review any disputes arising as to the qualifications of the new Member. Membership will commence at the beginning of the next calendar month following completion of these requirements or some other date as may be mutually agreed upon.

2.3 Member Responsibilities and Obligations

Members recognize that SPP exists and operates for the benefit of the bulk electric transmission system and to ensure the reliability of the nation's power supply. As such, Members are required to act to further these goals by participating in projects, and complying with regulatory requirements. Failure to comply with these provisions will be considered a violation of these Bylaws and the Member may be removed in accordance with the provisions for Removal of Members in the Membership Agreement.

2.4 Termination, Removal and Reinstatement

The Board of Directors may terminate the membership of any Member in accordance with the Membership Agreement. The President shall promptly give written notice of the removal to all other Members. Any former Member seeking to rejoin SPP shall apply to the Board of Directors for reinstatement. In its application for reinstatement, the former Member shall:

(a) provide evidence that it has fully paid any accrued financial obligation to SPP;

(b) demonstrate it has corrected the reason for its removal;

(c) establish that it will be in compliance with SPP membership requirements; and

(d) deliver an executed Membership Agreement to the President.

3.0 Organizational Administration

3.1 Structure

Member input on decision-making shall be accomplished primarily through Membership participation in Organizational Groups. Members are expected to provide representation to Organizational Groups as requested. Unless otherwise provided in these Bylaws, Organizational Group representation will be appointed by the Board of Directors, who shall consider the various types and expertise of Members and their geographic locations, to achieve a widespread and effective representation of the Membership. Organizational Group representation will be reviewed annually for compliance with the Bylaws by the Corporate Governance Committee. The Chair of any Organizational Group may appoint any ad hoc task forces as necessary to fulfill its mission. Task force appointments shall be made with due consideration of the various types and expertise of Members and their geographic locations. Criteria for serving on an Organizational Group will be determined in the group's scope. Except for any full representation group, an appointment to an Organizational Group is for an individual, not a corporate entity. Participation in certain sessions of Organizational Group meetings where market sensitive issues are discussed may be restricted to persons representing entities that have executed ERO's Confidentiality Agreement. Representatives on all Organizational Groups will be documented in the SPP directory maintained by Staff. Organizational Group vacancies will be filled on an interim basis by appointment of the President unless otherwise provided for in these Bylaws.

3.2 Attendance and Proxy

Except for the Markets and Operations Policy Committee (MOPC), if a representative does not attend three consecutive Organizational Group meetings, he/she will be considered to have resigned from the group, absent express waiver of this requirement by the chair of the group. Any appeal of removal from the roster of an Organizational Group should be directed to the Corporate Secretary. Any resulting vacancy will be filled in accordance with Section 3.1 Structure of these Bylaws. If a representative is unable to attend an Organizational Group meeting, he/she may in writing appoint a substitute representative who shall have such rights to participate and vote as the representative specifies. The substitute representative must be another member of the Organizational Group or another person who has the authority to act on behalf of the representative, and must not act as a proxy for more than four members per meeting. A representative must not grant a proxy for more than three consecutive meetings without the express consent of the chair of the Organizational Group. If a representative exceeds the proxy limit, he/she will be considered to have resigned from the Organizational Group and the vacancy will be filled in accordance with these Bylaws; except, in the case of any full representation Organizational Group, in which case a new representative will be solicited from the member company.

A proxy provided to another representative of the Organizational Group will not be recorded as attendance at the meeting and will not serve to meet or maintain the quorum requirements. A proxy provided to another person with the authority to act on behalf of the representative will be recorded as attendance at a meeting for the purpose of meeting or maintaining the quorum requirements.

3.3 Leadership

3.3.1 Appointment

The Chair of all Organizational Groups shall be nominated by the Corporate Governance Committee for consideration and appointment by the Board of Directors. A Vice Chair shall be elected by the members of an Organizational Group, unless provided otherwise in these Bylaws. A Vice Chair shall act for a Chair:

(a) at the request of the Chair;

(b) if the Chair becomes incapacitated and unable to discharge the functions of the position; or

(c) if the position of the Chair becomes vacant, until a new Chair takes office.

3.3.2 Terms

Unless otherwise provided in these Bylaws, the terms of the Chair and Vice Chair of all Organizational Groups reporting to the Board of Directors shall coincide with the two-year term of the Chair of the Board of Directors. The Chair and Vice Chair of all Organizational Groups reporting to the MOPC shall serve two-year terms, with half of such terms expiring in even years and the remainder in odd years, as determined by the Corporate Governance Committee.

3.3.3 Vacancies

Should any individual having been appointed as a Chair of any Organizational Group be unable to serve for the term specified, a replacement shall be appointed by the Chair of the Board of Directors for the unexpired term of office.

3.4 Executive Authority

The Officers shall carry out the rights, duties, and obligations of SPP pursuant to the authority granted by the Board of Directors. Officers will execute the SPP Standards of Conduct upon employment. The Standards of Conduct outline the independence requirements for all employees of SPP. The Officers shall be empowered to:

(a) employ qualified technical and administrative employees;

(b) engage office space;

(c) employ outside technical and special service organizations;

(d) execute contracts;

(e) provide for independent regional reliability coordination, transmission service administration, and other services as may be directed by the Board of Directors;

(f) serve as SPP's representative before regulatory bodies, NERC, and in other public forums;

(g) incur reasonable expenses; and

(h) make Staff resources available to individual Members or groups of Members on a non-firm, non-priority, first-come-first-serve basis so as not to interfere with current or future needs and priorities established by SPP.

3.5 Meetings

Organizational Groups shall meet as necessary. SPP meetings shall be open, however, any Organizational Group may limit attendance at a meeting by an affirmative vote of the Organizational Group as necessary to safeguard confidentiality of sensitive information, including but not limited to Order 889 Code of Conduct requirements, personnel, financial, or legal matters. Unless otherwise agreed to by the Organizational Group, representatives shall be given at least fifteen business days' written notice of the date, time, place and purpose of each regular or special meeting. Telephone or web conference meetings may be called as appropriate by the Chair of any Organizational Group with at least one business day's prior notice. For purposes of this Section 3.5, a Federal holiday is not a business day.

3.6 Order of Business

The latest edition of Robert's Rules of Order will generally govern all SPP meetings on any point not specifically covered in these Bylaws.

3.7 Expenses

The expenses of a representative participating in the activities of SPP Organizational Groups and task forces shall be borne by that representative.

3.8 Quorum

The quorum for a meeting of the Markets and Operations Policy Committee or the Membership shall be those Members participating, whether in person or remotely by telephone, web conference, or similar technology, or represented by proxy. The quorum for any other Organizational Group or task force shall be one-half of the representatives thereof, but not less than three representatives; provided, that a lesser number may adjourn the meeting to a later time. The quorum for a meeting must be established and maintained throughout the meeting in order for the Organizational Group to take any binding action(s). Notwithstanding the above, any actions taken before a quorum is lost are considered valid and binding.

3.9 Voting

3.9.1 Markets and Operations Policy Committee and Membership

Upon joining, Members shall be assigned to one of two Membership sectors for the sole purpose of voting on matters before the Markets and Operations Policy Committee or the Membership: Transmission Owning Members, or Transmission Using Members. Each sector votes separately with the result for that sector being a percent of approving votes to the total number of Members voting. An action is approved if the average of these two percentages is at least 66%. If no Members are participating within a sector, the single participating sector-voting ratio will determine approval. Unless otherwise stated in these Bylaws, the Markets and Operations Policy Committee or the Membership may determine to vote on an issue by email. The outcome of any email vote must be recorded in the minutes for the group.

3.9.2 Organizational Groups and Task Forces

Each representative of an Organizational Group or task force shall have one vote. A simple majority of participants, whether participating in person or remotely by telephone, web conference, or similar technology, or represented by proxy and voting shall be required for approval of an action for all other Organizational Group and task force action(s). Unless otherwise stated in these Bylaws, an Organizational Group or task force may determine to vote on an issue by email. The outcome of any email vote must be recorded in the minutes for the group.

3.10 Appeal

Should any Member or group of Members disagree on an action taken or recommended by any Organizational Group, such Member(s) may, upon written request to the Corporate Secretary, appeal and submit an alternate recommendation to the Board of Directors prior to the next regularly scheduled Board of Directors meeting following such Organizational Group action or inaction.

3.11 Staff Independence and Support

Employees shall not be an employee, director, consultant or contractor of, and shall have no interest in any Third Party, or any of its Affiliates, which shall be deemed to include ownership (outside of a mutual fund, blind trust, or similar arrangement as permitted herein) by an employee or his/her immediate family members of Prohibited Securities.

For purposes of this section:

"Affiliates" include any two or more entities of which one controls the other or they are under common control. "Control" shall mean the possession, directly or indirectly, of the power to direct the management or policies of an entity. Ownership of publicly-traded equity securities of another entity shall not result in control or affiliation for purposes of these standards if the securities are held as an investment, the holder owns (in its name or via intermediaries) less than 10% of the outstanding securities of the entity, the holder does not have representation on the entity's board of directors (or equivalent managing entity) or vice versa, and the holder does not in fact exercise influence over day-to-day management decisions. Unless the contrary is demonstrated to the satisfaction of the Corporate Governance Committee, control shall be presumed to arise from the ownership of or the power to vote, directly or indirectly, 10% or more of the voting securities of such entity.

"Immediate family members" include spouses, minor children, or any person for whom the employee has power of attorney or guardianship rights.

"Prohibited Securities" include the securities of a Third Party that has been engaged or qualified to engage in activities or transactions under the SPP OATT in the previous 12 months or the securities of its Affiliates, if:

(a) the primary business purpose of the Third Party, or its Affiliates, is to buy, sell or schedule energy, power, capacity, ancillary services or transmission services as indicated by an industry code within the "Electric Power Generation, Transmission, and Distribution" industry group under the North American Industry Classification System (NAICS) or otherwise determined by SPP;

(b) the Third Party has been pre-qualified as eligible to be a Qualified RFP Participant pursuant to Attachment Y to the SPP OATT;

(c) the total (gross) financial settlements regarding the use of transmission capacity of the Transmission System and/or transactions in the centralized markets that SPP administers under the SPP OATT for all Third Parties affiliated with the publicly-traded entity at issue during its most recently completed fiscal year is equal to or greater than 0.5% of its gross revenues for the same time period; or

(d) the total (gross) financial settlements regarding the use of transmission capacity of the Transmission System and/or transactions in the centralized markets that SPP administers under the SPP OATT for all Third Parties affiliated with the publicly-traded entity at issue during the prior calendar year is equal to or greater than 3% of the total transactions for which the Integrated Marketplace Counterparty is a counterparty pursuant to Attachment AE to the SPP OATT for the same time period.

"Securities" shall mean negotiable or non-negotiable investment of financing instruments that can be sold and bought. Securities include bonds, stocks, debentures, notes, and options.

"Third Party" shall mean a Member; a customer of services provided by SPP under the SPP OATT or any other tariff that SPP administers; an entity for which SPP provides services under contract, including, but not limited to, tariff administration services; or an entity that has been pre-qualified as eligible to be a Qualified RFP Participant pursuant to Attachment Y to the SPP OATT.

If an SPP employee owns Prohibited Securities, he/she must dispose of them within six months of:

(a) the commencement of employment at SPP;

(b) notification of a new Third Party conducting business with SPP; or

(c) the date of receipt of a gift or inheritance or other taking of legal control of those Prohibited Securities.

SPP employees may indirectly own publicly-traded Prohibited Securities through a mutual fund, blind trust, or similar arrangement under which the SPP employee does not control the purchase or sale of such Prohibited Securities, except for any fund or

arrangement specifically targeted towards the electric utility industry, or any segments thereof.

SPP will maintain a listing of Third Party entities and publicly-traded Prohibited Securities for SPP employees' reference.

Staff members will be required to execute the SPP Standards of Conduct upon employment and annually thereafter. The Standards of Conduct outline the independence requirements for employees of SPP. The President shall assign to each Organizational Group a Staff member, who shall attend all meetings and act as secretary to the Organizational Group and any ad hoc task forces of that group. Staff secretaries of all Organizational Groups and task forces shall be non-voting. Minutes shall be kept of pertinent discussion, business transacted, decisions reached, and actions taken at each meeting of SPP Organizational Groups or task forces by the secretary. Minutes shall be published within seven calendar days following a meeting but in any event in advance of the next meeting, and considered final documents upon their approval by the Organizational Group or task force.

3.12 Publications and Databases

SPP shall publish and distribute reports as necessary to fulfill the SPP mission. SPP shall also develop and maintain electronic databases of relevant technical information. The release of member-specific proprietary information will be governed by the appropriate SPP governing document (the OATT, the Membership Agreement, the Bylaws, the SPP Criteria) and/or a properly executed confidentiality agreement. Standard publications and standard forms of non-proprietary information will be made available at no charge.

3.13 Dispute Resolution

These procedures are established for the equitable, efficient and expeditious resolution of disputes. These procedures are intended to cover disputes between any two or more Members, between Members and consenting non-members, or between SPP and any Member(s) or consenting non-member(s). SPP and Members are strongly encouraged to take part in the complete process herein described prior to litigation or the utilization of other dispute resolution processes. SPP administrative involvement in the proceeding is to coordinate with an appropriate firm or panel to facilitate the resolution of the dispute and to provide meeting coordination and facilities. These procedures do not apply to disputes that are covered by the dispute resolution procedures of the SPP OATT.

3.13.1 Instigation

Any Member may begin these dispute resolution procedures by making a request in writing to the President. The President will inform the Board of Directors of the initiation of any dispute resolution proceedings. This written request must contain the authorized signatures of all parties to the dispute. The request must contain:

(a) a statement of the issues in dispute;

(b) the positions of each of the parties relating to each of the issues;

(c) the specific dispute resolution procedure desired; and

(d) any agreed-upon modifications or specific additions to the proceedings described in these Bylaws by which the dispute may be resolved.

3.13.2 Dispute Resolution Process

In the event SPP is a party to the dispute, the parties shall engage a firm specializing in alternative dispute resolution to administer the dispute resolution process. The firm will be mutually determined by the parties and the process will be administered in accordance with these Bylaws and such other SPP governing documents as may be relevant to the proceeding. In the event the parties cannot mutually agree to the engagement of a firm, the dispute resolution process will be abandoned and other available means for resolution will be pursued.

In the event SPP is not a party to the dispute, the parties to the dispute may engage a firm specializing in alternative dispute resolution to administer the dispute resolution process. The firm will be mutually determined by the parties and the process will be administered in accordance with these Bylaws and such other SPP governing documents as may be relevant to the proceeding. In the event the parties cannot mutually agree to the engagement of a firm, and do not determine some other mutually acceptable procedure, the President of SPP shall provide to each party to the dispute a list of candidates to be used in forming a three-person dispute resolution panel. The candidates shall be persons meeting the requirements for directors. The President shall then call a telephone or web conference meeting during which each party shall alternate striking names from the list until those remaining constitute the dispute resolution panel. This panel shall select a chair from its membership. Should any candidate decline to serve or resign from a current appointment for any reason, the candidate whose name was last struck from the list shall be contacted to serve. The President shall assign a Staff representative to assist the panel as secretary. The President shall manage the panel selection process to ensure its timely completion.

3.13.3 Dispute Resolution Procedures

The types of proceedings available for the resolution of disputes are:

(a) An advisory proceeding to assist each party through discussion and advice, on a separate and individual basis without active participation in the joint discussions and negotiations, to resolve the dispute informally by mutual agreement;

(b) A mediation proceeding to assist the parties through active participation in the joint discussions and negotiations (including specific recommendations of the issues in dispute) through which the parties indirectly attempt to resolve the dispute informally by mutual agreement;

(c) A non-binding dispute resolution proceeding to hear formal evidence on factual matters related to the issues submitted, make written findings and conclusions of fact, and issue specific written recommendations for resolution of each issue in dispute.

(d) A binding dispute resolution proceeding to hear formal evidence on factual matters related to the issues submitted, make written findings and conclusions of fact, and issue directives and awards for resolution of each issue in dispute.

The panel chair shall determine meeting arrangements and format necessary to efficiently expedite the resolution of the dispute, and the Staff secretary shall notify the parties of these details. Each party to the dispute must have at least one representative participating at all related meetings with full authority to resolve the dispute. Upon conclusion of this process, the panel chair shall notify the President of its outcome. After consultation with the parties to the dispute and the panel chair to determine the completion of the process as described herein, and/or as modified by the parties, the President shall discharge the panel, and notify the Board of Directors of the results. The parties to the dispute agree to complete the process within ninety calendar days from selection of the panel. Final determinations may be subject to corporate or regulatory approvals, which the parties should disclose at the outset of the process. The Staff secretary shall maintain minutes of the panel meetings, which shall become part of SPP's historical records.

3.13.4 Expenses

The parties to the dispute shall share equally all reasonable charges for the meeting location, administrative costs, and related travel expenses of panel members. The parties to the dispute shall also share equally all reasonable compensation for time and service of panel members and related incremental expenses of the Staff. The President shall determine reasonableness of time and service costs for panel members prior to process implementation. The Staff secretary shall account for these expenses. Each party to the dispute shall be responsible for their respective associated expenses.

3.13.5 Liability

The parties to any dispute which is the subject of these dispute resolution procedures shall hold harmless SPP, its Members, Organizational Groups and each of their directors, officers, agents, employees or other representatives, and

the panel members from any liabilities, claims, or damages resulting from any agreement or lack of agreement as a result of the dispute resolution proceedings. The foregoing hold harmless right shall not be extended to the parties to any given dispute or to their directors, officers, agents, employees or other representatives.

3.14 Meeting of Members

The Chair of the Board of Directors shall convene and preside over meetings of Members for the purpose of electing directors and Members Committee representatives to positions becoming vacant in the ensuing year, and any other necessary business. The Membership shall meet at least once per calendar year.

3.15 Liability, Insurance and Indemnification

For purposes of this section "SPP" refers to SPP and its officers, directors, employees or agents, and "Member" refers to the Members of SPP as defined in these Bylaws. None of the provisions of this section, including the waiver of liability in Section 3.15.1 below, absolving SPP or its Members, directors, officers, agents, employees or other representatives of liability or any provisions for insurance or indemnification apply to actions which are unlawful, undertaken in bad faith, or are the result of gross negligence or willful misconduct.

3.15.1 Waiver of Liability

(a) SPP shall not be liable to any Member for damages arising out of or related to any directive, order, procedure, action, or requirement of SPP, under the then effective Bylaws and Criteria.

(b) No Member shall be liable to any other Member or to SPP for damages arising out of or related to any action by the Member pursuant to any directive, order, procedure, action or requirement of SPP, under the then effective Bylaws and Criteria.

(c) Each Member waives any future claim it might have against SPP or other Members arising out of or resulting from any directive, order, procedure, action or requirement of SPP, under the then effective Bylaws and Criteria.

(d) SPP waives any future claim it might have against any Member arising out of or resulting from any actions taken by a Member pursuant to any directive, order, procedure, action or requirement of SPP, under the then effective Bylaws and Criteria.

3.15.2 Insurance

The President is authorized to procure insurance to protect SPP, its directors, officers, agents, employees, or other representatives against damages arising out of or related to any directive, order, procedure, action or requirement of SPP, under the then effective Bylaws and Criteria or pursuant to the OATT.

3.15.3 Indemnification of Directors, Officers, Agents and Employees

Except for actions which are unlawful, undertaken in bad faith, or are the result of gross negligence or willful misconduct, SPP shall indemnify its directors, officers, agents, employees, or other representatives to the maximum extent allowed by law consistent with these Bylaws. Each director, officer, agent, employee, or other representative of SPP shall be indemnified by SPP against all judgments, penalties, fines, settlements, and reasonable expenses, including legal fees, incurred as a result of, or in connection with, any threatened, pending or completed civil, criminal, administrative, or investigative proceedings to which the incumbent may be made a party by reason of acting or having acted in official capacity as a director, officer, agent, employee, or representative of SPP, or in any other capacity which the incumbent may hold at the request of SPP, as its representative in any other organization, subject to the following conditions:

(a) Such director, officer, agent, employee, or other representative must have acted in good faith and, in the case of criminal proceedings, must have had no reasonable cause to believe that conduct was unlawful; provided, that SPP shall not provide indemnification of any conduct judged unlawful in criminal proceedings. When acting in official capacity, the incumbent must have reasonably believed that conduct was in the best interests of SPP, and, when acting in any other capacity, must have reasonably believed that conduct was at least not opposed to the best interests of SPP.

(b) If the proceeding was brought by or on behalf of SPP, however, indemnification shall be made only with respect to reasonable expenses referenced above. No indemnification of any kind shall be made in any such proceeding in which the director, officer, agent, employee, or other representative shall have been adjudged liable to SPP.

(c) In no event, however, will indemnification be made with respect to any described proceeding which charges or alleges improper

personal benefit to a director, officer, agent, employee, or other representative and where liability is imposed on the basis of the receipt of such improper personal benefit.

(d) In order for any director, agent, employee, or other representative to receive indemnification under this provision, the person shall vigorously assert and pursue any and all defenses to those claims, charges, or proceedings covered herein which are reasonable and legally available and shall fully cooperate with SPP or any attorneys involved in the defense of any such claim, charges, or proceedings on behalf of SPP.

(e) No indemnification shall be made in any specific instance until it has been determined by SPP that indemnification is permissible in that specific case, under the standards set forth herein and that any expenses claimed or to be incurred are reasonable. These two (2) determinations shall be made by a majority vote of at least a quorum of the Board of Directors consisting solely of directors who were not parties to the proceeding for which indemnification or reimbursement of expenses is claimed. If such a quorum cannot be obtained, a majority of at least a quorum of the full Board of Directors, including directors who are parties to said proceeding, shall designate a special legal counsel who shall make said determinations on behalf of SPP.

(f) Any reasonable expenses, as shall be determined above, that have been incurred by a director, officer, agent, employee, or other representative who has been made a party to a proceeding as defined herein, may be paid or reimbursed in advance upon a majority vote of a quorum of the full Board of Directors, including those who may be a party to the same proceeding. However, such director, officer, agent, employee, or other representative shall have provided SPP with (i) a written affirmation under oath that the incumbent, in good faith, believes the conditions of

indemnification herein have been met; and (ii) a written undertaking that the incumbent shall repay any amounts advanced, with interest accumulated at a reasonable rate, if it is ultimately determined that such conditions are not met.

3.15.4 Limitations

The provisions of this section 3.15 are subject to applicable state and Federal laws, if any, which limit the ability of a Member to waive liability or enter into agreements of indemnity. Any benefits under this Section 3.15 shall not extend to any Member so limited by state or Federal law in complying with the provisions thereof.

3.15.5 Modification of Rights by Agreement

Any provision of this Section 3.15.1 may be waived or modified by express written agreement between SPP and Member. Such express written agreement shall apply solely to the subject matter of the agreement and is not intended to be a general waiver or modification of the rights provided in Section 3.15.1.

3.15.6 Procedural Rights Not Affected

The limitations of liability provided in Section 3.15.1 shall not affect any procedural rights or obligation a Member may have at law or equity.

3.16 Compliance with Membership Requirements

Compliance monitoring of Members and Staff shall be performed to ensure compliance with all requirements of Membership. Other monitoring functions shall be provided by appropriate Staff under the oversight of the Oversight Committee and the Board of Directors. Compliance monitoring shall be an after-the-fact investigative and assessment function. Monitoring functions shall include but are not limited to:

(a) Investigation of all reports or discoveries of non-compliance with approved Bylaws, Regional Criteria, OATT, and agreements between SPP and its Members;

(b) Obtaining all information needed to investigate all facets of possible non-compliance with Membership requirements;

(c) Performance of in-depth reviews of operations in order to investigate non-compliance with Membership requirements upon approval from the Oversight Committee;

(d) Comprehensive audits when recurring issues covering a broad spectrum of violations of Membership requirements are determined and documented;

(e) Imposition of financial penalties and/or sanctions for non-compliance associated with the results of investigations or audits pursuant to approved standards, policies and/or Criteria;

(f) Confirmation that SPP is conforming to its own Regional Criteria, OATT, business practices, and reliability operations in a manner that does not stifle the efficiency of the energy markets;

(g) Utilization of dispute resolution procedures as necessary to resolve conflicts or appeals; and

(h) Coordination of policy modifications to clearly define requirements and penalties in order to objectively monitor compliance with Membership requirements.

3.17 Market Monitoring

SPP shall establish and provide appropriate support to a market monitoring function in accordance with its OATT. Market monitoring functions shall be carried out in a manner consistent with the safe and reliable operation of the SPP transmission system, the operation of a robust, competitive and non-discriminatory electric power market, and the principle that a Market Participant as defined in the SPP OATT, or group of Market Participants, shall not have undue influence or impact.

The market monitoring unit shall report to the Board of Directors, except that any management representatives on the Board of Directors are excluded from oversight of the internal market monitor. Any public reports submitted shall be provided to the Board of Directors and concurrently to Commission staff, staff of interested state commissions, SPP management, and the market participants. The President shall ensure that the market monitoring entity has adequate resources, access to information, and the full cooperation of Staff and Organizational Groups for the effective execution of its duties.

Market monitoring functions shall include those duties as delineated and approved in SPP's OATT.

4.0 Board of Directors

4.1 Duties

The Board of Directors shall at all times act in the best interest of SPP in its management, control and direction of the general business of SPP. The Board of Directors shall solicit and consider a straw vote from the Members Committee as an indication of the level of consensus among Members in advance of taking any actions other than those occurring in executive session. Its duties shall include, but are not limited to the following:

(a) Direct activities of all SPP Organizational Groups;

(b) Serve on SPP Organizational Groups;

(c) Remove Members, and approve the re-entry of Members that have been removed;

(d) Authorize all substantive contracts and debt instruments;

(e) Select and review the performance of SPP Officers, who shall serve at the pleasure of the Board of Directors;

(f) Approve policies by which positions, duties, qualifications, salaries, benefits and other necessary matters pertaining to the SPP Officers are determined;

(g) Review, approve, disapprove or recommend revision to the actions of any Organizational Group;

(h) Act on appeals pursuant to Section 3.10;

(i) Approve and implement Regional Criteria for enforcement under the terms and conditions of the SPP Membership Agreement;

(j) Approve or revise the operating and capital budgets and any additional expenditures;

(k) Convene a meeting of Members at least annually;

(l) Approve amendments to these Bylaws as permitted by these Bylaws;

(m) Approve amendments to the Membership Agreement as permitted by the Membership Agreement;

(n) Approve Regional Criteria pertaining to planning and operating standards and policies and penalties for non-compliance with such Criteria;

(o) Authorize filings with regulatory bodies; and

(p) Authorize the formation, activities of and dissolution of SPP-recognized stakeholder groups that are not defined as SPP Organizational Groups, including without limitation, user groups and advisory groups.

4.2 Composition and Qualifications

4.2.1 Composition

The Board of Directors shall consist of up to ten persons, but no less than seven persons. The directors shall be independent of any Member; one director shall be the President of SPP. A director shall not be limited in the number of terms he/she may serve. The President shall be excluded from voting on business related to the office of President or the incumbent of that office. No other Staff member shall be permitted to serve as a director.

4.2.2 Qualifications

Directors shall have recent and relevant senior management expertise and experience in one or more of the following disciplines: finance, accounting, electric transmission or generation planning or operation, law and regulation, commercial markets, and trading and associated risk management.

4.2.3 Conflicts of Interest

Directors shall not be an employee, director, consultant or contractor of, and shall have no interest in any Third Party, or any of its Affiliates, which shall be deemed to include ownership (outside of a mutual fund, blind trust, or similar arrangement as permitted herein) by a director or his/her immediate family members of Prohibited Securities.

For purposes of this section:

"Affiliates" include any two or more entities of which one controls the other or they are under common control. "Control" shall mean the possession, directly or indirectly, of the power to direct the management or policies of an entity. Ownership of publicly-traded equity securities of another entity shall not result in control or affiliation for purposes of these standards if the securities are held as an investment, the holder owns (in its name or via intermediaries) less than 10% of the outstanding securities of the entity, the holder does not have representation on the entity's board of directors (or equivalent managing entity) or vice versa, and the holder does not in fact exercise influence over day-to-day management decisions. Unless the contrary is demonstrated to the satisfaction of the Corporate

Governance Committee, control shall be presumed to arise from the ownership of or the power to vote, directly or indirectly, 10% or more of the voting securities of such entity.

"Immediate family members" include spouses, minor children, or any person for whom the director has power of attorney or guardianship rights.

"Prohibited Securities" include the securities of a Third Party that has been engaged or qualified to engage in activities or transactions under the SPP OATT in the previous 12 months or the securities of its Affiliates, if:

(a) the primary business purpose of the Third Party, or its Affiliates, is to buy, sell or schedule energy, power, capacity, ancillary services or transmission services as indicated by an industry code within the "Electric Power Generation, Transmission, and Distribution" industry group under the North American Industry Classification System (NAICS) or otherwise determined by SPP;

(b) the Third Party has been pre-qualified as eligible to be a Qualified RFP Participant pursuant to Attachment Y to the SPP OATT;

(c) the total (gross) financial settlements regarding the use of transmission capacity of the Transmission System and/or transactions in the centralized markets that SPP administers under the SPP OATT for all Third Parties affiliated with the publicly-traded entity at issue during its most recently completed fiscal year is equal to or greater than 0.5% of its gross revenues for the same time period; or

(d) the total (gross) financial settlements regarding the use of transmission capacity of the Transmission System and/or transactions in the centralized markets that SPP administers under the SPP OATT for all Third Parties affiliated with the publicly-traded entity at issue during the prior calendar year is equal to or greater than 3% of the total transactions for which the Integrated Marketplace Counterparty is a counterparty pursuant to Attachment AE to the SPP OATT for the same time period.

"Securities" shall mean negotiable or non-negotiable investment of financing instruments that can be sold and bought. Securities include bonds, stocks, debentures, notes, and options.

"Third Party" shall mean a Member; a customer of services provided by SPP under the SPP OATT or any other tariff that SPP administers; an entity for which SPP provides services under contract, including, but not limited to, tariff administration services; or an entity that has been pre-qualified as eligible to be a Qualified RFP Participant pursuant to Attachment Y to the SPP OATT.

If an SPP director owns Prohibited Securities, he/she must dispose of them within six months of:

(a) the commencement of engagement at SPP;

(b) notification of a new Third Party conducting business with SPP; or

(c) the date of receipt of a gift or inheritance or other taking of legal control of those Prohibited Securities.

SPP directors may indirectly own publicly-traded Prohibited Securities through a mutual fund, blind trust, or similar arrangement under which the SPP director does not control the purchase or sale of such Prohibited Securities, except for any fund or arrangement specifically targeted towards the electric utility industry, or any segments thereof.

SPP will maintain a listing of Third Party entities and publicly-traded Prohibited Securities for SPP directors' reference.

4.3 Term and Election

Except for the President, a director shall be elected at the meeting of Members to a three-year term commencing upon election and continuing until his/her duly elected successor takes office. The election process shall be as follows:

(a) At least ninety calendar days prior to the meeting of Members when election of new directors is required, the Corporate Governance Committee shall commence the process to nominate persons equal in number to the directors to be elected;

(b) At least forty-five calendar days prior to the meeting of Members, the Corporate Governance Committee shall determine the persons it nominates for election as directors, specifying the nominee for any vacancy to be filled. The Corporate Secretary shall prepare the ballot accordingly and shall deliver same to Members at least thirty calendar days prior to the meeting of Members;

(c) For purposes of electing or removing directors only, each group of Members with Affiliate Relationships shall be considered a single Member;

(d) Any additional nominee(s) may be added to the ballot specifying the nominee(s) to a single seat or multiple seats if a petition is received by the Corporate Secretary at least fifteen calendar days prior to the meeting of Members and evidencing support of at least 20% of the existing Membership; and

(e) 1) If only one candidate is nominated for a seat, each Member shall be entitled to cast a vote by written ballot, whether in person or remotely by email or other reliable electronic means, for or against the nominee. The votes will be calculated in accordance with Section 3.9.1 of these Bylaws, which requires a super majority. In the event a director position is not filled, the Corporate Governance Committee will determine a new nominee for recommendation for election by the Membership at a special

meeting of Members to be held no later than the next regular Board of Directors/Members Committee meeting;

2) If multiple candidates are nominated for a seat, each Member shall be entitled to cast a vote by written ballot, whether in person or remotely by email or other reliable electronic means, for only one nominee, but may vote against each candidate. The votes will be calculated in accordance with Section 3.9.1 of these Bylaws, with the exception that a simple majority of votes cast will determine which nominee is elected. In the event a director position is not filled, the Corporate Governance Committee will determine a new nominee for recommendation for election by the Membership at a special meeting of Members to be held no later than the next regular Board of Directors/Members Committee meeting.

4.4 Resignation and Removal of External Directors

Any external director may resign by written notice to the President noting the effective date of the resignation. The Membership may remove an external director with cause by vote in accordance with Section 3.9.1 of these Bylaws. Removal proceedings may only be initiated by a petition signed by not less than 20% of the Members. The petition shall state the specific grounds for removal and shall specify whether the removal vote is to be taken at a special meeting of Members or at the next regular meeting of Members. An external director who is the subject of removal proceedings shall be given fifteen calendar days to respond to the Member petition in writing to the President.

4.5 Vacancies

If a vacancy occurs, the Corporate Governance Committee will present a nominee to the Membership for consideration and election to fill the vacancy for the unexpired term at a special meeting of Members following thirty calendar days' notice from the Corporate Secretary. The election will be held in accordance with Section 4.3 Term and Election of these Bylaws. The replacement director shall take office immediately upon election.

4.6 Functioning of the Board of Directors

In reaching any decision and in considering the recommendations of any Organizational Group or task force, the Board of Directors shall abide by the principles in these Bylaws.

4.6.1 Meetings and Notice of Meetings

The Board of Directors shall meet at least three times per calendar year and additionally upon the call of the Chair or upon concurrence of at least a majority of directors. At least fifteen calendar days' written notice shall be given by the President to each director, the Members Committee, and the Regional State Committee of the date, time, place and purpose of a meeting of the Board of Directors, unless such notice is waived by the Board of Directors. Telephone or web conference meetings may be called as appropriate by the Chair with at least one business day's prior notice. For purposes of this Section 4.6.1, a Federal holiday is not a business day. Board of Directors' meetings shall include the Members Committee and a representative from the Regional State Committee (as defined in Section 7.2) for all meetings except when in executive session; provided however, the failure of representatives of the Members Committee and/or of the Regional State Committee to attend, in whole or in part, shall not prevent the Board of Directors from convening and conducting business, and taking binding votes. The Chair shall grant any Member's request to address the Board of Directors.

4.6.2 Chair and Vice Chair; Election and Terms

The Board of Directors shall elect from its membership a Chair and Vice Chair for two-year terms commencing upon election and continuing until their duly elected successors take office or until their term as a director expires without re-election. The President of SPP may not serve as the Chairman of the Board of Directors. The Vice Chair shall act for the Chair:

(a) at the request of the Chair;

(b) in the event the Chair should become incapacitated and unable to discharge the functions of the office; or

(c) if the office of Chair becomes vacant, until the next regularly scheduled meeting of the Board of Directors, at which meeting a new Chair shall be elected by the Board of Directors to fill the vacancy. The Chair shall appoint a director to fill a vacant Vice Chair position until the next meeting of the Board of Directors, at which meeting a new Vice Chair shall be elected by the Board of Directors to fill the vacancy.

4.6.3 Quorum and Voting

A majority plus one of the directors shall constitute a quorum of the Board of Directors; provided, that a lesser number may adjourn the meeting to a later time. Decisions of the Board of Directors shall be by simple majority vote of the directors participating, whether in person or remotely by telephone, web conference, or similar technology, and voting. Directors must be participating at a meeting to vote; no votes by proxy are permitted. Voting will be by secret ballot submitted either in person or remotely by email or other reliable electronic means. The Corporate Secretary will collect and tally the ballots, and announce the results of a vote. Only voting results will be announced and recorded in the minutes; individual votes will not be announced or recorded.

4.6.4 Compensation of Directors

Directors shall receive compensation as recommended by the Corporate Governance Committee, and approved by the Membership, and shall be reimbursed for actual expenses reasonably incurred or accrued in the performance of their duties.

4.6.5 Executive Session

Executive sessions (open only to directors and to parties invited by the Chair) shall be held as necessary upon agreement of the Board of Directors to safeguard confidentiality of sensitive information.

5.0 Committees Advising the Board of Directors

5.1 Members Committee

The Members Committee shall work with the Board of Directors to manage and direct the general business of SPP. Its duties shall include, but are not limited to the following:

(a) Provide individual and collective input to the Board of Directors, including but not limited to a straw vote from the Members Committee representatives as an indication of the level of consensus among Members, on all actions pending before the Board of Directors; and

(b) Serve on committees reporting to the Board of Directors as appointed by the Board of Directors.

5.1.1 Composition and Qualifications

5.1.1.1 Composition

Provided that Membership is sufficient to accommodate these provisions, the Members Committee shall consist of up to twenty-four persons. Six representatives shall be investor owned utilities Members; five representatives shall be cooperatives Members; two representatives shall be municipals Members (including municipal joint action agencies); three representatives shall be independent power producers/marketers Members; two representatives shall be state power agencies Members; one representative shall be a Federal Power Marketing Agency Member; two representatives shall be alternative power/public interest Members; one representative shall be an independent transmission company Member, defined as having assets under the SPP OATT and no Affiliate Relationships in other categories of Membership; one representative shall be a large retail customer Member, defined as non-residential end-use customers with individual or aggregated loads of one megawatt (MW) or more; and one representative shall be a small retail customer Member, defined as residential customers and other customers with individual or aggregated loads of less than one MW. Representatives will be elected in accordance with Section 5.1.2 of these Bylaws.

5.1.1.2 Qualifications

A representative shall be an officer or employee of a Member with decision-making responsibility over SPP related activities, and must be the Member's representative to the Membership.

5.1.2 Term and Election

Representatives shall be nominated by the Corporate Governance Committee and elected each year at the meeting of Members to staggered three-year terms commencing upon election and continuing until their duly elected successors take office. The election process shall be as follows:

(a) At least ninety calendar days prior to the meeting of Members at which election of new representatives is required, the Corporate Governance Committee shall nominate persons equal in number to the representatives to be elected;

(b) At least thirty calendar days prior to the meeting of Members, the Corporate Governance Committee shall determine the persons it nominates for election as representatives, specifying the nominee for any vacancy to be filled. The Corporate Secretary shall prepare the ballot accordingly, leaving space for additional names, and shall deliver same to Members at least twenty-one calendar days prior to the meeting of Members;

(c) For purposes of electing and removing representatives only, each group of Members with Affiliate Relationships shall be considered a single vote;

(d) At the meeting of Members, any additional nominee or nominees may be added to the ballot specifying the nominee or nominees to a single seat or multiple seats if a motion is made and seconded by Members to add such nominee or nominees, provided that written notification of the Member’s intent to make such motion has been provided to the Corporate Secretary at least fourteen calendar days in advance of the meeting of Members, and the Corporate Secretary shall provide written notice to Members of such additional nominee or nominees seven calendar days prior to the meeting of Members; and

(e) The required number of representatives shall be elected by written ballot submitted either in person or remotely by email or other reliable electronic means. A Member shall be entitled to cast a number of votes equal to the number of representatives to be elected; provided however, a Member may not combine its votes toward a single nominee. The nominee for each open seat receiving the greatest number of votes will be elected.

5.1.3 Resignation and Removal of Members Committee Representatives

Any representative may resign by written notice to the President noting the effective date of the resignation. A representative may be removed, with cause, by the affirmative vote of a majority of the Members at a meeting of Members. Removal proceedings may only be initiated by a petition signed by not less than twenty percent of the Members. The petition shall state the specific grounds for removal and shall specify whether the removal vote is to be taken at a special meeting of Members or at the next regular meeting of Members. A representative who is the subject of removal proceedings shall be given fifteen days to respond to the Member petition in writing to the President.

5.1.4 Vacancies

If a vacancy occurs the Corporate Governance Committee may elect an interim representative from the same sector to serve until a replacement representative from the same sector is elected and takes office. A special election conducted in accordance with Section 5.1.2 shall be held at the next meeting of Members to fill the vacancy for the unexpired term. The replacement representative shall take office immediately following the election.

5.1.5 Meetings

The Members Committee shall meet only with the Board of Directors.

6.0 Committees Reporting to the Board of Directors

This section describes the general scopes and responsibilities of the Organizational Groups reporting directly to the Board of Directors. Nothing in this section is meant to limit these responsibilities or activities in the effort to fulfill SPP's mission.

6.1 Markets and Operations Policy Committee

The Markets and Operations Policy Committee (MOPC) is responsible, through its designated Organizational Groups, for developing and recommending policies and procedures related to the technical operations for the company in accordance with its scope as approved by the Board of Directors.

Each SPP Member shall appoint a representative to the MOPC. Each representative designated shall be an officer or employee of the Member. The Board of Directors will appoint the Chair and Vice Chair of the MOPC. Each member of the MOPC may continue to be a member thereof until the appropriate Member appoints a successor.

The MOPC shall meet at least three times per calendar year, and additionally as needed. The MOPC shall report to the Board of Directors following each MOPC meeting with respect to its activities and with such recommendations, as the MOPC deems necessary.

6.2 Strategic Planning Committee

The Strategic Planning Committee (SPC) is responsible for the development and recommendation of strategic direction for the company in accordance with its scope as approved by the Board of Directors.

The SPC shall be comprised of up to fourteen members. Up to four representatives, but no less than three representatives, shall be from the Board of Directors which shall include the President of SPP; five representatives from the Transmission Owning Member sector as nominated by the Corporate Governance Committee; and five representatives from the Transmission Using Member sector as nominated by the Corporate Governance Committee.

The Board of Directors shall appoint the representatives of the SPC. The Chair and the Vice Chair shall be representatives from the Board of Directors as determined by the Board of Directors. Each representative of the SPC shall continue to be a representative thereof until the Board of Directors appoints his/her successor. Where a vacancy occurs, the Corporate Governance Committee will fill the vacancy on an interim basis until the next meeting of the Board of Directors.

The SPC shall meet at least twice per calendar year, and additionally as needed, provided that a quorum, as defined in these Bylaws, is present. The SPC shall report to the Board of Directors following each SPC meeting with respect to its activities and with such recommendations, as the SPC deems necessary.

6.3 Human Resources Committee

The Human Resources Committee (HRC) is responsible for the development of personnel policies, including benefits structures, for the company in accordance with its scope as approved by the Board of Directors.

The HRC shall be comprised of at least six members and up to nine members with equal representation from SPP's Board of Directors, Tranmission Owning Members and Transmission Using Members. Two or three representatives shall be from the Board of Directors, one of whom shall serve as the Chair and the other as Vice Chair; two or three representatives from the Transmission Owning Member sector as nominated by the Corporate Governance Committee; and two or three representatives from the Transmission Using Member sector as nominated by the Corporate Governance Committee. The President of SPP shall not serve on the HRC.

The Board of Directors shall appoint the representatives of the HRC. Each representative of the HRC shall continue to be a representative thereof until the Board of Directors appoints his/her successor. Where a vacancy occurs the Corporate Governance Committee will fill the vacancy on an interim basis until the next meeting of the Board of Directors.

The HRC shall meet at least twice per calendar year, and additionally as needed, provided that a quorum, as defined in these Bylaws, is present. The HRC shall report to the Board of Directors following each HRC meeting with respect to its activities and with such recommendations, as the HRC deems necessary.

6.4 Oversight Committee

The Oversight Committee (OC) is responsible for monitoring compliance with SPP and regulatory policies for the company in accordance with its scope as approved by the Board of Directors.

The OC shall be comprised of up to five, but no less than three, members from the Board of Directors. The President of SPP shall not serve on the OC.

The Board of Directors shall appoint the representatives of the OC, including the Chair and the Vice Chair. Each representative of the OC shall continue to be a representative thereof until the Board of Directors appoints his/her successor. Where a vacancy occurs, the Board of Directors will fill the vacancy.

The OC shall meet as needed, provided that a quorum, as defined in these Bylaws, is present. The OC shall report to the Board of Directors following each OC meeting with respect to its activities and with such recommendations, as the OC deems necessary.

6.5 Finance Committee

The Finance Committee (FC) is responsible for all aspects of financial operations and risk management for the company in accordance with its scope as approved by the Board of Directors.

The FC shall be comprised of at least six members and up to nine members with equal representation from SPP's Board of Directors, Transmission Owning Members and Transmission Using Members. Two or three representatives shall be from the Board of Directors, one of whom shall serve as the Chair and the other as Vice Chair; two or three representatives from the Transmission Owning Member sector as nominated by the Corporate Governance Committee; and two or three representatives from the Transmission Using Member sector as nominated by the Corporate Governance Committee. The President of SPP shall not serve on the FC.

The Board of Directors shall appoint the representatives of the FC. Each representative of the FC shall continue to be a representative thereof until the Board of Directors appoints his/her successor. Where a vacancy occurs the Corporate Governance Committee will fill the vacancy on an interim basis until the next meeting of the Board of Directors.

The FC shall meet at least twice per calendar year, and additionally as needed, provided that a quorum, as defined in these Bylaws, is present. The FC shall report to the Board of Directors following each FC meeting with respect to its activities and with such recommendations, as the FC deems necessary.

6.6 Corporate Governance Committee

The Corporate Governance Committee (CGC) is responsible for the overall governance structure, including nominations, for the company in accordance with its scope as approved by the Board of Directors.

To the extent that the membership allows, the CGC shall be comprised of eleven members. One representative shall be the President of SPP who will serve as the Chair or Vice Chair as determined by the Board of Directors; one representative shall be the Chairman of the Board who will serve as Chair or Vice Chair as determined by the Board of Directors, unless his/her position is under consideration, in which case the Vice Chairman of the Board shall serve; one representative shall be representative of and selected by investor owned utilities Members; one representative shall be representative of and selected by co-operatives Members; one representative shall be representative of and selected by municipals Members; one representative shall be representative of and selected by independent power producers/marketers Members; one representative shall be representative of and selected by state power agencies Members; one representative shall be representative of and selected by alternative power/public interest Members; one representative shall be from an independent transmission company Member, defined as having assets under the SPP OATT and no Affiliate Relationships in other categories of Membership; one representative shall be representative of and selected by large/small retail Members; and one representative shall be representative of and selected by Federal Power Marketing Agency Members.

Where a vacancy occurs with respect to a representative of a sector, the representatives from the appropriate sector will fill the vacancy. For purposes of selecting or removing representatives only, each group of Members with Affiliate Relationships shall be considered a single Member.

The CGC shall meet at least once per calendar year, and additionally as needed, provided that a quorum, as defined in these Bylaws, is present. The CGC shall report to the Board of Directors following each CGC meeting with respect to its activities and with such recommendations, as the CGC deems necessary.

7.0 Regulatory Involvement and Regional State Committee

Any regulatory agency having utility rates or services jurisdiction over a Member may participate fully in all SPP activities, including participation at the SPP Board of Directors meetings. These representatives shall have all the same rights as Members except the right to vote. Participation includes the designation of representatives by each of the regulatory jurisdictions to participate in any type of committee, working group, task force, and Board of Directors meetings.

7.1 Retention of State Regulatory Jurisdiction

Nothing in the formation or operation of SPP as a FERC-recognized regional transmission organization is in any way intended to diminish existing state regulatory jurisdiction and authority. Each state regulatory agency is expressly reserved the right to exercise all lawful means available to protect its existing jurisdiction and authority.

7.2 Regional State Committee

A Regional State Committee (RSC), to be comprised of one designated commissioner from each state regulatory commission having jurisdiction over an SPP Member, shall be established to provide both direction and input on all matters pertinent to the participation of the Members in SPP. This direction and input shall be provided within the context of SPP's Organizational Group meetings as well as Board of Directors meetings. Staff will assist the RSC in its collective responsibilities and requests by providing information and analysis. SPP will fund the costs of the RSC pursuant to an annual budget developed by the RSC and submitted to SPP as part of its budgeting process, which budget must ultimately be approved by the Board of Directors.

The RSC has primary responsibility for determining regional proposals and the transition process in the following areas:

(a) whether and to what extent participant funding will be used for transmission enhancements;

(b) whether license plate or postage stamp rates will be used for the regional access charge;

(c) financial transmission rights (FTR) allocation, where a locational price methodology is used; and

(d) the transition mechanism to be used to assure that existing firm customers receive FTRs equivalent to the customers' existing firm rights.

The RSC will also determine the approach for resource adequacy across the entire region. In addition, with respect to transmission planning, the RSC will determine whether transmission upgrades for remote resources will be included in the regional transmission planning process and the role of transmission owners in proposing transmission upgrades in the regional planning process.

As the RSC reaches decisions on the methodology that will be used to address any of these issues, SPP will file this methodology pursuant to Section 205 of the Federal Power Act. However, nothing in this section prohibits SPP from filing its own related proposal(s) pursuant to Section 205 of the Federal Power Act.

7.3 Retention of Other Regulatory Jurisdiction

Nothing in the formation or operation of SPP as a FERC-recognized regional transmission organization is in any way intended to diminish the jurisdiction or authority of any other regulatory body. Any regulatory agency having utility rates or services jurisdiction over a Member or the regional transmission organization reserves the right to exercise all lawful means available to protect its existing jurisdiction and authority.

8.0 Fiscal Administration

The fiscal year shall coincide with the calendar year.

8.1 Operating Budget

Staff and the Finance Committee will prepare an annual budget of expenditures for the next fiscal year and an estimate for an additional two years. The proposed budget shall be submitted to the Board of Directors not less than two weeks prior to the meeting at which the budget is to be considered for approval. Once approved by the Board of Directors, the budget shall constitute the authority required by the Officers for expenditures for the ensuing year. Modifications to the budget during the fiscal year must be recommended to the Board of Directors by the Finance Committee. The President shall have the authority to approve expenditures in accordance with SPP policy as approved by the Board of Directors.

8.2 Annual Membership Fee

All SPP Members will be subject to an annual membership fee in the amount of $6,000, or other amount established by the Board of Directors. Unless otherwise agreed, Membership fees for new Members are due at the execution of the Membership Agreement. Membership fees are not subject to refund. The Board of Directors shall determine the annual membership fee for the upcoming year in advance of the last meeting of Members in a calendar year. Legitimate public interest groups (e.g. consumer advocates, environmental groups, or citizen participation groups) may seek a waiver of the annual membership fee. The request for waiver must be directed to the President in writing ninety calendar days in advance of the start of each fiscal year. If granted, the waiver will remain in place, subject to an annual review of the legitimate public interest by the Board of Directors.

8.3 Reserved for Future Use

8.4 Monthly Assessments

SPP will assess certain Members described herein on a monthly basis all costs not otherwise collected. Costs recovered under the assessment will include but are not limited to all operating costs, financing costs, debt repayment, and capital expenditures associated with the performance of SPP's functions as assigned by the Board of Directors. Significant among these are costs associated with regional reliability coordination and the provision of transmission service. SPP shall determine the assessment rate based on its annual budgeted net expenditures divided by estimated annual Schedule 1 billing units for service sold under SPP's OATT and Member load eligible to take, but not taking, Network Integration Transmission Service under SPP's OATT. The Board of Directors may review the assumptions used in determining the assessment rate at any time and may adjust the assessment rate appropriately should conditions warrant. The monthly assessment shall be assessed on each Member for the portion of their Member load eligible for service but not currently taking Network Integration Transmission Service or Point-To-Point Transmission Service under the SPP OATT. The intent is that each Member be obligated to pay, at a minimum, the amount due under its monthly assessment as calculated above. This amount shall be paid through the monthly assessment and/or Schedule 1-A.

8.5 Fiscal Agent

The President shall serve as the fiscal agent of SPP. The President shall keep an up-to-date record of receipts and disbursements and furnish reports to the Board of Directors and the Finance Committee.

8.6 Auditors

The Board of Directors shall annually engage an independent certified public accounting firm to perform an annual audit of SPP's financial records and prepare a report on the financial condition of SPP. The Finance Committee shall present the audit report to the Board of Directors upon completion.

8.7 Financial Obligation of Withdrawing Members

8.7.1 Existing Obligations

"Existing Obligations" shall be defined in accordance with Section 4.3.2 of the Membership Agreement.

8.7.2 Computation of a Transmission Owner Member's Existing Obligations

For purposes of computing the Existing Obligations of any withdrawing or terminated Transmission Owner Member in accordance with Sections 4.3.2(b)-(f) of the Membership Agreement, such "Member's share" is a percentage calculated as follows:

$$A = 100\,[0.25(1/N) + 0.75(B/C)]$$

Where: A = Member's share (expressed as a percentage)

N = Total number of Transmission Owner Members that are subject to Sections 4.3.2(b)-(f) of the Membership Agreement

B = The previous year Net Energy for Load connected to transmission facilities of Transmission Owner Member, including any such load of other load serving entities

C = Total of factor B for all Transmission Owner Members that are subject to Sections 4.3.2(b)-(f) of the Membership Agreement

The Finance Committee shall have the discretion to reduce the Existing Obligations of any withdrawing or Terminated Member or of any Member submitting a notification of Partial Termination pursuant to Section 4.2.1(c) of the Membership Agreement, to reflect any SPP costs or expenses that may be mitigated in connection with such Member's withdrawal, termination, or Partial Termination. In the event of consolidation of affiliate memberships or the transfer of membership from one corporate entity to another, whereby one entity remains a member of SPP, the withdrawal obligation for the departing company(ies) may be waived at SPP's sole discretion.

8.7.3 Financial Obligations for Transmission Facilities

To the extent that Section 4.3.3A of the Membership Agreement is applicable, a Terminated Member and a Member submitting a notice of Partial Termination pursuant to Section 4.2.1(c) of the Membership Agreement shall remain financially responsible for all financial obligations incurred and costs allocated to its load for transmission facilities approved prior to the Termination Date.

8.7.4 Penalty Costs

A Terminated Member and a Member submitting a notice of Partial Termination pursuant to Section 4.2.1(c) of the Membership Agreement shall remain liable for its share of costs associated with penalties assessed against SPP by FERC, the FERC-approved Electric Reliability Organization, any Electric Reliability Organization-approved Regional Entity, or any other governmental or regulatory authority with jurisdiction over SPP that SPP incurs as a result of events that occurred prior to Member's Termination Date but that SPP is unable to recover under the SPP OATT.

8.7.5 Limitation on Financial and Penalty Obligations

(a) Notwithstanding the delineation of Members' financial obligations in Section 8.7, a Federal Power Marketing Agency shall not be subject to the financial obligations listed in this Section 8.7 in the event FERC finds that SPP has not adhered to all of the Federal Power Marketing Agency Amendments as that term is defined in Section 1.0 of these Bylaws or if SPP files and FERC approves material changes to the Federal Power Marketing Agency Amendments.

(b) Provided further, notwithstanding any language to the contrary in these Bylaws, a Federal Power Marketing Agency has not waived or conceded any defense it may have, including sovereign immunity, intergovernmental immunity, or lack of subject matter jurisdiction in any action against it by an Enforcement Authority, nor has it accepted any liability, responsibility, or obligation to pay any civil monetary penalties or fines imposed by an Enforcement Authority to which it would not have been subject in the absence of these Bylaws. SPP, in accepting Western-

UGP as a member, does not thereby concede or accept responsibility for any portion of a penalty or fine attributable to the actions or omissions of Western-UGP. SPP will identify the amount of any penalty or fine that SPP allocates to Western-UGP or that SPP determines is attributable to Western-UGP and will identify that amount to FERC as uncollectable and not otherwise owed by SPP. Enforcement Authority in these Bylaws means the Federal Energy Regulatory Commission (FERC), Electric Reliability Organization (ERO), or Regional Entities with enforcement authority pursuant to a delegation from an ERO or FERC for the purpose of proposing and enforcing reliability standards.

9.0 Reserved for Future Use

10.0 Amendments to These Bylaws and the Articles of Incorporation

Except for modifications to Section 4.0 BOARD OF DIRECTORS, Section 5.0 COMMITTEES ADVISING THE BOARD OF DIRECTORS, Section 8.7.5 LIMITATION ON FINANCIAL AND PENALTY OBLIGATIONS, and Section 10.0 AMENDMENTS, these Bylaws may be amended, repealed, or added to by the Board of Directors only upon thirty calendar days written notice to the Membership of the proposed modification(s). Approval of amendments to the Bylaws by the Board of Directors must be by an affirmative vote of a majority plus one of directors. Sections 4.0, 5.0, 8.7.5, and 10.0 of these Bylaws and the Articles of Incorporation may be amended, repealed, or added to only by approval of the Membership. Provided, that all changes to Federal Power Marketing Agency representation in Section 5.1.1 and any change to Section 8.7.5 must be mutually agreed to by the Federal Power Marketing Agency Member(s) and SPP. All amendments are subject to the requisite regulatory approval(s).

11.0 Effective Date and Transition Provisions

These Bylaws shall become effective the day following acceptance at FERC and remain in force thereafter as may be amended. These Bylaws hereby cancel and supersede SPP Bylaws; provided, that these Bylaws do not relieve any Member from any financial obligation incurred thereunder. Binding obligations entered into by authority of Officers or the Board of Directors under these Bylaws are hereby assumed and confirmed as obligations of SPP under these Bylaws.

MEMBERSHIP AGREEMENT

TABLE OF CONTENTS

This Agreement is made between the Member and SPP, as defined herein.

1.0 Definitions

Agreement
This Membership Agreement.

Basin Electric Amendments
The amendments and revisions to the SPP OATT, to Basin Electric Power Cooperative's ("Basin Electric's") Network Integration Transmission Service Agreement, or to Basin Electric's Network Operating Agreement necessary for Basin Electric's initial SPP membership or as they may be revised in the future by agreement between Basin Electric and SPP.

Board of Directors
The Board of Directors elected pursuant to the Bylaws.

Bylaws
SPP's Bylaws or any successor document.

Distribution Facilities
Facilities that are the subject of a separate distribution charge pursuant to the Open Access Transmission Tariff.

Eastern Interconnection
One of the three major alternating-current electrical grids in North America. The Eastern Interconnection reaches from Central Canada eastward to the Atlantic coast (excluding Quebec), south to Florida, and back west to the foot of the Rockies (excluding most of Texas).

Effective Date
This Agreement is effective on January 1, 2000 or upon the date of execution by Member if after January 1, 2000.

Electric Transmission System
The transmission facilities subject to SPP's tariff administration, except for any Distribution Facilities.

Existing Obligations
Shall have the meaning given in Section 4.3.2(b).

Federal Power Marketing Agency
This term shall include the term "Federal Power Marketing Administration" and have the same definition that is set forth in the Federal Power Act at 16 U.S.C. § 796(19), which defines "Federal power marketing agency" as "any agency or instrumentality of the United States (other than the Tennessee Valley Authority) which sells electric energy[.]"

Federal Power Marketing Agency Amendments
The amendments and revisions to the SPP Bylaws, the SPP Membership Agreement, and Section 39.3 of the OATT that are required by a Federal Power Marketing Agency for initial SPP membership or as they may be revised in the future by mutual agreement between a Federal Power Marketing Agency and SPP.

Federal Power-Western-UGP
All capacity and energy generated at reservoir projects under the control of the Department of the Army or the Bureau of Reclamation in the marketing area of the Western-UGP for the purpose of fulfilling Western-UGP's Statutory Load Obligations for the sale of capacity and energy. This shall also include any capacity and energy delivered to or from Western-UGP under the pre-OATT bi-directional agreement with Southwestern Power Administration through Associated Electric Cooperative, Inc. for delivery and receipt at the Maryville Substation. Western-UGP's deliveries to Southwestern shall be considered part of Western's Statutory Load Obligations, and receipts from Southwestern to Western-UGP will be considered as coming from Federal resources. Federal Power-Western-UGP resources shall be eligible to be considered as Designated Resources.

FERC
The Federal Energy Regulatory Commission or successor organization.

Financial Obligations
Shall have the meaning given in Section 4.3.2(b).

Future Interest
Shall have the meaning given in Section 4.3.2(b).

Good Utility Practice
Any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods, and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety, and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act, to the exclusion of all others, but rather to be a range of acceptable practices, methods, or acts generally accepted in the region. SPP Criteria and NERC Policies and Standards are considered Good Utility Practice.

Heartland Amendments
The amendments and revisions to the SPP OATT, to Heartland Consumers Power District's ("Heartland's") Network Integration Transmission Service Agreement, or to Heartland's Network Operating Agreement necessary for Heartland's initial SPP membership or as they may be revised in the future by agreement between Heartland and SPP.

Load Serving Entity (LSE)
A Member that: (1) is a distribution utility or an electric utility that has a service obligation, where a service obligation, as defined in Section 217(a) of the Federal Power Act, means a

requirement applicable to, or the exercise of authority granted to, an electric utility under Federal, State, or local law or under long-term contracts to provide electric service to end-users or to a distribution utility (as defined in Section 217(a) of the Federal Power Act); and/or (2) secures energy and transmission service (and related Interconnected Operations Services) to serve the electric demand and energy requirements of its end-use customers. A Load Serving Entity may or may not be a Transmission Owner or transmission customer under the OATT.

Member
Signatory to this Agreement that has completed the application requirements pursuant to the Bylaws.

NERC
North American Electric Reliability Corporation or successor organizations.

Non-Load Serving Entity
A Member that is not a Load Serving Entity

Non-Transmission Owner
A Member that is not a Transmission Owner. A Non-Transmission Owner that owns or controls Tariff Facilities will have its status changed to a Transmission Owner under this Agreement upon transfer to SPP of the functional control of Tariff Facilities related to the rates, terms and conditions of the OATT.

Open Access Transmission Tariff (OATT)
The SPP nondiscriminatory, Open-Access Transmission Tariff (OATT) on file with FERC pursuant to Section 205 of the Federal Power Act under which SPP will offer transmission service, or any such successor tariff.

Partial Termination
Shall have the meaning given in Section 4.1.

Regional Entity
An entity having enforcement authority delegated to it by NERC pursuant to a delegation agreement accepted by FERC.

Reliability Coordinator
SPP, in performing its reliability coordinator function as recognized by NERC pursuant to its policies, and pursuant to SPP Criteria and this Agreement.

SPP
Southwest Power Pool, Inc., or successor organization.

SPP Criteria
SPP's approved operating and planning criteria.

SPP Region

The geographic area encompassing the transmission systems of Members that are Transmission Owners.

Standards of Conduct
SPP's Standards of Conduct that apply to the conduct of its directors, officers, employees, contractors, and agents.

Statutory Load Obligations
Western-UGP's power marketing function obligations under Federal law to deliver capacity and energy from the output of the Federal hydroelectric projects operated by the Department of the Army and the Bureau of Reclamation to loads which include project use loads, preference power customer loads defined pursuant to a power marketing plan, and other loads required to be served under Federal law.

Tariff Facilities
The Electric Transmission System and the Distribution Facilities subject to SPP's tariff administration.

Termination
Shall have the meaning given in Section 4.1.

Termination Date
Shall mean the date Termination or Partial Termination is effective in accordance with Section 4.2.2.

Transmission Customer
A customer under the Open Access Transmission Tariff

Terminated Member
An entity that was a Signatory to this Agreement but whose membership in SPP has been terminated under Section 4 of this Agreement.

Transmission Owner
A signatory to this Agreement which: (1) transfers functional control of Tariff Facilities related to the rates, terms and conditions of the OATT to SPP; or (2) appoints SPP under another agreement to provide service under the Transmission Tariff over Tariff Facilities which it owns or controls; or (3) is assigned by SPP to construct and accepts the obligation to construct new Tariff Facilities; or (4) undertakes another Transmission Owner's obligation to construct Tariff Facilities in accordance with Section 3.3 of this Agreement and Attachment O of the SPP OATT.

Upper Missouri Zone ("UMZ")
The Upper Missouri Zone ("UMZ" or "Zone 19") is the rate pricing zone initially consisting of the following facilities that meet the requirements of Attachment AI, upon the transfer of those facilities to the functional control of the Transmission Provider: (i) the facilities of Western-UGP within the Eastern and Western Interconnections; (ii) the facilities owned or leased by Basin Electric Power Cooperative or Heartland Consumers Power District within the Eastern

Interconnection; (iii) a portion of the facilities owned or leased by Basin Electric Power Cooperative within the Western Interconnection; and (iv) other facilities of the Western Area Power Administration transferred to the functional control of the Transmission Provider.

Western Area Power Administration-Upper Great Plains Region ("Western-UGP")
A division of the Western Area Power Administration that markets and transmits Federal power from reservoir projects under the control of the Department of the Army or the U.S. Bureau of Reclamation to Statutory Load Obligations, including preference power customers in Iowa, Minnesota, Montana, Nebraska, North Dakota, and South Dakota located in a defined marketing area. Western-UGP operates the WAUW Balancing Authority Area in the Western Interconnection, where certain of its transmission facilities are located.

Western Interconnection
One of the three major alternating-current electrical grids in North America. The Western Interconnection stretches from Western Canada South to Baja California in Mexico, reaching eastward over the Rockies to the Great Plains.

2.0 Rights, Powers and Obligations of SPP

SPP possesses the rights, powers, and obligations as detailed in this Section 2.

2.1 Operation and Planning

2.1.1 General

(a) SPP shall schedule transactions and administer transmission service over Tariff Facilities as necessary to provide service in accordance with the SPP OATT.

(b) SPP shall function in accordance with Good Utility Practice and shall conform to applicable reliability criteria, policies, standards, rules, regulations, guidelines and other requirements of SPP and NERC, Transmission Owner's specific reliability requirements and operating guidelines (to the extent these are not inconsistent with other requirements specified in this paragraph), and all applicable requirements of Federal and state regulatory authorities.

(c) SPP shall maintain a publicly available registry of all facilities that are not classified as critical energy infrastructure information that constitute the Electric Transmission System.

(d) SPP shall review and approve, as appropriate, requests for service, schedule transmission transactions, and determine available transfer capability under the OATT, provided that SPP shall coordinate with the Transmission Owner when processing requests for service involving its Tariff Facilities.

(e) SPP shall be responsible for coordinating with neighboring regional organizations and/or non-member transmission owners or providers as appropriate.

(f) SPP shall not exercise its administration of transmission service over the Tariff Facilities in such a way as to interfere with contracts between Transmission Owner and any Transmission Customer that are in effect as of the Effective Date of this Agreement except as permitted by the OATT.

(g) SPP shall be responsible for documenting all transmission service requests, the disposition of such requests, and any supporting data required to support the decision with respect to such requests. SPP

shall negotiate as appropriate to develop reciprocal service, equitable tariff application, compensation principles, and any related arrangements.

(h) SPP shall propose and file with FERC pursuant to Section 205 of the Federal Power Act modifications to the OATT and make any other necessary filings subject to approval by the Board of Directors.

(i) SPP shall develop penalties and incentives, subject to FERC filings where appropriate.

(j) SPP shall direct Transmission Owner pursuant to the provisions of Section 3.3 to construct transmission facilities in accordance with coordinated planning criteria, or if necessary under the OATT.

(k) SPP shall have the authority to direct the day-to-day operations of the Tariff Facilities in order to carry out its responsibilities as a Transmission Provider and Reliability Coordinator; provided, however, nothing in this Agreement or the OATT shall be construed to require a change in the physical control of any Tariff Facilities using a Party's existing facilities or equipment.

(l) SPP shall take any actions necessary for it to carry out its duties and responsibilities, subject to receiving any necessary regulatory approvals and any necessary approvals from the Board of Directors.

2.1.2 Reliability

SPP shall have responsibility for reliability of the Electric Transmission System in connection with its rights, powers, and obligations under this Agreement. SPP shall act as the Reliability Coordinator of the Electric Transmission System, and as such, shall have reliability monitoring and emergency response responsibilities pursuant to related SPP Criteria and the following requirements:

(a) SPP shall monitor real-time data to determine whether any control areas are experiencing generation capacity deficiencies. If a

generation capacity deficiency event threatens the security of the Electric Transmission System, SPP is authorized to and shall direct the acquisition of generation capacity and, if that direction is not satisfied, is authorized to and shall direct the shedding of firm load in the deficient control area.

(b) SPP shall work with other reliability coordinators and non-member transmission owners or providers to develop regional reliability plans and emergency operating procedures.

(c) SPP shall maintain emergency response procedures for responding to specified critical contingencies and shall continuously analyze issues that may require the initiation of such actions.

(d) SPP is authorized to and shall direct the response to any emergency and Members shall carry out the required emergency actions as directed by SPP (except in cases involving endangerment to the safety of employees or the public), including the shedding of firm load if required for regional reliability.

(e) After the conclusion of an emergency condition, any affected entity that disagrees with SPP's handling of the emergency may resolve that disagreement pursuant to the dispute resolution procedures in the Bylaws.

(f) SPP shall monitor and coordinate the maintenance of adequate Electric Transmission System voltage levels with control areas and Transmission Owner, where appropriate.

(g) SPP shall direct redispatch of generation in accordance with the OATT and in its role as Reliability Coordinator, subject to the generator receiving appropriate compensation pursuant to an applicable rate schedule.

2.1.3 Transmission Maintenance

SPP is required to approve all planned maintenance of the Electric Transmission System consistent with the following requirements:

(a) SPP shall review planned transmission maintenance schedules submitted by Transmission Owner for a minimum of a rolling one-year period. These planned maintenance schedules shall be updated daily. Planned transmission maintenance requests shall be submitted to SPP at least one week in advance of an outage.

(b) SPP shall analyze a planned transmission maintenance request to determine its effect on available transfer capability, ancillary services, the reliability of the Electric Transmission System, and any other relevant effects. Within two business days of receiving a planned maintenance request, SPP shall provide a response. If SPP's response indicates that such planned transmission maintenance will have an adverse impact, Transmission Owner shall work with SPP to minimize the impact of such planned maintenance, up to and including re-scheduling the maintenance.

(c) SPP shall notify Transmission Owner of the need to change previously reviewed planned transmission maintenance outages if forced transmission outages or other circumstances compromise the integrity or reliability of the Electric Transmission System. If Transmission Owner is fully compensated for any additional costs resulting from any changes in maintenance schedules as provided in an applicable rate schedule, Transmission Owner shall revise maintenance outages to address such emergency circumstances.

(d) As part of its review process, SPP shall identify planned transmission maintenance schedules that limit available transfer capability. If requested by a Transmission Customer, SPP shall identify opportunities and associated costs for rescheduling planned maintenance to enhance available transfer capability. Transmission Owner shall be compensated for the additional costs of rescheduled maintenance as provided in the SPP OATT.

(e) SPP shall be responsible for documenting all planned transmission maintenance requests, the disposition of those requests, and all data supporting the disposition of each request.

(f) SPP shall coordinate with Transmission Owner to the extent practicable to implement schedules for unplanned transmission maintenance when conditions endanger the safety of employees or the public, may result in damage to facilities, or may result in the unsatisfactory operation of its transmission system or any other transmission system.

2.1.4 Generation Maintenance

SPP shall coordinate the maintenance of generating units as appropriate to the extent such generation maintenance directly affects the capacity or reliability of the Electric Transmission System and the generation is located in the SPP Region as follows:

(a) SPP shall review planned generating unit maintenance schedules submitted by generation owners for a minimum of a rolling one-year period. The planned maintenance schedules shall be updated daily. SPP shall keep such information confidential.

(b) SPP shall analyze a planned generating unit maintenance schedule to determine its effect on available transfer capability, ancillary services, the reliability of the Electric Transmission System, and any other relevant effects. SPP shall inform a generation owner if its maintenance schedule is expected to have an impact on the reliability of the Electric Transmission System.

(c) As part of its review process, SPP shall identify generating unit maintenance schedules that limit available transfer capability and shall identify opportunities and associated costs for rescheduling planned maintenance to enhance available transfer capability.

(d) A generation owner that changes planned maintenance at the request of SPP pursuant to this Section 2.1.4 shall be compensated in accordance with the SPP OATT.

(e) SPP shall be responsible for documenting all planned generating unit maintenance schedules, all schedule changes, and all SPP studies and services performed with respect to planned generation maintenance.

2.1.5 Planning Activities

(a) SPP shall engage in such planning activities, in coordination with Member, as are necessary to fulfill its obligations under this Agreement, SPP Criteria and the OATT. Such planning shall conform to applicable reliability requirements of SPP, NERC, Transmission Owner's specific reliability requirements and operating guidelines (to the extent these are not inconsistent with other requirements), and all applicable requirements of Federal or state regulatory authorities. Such planning shall seek to minimize costs, consistent with the reliability and other requirements set forth in this Agreement. The division of responsibility for planning between Member and SPP is set forth in the SPP Criteria.

(b) As part of its planning activities, SPP shall be responsible for planning, and for directing or arranging, necessary transmission expansions, additions, and upgrades that will enable it to provide efficient, reliable and non-discriminatory transmission service and to coordinate such efforts with the appropriate state authorities.

2.2 Non-Discriminatory Transmission Service

SPP shall offer and administer transmission service over Tariff Facilities as specified in the OATT.

2.2.1 Pricing

In connection with its administration of the OATT, SPP on behalf of its Members may propose to FERC such transmission pricing for transmission service as is necessary to fulfill its obligations under this Agreement, and may propose to FERC such changes in prices, pricing methods, terms, and conditions as are necessary to continue to fulfill such obligations. The Board of Directors must approve such filings. The OATT rates shall be designed and administered so as to recover full cost of service to the greatest extent practicable associated with the provision of transmission service under the OATT for Tariff Facilities. Notwithstanding the foregoing, Transmission Owner possesses the right to revise certain rates as provided in Section 3.10 of this Agreement.

2.2.2 Standards of Conduct

SPP, its directors, officers, employees, contractors, and agents shall adhere to the Standards of Conduct.

2.2.3 OASIS

SPP shall administer an Open Access Same-time Information System (OASIS) or successor systems for administration of transmission service. The OASIS, or any successor system, shall conform to the requirements for such systems as specified by FERC.

2.2.4 Ancillary Services

SPP, as part of the OATT, shall facilitate the provision of such ancillary services as are required to be offered by FERC.

2.2.5 Transmission Service Scheduling

(a) SPP shall schedule and curtail transmission service in accordance with the OATT.

(b) SPP shall, in consultation with its Members, develop and from time-to-time amend when necessary, detailed scheduling protocols and procedures for service under the OATT, which shall be provided to all Members and be made publicly available.

2.3 Fiduciary Responsibilities and Duties of SPP to Members

SPP shall have the following fiduciary responsibilities and duties to Member under this Agreement:

(a) Using best efforts to avoid damage to the Tariff Facilities or any other facilities of the Member affected by SPP activities;

(b) Collecting and distributing revenues to Member in accordance with the Transmission Tariff and other SPP documents applicable to the Transmission Tariff and approved by the Members;

(c) Using best efforts to maximize transmission service revenues associated with such transmission services in discounting transmission services in accordance with the Transmission Tariff; and

(d) Using best efforts to promote the design and development of Transmission Tariff rates to assure recovery by Transmission Owner of transmission revenue requirements to the greatest extent practicable and subject to receiving necessary regulatory approvals.

2.4 Additional Obligations of SPP

2.4.1 Inspection and Auditing Procedures

SPP shall grant Member, its employees, agents, or external auditors, and Federal and state regulatory authorities having jurisdiction over SPP or Member, such access to SPP's books, records, business practices, control procedures and required audit test results, and related financial transactions and settlement activities as is necessary to verify compliance by SPP with this Agreement, to audit and verify transactions under this Agreement, and to assist Member in complying with its statutory and regulatory requirements. Such access shall be at reasonable times and under reasonable conditions. SPP shall also comply with the reporting requirements of Federal and state regulatory authorities having jurisdiction over SPP with respect to the business aspects of its operations. Contact between officers, employees, and agents of Member and those of SPP shall comply with the Standards of Conduct.

2.4.2 Stranded Cost Recovery Charges

SPP shall collect and distribute, as appropriate, any stranded cost recovery charges pursuant to applicable schedules accepted by appropriate regulatory entities.

3.0 Commitments, Rights, Powers, and Obligations of Member

Member has made the following commitments, and shall have the following rights and shall be responsible for the following functions, some of which apply only to a Transmission Owner, some only to a Non-Transmission Owner.

(a) Transmission Owner shall transfer functional control related to the rates, terms and conditions of the OATT of its Transmission Facilities, subject to receiving all necessary regulatory authorizations, thereby allowing SPP to (i) direct the operation of the Transmission Facilities in accordance with the terms of this Agreement; (ii) administer transmission service under the Transmission Tariff over that Transmission Owner's Tariff Facilities; and (iii) receive funds from Transmission Customers relating to transmission service over Tariff Facilities and distribute funds to the Transmission Owner. Where Member, owns generators within the SPP Region which directly affect the capacity or reliability of the Electric Transmission System, it shall offer to provide the ancillary services required under the OATT at rates approved by regulatory authorities, where appropriate, to the extent such generators are able to provide such ancillary services.

(b) Transmission Owner shall operate and maintain its Tariff Facilities subject to the requirements of this Agreement.

(c) Where Transmission Owner is a balancing area operator, it shall continue to operate its balancing areas for local generation control and economic dispatch, and shall be responsible for identifying and addressing local problems in a reliable manner.

(d) Transmission Owner shall provide transmission service over its Tariff Facilities at the direction of SPP pursuant to the terms of the OATT.

(e) Member agrees to comply with the instructions of SPP in its role as Reliability Coordinator.

(f) Transmission Owner shall retain all rights of ownership, including legal and equitable title in its Tariff Facilities, subject to the provisions of this Agreement. Transmission Owner, or one acting under its authority, shall retain all rights to

access to its Tariff Facilities so long as such access is consistent with the provisions of this Agreement.

(g) Notwithstanding any other provision in this Agreement, Transmission Owner shall not be obligated or be considered to be allowing transmission over its facilities if such transmission would cause the loss of the tax-exempt status of Transmission Owner or any bonds or other debt of Transmission Owner.

(h) Notwithstanding any other provisions of this Agreement, Member reserves the right to exercise operational authority of Member's Tariff Facilities (1) to protect public safety and the safety of its workers, to prevent damage to equipment, and to preserve reliability in compliance with NERC standards, and (2) as necessary to preserve Member's rights, duties and obligations regarding electric service to its retail and wholesale native load customers pursuant to any applicable Federal or state law and consistent with NERC standards, if SPP's exercise of operational authority over the Tariff Facilities would endanger said electric service or is contrary to or would curtail, surrender or delegate such Federal or state law rights, duties and obligations. Member will, as soon as reasonably practicable thereafter, notify SPP of such actions taken by Member. Member and SPP will meet and confer regarding the matter and, as necessary, negotiate in good faith to modify the Agreement to address the matter.

3.1 Redispatch and Curtailment

Where Member owns or controls generation, it shall follow the instructions of SPP in its role as Reliability Coordinator in redispatching generation if such generation directly affects the reliability and capability of the Electric Transmission System and is located within the SPP Region. Member shall follow the instructions of SPP in its role as Reliability Coordinator or as administrator of the OATT to effectuate curtailment of load. Member shall submit to and coordinate with SPP unit schedules and must-run units within the SPP Region that affect Electric Transmission System capability or reliability. Where Member is providing redispatch it shall receive appropriate compensation in accordance with appropriate rate schedules.

3.2 Transmission and Generation Maintenance Practices

Transmission Owner shall maintain its Tariff Facilities in accordance with Good Utility Practice. Member shall maintain its generation facilities subject to this Agreement in accordance with Good Utility Practice. Transmission Owner shall coordinate and obtain SPP approval for maintenance on its Tariff Facilities in accordance with Section 2.1.3 of this Agreement. Where Member owns or controls generation facilities within the SPP Region directly affecting Electric Transmission System capability or reliability, it shall coordinate maintenance of such facilities with SPP in accordance with Section 2.1.4 of this Agreement.

3.3 Construction

(a) As part of its planning activities, SPP shall be responsible for planning, and for directing or arranging, necessary transmission expansions, additions, and upgrades that will enable it to provide efficient, reliable and non-discriminatory transmission service and to coordinate such efforts with the appropriate Federal or state authorities, including the Member's governing board where it serves as that authority, or in the case of a Federal Power Marketing Agency, the Administrator. Transmission Owner shall use due diligence to construct transmission facilities as directed by SPP in accordance with the OATT and this Agreement, subject to such siting, permitting, and environmental constraints as may be imposed by Federal, state, and local laws and regulations, and subject to the receipt of any necessary Federal or state regulatory approvals, including, as necessary, the Member's governing board where it serves as that authority. Such construction shall be performed in accordance with Good Utility Practice, applicable SPP Criteria, industry standards, Transmission Owner's specific reliability requirements and operating guidelines (to the extent these are not inconsistent with other requirements), and in accordance with all applicable requirements of Federal or state regulatory authorities. Transmission Owner shall be fully compensated to the greatest extent permitted by FERC, or other legislative or regulatory authority for the costs of construction undertaken in accordance with the OATT.

(b) After a new transmission project has received the required approvals and been approved by SPP, SPP will direct the appropriate Transmission Owner(s) to begin implementation of the project in accordance with Attachment O of the OATT.

3.4 Use of Distribution Facilities

Transmission Owner shall provide such service over its Distribution Facilities, where applicable, as is necessary to effectuate transmission transactions administered by SPP, at approved rates, and subject to a separate tariff or agreement as appropriate.

3.5 Providing Information

Member shall provide such information to SPP as is necessary for SPP to perform its obligations under this Agreement and the OATT, and for planning and operational purposes. Such information shall be treated as confidential when so designated so long as its designation is reasonable.

3.6 Facilities Access

Transmission Owner shall allow SPP such access to Tariff Facilities as is necessary for SPP to perform its obligations under this Agreement. Such access shall be at reasonable times and under reasonable conditions.

3.7 Inspection and Auditing Procedures

Transmission Owner shall grant SPP such access to its books and records as is necessary for SPP to perform its obligations under this Agreement and to audit and verify transactions under this Agreement. Such access shall be at reasonable times and under reasonable conditions.

Transmission Owner shall not be required to provide access to confidential information unless it consents, which consent will not be unreasonably withheld. Transmission Owner may require reasonable disclosure conditions before giving its consent. Disclosure of confidential information shall be made consistent with such disclosure conditions or in accordance with any effective order requiring production of such confidential information issued by a court or regulatory authority. SPP shall provide Transmission Owner immediate notice of any request by an entity to review any such confidential information.

3.8 Compliance with Bylaws and Other Policies and Procedures

(a) Member agrees to and will comply with and abide by the provisions of the SPP Bylaws and pay, when due, any dues, assessments, OATT charges, and other amounts owing to SPP.

(b) Member shall comply with all approved and applicable SPP and NERC policies, principles, criteria, standards, and guides and monitoring and certification procedures.

(c) Where Member is also a member of a Regional Entity, it may, at its request and upon approval of the President, be granted a waiver of responsibilities associated with SPP Criteria and/or Bylaws that are duplicative of or inconsistent with responsibilities of membership in such Regional Entity. Where Member receives such a waiver, it agrees to forgo voting privileges on issues before any organizational group pertaining to waived responsibilities.

3.9 Planning and Participation

Transmission Owner shall participate in regional joint planning and coordinated operation of the Electric Transmission System. Non-Transmission Owner shall be entitled to participate in regional joint planning and coordinated operation of the Electric Transmission System.

3.10 Pricing

Transmission Owner shall possess the unilateral right to file with FERC, and, if the Transmission Owner is non-jurisdictional, the Transmission Owner shall have the option to file with FERC, or submit to SPP for filing with FERC, pursuant to Section 205 of the Federal Power Act and Federal statutory and regulatory requirements, including Delegation Order No. 00-37.00A, 10 CFR Part 903 and 18 CFR Part 300, as amended or superseded, modifications to change the rates or rate structure for transmission service over its Tariff Facilities, including filing a fixed revenue requirement and supporting data or a rate formula template for its cost of service revenue requirements, and to submit proposals or filings governing new construction with FERC; provided, however, Transmission Owner may not submit a proposal which results in a Transmission Customer paying two or more transmission charges for transmission for one transaction under the OATT (excluding Distribution Facilities for which an additional charge may be imposed, and Grandfathered Agreements as defined in the OATT). Transmission Owner shall notify SPP in advance of its intention to submit a filing to FERC and provide SPP with a copy of the filing. No approval from SPP is required for such filings.

3.11 No Waiver of Jurisdictional Immunity

If Member is not subject to the jurisdiction of FERC as a public utility under the Federal Power Act, Member shall not be required to take any action or participate in any filing or appeal that would confer FERC jurisdiction over Member that does not otherwise exist. Any order, decision, rule or regulation issued by FERC to SPP or any other Members or Member of SPP relating to matters exempt from FERC jurisdiction under Section 201(f) of the Federal Power Act shall not apply directly or separately to a non-jurisdictional Member. Without limiting the generality of the foregoing, except as otherwise provided in the Federal Power Act, a non-jurisdictional Member shall not be bound or obligated by any FERC order, decision, rule or regulation requiring a change in the rates, terms or conditions for transmission service or compensation for utilizing the transmission facilities of a non-jurisdictional Member, which conflicts with applicable Federal or state law, including any order requiring the suspension of the use of such rates, terms or conditions or the payment of refunds of rates or compensation previously collected or received. A non-jurisdictional Member and SPP acknowledge that FERC, in the context of its jurisdiction over SPP's rates, may review a non-jurisdictional Member's revenue requirement and rates to the extent they comprise or affect the rates charged by SPP or other Members. In the case of a Federal Power Marketing Agency, this review shall be consistent with the Delegation Order No. 00-037.00A, as superseded or amended, from the Secretary of Energy to the Power Marketing Administrations and the FERC, including the regulations implementing this review authority. If FERC does not accept a non-jurisdictional Member's revenue requirement or rates, the non-jurisdictional Member may terminate this Agreement pursuant to the withdrawal provisions of the Agreement. In such event, the non-jurisdictional Member and SPP agree to meet and confer prior to any termination of this Agreement. Nothing in this Agreement, or the participation of a non-jurisdictional Member in SPP and its operations waives any objection to or otherwise constitutes a consent to, the jurisdiction by FERC that does not otherwise exist over the non-jurisdictional Member or its transmission service, facilities and rates.

3.12 Compliance with Federal or State Law

Notwithstanding any other provision of this Agreement, a non-jurisdictional Member shall not be required to take any action or do any other thing with respect to rates, charges, terms or conditions of service, the resolution of disputes under this Agreement or any other matter regarding its obligations and performance under this Agreement, that (i) the non-jurisdictional Member is not permitted by Federal or state law to undertake or that is prohibited in whole or in part by any Federal or state law or regulation applicable to the non-jurisdictional Member; or (ii) would require the non-jurisdictional Member to violate a provision of such state or Federal law or regulation in order to comply with this Agreement. Determination of compliance with and permissible action, conduct or obligations under this Section 3.12 by a non-jurisdictional Member shall be within the sole jurisdiction of the non-jurisdictional Member's governing board, or in the case of a Federal Power Marketing Agency, its Administrator, subject to applicable Federal or state court review. A non-jurisdictional Member shall not object to SPP's participation in any Federal or state proceedings that impact the non-jurisdictional Member's ability to perform under this Agreement or determinations regarding such impact. To the extent possible without violating Federal or state law, a non-jurisdictional Member shall notify SPP in advance of any action that the non-jurisdictional Member is required to take that the non-jurisdictional Member believes would constitute a violation of Federal or state law, and the non-jurisdictional Member and SPP promptly shall meet and confer regarding the matter. As necessary, the non-jurisdictional Member and SPP agree to negotiate in good faith to modify the Agreement as consistent as possible with the original intent to allow SPP to exercise operational authority over the non-jurisdictional Member's Tariff Facilities as otherwise provided in the Agreement. If the non-jurisdictional Member and SPP are unable to resolve the matter, the non-jurisdictional Member may terminate this Agreement pursuant to the withdrawal provisions of the Agreement.

4.0 Termination of Membership

This Section states the terms and conditions applicable to any Termination or Partial Termination.

4.1 Events of Termination and Partial Termination.

A "Termination" shall mean any cessation of Membership, voluntary or involuntary, or a termination of this Agreement for any reason including the following:

a. Member voluntarily withdraws from membership under Sections 4.0 or 5.0 of this Agreement;

b. An involuntary termination of membership occurs pursuant to Section 6.0 of this Agreement;

c. Member withdraws from membership or terminates this Agreement to comply with the terms of any applicable law or regulation;

d. A withdrawal from membership or termination of this Agreement is ordered by any court or administrative agency of competent jurisdiction; SPP reserves the right, but is not obligated, to maintain before such court or administrative agency, or on any appeal, that FERC has preemptive jurisdiction;

e. A material breach or repudiation of this Agreement, in the discretion of the non-breaching or non-repudiating party;

f. The liquidation or dissolution of SPP, unless a third party has assumed the rights and obligations of SPP under this Agreement consistent with Section 8.2, and has reasonably demonstrated capability to perform SPP's obligations under this Agreement;

g. An agreement between SPP and the Member to terminate this Agreement.

A "Partial Termination" occurs upon a Member's voluntary removal of a portion of its transmission facilities or customers from the SPP Region, including, by way of example and not limitation, sale of a part of the Member's distribution or transmission network or transfer to another service provider of a portion of its retail load.

4.2 Termination Procedures and Effective Dates

4.2.1 Voluntary Withdrawal

(a) **Notice of Voluntary Withdrawal of a Member.** Subject to Section 4.3, a Member may withdraw voluntarily from this Agreement, provided that it has given written notice to the President of its intent to withdraw. Notice of intent to withdraw must state a proposed date for the withdrawal and be delivered to the President no less than twenty-four (24) months prior to such date. The President will advise the Members and the Board of Directors of any withdrawal notices received. In order to assure that there is no more than one proposed termination date with respect to a Member, a withdrawal notice shall be deemed to supersede any prior withdrawal notice given by the Member, except that a Member may not submit a withdrawal notice less than twenty-four (24) months prior to the termination date proposed in the Member's previous notice of intent to withdraw. Voluntary withdrawal is a Termination and creates the same obligations as a Termination for any other reason. Upon receiving a notice of intent to withdraw, SPP shall account for such notice of intent to withdraw in the SPP planning process, unless the Member plans to continue to take transmission service from SPP after the termination date.

(b) **Withdrawal Deposit.** A Member submitting a written notice of its intent to withdraw from this Agreement or notice of a Partial Termination must simultaneously submit a cash withdrawal deposit to SPP, as set forth in the table below. SPP will not accept a notice of intent to withdraw or notice of a Partial Termination without a withdrawal deposit. SPP will treat the withdrawal deposit as a pre-payment of a portion of the costs SPP incurs to process the Member's withdrawal from SPP or Partial Termination, as set forth in Section 4.3.2(d) of this Agreement, or the costs associated with reintegrating the Member, its facilities, or its customers into SPP if the Member subsequently rescinds its notice of intent to withdraw or notice of Partial Termination and SPP incurs costs for such reintegration. Withdrawal deposits are as follows:

Member Category	Withdrawal Deposit
Load Serving Entity	$ 150,000
Non-Load Serving Entity	$ 50,000

If the cost of processing Member's withdrawal as calculated by SPP pursuant to Section 4.3.2(d) of this Agreement exceeds the withdrawal deposit, the additional amount shall be included in the invoice SPP provides to the Member under Section 4.3.2(e) of this Agreement. If the Member rescinds its notice of intent to withdraw and the cost of processing the Member's withdrawal and subsequent reintegration into SPP exceeds the withdrawal deposit, SPP shall invoice the Member for the amount of the cost that exceeds the deposit, and the Member shall provide payment to SPP within thirty (30) days of receipt of the invoice. If the withdrawal deposit exceeds the costs of processing the Member's withdrawal and/or reintegration, SPP shall refund the difference to the Member. Notwithstanding the foregoing, a Federal Power Marketing Agency shall not be required to make a withdrawal deposit and shall only be responsible for paying SPP costs after they are incurred and appropriately invoiced pursuant to Section 4.3.2(e).

(c) **Notice of Partial Termination.** In the event of a Partial Termination, the Member shall provide written notice to the President of its intent to remove a portion of its transmission facilities or customers from the SPP Region. The notice of a Partial Termination must state the effective date for the removal of a portion of the transmission facilities or customers from the SPP Region and be delivered to the President no less than twenty-four (24) months prior to such date. The President will advise the Members and the Board of Directors of notices of Partial Termination received.

4.2.2 Effective Date of Termination

(a) **Voluntary Withdrawal.** If the withdrawing Member is not a Transmission Owner subject to FERC jurisdiction, the Termination Date shall be the date proposed in the withdrawal notice under Section 4.2.1 or otherwise agreed by SPP. If the withdrawing Member is a Transmission Owner subject to FERC jurisdiction, the Termination Date shall be the later of (i) the proposed date specified in the withdrawal notice or otherwise agreed by SPP, (ii) the effective date, if any, set by the FERC order approving the withdrawal; or (iii) the date that such FERC order is no longer subject to review by a court of competent jurisdiction.

(b) **Termination other than Voluntary Withdrawal**. If the Termination occurs for any reason other than the Member's voluntary withdrawal under Section 4.2.1 or by agreement with SPP, the Termination Date shall be as follows:

(i) If the Member is not a Transmission Owner subject to FERC jurisdiction, the Termination Date shall be the date of the event by which the Termination occurs, for example, the date a party gives notice that it will treat a breach or repudiation as a Termination or the date a Member withdraws in order to comply with the terms of a law or regulation. The foregoing notwithstanding, if the Termination occurs due to the order of a court or administrative agency, the Termination Date shall be the date the order is no longer subject to review by a court of competent jurisdiction.

(ii) If the Member is a Transmission Owner requiring regulatory agency approval prior to effectively withdrawing from SPP, then the Termination Date shall be the later of (i) the effective date, if any, set by the regulatory agency order approving the Termination; or (ii) the date that such regulatory order is no longer subject to review by a court of competent jurisdiction.

(iii) In conjunction with the requirements and limitations imposed in Section 4.2.2(b)(ii) above; Transmission Owning Members of SPP wishing to withdraw from SPP and requiring regulatory agency approval prior to such withdrawal being effective are required to initiate the required regulatory filings seeking approval to withdraw prior to the end of the 24-month notice period. Additionally, these members must provide SPP copies of the regulatory filings in a timely manner after filing with the appropriate regulatory agency. Failure to comply with the terms of this paragraph will effectively rescind the notice of the withdrawing member.

(iv) Member may terminate this Agreement with less than the required twenty-four (24) months' notice, in the event that the Federal or

state law governing Member changes, or any provisions of this Agreement, the provisions of SPP's OATT, or SPP's Bylaws are changed or modified in a manner that causes a conflict with the Member's Federal or state law, regulations, or rate schedules, and the internal dispute resolution process described in Section 12 of the OATT is unable to resolve such conflict. In such event, Member and SPP shall meet and confer to facilitate the withdrawal as soon as practicable as necessary to ensure compliance with Federal or state law.

(v) Any Member with Transmission Facilities located in the Upper Missouri Zone may terminate this Agreement with less than the required twenty-four (24) month notice in the event that Western-UGP or Basin Electric Power Cooperative withdraws from SPP in accordance with its respective withdrawal rights or if FERC finds that SPP has not adhered to all of the Federal Power Marketing Agency Amendments, the Basin Electric Amendments, or the Heartland Amendments. In such event, Member and SPP shall meet and confer to facilitate the withdrawal as soon as practicable or as necessary to ensure compliance with state or Federal law. In the event of a withdrawal by Western-UGP or Basin Electric Power Cooperative, Member's withdrawal will become effective on the same date as that of Western-UGP or Basin Electric Power Cooperative. Such Member also may terminate this Agreement in the event that SPP files and FERC approves changes to the Federal Power Marketing Agency Amendments, the Basin Electric Amendments, or the Heartland Amendments that have a material adverse effect on such Member. If such Member exercises its withdrawal rights under this provision, the financial obligations will be calculated under § 4.3 of this Agreement.

(c) **Partial Termination.** The Termination Date for a Partial Termination shall be the date the voluntary removal of a portion of transmission facilities or customers from the SPP Region is effective, unless otherwise agreed by SPP.

4.3 Obligations Upon Termination

4.3.1 Obligation to Hold Users Harmless

Transmission Customers taking service which involves facilities being withdrawn by a Transmission Owner from the functional control of SPP and where such service is under transmission contracts executed before the Termination Date shall continue to receive the same service for the remaining term of each such contract at the same rates, terms, and conditions that would have been applicable if the Termination or Partial Termination had not occurred. Transmission Owner agrees to continue providing service to such Transmission Customers in accordance with the preceding sentence, and shall receive revenues calculated in accordance with the OATT but no more in revenues for that service that if there had been no Termination or Partial Termination.

4.3.2 Obligation of Member to Pay Current and Existing Obligations

(a) In the event of a Termination or Partial Termination of a Member, the Member shall pay all obligations incurred under this Agreement at any time prior to the Termination Date. A Non-Transmission Owner Member shall pay all Existing Obligations as defined in Sections 4.3.2(b)(i)-(iii), calculated as of the Termination Date, and is subject to the obligations set forth in Sections 4.3.2(c)-(f). In addition, in order for SPP to recover a portion of certain debts and cost payable by SPP after the Termination Date as further specified in this Agreement, a Transmission Owner Member shall pay all Existing Obligations as defined in Section 4.3.2(b), calculated as of the Termination Date, and is subject to the obligations set forth in Sections 4.3.2(c)-(f). SPP shall make reasonable efforts to mitigate the Member's Existing Obligations by commercially reasonable actions (such as prepayment of allocable debt, or investment of part or all of the Member's payment in an interest-bearing instrument) and, in its discretion, may further discount the Member's Existing Obligations to reflect any additional mitigation SPP determines it will achieve.

(b) "Existing Obligations" are all of the following and other obligations as may be set forth in the Bylaws from time to time;

i. the Member's unpaid annual membership fee,

ii. the Member's unpaid dues, assessments, and other amounts charged under Section 3.8 of this Agreement, Section 8.4 of the Bylaws, or otherwise under the Bylaws, plus the Member's share of costs SPP customarily includes in such dues, assessments or other charges, but which as of the Termination Date SPP had not included in such dues assessments or other charges.

iii. Any costs, expenses or liabilities incurred by SPP directly due to the Termination, regardless of when incurred or payable.

iv. A Transmission Owner Member's Existing Obligations shall also include:

a. the Member's share (computed in accordance with the Bylaws) of the entire principal amounts of all SPP Financial Obligations outstanding as of the Termination Date. "Financial Obligations" are all long-term (in excess of six (6) months) financial obligations of SPP, including but not limited to the following:

1. debts under all mortgages, loans, loan agreements, borrowings, promissory notes, bonds, and credit lines under which SPP is obligated, including principal and interest;

2. all payment obligations under equipment leases, financing leases, capital leases, real estate and office space leases, consulting contracts, and contracts for outsourced services;

3. any unfunded liabilities of any SPP employee pension funds, whether or not liquidated or demanded;

4. the general and administrative overhead of SPP for a period of three (3) months; and

5. any prepayment premiums or penalties arising under SPP Financial Obligations.

b. the Member's share (computed in accordance with the Bylaws) of all interest that will become due for payment with respect to all interest bearing Financial Obligations after the Termination Date and until the maturity of all Financial Oblations in accordance with their respective terms ("Future Interest"). In the event that a Financial Obligation carries a variable interest rate, the interest rate in effect at the Termination Date shall be used to calculate the applicable Future Interest. In determining the Member's share of Future Interest, SPP shall take into account any reduction of Financial Obligations due to mitigation under this Section.

(c) In the event of a Partial Termination, Existing Obligations shall first be calculated as though a Termination occurred, and the Member shall pay a percentage thereof as Existing Obligations due to the Partial Termination. Such percentage shall be the percentage reduction of the Net Energy for Load Ratio (if applicable) that is attributable to the Member resulting from the Partial Termination.

(d) In the event of a Termination or Partial Termination by a Member, the Member shall pay to SPP all costs SPP incurs to remove the Member's facilities and/or load from SPP markets and operations. Such costs will be determined by SPP and shall include but not be limited to costs associated with modifying systems and databases, staff time, legal costs, and all costs of completing other tasks necessary to process the Member's Termination. SPP will apply the Member's withdrawal deposit, as specified in Section 4.2.1(b), to such costs, and any costs exceeding the withdrawal deposit shall be included in the invoice to the Member as discussed in Section 4.3.2(e) of this Agreement.

(e) SPP shall invoice Member for Existing Obligations within one month after the Termination Date, except that delay by SPP in issuing the invoice shall not diminish Member's obligation to make timely payment. The invoice shall be due and payable no later than five (5) business days after issuance. Any amounts owed by SPP to the Member shall, solely at SPP's election and in its discretion, be offset against the Member's Existing Obligations or paid to the Member concurrently with issuance of the invoice.

(f) The Member acknowledges and agrees that Existing Obligations include amounts that SPP expects to accrue and that will become payable by SPP between the date of Member's Notice of Termination and the Member's Termination Date, and that no part of a payment of Existing Obligations shall be refundable to the Member under any circumstances, including (except as provided in this Section with respect to mitigation or the execution of a new Agreement by the Member after the Member's Termination) any reduction of the Financial Obligations (if applicable). Any disagreement as to the calculation of Existing Obligations shall be resolved in accordance with the dispute resolution procedures in the Bylaws. If, after Termination, the Member elects to re-join SPP and execute the Agreement then in effect, SPP, in its sole discretion, may elect to credit a portion or all of the Member's Existing Obligations paid to SPP upon the Member's earlier Termination against any future payments owed by the Member to SPP.

4.3.3 Construction of Transmission Facilities

Any obligations relating to the construction of new facilities pursuant to an approved plan of SPP shall be negotiated between SPP and the Transmission Owner prior to the Termination Date so as to continue the Transmission Owner's construction obligation for facilities for which SPP has issued a notification to construct to the Transmission Owner prior to the Termination Date. If such obligations cannot be resolved through negotiations, they shall be resolved in accordance with the dispute resolution procedures in the Bylaws and Agreement.

4.3.3A Financial Obligations for Transmission Facilities

This Section 4.3.3A applies to any Terminated Member that was a Transmission Owner at the time it submitted its notice of intent to withdraw pursuant to Section 4.2.1(a) or Member that was a Transmission Owner at the time it submitted its notice of Partial Termination pursuant to Section 4.2.1(c). Such Terminated Member shall remain financially responsible for all financial obligations incurred and costs allocated to its load for transmission facilities approved prior to the Termination Date. Payments in fulfillment of any such obligations and allocated costs shall commence on the date that the costs of such transmission facilities are reflected in SPP's generally applicable rates, unless SPP and the Terminated Member agree to an alternate date. Rights, obligations, and payments applicable to time periods prior to the Termination Date shall be honored by SPP and the Terminated Member. Fulfillment and performance of such rights and obligations, and rights and obligations regarding the use of such transmission facilities, shall be negotiated between SPP and the Terminated Member, and any disputes involving such rights and obligations shall be resolved in accordance with the dispute resolution procedures in the Bylaws and Agreement.

4.3.4 Regulatory and Other Approvals or Procedures

Any Termination or Partial Termination with respect to a Transmission Owner shall be subject to applicable Federal and state law and regulatory approvals or procedures.

5.0 Regulatory, Tax, And Other Authorities

5.1 Regulatory and Other Authorities

This Agreement and the participation of Member is subject to acceptance or approval by FERC, and may be subject to actions of respective Federal or state regulatory authorities to which Member may be subject, and to the actions of any other governmental body which may affect the ability of Member to participate in this Agreement. The following items describe Member's rights and obligations in the event regulatory and other approvals or acceptances are not obtained or changes are required:

(a) In the event FERC disapproves or refuses to accept this Agreement or the changes to the OATT, transmission service agreements, and Bylaws developed together with this Agreement, then this Agreement shall cease to be effective except that the signatories shall be obligated to attempt expeditiously and in good faith to negotiate a substitute agreement and OATT, transmission service agreements, and Bylaws which address the reasons for such FERC action. If, despite such good faith negotiation, the signatories are unable to produce such a substitute agreement and OATT, transmission service agreements, and Bylaws, then the signatories shall have no further obligations under this Agreement or any filing associated herewith.

(b) In the event of any order or decision by FERC or by a court modifying this Agreement or the OATT, transmission service agreements, and Bylaws submitted as part of the initial filing seeking FERC acceptance or approval, that in the judgment of Member adversely affects it, then Member, at its sole discretion, may withdraw from this Agreement by providing written notice to the President of SPP no later than thirty days after such order or decision without receiving any FERC authorization. In such event, Member will in good faith negotiate to determine whether changes should be made to the Agreement or the OATT, transmission service agreements, and Bylaws to address the reasons for Member's withdrawal.

5.2 Tax Authorities

If the Internal Revenue Service or any other Federal, state, or local taxing authority issues, or fails to issue, any ruling, or imposes any requirement or obligation, in connection with this Agreement on Member adverse to Member (in its sole judgment), or if adherence to this Agreement jeopardizes the tax-exempt status of Member or its bonds, then Member may, within 30 days of the date of such final order, or a good faith belief of such adverse consequences, withdraw from this Agreement subject to receiving any necessary regulatory approvals. In such event, Member and SPP will, in good faith, negotiate to determine whether changes should be made to the Agreement to address the reasons for Member's withdrawal.

Nothing in this Agreement, nor Member's obligations and performance thereunder, shall affect, or require Member to take or refrain from taking any action that would affect the rights and obligations or enforceability of Member's present or future bond resolutions, tax-exempt debt covenants and financing agreements. Member shall determine in its sole discretion and judgment, in accordance with advice and opinions from its legal counsel, what actions, conduct and performance it is permitted to or must take under its bond resolutions, tax-exempt debt covenants and financing agreements. Member and SPP will meet and confer regarding the matter and, as necessary, negotiate in good faith to modify the Agreement to address the matter.

5.3 Effectiveness as to Certain Members

The effectiveness of this Agreement as to Member where it is a governmental entity or non-public utility and has outstanding tax-exempt bonds issued to finance, in whole or in part, generation, transmission, or Distribution Facilities is dependent upon satisfaction or Member's written waiver of the following conditions precedent:

(a) Receipt of an unqualified opinion of a nationally recognized bond counsel to the effect that the provisions of this Agreement do not adversely affect the exclusion from gross income of interest on any such outstanding bonds issued to finance generation, transmission, and Distribution Facilities under the Internal Revenue code of 1986, as amended;

(b) Receipt of an unqualified opinion of a nationally recognized bond counsel or general counsel to Member to the effect that the provisions of this Agreement do not constitute a breach or impairment of, or a default under, any agreement to which it is a party, including, but not limited to, its master bond resolution, as amended, and any power sales contracts with its municipal transmission users (if any), as amended, or other agreements;

c) Receipt of a certificate of the trustee for any such outstanding bonds issued for generation, transmission and Distribution Facilities to the effect that Member's entry into this Agreement is permitted under the master bond resolution, as amended; and

(d) Receipt of an opinion of nationally recognized bond counsel or general counsel to Member that it has full constitutional and statutory authority to enter into this Agreement.

In the event that any of the foregoing conditions are not satisfied or waived by Member, then it shall promptly give notice of its objections or conditions which have not been satisfied to SPP, and SPP shall expeditiously attempt in good faith to negotiate a substitute agreement.

6.0 Removal of Members

The Board of Directors may terminate the membership of Member for cause, including but not limited to material violation of the Bylaws or nonpayment of obligations, subject to any applicable regulatory approvals. Such Board of Directors termination shall be after an affirmative vote consistent with the voting procedures in the Bylaws. Where membership is terminated by the Board, Member shall comply with the requirements of Section 4.3 of this Agreement.

7.0 Effective Date, Duration, and Transition

(a) This Agreement shall be effective on the Effective Date and shall remain in force until any Termination Date. All obligations incurred pursuant to Section 4.3 of this Agreement shall survive a termination.

(b) Where Member has, prior to the Effective Date of this Agreement, executed an agency agreement and/or a membership agreement with SPP, upon the Effective Date of this Agreement any prior agreements shall be considered terminated between Member and SPP.

8.0 Miscellaneous Provisions

8.1 Governing Law

This Agreement shall be interpreted, construed, and governed by the laws of the State of Arkansas, except to the extent preempted by the law and/or unless a court with jurisdiction rules otherwise, and in a case involving a Federal Power Marketing Agency, Federal law shall apply, provided, however, that (i) all matters relating to real property or any interest in realty shall be governed by the laws of the State wherein such real property or interest in realty is physically located, and (ii) any court or regulatory body applying Arkansas law shall give full effect to Section 3.12 of this Agreement regarding Member's obligations under state law.

8.2 Successors and Assigns

This Agreement shall inure to the benefit of, and be binding upon SPP and Member, their respective successors and assigns permitted hereunder, but shall not be assignable by SPP without prior written agreement from Member, with such written agreement not to be unreasonably withheld, or by Member, by operation of law or otherwise, without the approval of the Board of Directors which approval shall not be unreasonably withheld, except that no Board of Directors approval is required as to a successor in the operation of Transmission Owner's Tariff Facilities committed to administration by SPP by reason of a merger, consolidation, reorganization, sale, spin-off, or foreclosure, as a result of which substantially all such transmission facilities are acquired by such successor, and such successor becomes a Transmission Owner under this Agreement.

8.3 No Implied Waivers

The failure of Member or SPP to insist upon or enforce strict performance of any of the specific provisions of this Agreement at any time shall not be construed as a waiver or relinquishment to any extent of Member's or SPP's rights to assert or rely upon any such provisions, rights, or remedies in that or any other instance, or as a waiver to any extent of any specific provision of this Agreement; rather the same shall be and remain in full force and effect.

8.4 Severability

Except as may be stated otherwise in any Amendments to this Agreement, each provision of this Agreement shall be considered severable, and if for any reason any provision of this Agreement, or the application thereof to any person, entity, or circumstance, is determined by a court or regulatory authority of competent jurisdiction to be invalid, void, or unenforceable, then the remaining provisions of this Agreement shall continue in full force and effect and shall in no way be affected, impaired, or invalidated, and such invalid, void, or unenforceable provision shall be replaced with a suitable and equitable provision in order to carry out, so far as may be valid and enforceable, the intent and purpose of such invalid, void, or unenforceable provision. This Section 8.4 does not modify or change in any way the right of Member to withdraw as provided elsewhere in this Agreement.

8.5 Renegotiation

If any provision of this Agreement, or the application thereof to any person, entity or circumstance, is held by a court or regulatory authority of competent jurisdiction to be invalid, void, or unenforceable, or if a modification or condition to this Agreement is imposed by a regulatory authority exercising jurisdiction over this Agreement, Member and SPP shall endeavor in good faith to negotiate such amendment or amendments to this Agreement as will restore the relative benefits and obligations of the signatories under this Agreement immediately prior to such holding, modification, or condition. If after 60 days such negotiations are unsuccessful, Member or SPP may exercise any withdrawal or termination rights available under Sections 4, 5 or 6 of this Agreement.

8.6 Representations and Warranties

Member and SPP each represent and warrant to the other that as of the later of the date it executes this Agreement or the Effective Date of this Agreement:

(a) It is duly organized, validly existing, and in good standing under the laws of the jurisdiction where organized;

(b) Subject to any necessary approvals by Federal or state regulatory authorities of SPP, the execution and delivery by Member and SPP of this Agreement, and the performance of its respective obligations hereunder have been duly and validly authorized by all requisite action on the part of the signatories and does not conflict with any applicable law or with any other agreement binding upon the signatories, other than third party joint agreements covered in this Agreement. This Agreement has been duly executed and delivered by Member and SPP, and, subject to the conditions set forth in this Agreement, constitutes the legal, valid, and binding obligation on the part of Member and SPP, enforceable against it in accordance with its terms except insofar as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium, or other similar laws affecting the enforcement of creditor's rights generally, and by general principles of equity regardless of whether such principles are considered in a proceeding at law or in equity; and

(c) There are no actions at law, suits in equity, proceedings, or claims pending or, to the knowledge of Member or SPP, threatened against Member or SPP before or by any Federal, state, foreign or local court, tribunal, or governmental agency or authority that might materially delay, prevent, or hinder the performance by such entity of its obligations hereunder.

8.7 Further Assurances

Member and SPP agree that each shall hereafter execute and deliver such further instruments, provide all information, and take or forbear such further acts and things as may be reasonably required or useful to carry out the intent and purpose of this Agreement and as are not inconsistent with the provisions of this Agreement.

8.8 Delivery of Notices

Except as otherwise expressly provided herein, notices required under this Agreement shall be in writing and shall be sent to Member or SPP by U.S. mail, overnight courier, hand delivery, facsimile, or other reliable electronic means. Any notice required under this Agreement shall be deemed to have been given either upon delivery, if by U.S. mail, overnight courier, or hand delivery, or upon confirmation, if given by facsimile or other reliable electronic means.

8.9 Entire Agreement

This Agreement constitutes the entire agreement between Member and SPP with respect to the subject matter of this Agreement, and no previous oral or written representations, agreements, or understandings made by any officer, agent, or employee of Member or SPP shall be binding upon either party unless contained in this Agreement.

8.10 Good Faith Efforts

Member and SPP agree that each shall in good faith take all reasonable actions necessary to fulfill its respective obligations under this Agreement. Where the consent, agreement, or approval of Member or SPP must be obtained hereunder, such consent, agreement, or approval shall not be unreasonably withheld, conditioned, or delayed. Where Member or SPP is required or permitted to act, or omit to act, based on its opinion or judgment, such opinion or judgment shall not be unreasonably exercised. To the extent that the jurisdiction of any Federal or state regulatory authority applies to any part of this Agreement and/or the transactions or actions covered by this Agreement, Member and SPP secure any necessary or desirable approval or acceptance of such regulatory authorities of such part of this Agreement and/or such transactions or actions.

8.11 Third Party Joint Agreements

This Agreement shall not be construed, interpreted, or applied in such a manner as to cause Member to be in material breach, anticipatory or otherwise, of any agreement (in effect on the later of the Effective Date of this Agreement or the date that it becomes a Member under this Agreement) between Member and one or more third parties who are not signatories (regardless of the inclusion of one or more other Members as parties to such agreement) for the joint transmission, operation, or maintenance of any electrical facilities covered by this Agreement or the OATT. If such a conflict arises, Member shall advise the Board of Directors, but resolution remains within the sole discretion of Member; provided, however, that Member shall utilize all available remedies and informal and formal dispute resolution procedures to resolve such conflict, and provided, further, that in no event shall Member enter into a resolution of such conflict which would impair the reliability of the Electric Transmission System.

8.12 Amendment

This Agreement may be amended, repealed, or added to by the Board of Directors, only upon 30 days written notice to the Membership of the proposed modification(s), and subject to any necessary regulatory approvals. Approval of amendments to this Agreement by the Board of Directors must be by an affirmative vote of at least five directors. Member agrees to be bound by this Agreement as it may be amended, provided that Member possesses the right to challenge any amendments at FERC and to exercise any withdrawal rights that it possesses under this Agreement if it is dissatisfied with the amendment.

8.13 Counterparts

This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument, binding upon Member and SPP.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, Member and SPP have caused their duly authorized representatives to execute this Agreement on their respective behalves.

MEMBER:

_____.

Name of Member

_____.

Name of Authorized Representative

_____.

Title of Authorized Representative

_____.

Signature of Authorized Representative

_____.

Date of Execution

SOUTHWEST POWER POOL, INC.:

_____.

Name of Authorized Representative

_____.

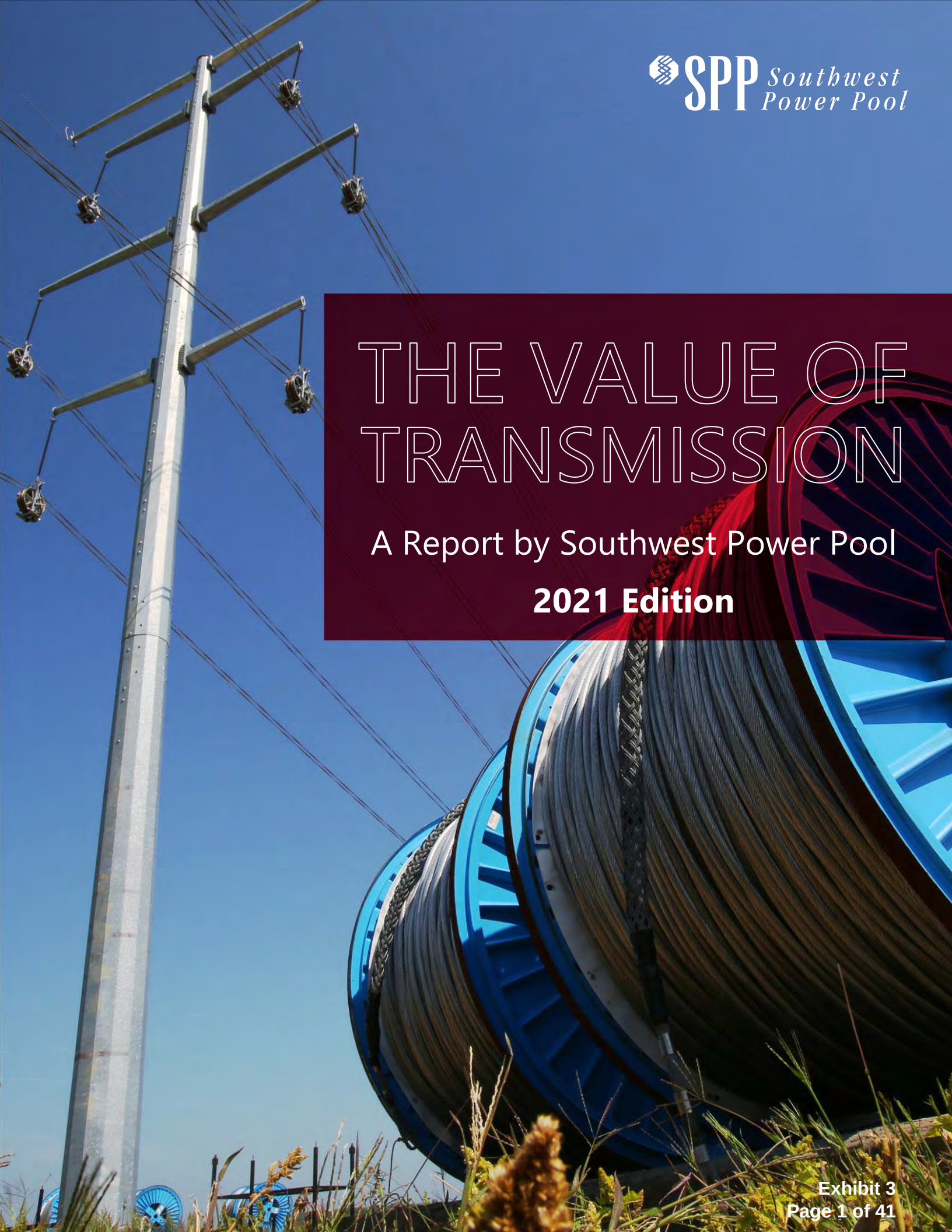
Title of Authorized Representative

_____.

Signature of Authorized Representative

_____.

Date of Execution



SPP Southwest Power Pool

THE VALUE OF TRANSMISSION

A Report by Southwest Power Pool

2021 Edition

SPP Southwest Power Pool

THE VALUE OF TRANSMISSION

A 2021 STUDY AND REPORT BY SOUTHWEST POWER POOL

By SPP Transmission Planning

Published March 31, 2022

CONTENTS

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EXECUTIVE SUMMARY

Since becoming a Regional Transmission Organization (RTO) in 2004, Southwest Power Pool (SPP) has approved the construction of significant transmission expansion. This report quantifies the value of transmission expansion projects that SPP placed in service from 2015 through 2019.

In its 2016 Value of Transmission Study, SPP calculated that the net present value (NPV) of benefits of projects installed from 2012-2014 were expected to exceed $16.6 billion, a benefit-cost ratio of 3.5. That study, which the Brattle Group called a "path-breaking effort," recognized it did not capture all benefits and could be improved in the future.

SPP's 2021 Value of Transmission Study evaluates the benefits of $3.4 billion of transmission projects placed in service between March 1, 2015, and Dec. 31, 2019. This study improves the methodology used in 2016 to create a more accurate assessment of the projects' value. The 2015-2019 projects primarily include regional reliability projects and high priority transmission projects. This study evaluated production cost benefits realized during actual operations resulting from transmission expansion. Analytical models simulated a subset of actual 2020 system conditions.

The estimated production cost benefits are significant and higher than previous estimates from planning models. This analysis estimated adjusted production cost (APC) savings at more than $1.0 million per day, representing an annualized savings of $382.7 million per year. The NPV of these APC benefits is expected to exceed $20.7 billion over the next 40 years, compared to a present value of revenue requirements of less than $5.2 billion.

This study quantified $6.5 billion in benefits associated with increased wheeling revenues, reliability and resource adequacy, reduced transmission losses, and benefits associated with optimal wind development. **Overall, the NPV of quantified benefits associated with transmission expansion is expected to exceed $27.2 billion over the next 40 years, resulting in a benefit-cost ratio of 5.24.**

Some additional sources of value — including environmental, storm hardening and economic development benefits — were either partially captured in other measures or excluded and not quantified separately. The values of these benefits may be large. Appendix B includes a table of all benefits considered in the study.

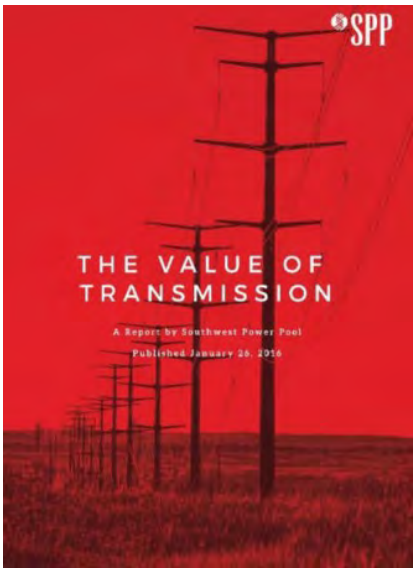
The Brattle Group independently assessed the 2021 study and called it the "best available industry practice" that "provides a more accurate and realistic estimate of the benefits provided by SPP-approved transmission projects." The Brattle Group agreed with SPP's assessment that the new study's evaluation remains conservative, saying "the benefits of the 2021 Study may be underestimated." A letter from the Brattle Group is presented on Page 26.

BACKGROUND

SPP's members want to understand the value they get from SPP membership and the net benefits they receive from SPP's services. Benefits may be either explicit or implied, and include those realized through services like transmission planning, reliability coordination, grid operation and SPP's Integrated Marketplace. Appendix B outlines the benefits that were evaluated and quantified as part of this analysis.

The most significant monetary benefits come from transmission projects constructed within SPP's membership footprint. SPP members have approved and invested over $6.8 billion in transmission expansion since 2012. It is important for members to know that these investments have proven valuable. Benefits related to transmission build-out are known as *benefits of transmission* and are calculated via multiple metrics like APC, reliability and resource adequacy benefits and generation capacity cost savings.

SPP published its first study titled "The Value of Transmission," Jan. 26, 2016. It outlined the benefits of transmission from almost $3.4 billion in transmission expansion projects constructed and placed into service 2012 through 2014. The results showed the NPV of the quantified benefits for these projects will exceed $16.6 billion over 40 years, resulting in a benefit-to-cost ratio of 3.5.



The 2016 study was unique as it estimated market savings using actual operational data. APC and mandated reliability projects were the biggest contributors to overall benefits in the 2016 study.

SPP's Value and Affordability Task Force (VATF) formed in January 2019 as a result of increased attention on the cost and affordability of SPP membership compared to benefits delivered. The VATF looked for opportunities to increase SPP's value and improve affordability while maintaining and protecting its mission. In its report to SPP's board of directors published Oct. 1, 2019, the VATF recommended an updated scope and strategy for a new Value of Transmission study. The scope was completed December 2020, endorsed by applicable working groups and approved by the Strategic Planning Committee Jan. 13, 2021. The updated study, which is the subject of this report, evaluates and demonstrates enhanced member value and affordability by studying the benefits of installed, in-service transmission projects from 2015 through 2019.

Transmission projects evaluated in this analysis fall into one of these categories:

1. Zonal reliability: projects that are included in, and constructed pursuant to, the SPP Transmission Expansion Plan to ensure the reliability of the transmission system. These projects are identified applying a transmission owner's company-specific planning criteria.

2. Transmission service: projects related to an approved request for long-term firm transmission network integration and point-to-point transmission service.

3. Sponsored upgrade: network upgrades, requested by a transmission customer or other entity, which do not meet the definition of any other category of network upgrades.

4. Regional reliability: projects required to maintain reliability in accordance with North American Electric Reliability Corporation (NERC) reliability standards and SPP criteria.

5. High priority: projects that are identified and approved by SPP as part of the high priority study process to reduce congestion, better integrate SPP's east and west regions, improve power deliverability and facilitate the addition of new generation to the grid.

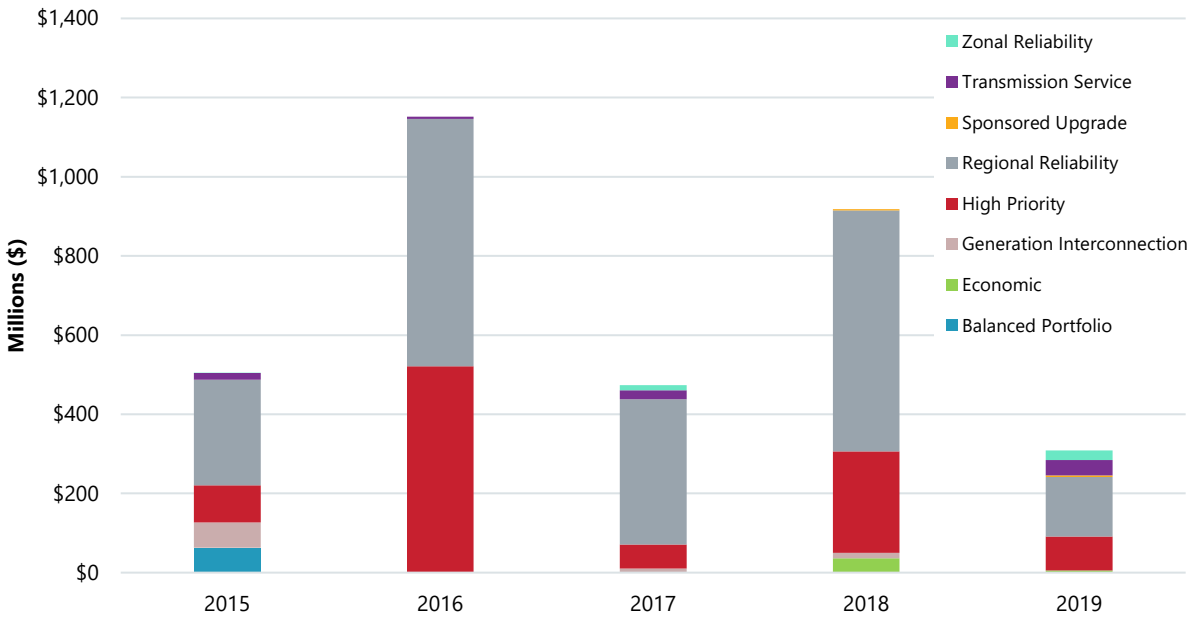
6. Generation interconnection: projects identified and approved as part of SPP's generator interconnection (GI) process that allow new generators to safely interconnect to the electric grid without negatively impacting system reliability.

7. Economic: projects implemented based on meeting or exceeding benefit/cost metrics defined in SPP's Integrated Transmission Plan (ITP) studies. These projects aim to reduce targeted congestion and lower pool production costs.

8. Balanced portfolio: projects identified and approved as part of SPP's Balanced Portfolio study process. These economic transmission upgrades benefit the entire SPP region and have their costs allocated regionally.

Figure 1 shows transmission expansion investments from 2015 through 2019 in SPP. The largest investments have been from regional reliability projects (shown as the gray bar in Figure 1).

FIGURE 1: TOTAL INVESTMENT PER IN-SERVICE YEAR



This study captured the benefits associated with new transmission lines, rebuilds of existing lines and the addition of other equipment such as transformers. Line rebuilds and transformer additions are crucial to increasing transmission system capability, and it is important to capture their impacts in this analysis. SPP's extra high voltage (EHV) 345 kilovolt (kV) system, the primary voltage for bulk power transfer, saw the addition of more than 1,000 miles of new transmission from 2015 to 2019. The EHV projects are a small portion of the transmission projects completed in the SPP footprint.

Table 1 on the next page includes all projects included in this study: new lines, rebuilt lines and other transmission assets[1] encompassing all SPP transmission voltages. In total, the projects installed from 2015 to 2019 represent more than $3.35 billion of transmission investment. However, there are projects that could not be included in this study due to model changes. The total investment for transmission projects included in this study is $3.25 billion, representing 97% of the total cost of projects for the period.

[1] Other assets include device installations, line raises, line work, substations, transformers, and voltage conversions.

TABLE 1: TRANSMISSION INVESTMENTS (MILES AND COST) BY VOLTAGE								
NEW LINES IN SPP: 2015-2019	MILES	VOLTAGE	2015	2016	2017	2018	2019	TOTAL
		69	3	0	0	3	5	**12**
		115	102	119	75	145	53	**494**
		138	14	26	27	160	12	**239**
		161	0	0	0	0	19	**19**
		230	88	3	0	17	0	**108**
		345	0	452	133	256	57	**898**
		Total	**207**	**600**	**235**	**582**	**147**	**1,770**
NEW LINES IN SPP: 2015-2019	COST ($M)	VOLTAGE	2015	2016	2017	2018	2019	TOTAL
		69	$0.0	$0.0	$0.0	$11.5	$4.9	**$16.3**
		115	$85.8	$106.3	$72.0	$123.0	$37.4	**$424.5**
		138	$1.4	$17.3	$22.5	$137.2	$7.5	**$186.0**
		161	$0.0	$0.0	$0.0	$0.0	$24.9	**$24.9**
		230	$27.0	$3.7	$0.0	$35.9	$0.0	**$66.6**
		345	$0.0	$737.7	$152.7	$276.0	$98.6	**$1,265.1**
		Total	**$114.2**	**$865.0**	**$247.3**	**$583.6**	**$173.4**	**$1,983.4**
REBUILDS IN SPP: 2015-2019	MILES	VOLTAGE	2015	2016	2017	2018	2019	TOTAL
		69	133	99	33	108	22	**395**
		115	17	8	43	60	27	**155**
		138	9	32	155	2	20	**218**
		161	0	0	11	0	0	**11**
		230	0	0	30	0	0	**30**
		345	0	0	0	0	0	**0**
		Total	**159**	**139**	**271**	**170**	**70**	**809**
REBUILDS IN SPP: 2015-2019	COST ($M)	VOLTAGE	2015	2016	2017	2018	2019	TOTAL
		69	$110.4	$14.0	$59.1	$65.4	$39.2	**$288.1**
		115	$11.7	$15.2	$23.4	$24.3	$20.5	**$95.2**
		138	$8.5	$30.4	$8.9	$7.9	$18.0	**$73.7**
		161	$0.0	$0.0	$9.2	$0.0	$0.3	**$9.5**
		230	$0.0	$0.0	$34.6	$10.2	$0.0	**$44.8**
		345	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**
		Total	**$130.7**	**$59.6**	**$135.2**	**$107.8**	**$78.0**	**$511.3**
ALL OTHER PROJECTS IN SPP: 2015-2019	COST ($M)	VOLTAGE	2015	2016	2017	2018	2019	TOTAL
		69	$24.9	$11.0	$0.0	$3.2	$4.5	**$43.6**
		115	$113.2	$71.5	$29.1	$79.0	$31.5	**$324.3**
		138	$31.4	$1.2	$6.0	$13.3	$7.8	**$59.6**
		161	$0.0	$0.6	$22.8	$6.8	$1.7	**$31.9**
		230	$2.6	$59.0	$3.8	$17.8	$12.1	**$95.2**
		345	$87.4	$83.8	$29.3	$106.3	$0.0	**$306.7**
		Total	**$259.4**	**$227.2**	**$91.0**	**$226.4**	**$57.6**	**$861.5**
TOTAL PROJECTS IN SPP: 2015-2019	COST ($M)	VOLTAGE	2015	2016	2017	2018	2019	TOTAL
		69	$135.4	$25.1	$59.1	$80.0	$48.5	**$348.1**
		115	$210.7	$193.1	$124.5	$226.3	$89.4	**$844.0**
		138	$41.3	$48.9	$37.4	$158.4	$33.3	**$319.3**
		161	$0.0	$0.6	$32.0	$6.8	$27.0	**$66.4**
		230	$29.5	$62.6	$38.3	$64.0	$12.1	**$206.6**
		345	$87.4	$821.5	$182.1	$382.3	$98.6	**$1,571.8**
		Total	**$504.2**	**$1,151.7**	**$473.4**	**$917.9**	**$308.9**	**$3,356.2**

This study is limited in its horizon and cases analyzed, only considering the realized benefits from SPP's market for calendar year 2020. A list of the 2015-2019 portfolio of projects evaluated in this study is included in Appendix C. Benefits for these projects energized between 2015 and 2019 were not calculated for years before 2020.

The annual transmission revenue requirement (ATRR) for the expansion projects is approximately $559.9 million per year at the beginning of 2020 and assumed to depreciate at 2.5% per year over the typical 40-year project life. All of the evaluated projects were operational in the 2020 system operating data.

While planning studies typically assume some uncertainty, actual system operations encounter unplanned events caused by human or mechanical issues and natural phenomena. These events can create opportunities to improve the efficiency and effectiveness of grid operations. Any valuation study should consider a system's ability to handle a wide variety of system conditions.

ANALYSIS

ADJUSTED PRODUCTION COST (APC) SAVINGS

PRODUCTION COSTS ARE REDUCED DUE TO INCREASED EFFICIENCIES IN UNIT COMMITMENT, ECONOMIC DISPATCH AND TRANSACTIONS WITH NEIGHBORING SYSTEMS

Analytical models from actual Integrated Marketplace operations were used to evaluate the transmission system's impact on the footprint's production costs. SPP's day-ahead reliability unit commitment (RUC) models were utilized for this analysis. SPP uses day-ahead RUC models (after the day-ahead market closes and before the targeted operating day) to assess resource and operating reserve adequacy for the day-ahead period and commit or de-commit resources as necessary. Increased transmission capability allows the system to reduce production costs through lower unit commitment costs and dispatch more efficient resources to serve SPP obligations. For each month in 2020, benefits were evaluated using five days with production costs corresponding to the 10th, 25th, 50th, 75th and 90th percentiles. These percentiles capture the value transmission provides under a diverse set of system operating and load conditions.

A noteworthy change from the 2016 Value of Transmission study is the inclusion of incremental capacity associated with transmission rebuilds and transformer upgrades. The 2016 study only reflected the benefits associated with new-build projects that changed system topology. This study captures the incremental capacity offered by such projects and the benefits associated with incremental capacity offered by transmission rebuilds and transformer upgrades. Table 2 shows 2020 APC savings.

TABLE 2: CALCULATED TRANSMISSION VALUE

DATE	SEASON	PROD. COST PERCENTILE	ADJUSTED PRODUCTION COST SAVINGS
1/5/2020	Winter	75th	$603,122
1/9/2020	Winter	90th	$545,557
1/20/2020	Winter	10th	$242,257
1/28/2020	Winter	25th	$6,787
1/31/2020	Winter	50th	$268,283
2/1/2020	Winter	75th	$183,211
2/16/2020	Winter	25th	($52,464)
2/19/2020	Winter	10th	$633,659
2/26/2020	Winter	50th	$506,900
2/29/2020	Winter	90th	$516,227
3/9/2020	Spring	50th	$1,234,403
3/10/2020	Spring	10th	$740,152
3/14/2020	Spring	25th	$732,931
3/25/2020	Spring	75th	$557,739
3/27/2020	Spring	90th	$777,839
4/4/2020	Spring	10th	$346,084
4/8/2020	Spring	25th	$419,504
4/12/2020	Spring	90th	$1,763,865
4/17/2020	Spring	75th	$512,479
4/18/2020	Spring	50th	$1,073,620
5/6/2020	Spring	50th	$930,064
5/16/2020	Spring	10th	$284,812
5/19/2020	Spring	25th	$16,529
5/23/2020	Spring	90th	$708,455
5/24/2020	Spring	75th	$999,026
6/18/2020	Summer	50th	$735,872
6/19/2020	Summer	10th	$227,136
6/24/2020	Summer	25th	$26,005
6/27/2020	Summer	75th	$680,479
6/29/2020	Summer	90th	($1,139,741)
7/2/2020	Summer	10th	$432,067
7/16/2020	Summer	50th	$462,076
7/24/2020	Summer	90th	N/A
7/25/2020	Summer	75th	$174,627
7/26/2020	Summer	25th	$284,886
8/3/2020	Summer	75th	$279,244
8/9/2020	Summer	90th	$2,432,884
8/18/2020	Summer	10th	$330,432
8/20/2020	Summer	50th	$229,832
8/29/2020	Summer	25th	$497,654
9/8/2020	Fall	90th	$773,659
9/14/2020	Fall	25th	$422,556
9/15/2020	Fall	10th	$485,995
9/20/2020	Fall	75th	$457,031
9/21/2020	Fall	50th	$682,506
10/3/2020	Fall	50th	$505,206
10/4/2020	Fall	90th	$1,578,846
10/6/2020	Fall	25th	$326,904
10/13/2020	Fall	75th	$1,616,905
10/29/2020	Fall	10th	$2,094,961
11/10/2020	Fall	25th	$2,527,575
11/19/2020	Fall	75th	$3,715,306
11/23/2020	Fall	90th	$3,144,858
11/25/2020	Fall	50th	$2,868,138
11/27/2020	Fall	10th	$1,250,499
12/4/2020	Winter	10th	$2,580,072
12/7/2020	Winter	25th	$1,606,023
12/17/2020	Winter	75th	$2,920,777
12/20/2020	Winter	50th	$3,774,750
12/21/2020	Winter	90th	$2,341,775

SPP validated production cost savings using analytical models. Over the 60 days simulated, the models were unable to solve for one day (shown as N/A) and showed negative benefits in two other days.

SPP concluded that the model was unable to solve for 7/24/2020 because of a model convergence issue. The two days with simulated negative benefits encountered situations with substantial system congestion, resulting in negative locational marginal prices (LMPs). Due to the nature of APC calculations and the relative location of generation to negative LMPs, this calculation can result in net negative benefits, and this nuance is considered an outlier. Thus, the day that failed to solve and the two days with negative benefits were considered outliers and excluded from average daily savings calculations.

The average daily production cost for 2020 using actual Integrated Marketplace data was $5.0 million. The average daily production cost, with all transmission projects in-service, for days chosen for this analysis is $5.1 million. The close alignment between actual Integrated Marketplace results and the simulations used in this analysis confirms this analysis uses representative data for calendar year 2020.

Simple averages were calculated for the production cost savings presented in Table 2. The daily production cost savings were combined by season and by percentile. Table 3 includes the number of data points, after excluding outliers, corresponding to each season and percentiles used in Table 2.

TABLE 3: NUMBER OF DATA POINTS

# OF DATA POINTS	10th PERCENTILE	25th PERCENTILE	50th PERCENTILE	75th PERCENTILE	90th PERCENTILE	TOTAL
Fall	3	3	3	3	3	15
Spring	3	3	3	3	3	15
Summer	3	3	3	3	1	13
Winter	3	2	3	3	3	14
TOTAL	**12**	**11**	**12**	**12**	**10**	**57**

The simple average was calculated for data corresponding to each season and percentile to develop an estimate of production cost savings. Table 4 on the next page includes the simple average production cost savings by season and percentile. The simple average of each data point in the table indicates a daily production cost savings of $1,045,720 to SPP's Integrated Marketplace for 2020.

This amounts to an annualized savings of $382.7 million associated with the transmission expansion projects included in this analysis. The resulting NPV of APC savings represents over $20 billion in savings over the 40-year study period.

TABLE 4: SIMPLE AVERAGES					
SEASON	10th PERCENTILE	25th PERCENTILE	50th PERCENTILE	75th PERCENTILE	90th PERCENTILE
Fall	$1,277,152	$1,092,345	$1,351,950	$1,929,747	$1,832,454
Spring	$457,016	$389,654	$1,079,362	$689,748	$1,083,386
Summer	$329,878	$269,515	$475,927	$378,117	$2,432,884
Winter	$1,151,996	$806,405	$1,516,644	$1,235,703	$1,134,519
Simple Average Daily Savings	$804,011	$639,480	$1,105,971	$1,058,329	$1,620,811
ANNUAL AVG. DAILY SAVINGS (simple average)	**$1,045,720**				

TABLE 5: ITP APC SAVINGS						
Study	Future 1 APC Savings			Future 2 APC Savings		
	Y5 ($M)	Y10 ($M)	Y5-Y10 Growth	Y5 ($M)	Y10 ($M)	Y5-Y10 Growth
2021 ITP	$236.7	$406.5	11%	$375.0	$420.5	2%
2020 ITP	$71.2	$123.8	12%	$98.4	$173.3	12%
2019 ITP	$29.8	$63.4	16%	$56.1	$127.7	18%

Consistent with the 2016 Value of Transmission study, 2020 APC savings were escalated at 10% per year. The resulting NPV of APC savings represents over $20 billion in savings over the 40-year study period. Prior ITP analyses were considered to establish an escalation rate for future APC savings. Table 5 above includes the APC savings from the three latest ITP studies along with average APC growth rates. In the 2019 through 2021 ITP studies, Future 1 APC growth rates exceeded 10% in the initial five years of the study. Using a 10% APC escalation rate is a conservative approach to estimating the value of future APC savings and is consistent with recent SPP's analyses.

The average daily savings of $1,045,720 per day represents a greater than 50% increase from the 2016 Value of Transmission daily savings of $661,298 per day. Changes to the study scope and market factors contribute to the increase from the 2016 study.

A major update from the 2016 study was the inclusion of transmission rebuilds and transformer upgrades. The 2016 study did not include transmission rebuilds and transformer upgrades. This

change increased the number of transmission projects that were removed between baseline and change cases and contributed to the increase in average daily savings.

Another factor influencing the APC savings is the increased adoption of wind energy since the 2016 study. Between 2015 and 2019, SPP interconnected over 12 gigawatts (GW) of additional wind generation to the system, resulting in over 22 GW of nameplate wind capacity installed by the end of 2019. The transmission projects evaluated in this study include a significant amount of EHV transmission that provides additional transfer capability between wind generation and load centers. The increased ability to transfer zero-dispatch-cost energy from wind generators to load centers lowers system production cost. In study cases without additional EHV build-out, wind generation was curtailed due to transmission limitations that required more expensive generation must be dispatched to serve load, resulting in higher system production costs across the footprint. As SPP continues to increase the amount of load served by renewable generation, the ability to transfer this power to load centers will become an increasingly important value provided by the transmission system.

A major component of APC savings is the capture of impacts of power purchases and sales between SPP and neighboring areas. In this analysis, power transactions were assumed to be constant in quantity and cost across all cases. This understates the value of grid expansion with respect to interchange opportunities with adjacent regions. While not reflected in this study's results, increased interchange capability associated with transmission expansion projects can increase market efficiencies and opportunities for economic interchange.

Brattle Group's analyses (Page 26) have recognized that actual production costs savings are typically larger than projected in planning analysis. Most planning analyses focus on accurately simulating typical system conditions rather than extreme events. Excluding extreme events from planning analyses tends to understate the value of the transmission system, as a robust transmission system helps operators manage and react to extreme system operations.

ADDITIONAL PRODUCTION COST SAVINGS

The simplified nature of traditional planning studies fails to capture the full range of production cost savings provided by transmission investments. For example, planning studies typically do not consider the impacts of multiple, concurrent transmission outages; the impacts of investment on transmission-related energy losses; or the uncertainty and variability of real-time loads and intermittent generation. Generally, capturing production cost savings associated with these benefits requires additional analysis. This study's methodology to estimate production cost savings by performing a backward-looking analysis of SPP's day-ahead RUC captures many of the benefits as summarized on the next two pages.

(A) IMPACT OF GENERATION OUTAGES AND OR UNIT DESIGNATIONS

SPP's backward-looking analysis relies on simulation of actual day-ahead markets for calendar year 2020. The analysis simulated actual generation outages and unit capability assigned to

provide operating reserves. This captures the value and flexibility offered by transmission expansion projects. The APC savings quantified in this assessment reflect these benefits.

(B) REDUCED TRANSMISSION ENERGY LOSSES

The software used for market simulations fully evaluated hourly energy losses and how transmission-facility outages and additions impacted them. The inclusion of hourly energy losses and the extent to which new transmission facilities can reduce energy losses has been captured in the APC savings presented in this assessment.

(C) REDUCED CONGESTION DUE TO TRANSMISSION OUTAGES

As part of ITP planning studies, SPP typically includes the mitigation of transmission outage costs. In this analysis, actual system outages from the Control Room Operations Window (CROW) system are reflected in the analytical models and simulations. As infrastructure ages and volatile and extreme weather patterns become more common, it is increasingly critical for SPP's planning analyses to accurately forecast outages and capture their impacts in long-term plans.

To maintain an efficient and reliable grid, it may be necessary to install overlay facilities or accelerate EHV projects to address situations in which the system is unable to accommodate necessary outages. As electric load increases, it becomes increasingly costly and difficult to accommodate necessary outages for routine maintenance and facility rebuilds. SPP expects that transmission projects included in this analysis will increase flexibility for scheduling outages; however, these benefits are not quantified as part of this study.

(D) MITIGATION OF EXTREME EVENTS AND SYSTEM CONTINGENCIES

This analysis captured a wide range of system operating conditions by selecting days with production costs in the 10th, 25th, 50th, 75th and 90th percentiles. The benefits associated with extreme events and unusually challenging system conditions are included to the extent those conditions are captured in the upper and lower percentile data points. None of the days selected for this study included clearly identified extreme weather or system conditions similar to those experienced during February 2021's winter storm.

(E) MITIGATION OF WEATHER AND LOAD UNCERTAINTY

The APC savings capture the benefits of mitigating extreme weather and load uncertainty to the extent that the selected days reflect those conditions. The days were selected based on the regional APC percentile rather than specific weather or load conditions. For example, additional benefits would likely be captured in days with 90/10 peak load days or days with disparate weather conditions in southeastern and northwestern portions of SPP. This sampling of operating days partially captured these benefits associated with transmission expansion.

(F) REDUCED COST DUE TO IMPERFECT FORESIGHT OF REAL-TIME SYSTEM CONDITIONS

Increased transmission capability allows system operators more flexibility to accommodate imperfect foresight of real-time system conditions. For this assessment, only the day-ahead RUC model was simulated, based on day-ahead forecasts. Real-time market benefits offered by transmission expansion were not quantified as part of this analysis.

(G) REDUCED COST OF CYCLING POWER PLANTS

The 2015-2019 transmission expansion projects allowed for more flexible system operations and resulted in generators cycling less frequently. Cost savings associated with reduced cycling are only partially captured as potential cost savings from avoided equipment replacement; other capital expenditures are not included in this analysis.

(H) REDUCED AMOUNTS AND COSTS OF OPERATING RESERVES

This analysis left operating reserve requirements unchanged. Benefits associated with operating reserves provided by more efficient units, along with other operational impacts, are partially captured in this analysis. Impacts on operating reserve requirements were not included in this analysis, though increased transmission capabilities would likely impact operating requirements.

(I) MITIGATION OF RELIABILITY-MUST-RUN (RMR) CONDITIONS

The software used in market simulations incorporated reliability-must-run (RMR) conditions. The inclusion of RMR conditions and the extent to which new transmission facilities can reduce RMR requirements is captured in the APC savings presented in this assessment.

RELIABILITY AND RESOURCE ADEQUACY BENEFITS

As part of the 2021 Value of Transmission study, SPP identified benefits associated with reliability and resource adequacy. The following sections include an overview of the selected metrics.

(A) BENEFITS OF MANDATED RELIABILITY PROJECTS

This metric reflects the reliability benefits of the transmission projects built to meet transmission reliability standards (classified as Reliability Projects in the ITP Manual). Consistent with the methodologies used in ITP and Regional Cost Allocation Review (RCAR) studies, such reliability benefits are assumed to be equal to the projects' costs. Reliability projects in this analysis are categorized into regional reliability and zonal reliability projects based on project-specific criteria. Both regional reliability and zonal reliability projects are considered as part of mandated reliability projects. The ATRR associated with the mandated reliability projects installed in SPP from 2015 through 2019 is estimated to be $351.1 million in 2020. The ATRR is assumed to decline with depreciation over 40 years, which results in an NPV of $3.1 billion for the projects.

This method may underestimate the value of reliability benefits, since it implies the value of reliability-related costs is no higher than the cost of reliability upgrades. The value of additional reliability provided by reliability projects is higher than the costs of such upgrades.

As with the 2016 Value of Transmission study, the industry has struggled to develop a methodology to quantify benefits of grid reliability improvements through transmission expansion. Existing reliability metrics such as Customer Average Interruption Duration Index and System Average Interruption Index are important performance measures for distribution systems, radial loops and open loops at the transmission and sub-transmission levels. These metrics provide valuable insights into improving operational efficiencies regarding optimal scheduling of maintenance outages. Increased transmission capabilities associated with network expansion can reduce the occurrences of service interruptions at the customer and system level.

Reduced and shorter-duration transmission facility outages can limit the risk and exposure of customers to outages and reliability problems. Reduced interruptions lower the use of costly measures like dispatching emergency generation or curtailing interruptible loads.

As existing infrastructure ages, outages related to inspection and replacement of aging transmission facilities will become increasingly expensive. The Federal Energy Regulatory Commission (FERC) is actively considering transmission investment metrics to help the bulk power industry quantify the value provided by major transmission projects.

(B) AVOIDED/DEFERRED RELIABILITY PROJECTS

Increased transmission capability associated with economic transmission projects can defer or avoid reliability projects. This metric captures the benefits of deferred or avoided reliability projects based on the avoided cost of reliability projects. The benefits associated with avoided

or deferred reliability projects are based on the cost of the projects that have been avoided or deferred. These benefits are estimated at $148,000 for 2020, with a 40-year NPV of $1.3 million in benefits.

(C) REDUCED LOSS OF LOAD PROBABILITY OR REDUCED PLANNING RESERVE MARGIN

The long-term benefits of efficiently integrating the bulk power system and delivery network are difficult to quantify but substantial. Resource and load diversity, along with the network's ability to accommodate outages and integrate resources while maintaining system reliability, are critical for establishing planning reserve margins. Increased coordination within the bulk power system can increase system utilization and resiliency.

The 2016 Value of Transmission study assumed transmission expansion would facilitate a 2% reduction in SPP's planning reserve margin. Transmission expansion projects during 2012 to 2014, covered in the 2016 Value of Transmission study, represented a substantial expansion in backbone EHV facilities and increased transfer capabilities within the SPP footprint.

For the purposes of this analysis, the 2% reduction previously captured in the 2016 Value of Transmission study is reflected in existing SPP planning reserve margin requirements. Incremental transmission expansion since the 2016 study does not alter network topology or transfer capability enough to facilitate further reductions in planning reserve requirements. Due to this assumption, this study does not assign any value associated with reductions in loss of load probability or planning reserve margins.

INCREASED WHEELING REVENUES

The transmission projects evaluated in this study provide additional capacity for long-term firm transmission export reservations. SPP has approved 156 megawatts (MW) of long-term firm transmission exports, which provides $4.9 million of additional wheeling revenue on an annual basis to offset wholesale transmission costs. Leveraging prior analysis from SPP staff and applying those results to this analysis, SPP estimated that additional wheeling revenues in 2020 would be $4.9 million with a 40-year NPV of $73 million.

The $4.9 million annual benefit is calculated using the incremental amount of firm point-to-point transmission service sold along with incremental revenues based on Schedules 7 and 11 of the SPP Open Access Transmission Tariff. The incremental capacity was assumed to remain flat through the 40-year study period. The Schedule 7 and 11 rates were escalated at 2% annually, consistent with the inflation rate SPP uses for long-term planning.

Pricing of export services in SPP needs to reflect the true cost of those services, which should include appropriate contributions to offset a portion of major system enhancements. Many of these large, high-capacity projects in the 2015-2019 portfolio enable those transactions.

This $4.9 million annual benefit is a significant reduction from the 2016 Value of Transmission study, which showed a $43.3 million annual benefit. This reduction is attributed to the nature of the benefit calculation, which relies on actual firm export service being approved. This study observed an increase in firm export reservations of only 156 MW, whereas the 2016 Value of Transmission study observed 800 MW of new firm exports. SPP believes it is likely there is additional wheeling benefit to be captured with new firm export reservations.

REDUCED ON-PEAK LOSSES

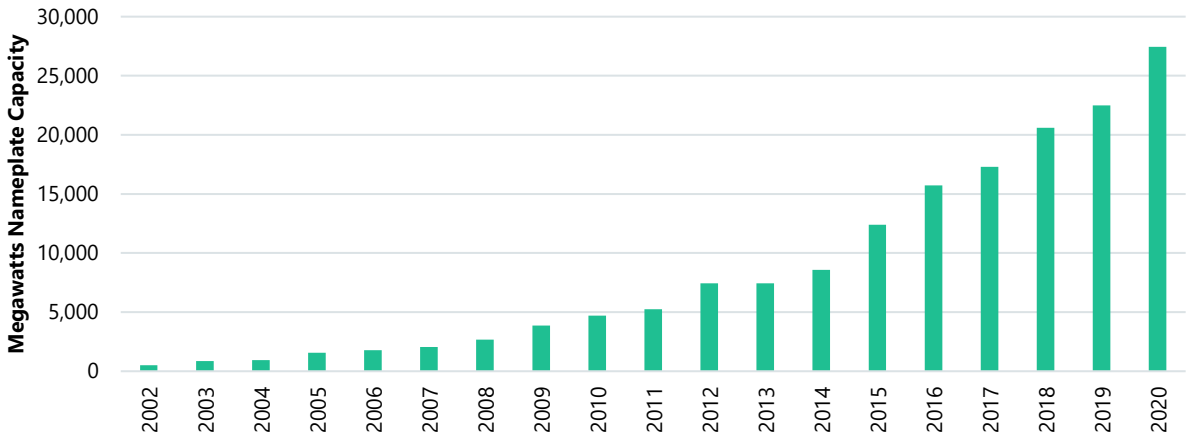
While lower unit commitment and energy dispatch costs are captured in production cost simulations and APC savings, the addition of new transmission capacity could also improve overall system efficiency by reducing system losses. Separate from the analytical model simulations performed when quantifying APC benefits, SPP quantified the benefits associated with reduced on-peak loses. Reduction in losses during on-peak hours provides capacity cost savings due to reduced need for generation capacity. These benefits are captured in this assessment based on the analysis of the actual 2020 system peak hour on July 2, 2020.

Analytical models showed that transmission projects built in 2015-2019 reduced SPP's system losses by 240 MW during the 2020 system peak hour. On-peak losses were simulated to be 901 MW without the 2015-2019 transmission projects, and 662 MW with the projects. Using ITP-approved calculations and assumptions, the capacity cost savings from reduced on-peak losses for the 2015-2019 project portfolio is estimated to be about $23 million per year, which is then escalated at 5% per year over time. The 40-year NPV of these benefits is $518 million.

OPTIMAL WIND GENERATION DEVELOPMENT

Transmission is necessary and very effective for integrating renewable resources and creating value for these resources across SPP's broad geographic footprint. The annual nameplate capacity of wind generation installed on SPP's system is shown in Figure 2.

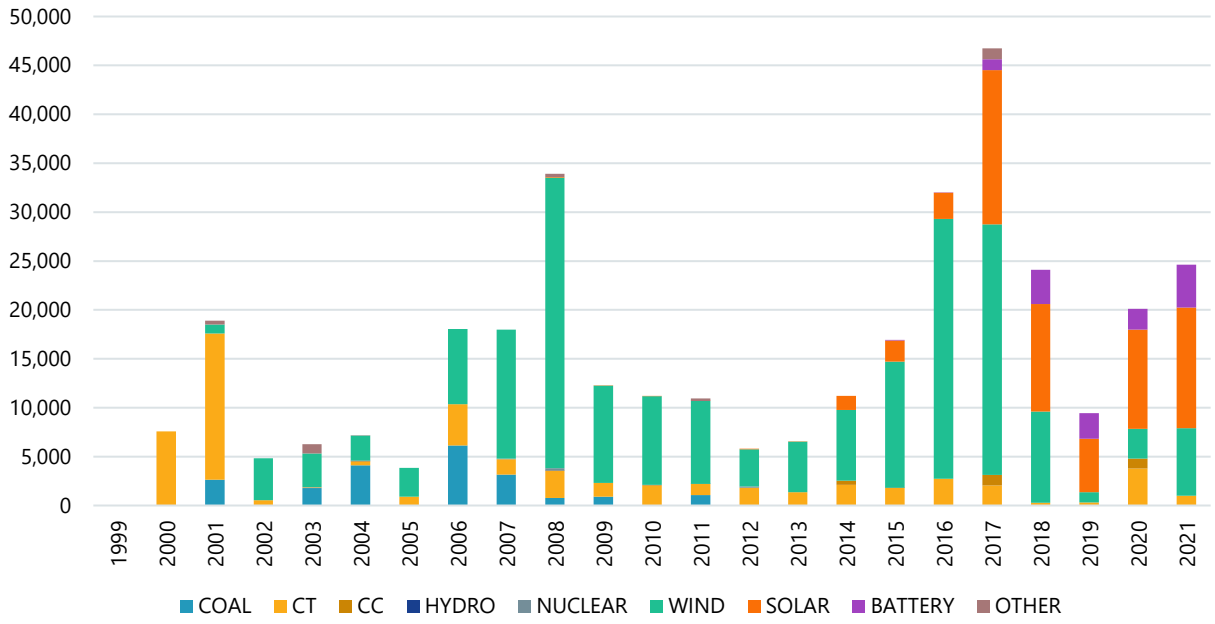
FIGURE 2: WIND IN SPP



Much like wind installations, the GI queue has seen exponential growth in the past decade, as shown in Figure 3. As the economics of renewable generation continue to improve, the accommodation of large amounts of new generation will require expansion and upgrades of the existing transmission system.

The concentration of renewable generation in pockets distant from load centers will require continued transmission expansion to facilitate the bulk transfer of power. Transmission is also effective at integrating diverse resources to smooth out natural variability. Diverse resources over large regions can reduce the need to dispatch more expensive quick-start generation.

FIGURE 3: GENERATOR INTERCONNECTION QUEUE



Analytical models were used to simulate wind curtailments with and without the transmission expansion projects. The transmission projects precluded an average of 815 MW of wind generation from being curtailed based on the 2020 market simulations. Without considering the energy's value and impact on market prices, 7.1 million MWh of wind curtailments equates to approximately $180 million in lost revenue to developers in terms of production tax credits (PTC).[2] The actual value of lost wind production is driven by federal, state and local programs; specific data was not available to quantify the value of lost wind production for this analysis. This lost revenue does not directly benefit customers like other metrics, but it does improve the profitability of other resource providers and can be expected to translate into lower costs to consumers.

[2] Assumes all wind farms operating in SPP in 2020 qualified for 100% of the PTC and the inflation adjusted PTC is worth 2.5 cents per kWh. Source: https://www.govinfo.gov/content/pkg/FR-2020-05-13/pdf/2020-10273.pdf

SPP is ideally situated with ample access to high quality wind and solar renewable resources. A robust transmission system enables the effective integration and delivery of renewable resources across a wide geographic area. Increased geographic diversity of renewable resources increases their aggregate capacity contribution, which is additional value that SPP's transmission network provides to its members and customers. Other independent system operators (ISO) and regional transmission organizations (RTO) have attempted to quantify increased access to higher quality renewable resources provided by transmission expansion. SPP has not developed a robust process to quantify these benefits and the associated incremental value has not been captured in this analysis.

For the purposes of this study, the optimal wind development benefits are quantified as the avoided wind investment and local transmission costs. Transmission expansion during 2015-2019 enabled the development of approximately 7,400 MW of higher quality wind resources with an improvement in capacity factor. SPP staff estimates the avoided wind investment costs, due to these resources, to be about $53 million per year, which equates to an NPV of $630 million over 40 years. Additionally, the 2015-2019 projects help avoid the higher local transmission costs that would have been necessary to integrate wind resources located closer to the buyers' load centers. The avoided local transmission cost benefit is estimated at $184 million per year, which equates to an NPV of $2.2 billion over 40 years.

OTHER BENEFITS

(A) STORM HARDENING

In recent years, increased focus has been placed on grid resiliency and the desire for effective system restoration plans. Long lead time on critical components of the bulk power system, like EHV autotransformers, poses an increasingly growing risk with aging infrastructure and difficulties scheduling maintenance outages.

Adequate transmission to deliver power is critically important to decrease the impacts of future extreme conditions. Transmission adds resilience and could mitigate the need to implement load-shed procedures. Severe weather events like the February 2021 winter storm emphasize the importance of preparing the grid for extreme weather conditions. Transmission interconnections with neighboring systems were essential to prevent uncontrolled blackouts, and robust interconnections and weatherization promote system reliability. The exact value of these benefits is not quantified, and this metric is not captured in this analysis.

(B) FUEL DIVERSITY

This metric has not been fully quantified in this assessment. Some benefits of fuel diversity may have been partially captured to the extent that fuel diversity in the integrated footprint was enhanced because of the transmission expansion projects installed from 2015-2019.

(C) SYSTEM FLEXIBILITY

This metric has not been fully quantified in this assessment. Some benefits of increased system flexibility may have been partially captured to the extent that system flexibility in the integrated footprint was enhanced because of the 2015-2019 transmission expansion projects.

(D) REDUCED EMISSIONS OF AIR POLLUTANTS

This metric has not been quantified in this assessment. However, the 2015-2019 transmission portfolio facilitated emissions reduction by reducing or eliminating curtailment of wind resources and enabling the integration of additional renewable resources.

(E) IMPROVED UTILIZATION OF TRANSMISSION CORRIDORS

This metric has not been quantified in this assessment. However, it is likely that large, high-capacity transmission projects in the 2015-2019 portfolio utilize transmission corridors more effectively than smaller, incremental upgrades that would be required over time.

(F) INCREASED EMPLOYMENT AND ECONOMIC ACTIVITY; INCREASED TAX REVENUES

SPP has not quantified the value of increased employment, economic activity or tax revenues associated with the $3.35 billion spent on transmission infrastructure between 2015 and 2019. These benefits can be large, particularly considering the high-quality renewable generation sited in SPP.

In its *REPOWERING AMERICA: Transmission investment for economic stimulus and climate change*[3] report, London Economics International LLC, on behalf of WIRES Group, documented the direct and indirect economic impacts associated with transmission investments in SPP and across the United States. This study identified increases to the gross domestic product (GDP), increases in high-paying jobs and boosted local spending during the construction phase of transmission projects. The study also identified annual increases in GDP and permanent job additions during the assets' life.

Note: Appendix B summarizes the metrics and quantified benefits in terms of NPV for the SPP transmission expansion projects placed in service from 2015 through 2019 based on Integrated Marketplace data from Jan. 1, 2020, through Dec. 31, 2020.

[3] WIRES Group (May 2021), REPOWERING AMERICA: Transmission investment for economic stimulus and climate change. https://wiresgroup.com/wp-content/uploads/2021/05/WIRES-Repowering-America-transmission-investment-May-5.pdf

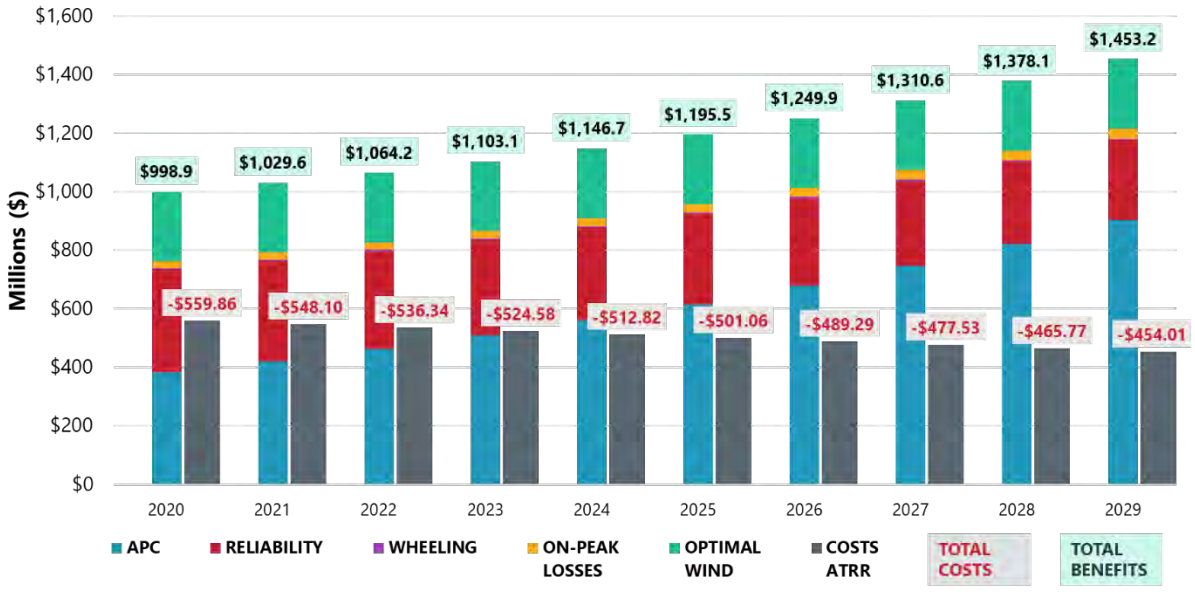
SUMMARY

This Value of Transmission assessment for transmission expansion projects installed from 2015 through 2019 quantified benefits based on 2020 Integrated Marketplace operational data. The annual benefits, starting in 2020, are included in Table 6 and Figure 4 (in millions of nominal dollars). These benefits are based only on data quantified as part of this assessment.

TABLE 6: VALUE OF TRANSMISSION BASED ON QUANTIFIED BENEFITS ($M)

YEAR	APC	RELIABILITY	WHEELING	ON-PEAK LOSSES	OPTIMAL WIND	TOTAL VALUE	COSTS ATRR
2020	$382.7	$351.3	$4.9	$23.0	$237.0	$998.9	$559.9
2021	$421.0	$342.5	$5.0	$24.1	$237.0	$1,029.6	$548.1
2022	$463.1	$333.7	$5.1	$25.3	$237.0	$1,064.2	$536.3
2023	$509.4	$324.9	$5.2	$26.6	$237.0	$1,103.1	$524.6
2024	$560.4	$316.1	$5.3	$27.9	$237.0	$1,146.7	$512.8
2025	$616.4	$307.3	$5.4	$29.3	$237.0	$1,195.5	$501.1
2026	$678.0	$298.6	$5.5	$30.8	$237.0	$1,249.9	$489.3
2027	$745.8	$289.8	$5.6	$32.3	$237.0	$1,310.6	$477.5
2028	$820.4	$281.0	$5.7	$33.9	$237.0	$1,378.1	$465.8
2029	$902.5	$272.2	$5.8	$35.6	$237.0	$1,453.2	$454.0

Figure 4: Quantified Benefits* and Costs for 2020-2029



The benefits associated with the expansion projects evaluated in this analysis are substantial. A 40-year planning horizon was used in conjunction with an 8% discount rate. Based on the metrics quantified in this analysis, 2020 operational data from SPP's Integrated Marketplace estimates the upgrades to have a benefit-cost-ratio of 5.24-to-1 as demonstrated in Table 7.

TABLE 7: NET PRESENT VALUE (NPV) OF STUDY METRICS	
METRIC*	**40-Year NPV ($M)**
APC	$20,731
Reliability - Mandated	$3,080
Reliability - Avoided/Deferred	$1
Losses	$518
Wheeling	$73
Optimal Wind	$2,826
Quantified Benefits	**$27,230**
Cost (ATRR)	**$5,194**
B/C	**5.24**

When accounting for the time-value of money, discount rates and inflation rates have a major impact on the present value of benefits received over time. SPP typically uses an 8% discount rate and a 2% inflation rate in long-term planning calculations, and also did so in this study.

Proponents of EHV transmission assert it is long-term enabling infrastructure that provides public good and should be assessed at a lower "societal" discount rate in the range of 3-5% per year. Applying a lower discount rate to the portfolio of transmission projects, as show in Table 8, would further increase the benefit-cost (B/C) ratio shown above.

TABLE 8: COMPARISON OF DISCOUNT RATES		
Discount Rate	**B/C Ratio**	**B/C Ratio: years 16-40 adjusted to 2.5%**
8% Discount Rate	5.24	3.62
5% Discount Rate	7.33	4.31
3% Discount Rate	9.47	4.95

Table 9 compares results from the 2016 Value of Transmission Study to 2021's results. Notably, the B/C ratio substantially increased between the 2016 and 2021 studies. The 2021 study saw significant increases in APC versus the 2016 study. Between 2015 and 2019, SPP interconnected over 12 GW of additional wind generation to the system.

TABLE 9: COMPARISON OF 2016 & 2021 STUDY		
METRIC*	**2016 Study NPV (2020 $M)[4]**	**2021 Study NPV (2020 $M)**
APC	$11,333	$20,731
Reliability - Mandated	$2,345	$3,080
Reliability - 2% Reserve Margin Reduction	$1,466	N/A
Reliability - Avoided/Deferred	$114	$1
Losses	$100	$518
Wheeling	$1,226	$73
Optimal Wind	$1,389	$2,826
Quantified Benefits	**$17,972**	**$27,230**
Cost (ATRR)	**$5,143**	**$5,194**
B/C	**3.49**	**5.24**

* Conservative benefits using quantified metrics and average APC savings compared to 2021 year-end costs.

The APC benefit in this study is escalated by 10% to calculate the benefit of future years, identical to the 2016 study methodology. For informational purposes, SPP also calculated the 40-year NPV of APC benefit using a 2% escalation rate for years 16-40, which is the terminal value used in ITP studies for those later years. Table 10 shows results of this calculation.

TABLE 10: NPV CALCULATION WITH 2% ESCALATION RATE FOR YEARS 16-40	
METRIC	**40-Year NPV ($M)**
APC	$12,291
Reliability - Mandated	$3,080
Reliability - 2% Reserve Margin Reduction	N/A
Reliability - Avoided/Deferred	$1
Losses	$518
Wheeling	$73
Optimal Wind	$2826
Quantified Benefits	**$18,789**
Cost (ATRR)	**$5,194**
B/C	**3.62**

[4] Values from the 2016 Value of Transmission report were escalated at 2% to compare both studies in 2020 dollars.

The 345 kV backbone that SPP stakeholders built in the early half of the 2010s provided crucial capacity to facilitate the installation of intermittent resources during 2015 to 2019. These prior transmission investments allowed the installation of more renewable generation without triggering costly transmission upgrades and additions.

The transmission projects included in this analysis were constructed to meet updated NERC standards and address reliability and economic concerns. Absent these projects, deliverability and system reliability become a concern, which could result in larger curtailment of low-cost renewable generation. The increased ability to transfer energy from where renewable generation is located to SPP's load centers provides a 40-year APC savings NPV of $20.7 billion.

Mandated reliability projects accounted for $2.1 billion in transmission investment between 2015 and 2019. This is an increase of from the $1.8 billion[5] in reliability projects from those included in the 2016 Value of Transmission study.

Wheeling benefits quantified in this study reflect an incremental 156 MW of long-term firm transmission exports facilitated by transmission projects placed in service between 2015 and 2019. This is a decrease from the incremental 800 MW of long-term firm transmission exports facilitated by transmission projects placed in service between 2012 and 2014. The lower incremental amount of long-term transmission exports directly reduces the benefits associated with incremental wheeling revenues.

TRANSMISSION BENEFITS BEYOND THE QUANTIFIED METRICS ARE SIGNIFICANT

Adequate transmission to deliver power is critically important in decreasing the impact of future extreme weather conditions, provides added resilience and could mitigate the need to implement load-shed procedures. During the February 2021 winter storm, SPP's system experienced unprecedented system demands coinciding with disrupted fuel supplies and generation outages.

Although the SPP region experienced severe congestion at times during the 2021 winter weather event, significant transmission investments over the last 10-15 years allowed SPP to more fully utilize available generation resources. Over 35 GW of generation was unavailable to meet demand during the winter storm event.

Transmission interconnections with neighboring regions provided vital support to the grid during extreme cold weather and helped avoid uncontrolled blackouts. Imports provided up to 10% of SPP's energy during the winter storm event, enabling SPP to maintain system operations in the face of extensive generation outages. SPP issued three Energy Emergency Alerts during the winter storm event, calling for load shed during two of the alerts. Interconnections with neighboring regions allowed SPP to avoid larger load shed events and helped maintain system

[5] Values from the 2016 Value of Transmission report were escalated at 2% to compare both studies in 2020 dollars.

stability during extreme weather and operating conditions. Transmission, both within and outside SPP, proved critical and beneficial in avoiding longer, controlled interruptions of service.

Transmission offers a multitude of benefits above and beyond the production cost savings calculated in this analysis. A robust transmission network facilitates more efficient operations of power supply assets and increases flexibility for scheduling network maintenance. As infrastructure continues to age, the ability to accommodate transmission outages without adversely impacting grid operations will continue to be a concern of grid operators.

As the amount of intermittent generation on the SPP system increases, robust transmission infrastructure allows for the effective integration of renewable generation by increasing the ability to transfer power from generation centers to load centers. Increased transmission capability allows SPP to capitalize on the widespread geographic diversity of its footprint and increases the value of renewable resources. Investments in transmission provide flexibility for incorporating new technologies and adaptation to ever-changing environmental targets. Reaching net-zero emissions from the power generating sector will require a dramatic transformation of the existing power supply system. Transmission expansion is a critical piece of reaching net-zero emissions.

The benefits of transmission expansion are cumulative. Increasing the transmission network's interconnectedness is a major contributor to the value of incremental expansion. These network effects are difficult to capture in incremental, snapshot analyses. Centralized and coordinated planning allows for more-optimal network development and a unified approach to achieving long-term goals.

Capturing efficiencies through coordinated planning is a critical success factor of SPP's transmission planning process. Central planning is especially impactful for long-life transmission projects which provide increased optionality for future resource planning decisions.

The magnitude of transmission facilities which will require rebuilds in the next 20 years is unknown. While significant rebuilds of 69-161 kV facilities have been accomplished since 2015, SPP has limited experience needing to rebuild EHV facilities. Projects like the Wichita – Reno Co – Summit 345 kV expansion by Westar in central Kansas have been driven by the need to rebuild aging 115 kV and 138 kV facilities and the ability to accommodate EHV expansion using double circuit towers in existing rights of way.

CONCLUSIONS

Electric transmission allows for the bulk transfer of power across long distances, between centers of commerce and energy hubs. Transmission assets provide system flexibility and optionality to improve operating efficiencies. Expansion of transmission assets provides other benefits to grid operations and planning, though some metrics are difficult to quantify.

The actual benefits associated with transmission expansion, similar to market benefits, typically exceed planning model projections due to assumptions used in those methodologies. Uncertainties and volatility in real-time operations increase system costs and the value provided by transmission assets. Extreme market conditions and weather events multiply the tremendous values regularly provided by transmission projects. The February 2021 winter storm is a prime example: SPP experienced record demand concurrent with generation outages and fuel shortages. Transmission between SPP and neighboring regions provided vital support to the SPP system during that storm and helped prevent additional load shedding.

The calculated benefits associated with transmission expansion projects from 2015 through 2019 are substantial and expected to grow. The net present value (NPV) of savings and benefit-to-cost ratio for these projects are significant, as demonstrated by 2020 operational data.

This study evaluated the benefits of $3.35 billion of transmission projects placed in service between 2015 and 2019. It analyzed production cost benefits from transmission expansion that were realized during actual operations. From these projects, SPP achieved an estimated adjusted production cost (APC) savings of more than $1.0 million per day, representing an annualized savings of $382.7 million per year. SPP expects the NPV of these APC benefits to exceed $20.7 billion over the next 40 years, compared to a present value of revenue requirements of less than $5.2 billion.

This study quantified $6.5 billion in benefits associated with increased wheeling revenues, reliability and resource adequacy, reduced transmission losses and optimal wind development. Overall, SPP expects the NPV of quantified benefits associated with transmission expansion to exceed $27.2 billion over the next 40 years, resulting in a benefit-cost ratio of 5.24.

Major expansions in the transmission system provide numerous benefits and allow for more optimal development of long-term resource plans. Transmission expansion can facilitate increased economic transfers with neighboring systems that are difficult, if not impossible, to forecast in advance. Continued transmission expansion is key to maximizing value and maintaining SPP's ability to plan and address uncertainties.

BRATTLE GROUP LETTER

Brattle

MEMORANDUM

TO	Casey Cathey, Britt Runion, Southwest Power Pool
FROM	T. Bruce Tsuchida, Johannes P. Pfeifenberger, Pablo A. Ruiz, Akarsh Sheilendranath, The Brattle Group
SUBJECT	**SPP 2021 Value of Transmission Study Report**
DATE	January 4, 2022

Thank you for the opportunity to review the Value of Transmission Study report prepared by SPP staff in December 2021 (2021 Study). The 2021 Study quantifies the overall value provided by transmission projects placed in service within the SPP footprint between 2015 and 2019. This 2021 Study, together with its preceding path-breaking study that quantified the value for projects put in service between 2012 and 2014 (2016 Study), represents best available industry practice and provides a more accurate and realistic estimate of the benefits provided by SPP-approved transmission projects. SPP performed this evaluation by fully rerunning the select representative days in its Day Ahead Reliability Unit Commitment (DA RUC) software with and without the SPP-approved transmission projects (benchmark scenario) in place. [1]

Based on our review of the 2021 Study, we find that the benefits of the 2021 Study may be underestimated. This is the case because:

1. The benchmark scenario without the transmission projects assumes the same amount of wind resources to be installed, while transmission projects likely enabled lower-cost wind developments that would not have been realized without the new transmission;
2. Extreme events are not included in the evaluation. The value of transmission tends to be disproportionately high during such events as transmission enables additional power transfers from areas less affected by the events to the areas most affected;

[1] The 2021 Study uses 60 selected days from the year 2020 based on production costs. The 60 selected days split evenly over 12 months (i.e., 5 days per month) represent days with the 10th, 25th, 50th, 75th, and 90th percentile production costs within a given month.

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3. Other quantifiable benefits, such as the avoided costs of necessary reliability upgrades (or avoided replacements of aging assets in the near future), are not included in the evaluation; and
4. The analysis only captures benefits accruing in the day-ahead market. Additional transmission-related benefits associated with real-time conditions that diverge from the day-ahead timeframe are not quantified.

Going forward, we believe SPP's continued evaluation of transmission projects on a periodic basis would greatly improve the understanding of transmission-related benefits by SPP, its stakeholders, and the overall industry. In fact, this type of analysis could become a standard for others to follow. With that potential in mind, we also offer the following recommendations, along with examples, for further refinements that could be implemented in future Value of Transmission Studies:

- Discuss some of the underlying study assumptions in more detail. SPP staff may be versed in them but the general audience may not be as familiar.
    - For example, the report does not elaborate on the various SPP-specific parameters used, such as the escalators for calculating net present values over a longer time horizon. In the report, SPP assumes 5% fuel price and 10% adjusted production cost (APC) benefit escalation factors. SPP also assumes 8% discount and 2% inflation rates. There is no discussion of how these factors and rates were derived, or if there are any correlations amongst them. Discussions of how these parameters were derived could help others develop their own studies using the SPP Value of Transmission Studies as a reference.
- Include further analysis that compares the benefits (and costs) to earlier vintage studies. For example:
    - The 2021 Study does not elaborate on why some of the benefits, such as wheeling benefits, changed markedly from the 2016 Study.
    - APC savings, which is a significant portion of the benefits evaluated, are largely dependent on reduced fuel costs. A simple comparative analyses of the underlying fuel cost assumptions, and the quantity of newly integrated renewable resources with very low (i.e., near zero) marginal operating costs,

could provide additional insights into why and how production cost savings changed between two studies.[7]

- Add qualitative discussions on benefits that have not been quantified.
    - For example, the additional benefits of transmission during rare but challenging events (such as during Winter Storm Uri in early 2021) are not quantified. If quantifying such benefits is difficult in the immediate-term, it can start by referring to third-party studies of such events, so the audience can understand the potential magnitude of such benefits.

We appreciate the opportunity to review and provide these comments on the 2021 Value of Transmission Study (which improved on the 2016 Study). The 2021 Study showcases how to provide a more accurate and realistic estimate of the value that the SPP-approved transmission projects provide to the SPP system, its members, and the electricity customers served in SPP's footprint.

Respectfully submitted,

T. B. Tsuchida J. P. Pfeifenberger P. A. Ruiz A. Sheilendranath

[7] In SPP, a large portion of the APC savings are from low marginal cost renewable resources, such as wind, replacing generation from fossil fuel resources. If renewables replace the same amount of generation from fossil fuel, higher fossil fuel prices (i.e., costs) will lead to higher APC benefits. Similarly, allowing more wind generation to be integrated without curtailments will lead to higher APC benefits, even under the same fossil fuel prices.

APPENDIX A: ACRONYMS

ACRONYM	DESCRIPTION
APC	Adjusted Production Cost
ATRR	Annual Transmission Revenue Requirement
B/C	Benefit-cost
CAIDI	Customer Average Interruption Duration Index[6]
CROW	Control Room Operations Window software
Day-Ahead RUC	Day-Ahead Reliability Unit Commitment
EHV	Extra High Voltage
FERC	Federal Energy Regulatory Commission
GDP	Gross Domestic Product
GI	Generation Interconnection
GW	Gigawatt
ISO	Independent System Operator
ITP	Integrated Transmission Plan
kV	Kilovolt
MW	Megawatt
N/A	Not Applicable
NERC	National Electric Reliability Council
NPV	Net Present Value
RCAR	Regional Cost Allocation Review
RTO	Regional Transmission Organization
SAIDI	System Average Interruption Duration Index[7]
SPP	Southwest Power Pool
VATF	Value and Affordability Task Force

[6] CAIDI is a measure of duration of the average amount of time a customer is without power per interruption.
[7] SAIDI is a measure of duration of minutes over the year that the average customer is without power.

APPENDIX B: NPV BY CATEGORY

Projected net present value (NPV) of transmission projects installed between March 1, 2015, and Dec. 31, 2019, based on Integrated Marketplace data from Jan. 1, 2020, through Dec. 31, 2020.

BENEFIT CATEGORY	TRANSMISSION BENEFIT	NPV ($M)
Adjusted Production Cost Savings	Reduced production costs due to lower unit commitment, economic dispatch, and economically efficient transactions with neighboring systems	20,731*
1. Additional Production Cost Savings **	a. Impact of generation outages and OR unit designations	INCLUDED
	b. Reduced transmission energy losses	INCLUDED
	c. Reduced congestion due to transmission outages	INCLUDED
	d. Mitigation of extreme events and system contingencies	PARTIAL
	e. Mitigation of weather and load uncertainty	PARTIAL
	f. Reduced cost due to imperfect foresight of real-time system conditions	N/Q
	g. Reduced cost of cycling power plants	PARTIAL
	h. Reduced amounts and costs of operating reserves	PARTIAL
	i. Mitigation of reliability-must-run (RMR) conditions	N/Q
2. Reliability and Resource Adequacy Benefits	a. Mandated reliability projects	3,080
	b. Avoided/deferred reliability projects	1
	c. Reduced loss of load probability or c. reduced planning reserve margin (2% assumed)	N/A
3. Wheeling Revenues	a. Increased wheeling revenues	73
4. Generation Capacity Cost Savings	a. Reduced on-peak losses	518
5. Public Policy Benefits	a. Optimal wind generation development	2,826
6. Other Benefits	a. Storm hardening	N/Q
	b. Fuel diversity	PARTIAL
	c. System flexibility	PARTIAL
	d. Reduced emissions of air pollutants	N/Q
	e. Improved utilization of transmission corridors	N/Q
	f. Increased employment and economic activity; Increased tax revenues	N/Q
	TOTAL	**27,230+**

** Benefits limited to SPP footprint since transactions with neighbors fixed*

*** Partially captured since APC savings based on 57 days and did not include extreme weather events, increased capital investments for rebuilds to address wear and tear impacts beyond in variable operating and maintenance, etc.*

APPENDIX C: INCLUDED TRANSMISSION PROJECTS

UPGRADE ID	PROJECT NAME	R / E / DA	TYPE	IN-SERVICE DATE	COST
10176	Line - OGE Woodward - WFEC Woodward 69 kV	R	Regional Reliability	5/1/2017	$2,369,867
10179	Line - ACME - W Norman 69 kV	R	Regional Reliability	8/1/2015	$1,033,064
10413	Multi - Cowskin - Westlink - Tyler - Hoover 69 kV	R	Regional Reliability	5/22/2015	$3,832,862
10414	Multi - Cowskin - Westlink - Tyler - Hoover 69 kV	R	Regional Reliability	12/1/2015	$5,504,049
10471	Line - Fletcher - Marlow Jct 69 kV	R	Regional Reliability	9/25/2015	$2,218,635
10519	Line - Lindsay - Wallville 69 kV	R	Regional Reliability	3/13/2015	$1,609,327
10523	Multi - Granfield - Cache SW 138 kV	R	Regional Reliability	3/31/2015	$1,431,399
10524	Multi - Granfield - Cache SW 138 kV	R	Regional Reliability	4/1/2016	$4,868,110
10538	Line - 64th - Eastborough 69 kV Rebuild	R	Regional Reliability	5/29/2015	$5,149,880
10583	Multi - Chamber Springs - Farmington 161 kV	R	Regional Reliability	3/28/2017	$9,206,275
10597	Line - Curry - Bailey 115kV	R	Regional Reliability	9/29/2016	$38,607,163
10604	Sub - Arkansas City - Paris 69 kV Terminal Upgrades	R	Transmission Service	2/24/2017	$209,202
10615	Line - Forbing Tap - South Shreveport 69 kV	R	Regional Reliability	4/13/2016	$1,221,505
10629	XFR - Chaves 230/115 kV Transformer Ckt 2	R	Regional Reliability	4/1/2015	$2,751,165
10646	Line - Evenside - Northwest Henderson 69 kV	R	Regional Reliability	5/11/2018	$11,168,315
10649	Line - Brownlee - North Market 69 kV	R	Regional Reliability	3/22/2017	$17,132,431
10657	Line - Ellerbe Road - Forbing Tap 69 kV Ckt 1	R	Regional Reliability	4/13/2016	$8,174,689
10828	Multi: Eagle Creek 115 and 69 kV Taps - 116/69 XF - 3 new lines	R	Regional Reliability	11/14/2015	$0
10935	Multi - Iatan - Nashua 345 kV	E	Balanced Portfolio	4/30/2015	$62,949,252
10945	Multi - Iatan - Nashua 345 kV	E	Balanced Portfolio	4/8/2015	$0
50499	Multi - Iatan - Nashua 345 kV	E	Balanced Portfolio	4/8/2015	$0
11007	XFR - Happy County 115/69 kV Transformers	R	Regional Reliability	6/30/2016	$2,057,140
11009	XFR - Happy County 115/69 kV Transformers	R	Regional Reliability	6/30/2016	$2,074,528
11010	XFR - Newhart 230/115 kV Ckt 2	R	Regional Reliability	12/2/2016	$8,734,222
11017	Line - Carlisle - Wolfforth 230 kV	R	Regional Reliability	3/27/2018	$31,474,329
11023	Multi - Cherry Sub add 230kV source and 115 kV Hastings Conversion	R	Regional Reliability	3/13/2015	$0
11027	Sub - East Plant 115 kV Terminal Upgrade	R	Regional Reliability	6/1/2017	$0
11052	Multi - Pleasant Hill 230/115 kV	R	Regional Reliability	2/26/2016	$16,427,217
11053	Multi - Pleasant Hill 230/115 kV	R	Regional Reliability	5/1/2015	$10,981,451
11054	Multi - Pleasant Hill 230/115 kV	R	Regional Reliability	9/10/2015	$16,001,657
11064	XFR - Eddy Co. 230/115 kV Transformer Ckt 1	R	Regional Reliability	3/31/2017	$4,490,583
11067	Multi - Bowers - Howard 115 kV Ckt 1	R	Regional Reliability	4/22/2015	$3,012,039
50453	Multi - Bowers - Howard 115 kV Ckt 1	R	Regional Reliability	2/28/2016	$35,910,939
11082	Line - Gill Energy Center East - MacArthur 69 kV	R	Regional Reliability	5/21/2015	$6,605,340
11101	Line - Portales - Zodiac 69 kV to 115 kV Conversion	R	Regional Reliability	11/30/2015	$8,084,263
11110	XFR - Graham 115/69 kV Ckt 1	R	Regional Reliability	12/9/2015	$1,337,255
11142	Line - Sub 917 - Sub 918 69 kV Ckt 1	R	Regional Reliability	5/21/2018	$155,546

UPGRADE ID	PROJECT NAME	R / E / DA	TYPE	IN-SERVICE DATE	COST
11158	Line - Bluebell - Prattville 138 kV	R	Regional Reliability	6/2/2015	$8,535,104
51298	Line - Bluebell - Prattville 138 kV	R	Regional Reliability	3/9/2016	$0
50580	Multi - Payne Switching Station - OU 138 kV conversion	R	Regional Reliability	9/25/2015	$3,672,718
11236	Line - Valliant - NW Texarkana 345 kV	E	High Priority	12/16/2016	$170,354,152
11238	Multi - Nebraska City - Mullin Creek - Sibley 345 kV (GMO)	E	High Priority	12/14/2016	$240,770,219
11240	Line - Nebraska City - Mullin Creek 345 kV (OPPD)	E	High Priority	12/15/2016	$59,170,665
11261	Line - Broken Arrow North South Tap - Oneta 138 kV Ckt 1	R	Transmission Service	5/25/2016	$5,060,000
11315	Line - Randall - South Georgia and Osage Station 115 kV Line Re-termination	R	Regional Reliability	4/19/2017	$11,142,098
11317	XFR - Grassland 230/115 kV Transformer Ckt 1	R	Regional Reliability	2/19/2016	$4,013,798
11318	XFR - Swisher 230/115 kV Ckt 1	R	Regional Reliability	12/3/2015	$2,869,670
11343	Line - Arcadia - Redbud 345 kV Ckt 3	R	Transmission Service	6/28/2019	$18,000,000
11355	XFR - Crosby Co. 115/69 kV Transformers Ckt 1 and Ckt 2	R	Regional Reliability	5/1/2015	$4,204,317
11356	XFR - Crosby Co. 115/69 kV Transformers Ckt 1 and Ckt 2	R	Regional Reliability	9/10/2015	$0
11358	Line - Randall - South Georgia 115 kV reconductor	R	Regional Reliability	4/12/2017	$4,678,798
11496	XFR - Northwest 345/138 kV Ckt 3	R	Transmission Service	5/1/2015	$5,054,375
51350	XFR - Northwest 345/138 kV Ckt 3	R	Transmission Service	5/1/2015	$7,581,562
11501	Line - Allen Sub - Lubbock South Interchange 115 kV Ckt 1	R	Regional Reliability	4/26/2019	$186,265
11508	XFR - Hitchland 230/115 kV Ckt 2	R	Regional Reliability	3/29/2017	$7,012,238
11509	XFR - Carlisle 230/115 kV Ckt 1	R	Regional Reliability	3/9/2018	$3,109,347
50168	XFR - Ft Smith 500/161 kV Ckt 3	R	Transmission Service	11/10/2017	$22,598,424
50328	Line - Halstead South - Sedgwick 138 kV	R	Transmission Service	4/20/2016	$139,054
50366	Line - Canton - Taloga 69 kV ckt 1	R	Transmission Service	10/15/2015	$3,059,477
50367	XFR - Taloga 138/69 kV ckt 1	R	Transmission Service	5/1/2015	$787,310
50406	Multi - Cedar Lake Interchange 115 kV	R	Regional Reliability	8/31/2015	$6,981,891
50407	Multi - Cedar Lake Interchange 115 kV	R	Regional Reliability	8/31/2015	$9,933,961
50409	Multi - Ellsworth - Bushton - Rice 115 kV	R	Regional Reliability	3/26/2015	$20,395,064
50413	Multi - Chisholm - Gracemont 345 kV	R	Regional Reliability	12/7/2017	$87,396,515
50414	Multi - Chisholm - Gracemont 345 kV	R	Regional Reliability	12/7/2017	$0
50419	Multi - Chisholm - Gracemont 345 kV	R	Regional Reliability	3/1/2018	$35,955,045
50768	Multi - Chisholm - Gracemont 345 kV	R	Regional Reliability	12/7/2017	$0
50420	Multi - Woodward District EHV - Tatonga - Matthewson - Cimarron 345 kV	R	Regional Reliability	2/1/2018	$49,410,389
50421	Multi - Woodward District EHV - Tatonga - Matthewson - Cimarron 345 kV	R	Regional Reliability	2/15/2018	$59,039,903
50456	Multi - Woodward District EHV - Tatonga - Matthewson - Cimarron 345 kV	R	Regional Reliability	7/1/2016	$27,766,293
50458	Multi - Woodward District EHV - Tatonga - Matthewson - Cimarron 345 kV	R	Regional Reliability	6/24/2016	$22,981,628
50425	Multi - Elm Creek - Summit 345 kV	R	Regional Reliability	3/1/2018	$32,835,921
50426	Multi - Elm Creek - Summit 345 kV	R	Regional Reliability	12/31/2016	$0
50429	Multi - Elm Creek - Summit 345 kV	R	Regional Reliability	12/31/2016	$49,560,694
10425	XFR - Moundridge 138/115 kV	R	Regional Reliability	4/7/2015	$13,441,132
50440	Multi - Hoskins - Neligh 345 kV	R	Regional Reliability	6/17/2016	$51,445,755
50441	Multi - Hoskins - Neligh 345 kV	R	Regional Reliability	6/8/2018	$10,381,296
50621	Multi - Hoskins - Neligh 345 kV	R	Regional Reliability	6/17/2016	$20,412,346

UPGRADE ID	PROJECT NAME	R / E / DA	TYPE	IN-SERVICE DATE	COST
50452	Multi - Hobbs - Yoakum 345/230 kV Ckt 1	R	High Priority	3/30/2018	$14,113,711
50457	Multi - Hobbs - Yoakum 345/230 kV Ckt 1	R	High Priority	5/30/2019	$80,649,240
10600	Line - East Manhattan - Jeffrey Energy Center 230 kV Ckt 1	R	Regional Reliability	4/7/2017	$34,580,095
50503	Line - Bowers - Canadian 69 kV Rebuild	R	Regional Reliability	7/1/2015	$28,931,563
50509	Line - Ft Dodge - N Ft. Dodge - Spearville CKT 2	DA	Generation Interconnection	5/22/2015	$9,546,545
51007	Line - Ft Dodge - N Ft. Dodge - Spearville CKT 2	DA	Generation Interconnection	5/22/2015	$15,397,551
50510	XFR - Spearville 345/115kV CKT 1	DA	Generation Interconnection	5/22/2015	$15,829,550
50513	Line - Bushland Interchange - Deaf Smith County Interchange 230 kV Ckt 1	R	Regional Reliability	12/15/2017	$246,927
50515	XFR - Deaf Smith County Interchange 230/115 kV transformer CKT 1	R	Regional Reliability	2/25/2016	$3,428,156
50516	XFR - Deaf Smith County Interchange 230/115 kV Ckt 2	R	Regional Reliability	6/30/2016	$2,976,736
50517	Line - Ochiltree - Tri-County Cole 115 kV Ckt 1	R	Regional Reliability	11/20/2015	$11,735,967
50520	XFR - Mingo 345/115 kV Ckt 2 Transformer	R	Regional Reliability	1/11/2017	$8,597,207
51180	XFR - Mingo 345/115 kV Ckt 2 Transformer	R	Regional Reliability	1/11/2017	$4,332,021
50532	Multi - Geary County 345/115 kV and Geary - Chapman 115 kV	R	Regional Reliability	6/1/2018	$23,729,799
50534	Multi - Geary County 345/115 kV and Geary - Chapman 115 kV	R	Regional Reliability	12/13/2018	$30,197,842
50605	Multi - Geary County 345/115 kV and Geary - Chapman 115 kV	R	Regional Reliability	5/17/2018	$14,344,514
50533	Line - Kerr - 412 Sub 161 kV Ckt 1	R	Regional Reliability	6/1/2017	$207,691
50535	Line - 412 Sub - Kansas Tap 161 kV Ckt 1	R	Regional Reliability	9/11/2019	$409,848
50545	Line - Rock Hill - Springridge Pan-Harr REC 138 kV Ckt 1	R	Regional Reliability	9/19/2016	$25,330,929
50546	Line - Atoka - Eagle Creek 115 kV Ckt 1	R	Regional Reliability	12/31/2018	$24,272,586
50560	XFR - Potash Junction 115/69 kV Ckt 1	R	Regional Reliability	8/7/2015	$2,422,732
50563	Multi - Kilgore Switch - South Portales - Market St. - Portales 115 kV	R	Regional Reliability	2/7/2018	$4,604,052
50564	Multi - Kilgore Switch - South Portales - Market St. - Portales 115 kV	R	Regional Reliability	7/13/2018	$4,850,346
50565	Multi - Kilgore Switch - South Portales - Market St. - Portales 115 kV	R	Regional Reliability	2/7/2018	$15,189,905
50567	Line - Dekalb - New Boston 69 kV	R	Regional Reliability	6/5/2015	$15,777,911
50568	Line - Hardy Street - Waterworks 69 kV	R	Regional Reliability	6/25/2015	$5,366,606
50569	Line - Midland REC - North Huntington 69 kV	R	Regional Reliability	5/15/2015	$11,990,487
50570	Line - Midland - Midland REC 69 kV	R	Regional Reliability	5/15/2015	$0
50571	Line - Howe Interchange - Midland 69 kV	R	Regional Reliability	5/15/2015	$0
50572	Line - Chelsea - Childers 69 kV	R	Zonal Reliability	7/29/2015	$355,000
50574	Line - 6815 Tap South in Ckt 623 - Sub 6815 T3 69 kV Ckt 1	R	Regional Reliability	3/13/2015	$439,561
50581	XFR - Gill 138/69 kV Ckt 3	R	Regional Reliability	9/17/2015	$5,010,729
50582	Multi - Viola 345/138kV Transformer and 138 kV Lines to Clearwater and Gill	R	Regional Reliability	4/19/2018	$10,144,608
50583	Multi - Viola 345/138kV Transformer and 138 kV Lines to Clearwater and Gill	R	Regional Reliability	11/16/2018	$23,061,836
50584	Multi - Viola 345/138kV Transformer and 138 kV Lines to Clearwater and Gill	R	Regional Reliability	11/16/2018	$18,318,471
50612	Multi - Viola 345/138kV Transformer and 138 kV Lines to Clearwater and Gill	R	Regional Reliability	4/19/2018	$2,393,900
50606	Line - Hays Plant - South Hays 115 kV Ckt 1 Rebuild	R	Regional Reliability	10/13/2016	$10,219,608
50607	Sub - Messick 500/230 kV	R	Regional Reliability	4/29/2016	$58,649,881
50608	Multi - Bobcat Canyon 345/115 kV and Bobcat Canyon - Scottsbluff 115 kV	R	Regional Reliability	10/26/2017	$5,746,994
50609	Multi - Bobcat Canyon 345/115 kV and Bobcat Canyon - Scottsbluff 115 kV	R	Regional Reliability	10/26/2017	$21,201,741
50616	Multi - Bobcat Canyon 345/115 kV and Bobcat Canyon - Scottsbluff 115 kV	R	Regional Reliability	10/26/2017	$4,009,802

UPGRADE ID	PROJECT NAME	R / E / DA	TYPE	IN-SERVICE DATE	COST
51570	Multi - Bobcat Canyon 345/115 kV and Bobcat Canyon - Scottsbluff 115 kV	R	Regional Reliability	6/1/2017	$1,345,626
50624	Multi - Renfrow - Medford Tap - Chikaskia 138 kV	R	Regional Reliability	4/1/2016	$5,754,747
50636	Line - Canyon East Sub - Canyon West Sub 115 kV Ckt 1	R	Regional Reliability	5/18/2016	$4,300,650
50637	Line - Mustang - Shell CO2 115 kV Ckt 1	R	Transmission Service	4/29/2019	$18,699,621
50690	Line - Oxy Permian Sub - West Bender Sub 115 kV Ckt 1	R	Regional Reliability	10/28/2016	$692,678
50691	Line - Butler - Weaver 138 kV Ckt 1	R	Regional Reliability	1/28/2016	$0
50693	Quahada Switching Station 115 kV	R	Regional Reliability	7/9/2015	$7,668,328
50699	XFR - S1366 161/69 kV Ckt 1	R	Regional Reliability	5/31/2016	$623,116
50761	XFR - S1366 161/69 kV Ckt 1	R	Regional Reliability	5/31/2016	$422,270
50708	Multi - Potash Junction - Road Runner 230/115 kV Ckt 1	R	High Priority	11/30/2015	$0
50709	Multi - Potash Junction - Road Runner 230/115 kV Ckt 1	R	High Priority	11/30/2015	$59,848,300
50718	Line - Broadmoor - Fort Humbug 69 kV Ckt 1	R	Regional Reliability	6/21/2017	$4,352,349
50719	Line - Daingerfield - Jenkins Rec 69 kV Ckt 1 Rebuild	R	Regional Reliability	11/9/2017	$1,835,000
50720	Line - Hallsville - Longview Heights 69 kV Ckt 1	R	Regional Reliability	3/2/2018	$9,930,039
50721	Line - Hallsville - Marshall 69 kV Ckt 1	R	Regional Reliability	6/2/2017	$10,670,271
50722	Line - Chavis - Price - CV Pines - Capitan 115 kV Ckt 1	R	Regional Reliability	1/30/2018	$1,185,000
50723	Line - Chavis - Price - CV Pines - Capitan 115 kV Ckt 1	0	Regional Reliability	1/30/2018	$0
50724	Line - Chavis - Price - CV Pines - Capitan 115 kV Ckt 1	R	Regional Reliability	1/30/2018	$1,727,131
50726	Line - Wellington - Creswell 69 kV	R	Regional Reliability	3/16/2016	$4,418,722
50727	Line - Wellington - Creswell 69 kV	R	Regional Reliability	11/20/2015	$3,824,314
50730	Line - Crestview - Kenmar 69 kV	R	Regional Reliability	11/13/2015	$9,342,217
50733	Line - Crestview - Kenmar 69 kV	R	Regional Reliability	11/7/2017	$5,246,249
50739	Line - Montgomery - Sedan 69 kV Ckt 1	R	Zonal Reliability	12/28/2017	$12,634,488
50740	Line - Montgomery - Sedan 69 kV Ckt 1	R	Zonal Reliability	9/11/2019	$15,906,575
50745	Multi - Fremont - S991 E 161/69 kV Ckt 1	R	Regional Reliability	4/30/2019	$2,075,199
50746	Multi - Fremont - S991 E 161/69 kV Ckt 1	R	Regional Reliability	4/30/2019	$4,254,712
50747	Multi - Fremont - S991 E 161/69 kV Ckt 1	R	Regional Reliability	4/30/2019	$20,150,325
50748	Multi - S906 - S912 69 kV	R	Regional Reliability	6/1/2018	$1,143,763
50749	Multi - S906 - S912 69 kV	R	Regional Reliability	6/1/2018	$128,670
50757	Multi - Broken Bow Wind - Ord 115 kV Ckt 1	R	Regional Reliability	3/1/2018	$29,418,126
50760	Multi - Broken Bow Wind - Ord 115 kV Ckt 1	R	Regional Reliability	6/1/2018	$516,009
50758	Multi - Knob Hill - Lane - Noel 138 kV Ckt 1	R	Regional Reliability	9/30/2018	$4,367,290
51030	Multi - Knob Hill - Lane - Noel 138 kV Ckt 1	R	Regional Reliability	10/1/2018	$912,703
50802	Line - Darlington - Roman Nose 138 kV Ckt 1	R	High Priority	6/29/2017	$11,033,623
51117	Line - Darlington - Roman Nose 138 kV Ckt 1	R	High Priority	12/15/2016	$11,538,456
50805	Multi - Knipe - SW Station - Linwood & Warwick Tap 138 kV Ckt 1	R	High Priority	5/11/2018	$11,352,952
50806	Multi - Knipe - SW Station - Linwood & Warwick Tap 138 kV Ckt 1	R	High Priority	5/11/2018	$8,494,353
50807	Multi - Knipe - SW Station - Linwood & Warwick Tap 138 kV Ckt 1	R	High Priority	5/11/2018	$9,409,815
50809	Sub - Alva OGE 69 kV	R	High Priority	6/1/2015	$62,471
50851	Multi - Hobbs - Kiowa 345 kV Ckt 1	R	High Priority	3/30/2018	$11,806,387
50875	Multi - Hobbs - Kiowa 345 kV Ckt 1	R	High Priority	3/30/2018	$52,084,447

UPGRADE ID	PROJECT NAME	R / E / DA	TYPE	IN-SERVICE DATE	COST
50819	Multi - Kiowa - North Loving - China Draw 345/115 kV Ckt 1	R	High Priority	6/1/2018	$20,816,118
50820	Multi - Kiowa - North Loving - China Draw 345/115 kV Ckt 1	R	High Priority	6/1/2018	$25,905,391
50849	Multi - Kiowa - North Loving - China Draw 345/115 kV Ckt 1	R	High Priority	6/1/2018	$5,434,144
50850	Multi - Kiowa - North Loving - China Draw 345/115 kV Ckt 1	R	High Priority	6/1/2018	$6,110,103
50852	Multi - Kiowa - North Loving - China Draw 345/115 kV Ckt 1	R	High Priority	6/1/2018	$6,814,454
50854	Multi - Kiowa - North Loving - China Draw 345/115 kV Ckt 1	R	High Priority	6/1/2018	$7,318,532
50862	Multi - Potash Junction - Road Runner 345 kV Conv. and Transformers at Kiowa and Road Runner	R	High Priority	4/30/2018	$6,777,778
50868	Multi - Potash Junction - Road Runner 345 kV Conv. and Transformers at Kiowa and Road Runner	R	High Priority	4/30/2018	$6,133,123
50871	Multi - Potash Junction - Road Runner 345 kV Conv. and Transformers at Kiowa and Road Runner	R	High Priority	4/30/2018	$5,136,295
50827	Line - Anthony - Harper 138 kV Ckt 1	R	High Priority	3/27/2018	$11,300,191
50828	Line - Harper - Rago 138 kV Ckt 1	R	High Priority	12/20/2017	$11,475,555
50881	Multi - Andrews 230/115 kV Transformer and Andrews - NEF 115 kV Ckt 1	R	High Priority	4/4/2016	$12,154,286
50882	Multi - Andrews 230/115 kV Transformer and Andrews - NEF 115 kV Ckt 1	R	High Priority	4/4/2016	$3,031,564
50874	Multi - Dollarhide - Toboso Flats 115 kV	0	High Priority	6/1/2018	$0
50869	Multi - China Draw - Yeso Hills 115 kV	R	High Priority	5/3/2019	$4,547,820
50988	Multi - China Draw - Yeso Hills 115 kV	R	High Priority	5/3/2019	$383,797
50915	Line - Park Lane - Seminole 138 kV Terminal Upgrades	R	Transmission Service	1/29/2016	$84,000
50920	XFR - Seminole 230/115 kV #1 and #2	R	Regional Reliability	12/28/2018	$3,355,302
50921	XFR - Seminole 230/115 kV #1 and #2	R	Regional Reliability	4/30/2019	$2,587,642
50877	Multi - Ponderosa - Ponderosa Tap 115 kV	DA	High Priority	6/1/2017	$1,109,068
50879	Multi - Ponderosa - Ponderosa Tap 115 kV	DA	High Priority	6/1/2017	$547,377
50923	Multi - Ponderosa - Ponderosa Tap 115 kV	R	High Priority	6/1/2017	$10,130,206
50925	Multi - Livingston Ridge - Sage Brush - Cardinal 115 kV	R	High Priority	12/16/2016	$2,430,161
50926	Multi - Livingston Ridge - Sage Brush - Cardinal 115 kV	R	High Priority	11/30/2017	$11,943,519
50951	Multi - Livingston Ridge - Sage Brush - Cardinal 115 kV	R	High Priority	12/15/2016	$5,687,646
50967	Multi - Livingston Ridge - Sage Brush - Cardinal 115 kV	R	High Priority	12/15/2016	$8,378,836
50954	Line - Ochoa - Ponderosa Tap 115 kV Ckt 1 Rebuild	R	Regional Reliability	6/1/2018	$4,190,439
50870	Line - Hopi Sub - North Loving - China Draw 115 kV Ckt 1	R	High Priority	5/25/2015	$10,421,028
50883	Line - Hopi Sub - North Loving - China Draw 115 kV Ckt 1	R	High Priority	5/25/2015	$11,070,902
50990	Line - Mt. Pleasant - West Mt. Pleasant 69 kV Ckt 1	R	Regional Reliability	4/20/2015	$5,738,013
50991	Multi - Anthony - Bluff City - Caldwell - Mayfield - Milan - Viola 138 kV Ckt 1	R	High Priority	5/25/2018	$45,155,249
50993	Multi - Anthony - Bluff City - Caldwell - Mayfield - Milan - Viola 138 kV Ckt 1	R	High Priority	5/25/2018	$0
50994	Multi - Anthony - Bluff City - Caldwell - Mayfield - Milan - Viola 138 kV Ckt 1	R	High Priority	5/25/2018	$0
50995	Multi - Anthony - Bluff City - Caldwell - Mayfield - Milan - Viola 138 kV Ckt 1	R	High Priority	5/25/2018	$0
51394	Multi - Anthony - Bluff City - Caldwell - Mayfield - Milan - Viola 138 kV Ckt 1	R	High Priority	5/25/2018	$0
51395	Multi - Anthony - Bluff City - Caldwell - Mayfield - Milan - Viola 138 kV Ckt 1	R	High Priority	5/31/2018	$1,992,105
51014	Line - Grady - Round Creek 138 kV Ckt 1	R	High Priority	11/5/2015	$0
50992	XFR - Tuco 230/115 kV Ckt 1	R	Transmission Service	6/15/2019	$103,149
50873	Multi - Battle Axe - Road Runner 115 kV	R	High Priority	11/12/2015	$9,000,997
50968	Multi - Battle Axe - Road Runner 115 kV	R	High Priority	12/4/2015	$2,664,288
51034	Multi - Ellerbe Road - Lucas 69 kV	R	Regional Reliability	2/27/2019	$9,375,483

UPGRADE ID	PROJECT NAME	R / E / DA	TYPE	IN-SERVICE DATE	COST
51039	XFR - Yoakum County Interchange 230/115 kV Ckts 1 and 2	R	Transmission Service	3/15/2019	$2,346,404
51050	XFR - Yoakum County Interchange 230/115 kV Ckts 1 and 2	R	Regional Reliability	5/7/2019	$3,201,912
51048	Multi - Midwest Pump - Midwest Pump Tap 115 kV Ckt 1	R	High Priority	7/2/2016	$4,057,015
51049	Multi - Midwest Pump - Midwest Pump Tap 115 kV Ckt 1	R	High Priority	7/2/2016	$0
51070	Line - Twin Church - Dixon County 230kV Ckt 1	DA	Generation Interconnection	11/1/2018	$61,774
51109	Line - Canyon West - Dawn - Panda - Deaf Smith 115 kV Ckt 1 Rebuild	R	Regional Reliability	3/9/2018	$3,483,013
51110	Line - Canyon West - Dawn - Panda - Deaf Smith 115 kV Ckt 1 Rebuild	R	Regional Reliability	11/14/2018	$1,738,575
51111	Line - Canyon West - Dawn - Panda - Deaf Smith 115 kV Ckt 1 Rebuild	R	Regional Reliability	4/1/2018	$5,289,345
51112	Carlisle Interchange - Tuco Interchange 230 kV Ckt 1	R	Transmission Service	10/24/2016	$326,937
50821	XFR - Potash Junction 230/115 kV Ckt 1	R	High Priority	5/15/2016	$3,923,562
50931	Line - China Draw - Wood Draw 115 kV Ckt 1	R	High Priority	6/15/2017	$14,514,395
51133	XFR - Sub 3459 345/161 kV Ckt 1 Transformer	R	Regional Reliability	6/1/2018	$6,588,939
51136	XFR - Sub 3459 345/161 kV Ckt 1 Transformer	R	Regional Reliability	6/1/2018	$3,604,757
51139	Sub - Cimarron - Draper 345 kV Terminal Upgrades	R	Regional Reliability	12/1/2017	$1,121,449
51140	Sub - Amoco - Sundown 230 kV Terminal Upgrades	R	Regional Reliability	2/20/2019	$714,760
51146	Sub - Claremore 161 kV Terminal Upgrades	R	Regional Reliability	11/17/2017	$11,200
51151	Line - Iatan - Stranger 345 kV Ckt 1 Voltage Conversion	E	Economic	6/1/2018	$1,885,731
51283	Line - Iatan - Stranger 345 kV Ckt 1 Voltage Conversion	E	Economic	6/1/2018	$7,688,424
51284	Line - Iatan - Stranger 345 kV Ckt 1 Voltage Conversion	E	Economic	6/1/2018	$21,830,047
51187	Line - Southwestern Station - Carnegie 138kV Ckt 1 Rebuild	R	Regional Reliability	7/6/2017	$8,899,000
51189	Line - PCA Interchange - Quahada 115 kV Ckt 1 Rebuild	R	Regional Reliability	2/25/2017	$11,174,333
51190	Line - Little River - Maud 69 kV Ckt 1 Rebuild	R	Regional Reliability	10/21/2016	$213,362
51197	XFR - South Waverly - 161/69 kV Ckt 1 Transformer	R	Regional Reliability	5/31/2016	$1,399,924
51268	XFR - South Waverly - 161/69 kV Ckt 1 Transformer	R	Regional Reliability	5/31/2016	$227,040
51200	Multi - Bassett 115 kV	R	Regional Reliability	6/1/2018	$192,099
51206	XFR - Lynn County 115/69 kV Ckt 1 Transformer	R	Regional Reliability	5/15/2019	$2,317,591
51270	XFR - Lynn County 115/69 kV Ckt 1 Transformer	R	Regional Reliability	5/15/2019	$298,747
51207	Line - Linwood - South Shreveport 138kV Ckt 1 Rebuild	R	Regional Reliability	5/10/2018	$7,885,000
51211	Sub - Benton 138 kV Terminal Upgrades	R	Regional Reliability	5/17/2016	$776,974
51215	Line - Brooks Street - Edwards Street 69kV Ckt 1 Rebuild	R	Regional Reliability	12/20/2017	$4,649,536
51235	Multi - Walkemeyer Tap - Walkemeyer 345/115 kV	R	Regional Reliability	6/1/2018	$13,433,258
51240	Multi - Walkemeyer Tap - Walkemeyer 345/115 kV	R	Regional Reliability	6/30/2018	$1,605,731
51241	Multi - Walkemeyer Tap - Walkemeyer 345/115 kV	R	Regional Reliability	6/21/2018	$8,019,463
51326	Multi - Walkemeyer Tap - Walkemeyer 345/115 kV	R	Regional Reliability	6/30/2018	$3,588,484
51327	Multi - Walkemeyer Tap - Walkemeyer 345/115 kV	R	Regional Reliability	6/30/2018	$7,129,724
50952	Multi - Road Runner 115 kV Loop Rebuild	R	Regional Reliability	3/22/2019	$4,354,881
50955	Multi - Road Runner 115 kV Loop Rebuild	R	Regional Reliability	1/26/2018	$1,987,893
50957	Multi - Road Runner 115 kV Loop Rebuild	R	Regional Reliability	3/22/2019	$2,332,087
50958	Multi - Road Runner 115 kV Loop Rebuild	R	Regional Reliability	3/22/2019	$2,790,027
51131	Multi - Road Runner 115 kV Loop Rebuild	R	Regional Reliability	12/14/2018	$3,240,716
51245	Multi - Road Runner 115 kV Loop Rebuild	R	Regional Reliability	12/14/2018	$1,285,381

UPGRADE ID	PROJECT NAME	R / E / DA	TYPE	IN-SERVICE DATE	COST
51250	Multi - Road Runner 115 kV Loop Rebuild	R	Regional Reliability	3/20/2019	$1,095,981
51209	Sub - Buckner - Spearville 345 kV Terminal Upgrades	R	Regional Reliability	7/20/2017	$3,640,996
51292	Line - Hoskins - Dixon County 230kV Ckt 1	DA	Generation Interconnection	11/1/2018	$308,869
51604	Line - Lake Creek - Lone Wolf 69kV Ckt 1	DA	Generation Interconnection	8/8/2015	$763,887
51306	Multi - AVS - Charlie Creek 345 kV	R	Regional Reliability	1/1/2016	$67,433,735
51307	Multi - AVS - Charlie Creek 345 kV	R	Regional Reliability	6/1/2016	$6,577,852
51308	Multi - AVS - Charlie Creek 345 kV	R	Regional Reliability	1/1/2016	$19,837,636
51310	Multi - Charlie Creek - Judson - Williston 345/230 kV	R	Regional Reliability	1/1/2016	$71,158,911
51311	Multi - Charlie Creek - Judson - Williston 345/230 kV	R	Regional Reliability	12/22/2015	$16,824,339
51312	Multi - Charlie Creek - Judson - Williston 345/230 kV	R	Regional Reliability	1/1/2016	$3,140,590
51313	Multi - Charlie Creek - Judson - Williston 345/230 kV	R	Regional Reliability	12/22/2015	$2,564,691
51314	Multi - Judson - Tande - Neset 345/230 kV	R	Regional Reliability	11/11/2017	$65,339,314
51315	Multi - Judson - Tande - Neset 345/230 kV	R	Regional Reliability	10/31/2017	$14,868,299
51316	Multi - Judson - Tande - Neset 345/230 kV	R	Regional Reliability	1/1/2016	$517,463
51317	Multi - Judson - Tande - Neset 345/230 kV	R	Regional Reliability	10/31/2017	$3,508,331
51331	Battle Creek – County Line – Antelope 115kV: Rebuild	DA	Generation Interconnection	3/31/2017	$2,047,174
51340	Battle Creek – County Line – Antelope 115kV: Rebuild	DA	Generation Interconnection	3/31/2017	$1,952,826
51352	SUB - Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033-Tap) 138kV	DA	Generation Interconnection	8/14/2015	$2,241,645
51522	SUB - Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033-Tap) 138kV	DA	Generation Interconnection	8/14/2015	$19,997,096
51523	SUB - Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033-Tap) 138kV	DA	Generation Interconnection	8/14/2015	$392,245
51358	Line - Cochran - Whiteface Tap 69 kV Ckt 1 Rebuild	R	Regional Reliability	11/28/2018	$2,481,675
51406	Line - Cunningham - Monument Tap 115 kV Ckt 1 Rebuild	R	Regional Reliability	12/20/2019	$5,344,209
51409	Sub - Potash Junction 230 kV Terminal Upgrade	0	Regional Reliability	6/1/2018	$0
51411	Line - National Enrichment Plant - Teague 115 kV Ckt 1 Rebuild	R	Regional Reliability	12/14/2018	$217,082
51425	XFR - Woodward EHV 138kV Phase Shifting Transformer	DA	Generation Interconnection	6/1/2017	$5,898,287
51431	Sub - Hobbs - Yoakum Tap 230 kV Substation and Transformer	R	Regional Reliability	5/1/2019	$0
51432	Sub - Hobbs - Yoakum Tap 230 kV Substation and Transformer	R	Regional Reliability	6/18/2019	$12,696,625
51436	Sub - Potter Co. - Harrington 230 kV Terminal Upgrades	R	Regional Reliability	5/16/2019	$1,196,324
51438	Line - Road Runner - Agave Red Hills/Ochoa/Custer Mountain 115 kV New Line	R	Regional Reliability	3/20/2017	$443,866
51439	Line - Road Runner - Agave Red Hills/Ochoa/Custer Mountain 115 kV New Line	R	Regional Reliability	3/20/2017	$2,449,206
51440	Line - Road Runner - Agave Red Hills/Ochoa/Custer Mountain 115 kV New Line	R	Regional Reliability	4/28/2017	$204,462
51441	Line - Road Runner - Agave Red Hills/Ochoa/Custer Mountain 115 kV New Line	R	Regional Reliability	3/28/2017	$1,137,605
51442	Line - Road Runner - Agave Red Hills/Ochoa/Custer Mountain 115 kV New Line	R	Regional Reliability	3/28/2017	$289,533
51443	Line - Road Runner - Agave Red Hills/Ochoa/Custer Mountain 115 kV New Line	R	Regional Reliability	3/28/2017	$162,507
51446	Sub - Northeastern Station 138 kV Terminal Upgrades	R	Regional Reliability	10/5/2016	$183,231
51452	Multi - Artesia County 115 kV	R	Regional Reliability	12/17/2018	$378,266
51453	Multi - Artesia County 115 kV	R	Regional Reliability	11/20/2019	$278,513
51454	Line - Duncan - Tosco 69 kV Ckt 1 Rebuild	R	Regional Reliability	5/4/2018	$8,591,402
51471	Line - Plant X - Tolk 230kV rebuild circuit #1 and #2	DA	Generation Interconnection	3/16/2018	$5,100,000
51472	Line - Plant X - Tolk 230kV rebuild circuit #1 and #2	DA	Generation Interconnection	3/16/2018	$5,100,000
51473	XFR - TUCO Interchange 345/230kV CKT 1 Replacement	DA	Generation Interconnection	6/1/2018	$3,347,036

UPGRADE ID	PROJECT NAME	R / E / DA	TYPE	IN-SERVICE DATE	COST
51481	Line - Canyon East Tap - Randall 115 kV Ckt 1 Rebuild	R	Regional Reliability	5/16/2019	$4,413,984
51503	Multi - Kummer Ridge - Roundup 345 kV New Line and Patent Gate and Roundup 345/115 kV Substations	R	Regional Reliability	9/1/2016	$3,448,356
51504	Multi - Kummer Ridge - Roundup 345 kV New Line and Patent Gate and Roundup 345/115 kV Substations	R	Regional Reliability	9/1/2016	$4,018,781
51543	Multi - Kummer Ridge - Roundup 345 kV New Line and Patent Gate and Roundup 345/115 kV Substations	R	Regional Reliability	9/1/2016	$17,510,954
51544	Multi - Kummer Ridge - Roundup 345 kV New Line and Patent Gate and Roundup 345/115 kV Substations	R	Regional Reliability	9/1/2016	$16,893,241
51506	Multi - Plaza 115 kV Substation and Blaisdell - Plaza 115 kV New Line	R	Regional Reliability	2/1/2018	$3,540,726
51507	Multi - Plaza 115 kV Substation and Blaisdell - Plaza 115 kV New Line	R	Regional Reliability	2/1/2018	$12,833,523
51509	Line - Berthold - Southwest Minot 115 kV Ckt 1 Reconductor	R	Regional Reliability	10/1/2017	$3,534,766
51524	Line - Comanche Tap - Tosco 69 kV Ckt 1 Rebuild	R	Regional Reliability	12/19/2016	$0
51529	Multi - DeGrasse - Knob Hill 138 kV New Line and DeGrasse 345/138 kV Transformer	R	Regional Reliability	4/17/2019	$7,607,868
51530	Multi - DeGrasse - Knob Hill 138 kV New Line and DeGrasse 345/138 kV Transformer	R	Regional Reliability	4/17/2019	$7,536,594
51548	Sub - Summit 115 kV Terminal Upgrades	R	Transmission Service	10/5/2016	$228,776
51549	Sub - Terry Co. - Wolfforth 115 kV Terminal Upgrades	R	Regional Reliability	6/1/2018	$598,335
51558	Line - Atoka - Atoka Pump - Pittsburg - Savanna - Army Ammo - McAlester City 69 kV Ckt 1 Rebuild	R	Zonal Reliability	12/18/2019	$8,544,022
51561	Line - Fort Towson - Kiamichi Pump Tap - Valliant 69 kV Ckt 1 Rebuild	R	Regional Reliability	12/21/2018	$11,778,983
51562	Line - Fort Towson - Kiamichi Pump Tap - Valliant 69 kV Ckt 1 Rebuild	R	Regional Reliability	12/21/2018	$7,699,929
50451	Multi - Tuco - Yoakum 345/230 kV Ckt 1	R	Regional Reliability	5/31/2019	$10,203,846
51623	Sub - Tuco - Stanton 115 kV Terminal Upgrades	0	Economic	12/31/2018	$0
51624	Sub - Stanton - Indiana 115 kV Terminal Upgrades	E	Economic	1/1/2017	$0
51626	Sub - Butler - Altoona 138 kV Terminal Upgrades	E	Economic	9/21/2018	$274,649
51628	Sub - Neosho - Riverton 161 kV Terminal Upgrades	E	Economic	12/7/2018	$107,669
51631	Line - DePaul - Girard Jct - Franklin - Frontenac 69 kV	R	Regional Reliability	11/15/2018	$5,699,405
51632	Line - DePaul - Girard Jct - Franklin - Frontenac 69 kV	R	Regional Reliability	11/15/2018	$8,977,067
51730	Line - Knoll - Post Rock 230 kV New Line Ckt 2	E	Economic	11/11/2018	$790,927
51815	Line - Knoll - Post Rock 230 kV New Line Ckt 2	E	Economic	11/11/2018	$1,938,416
51816	Line - Knoll - Post Rock 230 kV New Line Ckt 2	E	Economic	11/11/2018	$1,743,688
51738	Line - Siloam Springs - Siloam Springs City 161 kV Ckt 1 Rebuild	E	Economic	5/31/2019	$4,780,000
51739	Line - Siloam Springs - Siloam Springs City 161 kV Ckt 1 Rebuild	E	Economic	5/31/2019	$330,549
51774	Sub - Lula - Tupelo Tap 138 kV Terminal Upgrades	E	Economic	1/18/2019	$168,028
51819	Sub - Hockley County Interchange 115 kV Terminal Upgrades	R	Regional Reliability	11/15/2019	$199,390
51826	Sub - Muskogee 161 kV Terminal Upgrades	R	Regional Reliability	7/10/2018	$60,913
61834	Sub - Hale County 115 kV	R	Regional Reliability	12/1/2018	$49,956
61836	Sub - Martin - Pantex N 115 kV Terminal Upgrades	0	Economic	3/15/2018	$0
61837	Sub - Martin - Pantex N 115 kV Terminal Upgrades	0	Economic	3/15/2018	$0
61850	Terry County - LG Clauene 115 kV Terminal Upgrades	R	Regional Reliability	12/31/2019	$369,516
61856	Sub - Williston 115 kV	R	Regional Reliability	11/20/2017	$403

UPGRADE ID	PROJECT NAME	R / E / DA	TYPE	IN-SERVICE DATE	COST
61858	Line - Tulsa Southeast - E.61st 138 kV Rebuild	R	Regional Reliability	12/20/2019	$8,151,314
61869	Line - Line – Republic East – Republic Hines Street – Republic North – Nichols 69 kV Reconductor	R	Regional Reliability	4/13/2018	$9,391,929
61870	Line - Line – Republic East – Republic Hines Street – Republic North – Nichols 69 kV Reconductor	R	Regional Reliability	4/13/2018	$0
61871	Line - Line – Republic East – Republic Hines Street – Republic North – Nichols 69 kV Reconductor	R	Regional Reliability	4/13/2018	$0
61894	Line - New East Ruthville - SW Minot 115 kV New Line	R	Regional Reliability	12/19/2019	$13,837,385
61895	Line - New East Ruthville - SW Minot 115 kV New Line	R	Regional Reliability	12/19/2019	$528,350
71945	Line - Broken Arrow North - Lynn Lane East 138 kV Ckt 1	R	Regional Reliability	3/19/2019	$5,714,095
71923	Line - Renfrow-Renfrow Tap 138kV Ckt 1	DA	Generation Interconnection	10/3/2017	$90,000
71926	Multi - Roberts County - Sisseton 69kV	R	Regional Reliability	1/1/2019	$3,428,490
71927	Multi - Roberts County - Sisseton 69kV	R	Regional Reliability	9/30/2019	$5,332,510
71938	Multi - Roberts County - Sisseton 69kV	R	Regional Reliability	12/30/2019	$622,432
72005	Sub - Bismarck 115 kV and North Bismarck 115 kV Terminal Upgrades	R	Sponsored Upgrade	12/11/2019	$0
72029	Multi - Park Community - Sunshine 138 kV	R	Regional Reliability	6/15/2018	$5,762,251
72047	Sub - Brookridge - Overland Park 161kV Terminal Upgrades	R	Regional Reliability	10/15/2019	$584,053
72049	Sub - Olathe - Switzer 161kV Ckt1 Terminal Upgrades	R	Regional Reliability	11/26/2019	$706,019
72066	Multi - Fig Five - VBI 69kV	R	Regional Reliability	4/11/2019	$1,922,899
72067	Multi - Fig Five - VBI 69kV	R	Regional Reliability	5/16/2019	$32,996
82125	Line - Nixa Downtown - Nixa Espy	R	Regional Reliability	11/22/2019	$3,373,307
82139	Line - Kildare - White Eagle 138 kV	DA	Sponsored Upgrade	10/29/2019	$4,092,646
82140	XFR - James River Power Station 161/69 kV Ckt 2	DA	Sponsored Upgrade	6/1/2018	$2,885,626
112396	Sub - Getty - Skelly 69kV	DA	Regional Reliability	11/4/2019	$122,831

R = Reliability, E = Economic, DA = Direct Assignment

TYPE	COST
Regional Reliability	$2,017,866,113
Transmission Service	$84,278,291
Balanced Portfolio	$62,949,252
High Priority	$1,017,054,295
Generation Interconnection	$88,074,485
Zonal Reliability	$37,440,085
Economic	$41,538,128
Sponsored Upgrade	$6,978,272
Total	**$3,356,178,921**

2021 MEMBER VALUE

SPP'S MEMBER VALUE STATEMENT AND METHODOLOGY

By SPP Staff

Published April 6, 2022

CONTENTS

OVERVIEW: SPP'S VALUE

INTRODUCTION

What does SPP do for its members?

SPP oversees the bulk electric system and administers a wholesale power market in the central United States on behalf of a diverse group of electric utilities in 14 states. SPP is one of nine independent system operators/regional transmission organizations (ISO/RTO). SPP is mandated by the Federal Energy Regulatory Commission (FERC) to ensure reliable supplies of power, adequate transmission infrastructure and competitive wholesale prices of electricity.

ISO/RTOs do not own any assets that comprise the power grid; they independently plan and operate the grid to ensure affordable power gets to customers and to avoid power shortages. Planning and operating the grid are two key elements of SPP's robust portfolio of services.

What would the world look like without SPP?

If SPP did not operate the grid and provide centralized core services of reliability coordination, tariff administration, scheduling, transmission expansion planning, market operations and training services, its members would have to individually secure staff, expertise and technology necessary to perform these functions. Members are unable to perform these functions as cost effectively due to SPP's ability to achieve economies of scale. SPP's performance of these functions across a larger region leverages a broader, deeper pool of resources and provides additional benefits that cannot be replicated by members operating independently.

The benefits of SPP's services include reducing the number of required full time equivalent (FTE) staff, optimizing generation siting, regionally prioritizing transmission and running markets as a consolidated Balancing Authority (BA), and total **$2.696 billion each year**.

Without SPP, we would have:

- ☑ Distributed reliability coordination and planning functions
- ☑ Independent operation of legacy balancing authorities (BA)
- ☑ Independently-conducted wind interconnection

However, without SPP, we would lose:

- ☒ Regional transmission organization
- ☒ Integrated market and consolidated BA
- ☒ Reserve sharing group
- ☒ Regional transmission expansion
- ☒ Facilitated stakeholder process

CALCULATING THE VALUE OF SPP ($2.696 BILLION)

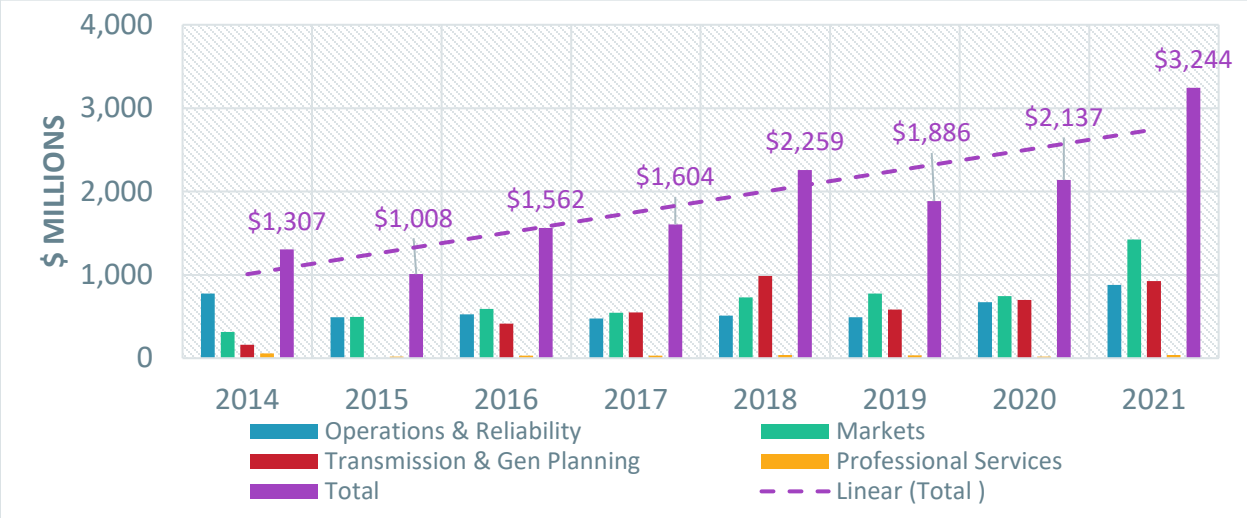
In 2021, SPP quantified benefits provided by SPP for four key functions: operations and reliability, markets, transmission and professional services.

Operations & Reliability	Markets	Transmission	Professional Services
• Reliability • Reserve Margin	• Markets • Regulation	• Robust transmission • Wind integration • Planning Margin	• Compliance • Settlements • Engineering • Tariff & scheduling • Training

Staff used both quantitative and qualitative estimated values of various areas of SPP's services to calculate the value provided to members through enhanced reliability; increased efficiencies and economics; consolidated functions that reduced resources; and improved environmental, public policy and local economic impacts. This methodology captures benefits both to SPP's members and the region of the RTO's bulk electric system produced by regional planning and operation.

The analysis of 2021 data found annual net benefits to members of **more than $2.696 billion**, provided at a **benefit-to-cost ratio of 18-to-1**. Both these figures are significant increases from the 2021 MVS, and are primarily driven by increased fuel costs and increases in locational marginal prices. Historical net benefits provided annually to members are shown in Figure 1. Causes of benefit increases in 2021 are described in more detail in this report's methodology.

Figure 1: Yearly Member Value 2014-2021



METHODOLOGY

OVERALL METHODOLOGY

Staff used both quantitative and qualitative estimated values of various areas of services to calculate the value of SPP. Staff measured the value its services provide to members through:

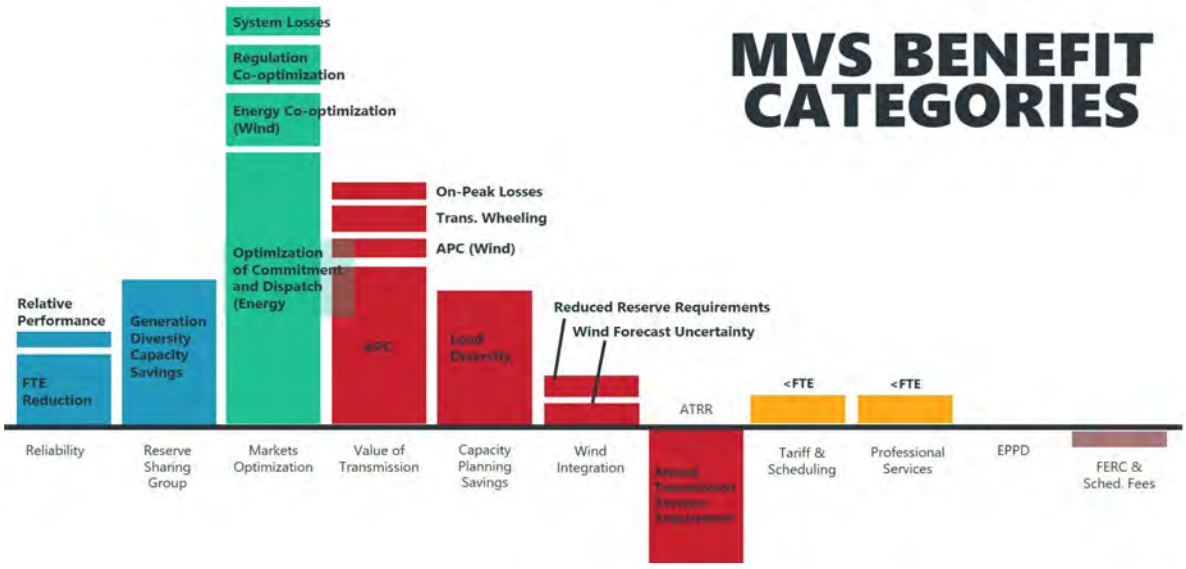
- Enhanced reliability
- Increased efficiencies and economics
- Consolidated functions that reduced staffing and/or technical requirements
- Improved environmental, public policy and local economic impacts

The member value statement (MVS) methodology captures benefits both to SPP's members and to the SPP region. SPP defines RTO benefits as efficiencies gained through RTO services, including reduction in staffing for members, and increased efficiencies of regional operation.

These calculations take care to avoid overlaps in quantified benefits across service categories. SPP calculated the MVS at the regional level; benefits to individual members or market participants are not included in this study. SPP can use the foundational methodologies of this study to calculate individual member benefits if the necessary supporting data is available.

Figure 2 shows the factors considered by SPP's MVS methodology. Throughout this report, staff have noted modifications to improve the calculation of SPP's MVS.

Figure 2: MVS Benefit Categories[1]



[1] *Blocks in Figure 2 are not to exact scale and are for illustrative purposes only*

RELIABILITY ($61.6 MILLION)

SPP provides its members the following reliability services as it performs the reliability coordination (RC) function:

- Wide-area overview of the bulk electric system
- Increased system monitoring
- Improved congestion management
- Shared situational awareness application
- Alternative source of monitoring
- Improved coordination between entities internal and external to SPP

SPP quantifies the benefits of providing these RC services to its members as follows:

- **FTE reduction:** this component of the reliability services benefits reflects the reduction in full-time employees (FTE) staffing requirements resulting from consolidating the reliability functions and services that all SPP's legacy balancing authorities (LBA) would otherwise have to perform individually. To calculate this value, SPP estimated the cost for each LBA to perform these reliability functions with its own reliability coordinators. SPP estimated 29 FTE positions[2] (in Operations and IT departments) per LBA at an average cost of $125,000 per FTE, across 17 LBA. This is an estimated **$61.6 million benefit.**

- **[QUALITATIVE] Relative performance[3]:** SPP estimates that during the 2021 Cold Weather Event, the consolidated BA load interrupted less load than what each legacy BA would have needed to interrupt. The RTO was able to coordinate real-time interchange transfer between SPP entities. SPP's market was able to reflect the need for energy through scarcity pricing and LMPs that reflected the value of demand relative to the margin supply. Appropriation price formation on the seams was essential to minimize load interruptions. SPP coordinated energy transfer between members within the SPP RTO and with other RTOs and neighboring BAs.

Note: Not included in these benefits are avoided costs of systems and applications that each LBA would likely need to add or upsize in order to increase wide-area overview capability necessary to perform RC functions, such as bigger energy management system (EMS) models, increased Inter-control Center Communications Protocol (ICCP) links, voltage security tools and various other applications SPP utilizes as the RC.

[2] SPP estimates it eliminates the need for the following staff positions per LBA: two internal reliability coordination trainers, one administrator, one IT manager, one IT hardware staff, two IT applications staff, one IT network staff, two IT CIP staff, two operations managers, three operations engineers, 6 reliability coordinators, two operations analysis ATF review analysts, two EMS engineers, one ICCP engineer, two day support engineers and one operator in training.

[3] In future MVS calculations, SPP may calculate a quantitative value of relative performance: the reduced expectation of loss of load derived from participation in an RTO.

RESERVE SHARING ($817.2 MILLION)

SPP provides reserve sharing services to its members through its administration of the SPP Reserve Sharing Group (RSG). In addition to the SPP balancing authority, the Southwestern Power Administration (SPA) and Associated Electric Cooperative, Inc. (AECI) balancing authorities participate in the SPP RSG. Participants in the RSG leverage generation diversity across a larger geographical region to reduce reserve capacity needed to address unexpected losses of power.

To determine the value of participating in SPP's RSG, staff performed three separate calculations:

- **Generation diversity capacity savings:** SPP's criteria requires the RSG to carry enough operating reserve capacity to account for the group's most severe single contingency (MSSC) and half the second largest contingency. This reserve capacity requirement is shared among the participants. Without SPP's RSG, North American Electric Reliability Corporation (NERC) Standards would require each LBA to provide, at a minimum, sufficient reserves to meet its MSSC. To independently satisfy NERC Standards without participating in the RSG, each legacy balancing authority (LBA) would need more reserve capacity and would have to build new generation, purchase reserves from another entity, or carry the added reserves on their units (and withhold them from energy dispatch).
- **Loss of opportunity for energy sales:** if an LBA is required to carry an increased amount of reserves, a portion of that LBA's capacity is estimated to be withheld from energy sales opportunities at a value to be estimated based on resource offers compared to marginal energy costs.
- **Required capacity margin for reserves:** staff estimated the costs for an LBA with insufficient capacity assuming that 50% of needed capacity will be imported and 50% will be built. Imported capacity includes firm transmission service costs.[4] [5]

These calculations show that the sum of individual LBA's operating reserve requirements necessary on a stand-alone basis are much larger than the requirements of the SPP RSG. SPP calculates the benefits of RSG participation as the cost to build and import additional capacity needed for each LBA to supply the reserves needed to meet its stand-alone requirement.

SPP also includes the loss of opportunity for energy arbitrage if the LBA needed to withhold capacity for reserves. Together these values yield an estimated benefit of **$817.2 million.**

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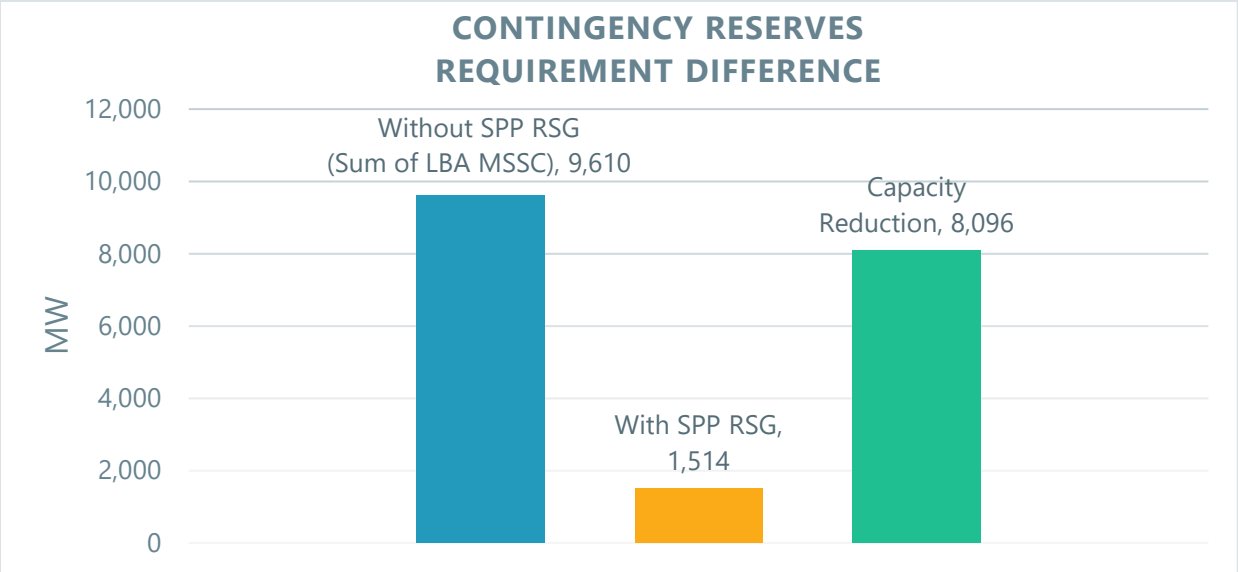
[4] Cost to import includes cost of transmission. All in cost per MWh of import was estimated to be **$14/MWh**, an increase from the 2020 estimation of $10/MWh.

[5] Cost to build and run capacity needed for added reserve requirement per LBA beyond the PRM. Requirement was estimated to be **at $18/MWh**. In the calculation, it assumed that **67% of PRM** may be used for CR. The discount is due to estimated operational needs to allow for a 5% generator outage rate. EIA report was used includes capital cost, fixed operations & maintenance (O&M) and variable O&M. We estimated O&M to be 30% of EIA reported with estimated 30% run time using a Combined Cycle plant type cost estimate model.

Figure 3: RSG Benefits in Megawatts (2021)



MARKETS OPTIMIZATION ($1,422.6 MILLION)

SPP's market system relies on centralized security constrained unit commitment (SCUC) and security constrained economic dispatch (SCED) algorithms to serve load in the BA utilizing the most economical generation while respecting transmission system limitations. SPP's market system co-optimizes energy and reserve products with consideration to deliverability and losses on the transmission system. Staff analysis determines savings and quantifiable benefits of SPP's market to members through:

- **Energy and regulation:**
  - Run SCUC/SCED for each LBA
  - Convert all units to "Market Status"
  - Build transactions if virtual bids or offers exist in current market
  - Co-optimize regulation with energy
  - Changed to assign each LBA a regulation amount equal to SPP's
- **Contingency reserves:** Co-optimize benefit of SPP's RSG share of CR across multiple LBAs. This is different from RSG benefits.
- **System losses:** compare losses for non-market reference cases to losses in RTO market
- **[FUTURE UPDATE] Interchange between LBAs:** In future versions of the MVS, SPP will simulate interchange between LBAs utilizing bilateral settlement schedules (BSS) and existence of virtual bids or offers existing in current market database.

Note: SPP's value for contingency reserves reduction is included in the Reserve Sharing category. Co-optimization benefits of existing reserves are included in Markets & Regulation.

For the 2021 MVS, staff used nearly every hour and day of the market for 2021 to calculate the benefits. The times and dates of the week of the February winter storm event were excluded due to the abnormally high offers and repricing that took place. SPP modified the models to reflect each LBA's balancing area, load and resources. Using the Market Clearing Engine, staff dispatched each LBA's balancing area to serve its load and procure its required reserves independently.

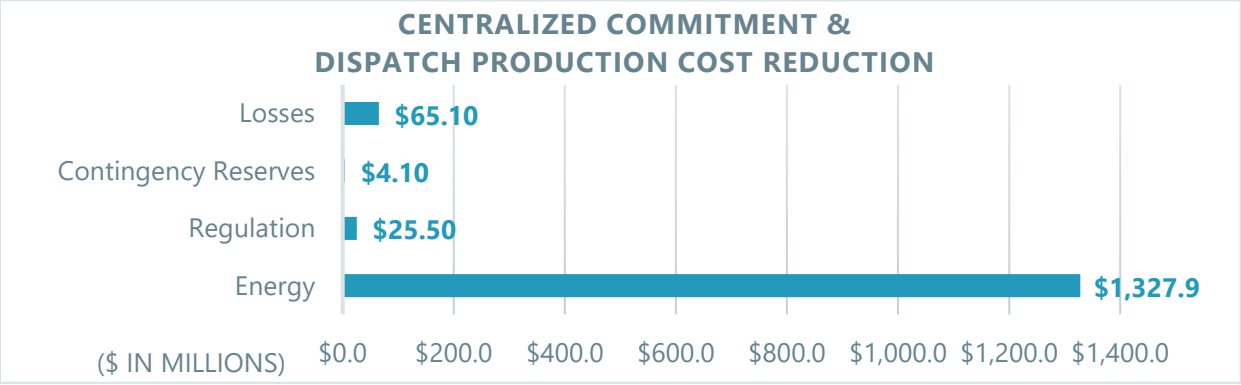
Staff summed the cost of performing the balancing responsibility for each LBA and compared the cost to the production market. This resulted in an estimated value of **$1,422.6 million annually**. This is a significant increase in benefits from 2020 ($744.3 million). This increase is directly related to the global increase in fuel costs in 2021, and the resulting substantial savings realized by SPP members by optimizing capacity commitments and dispatch across SPP.

Unquantified benefits: SPP and Midcontinent Independent System Operator (MISO) use a market-to-market coordination agreement to coordinate congestion on transmission constraints that are known to be impacted by both markets. This helps the markets more economically resolve that congestion than they could otherwise achieve on their own. Settlement processes are utilized, after-the-fact, to compensate for assistance provided by one market to the other.

Through this agreement, SPP has been able to increase revenues for its members by protecting members' transmission rights and providing compensation for any utilization of the SPP transmission system in excess of allocated rights during congestion periods. Despite increased costs to SPP in February 2021 due to the winter storm event, by the end of 2021 SPP collected a net positive **$86.8 million** through this process. At this time, this benefit is not included in the calculation of total MVS due to the need for additional analysis of some offsetting costs.

Additionally, SPP's market provides added pricing transparency that may facilitate increased market activity, efficiencies, and appropriately signal to potential generation and transmission developers the opportunity that may exist to resolve any transmission system limitations to meet future energy needs. This benefit is not included in MVS calculations.

Figure 4: Markets Optimization Benefits



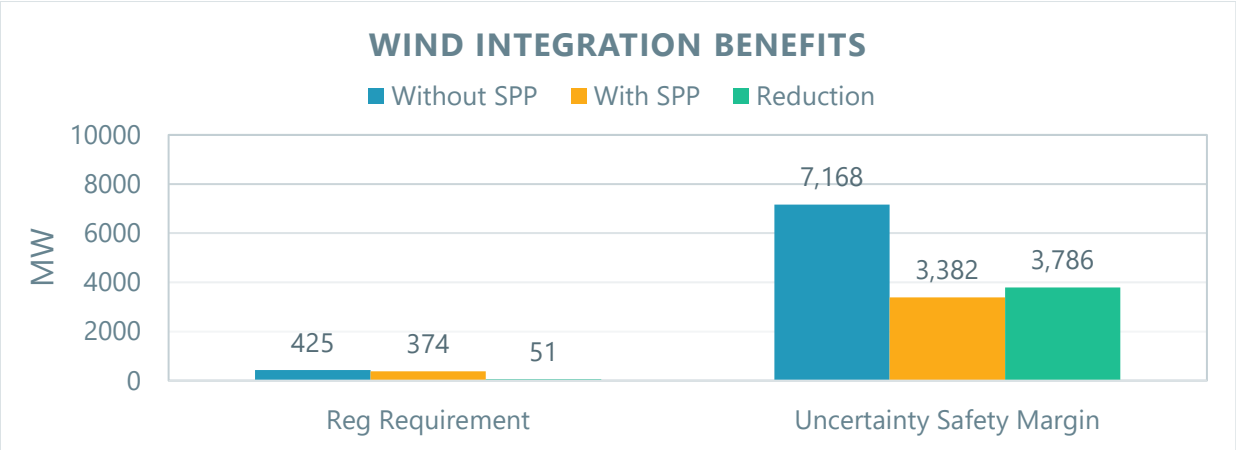
WIND INTEGRATION ($238.9 MILLION)

SPP facilitates the integration of wind resources to the grid through its generation interconnection studies, transmission planning, consolidated balancing authority and the Integrated Marketplace. To quantify SPP's contribution to wind integration, SPP estimates that the Market & Regulation and Value of Transmission calculations capture the RTO services that facilitate an increased amount of wind integration. Other benefits that SPP, as the BA, provide include geographical siting, wind uncertainty forecast and regulation reserves requirements:

- **Geographical siting:** Good siting avoids unnecessary wind investment costs by locating resources at wind-rich sites. This reduces installed capacity requirements to meet the same renewable energy requirements. SPP calculated the reduced requirement of installed capacity by comparing capacity at wind-rich sites and at load centers, and assuming $1,400/kW for installed wind capacity. By locating wind at more attractive locations, rather than load centers, the costs of interconnecting generation at these load centers is avoided. SPP's wind integration services, primarily Balanced Portfolio and Priority Projects, result in fewer, but higher quality, wind resources built in the region:
    - SPP assumes $180/kW in costs of local transmission facilities to integrate wind.
    - SPP assumes 10% improvement in output from "mediocre" to "good" wind siting, saving 500 megawatts (MW) of wind per 5 gigawatts (GW) of optimal wind
    - SPP staff believe the majority of siting benefits are captured in the Market and Value of Transmission studies.
- **Wind forecast uncertainty:** Captures the capacity cost reduction in procuring reliability safety margin MWs needed to wind forecast uncertainty. For 2021, SPP estimates a $207.2 million benefit.
- **Regulation reserves requirements:** Estimates the avoided cost due to reduction in required regulation reserves due to consolidated interconnected system. For 2021, SPP estimates a $31.7 million benefit.

The sum of these three elements is an **estimated $238.9 million value for members.**

Figure 5: Wind Integration Benefit



VALUE OF TRANSMISSION ($450.1 MILLION)

SPP's centralized transmission studies facilitate construction of transmission projects that improve reliability and deliverability of least cost generation to load centers, and increase the capacity factor of renewable and other low-cost generation.

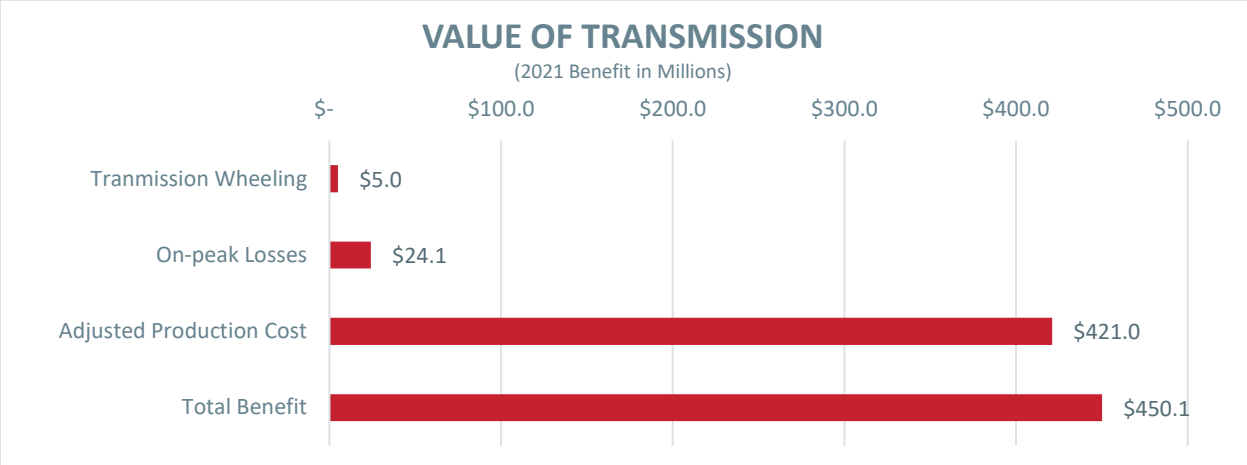
Staff used SPP's 2021 Value of Transmission Study to inform calculations for this category. That study evaluated 348 projects from 2015-2019, representing $3.4 billion of transmission investment. To calculate value of transmission for the MVS, SPP considered three key benefits:

- **Adjusted production cost (APC):** Savings of approximately $421.0 million in 2021 were estimated by simulating the impact of added transmission on production costs, using operational models that captured actual prices from SPP's Integrated Marketplace.
- **Transmission wheeling revenues:** SPP estimates approximately $5.0 million in increased wheeling revenues resulting from additional point-to-point transmission service sold beyond what would have occurred without the RTO's directed transmission expansion. This is significantly lower than previous MVS estimates ($91.5 million in 2020) because the projects included in the 2021 Value of Transmission study did not provide as much increased wheeling revenue as the projects included in the 2016 study.
- **On-peak losses:** SPP estimates approximately $24.1 million in capacity savings from reduced losses during peak consumption due to transmission expansion directed by SPP.

Note: the MVS calculation excludes other benefits outlined in our Value Transmission report: $342.5 million in reliability benefits and $237.0 million in optimal wind benefits. These exclusions are to prevent overlap with other calculations of reliability and wind integration benefits made in this report.

Staff estimate overall benefits for SPP's directed transmission expansion to exceed $27 billion over 40 years. The 2021 annual benefit to members has an **estimated value of $450 million**.

Figure 6: Value of Transmission



CAPACITY PLANNING SAVINGS ($236.0 MILLION)

SPP determines resource adequacy requirements for the SPP balancing authority. SPP specifies a minimum planning reserve margin that each load-responsible entity must maintain in order to assure adequate resource capacity is planned to meet reliability thresholds. SPP's administration of regional resource adequacy allows for recognition of load diversity benefits available through participation in a geographically diverse market supported by a robust transmission network. SPP uses the following measures to determine savings of capacity needs:

- **Planning reserve margin (PRM):** a function of peak demand for the entire region and an agreed upon percentage of required margin.
- **Capacity savings due to load diversity:** SPP measures the peak demand for individual Load serving entities (LSEs) that, in SPP's consolidated footprint, is reduced by load diversity in regional coincident peak, resulting in lower capacity requirements.
- **Capacity savings due to generation diversity:** SPP measures the reduction in capacity needs achieved through the diversity of its BA's generation fleet. The diverse resources in SPP's BA are better equipped than the limited resources of a single LBA to reliably respond to a generator loss.

SPP calculated the reduction in capacity and planning reserve margin requirements based on benefits realized due to load diversity, which compares SPP's coincident peak versus the sum of each load-serving entity's singular peak.

The realized reduction of capacity due to load diversity is estimated to be 2,755 MW. Taking into account SPP's cost of new entry, SPP's load-serving members are expected to save $3.407 billion over the next 40 years. The 2021 annual **estimated value to members is $236 million**.

Note: SPP does not calculate generation diversity capacity savings separately here. The benefit measured by the Reserve Sharing category provides a similar benefit. To avoid double counting, all diversity of generation savings are forgone in this section.

TRANSMISSION REVENUE REQUIREMENT (-$548.1 MILLION)

For many members, SPP's annual net revenue requirement (NRR) represents only part of the costs they incur because of their membership in SPP. The benefits they receive from transmission upgrades and SPP's regional planning processes are offset by costs of annual transmission revenue requirements (ATRR) for certain projects.

SPP's Value of Transmission report calculates both the benefits and savings our members receive from transmission and the costs of ATRR for projects installed from 2015 through 2019. Though the ATRR is paid to SPP, it is passed through to transmission owners. SPP staff have included it in our calculation of the 2021 Member Value Statement to recognize this cost incurred by members.

This MVS study calculates the annual value for 2021 of some of the Value of Transmission benefits for projects built between 2015 and 2019. The 2021 MVS only accounts for 2021 annual ATRR for those same projects from that same period. For 2021, the **ATRR for these projects was -$548.1 million.**

TARIFF & SCHEDULING ($24.2 MILLION)

SPP's Tariff Administration group provides a centralized reservations "one-stop shop" for reserving transmission on the power grid. In addition to administering and maintaining open access same time information systems (OASIS) reservations, SPP provides engineering staff to assure that requests for transmission are valid and will not compromise power grid integrity.

SPP administration of tariff and scheduling services allows centralized transmission service coordination and procurement. SPP also administers and maintains tools and applications used by transmission customers.

If SPP did not exist, LBAs and transmission owners would provide these functions for themselves. There would also be a greater number of bilateral transmission agreements which would be more difficult to administer. SPP has calculated the value of Tariff and Scheduling based on the assumption that, absent SPP, the collective LBAs would need to staff 96 FTEs (engineering and reservation handling). Based on a fully loaded cost per FTE at $125,000, the cost avoided by having SPP available is **approximately $12.0 million per year**

Without SPP, each legacy balancing authority or transmission service provider would need to maintain OASIS software for Tariff and Scheduling, with an estimated yearly maintenance fee of $720,000 per entity. The cost avoided is **approximately $12.2 million.**

PROFESSIONAL SERVICES ($13.6 MILLION)

Professional Services includes two categories of benefits: engineering, and training. SPP quantifies these benefits as the reduction in FTEs resulting from consolidating the functions and services that all SPP's LBAs would have had to staff and perform independently. Previous MVS calculations also included compliance and settlements. Since the dissolution of the SPP Regional Entity, compliance cost avoidance has diminished. An increase in FTEs for market settlement functions is offset by decrease in FTEs for transmission settlements, resulting in no additional reportable costs or savings. For the two services remaining in the current version of the calculation, the **combined sum of values is $13.6 million**.

ENGINEERING SERVICES ($8.4 MILLION)

SPP's engineering department provides a series of independent studies to assure that planned member actions (generation interconnection, transmission construction, etc.) will not create issues when integrated into the power grid. SPP serves as the unbiased "protector" of the integrity of the grid and its operation. When regulatory authorities review and approve requested actions, SPP's studies fulfill the role of "objective, unbiased, expert witness."

Without SPP, individual utilities would need to conduct the expert witness and the objective study functions. These functions would most likely require a combination of consultants and engineering staff from the requesting utility.

SPP calculates engineering services benefits as the reduction in 67 FTEs resulting from consolidating the engineering services that all SPP's LBAs would have staffed and performed independently:

- Planning coordination
- Resource adequacy
- Generator interconnection
- Transmission services

Based on a fully-loaded cost per FTE, the cost avoided is **approximately $8.4 million per year.**

TRAINING SERVICES ($5.2 MILLION)

SPP provides Training Services as a centralized service for its members. SPP acquires resources and equipment for shared use and develops training programs and curricula centrally to share with members. Depending on the specific training, if SPP did not exist as a leveraged resource, the alternative solutions for member training would come from three sources:

- Training and/or certification procured from training consultants or vendors
- Training developed by each of the 17 LBAs in the SPP footprint
- Training developed by each member organization.

SPP bases its valuation of Training Services on cost avoidance associated with centralized development and reduction in number of FTE training staff.

The value of training services includes cost-avoidance provided by:

- NERC credential maintenance courses
- Train-the-trainer courses
- Incorporation of power simulation technology per PER005

SPP's calculated Training Services benefits are based on Chapman Alliance research, quantifying the benefit of consolidating the training functions and services that all SPP's LBAs would have had to staff and perform independently. This resulted in an **estimated value of $5.2 million**.

Figure 7: Professional Services Value

FERC FEES (-$20.5 MILLION)

SPP analyzes FERC administrative fees as they apply to SPP members. This analysis addresses:

- Fees assessed by FERC to cover its administrative costs, which apply to all transmission service under an RTO
- FERC policy that categorizes transmission utilization differently in an RTO since *all* energy is considered interstate transmission
- Partial offset of the incremental cost, which results from increased through-and-out transmission service provided by the RTO

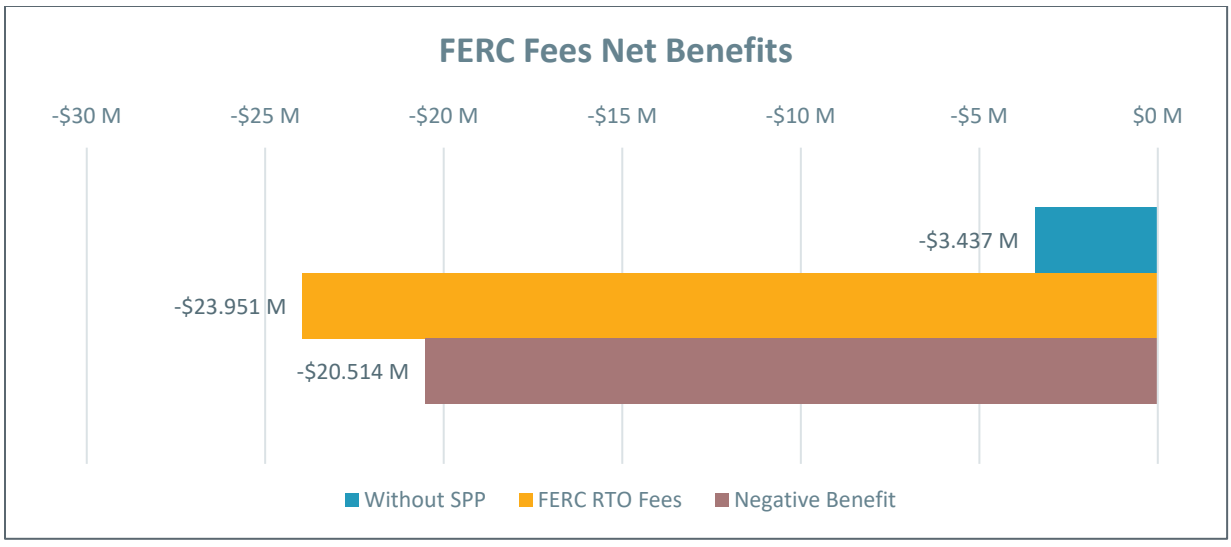
Total FERC fees paid by SPP members in 2021 exceeded what members would have paid if they were not part of an RTO. This is primarily because SPP members' native load is considered to be served by transmission in interstate commerce since it is under the RTO.

SPP captures these costs as:

- Increase in MWh considered "wholesale" energy because of RTO participation. For FERC-jurisdictional members, this is native load energy quantified in members' FERC Form 1 submittals. For non-jurisdictional members, this is all the energy each member serves.
- Point-to-point transmission service offset: this is based on the MWh of service through and out of the SPP transmission system, which provides some offset because it spreads FERC's fixed administrative cost over a greater number of billing units.

The 2021 estimate of FERC fees is $23.9 million. When offset by the assessment members would pay if not participating in the RTO, the negative benefit (cost) to the region is **$20.5 million.**

Figure 8: FERC Fees



ENVIRONMENTAL, PUBLIC POLICY, AND ECONOMIC DEVELOPMENT (EPPED)

SPP's services contribute to a reduction in environmental impact, improvement of public policies and an increase in economic stimulus in the region.

ENVIRONMENTAL

Membership in SPP creates an environmental impact on the region that SPP measures as three separate benefits:

- **Renewable penetration:** The factor of improved renewable penetration due to SPP's transmission expansion and centralized market.
- **CO_2 reduction:** Carbon reduction as a result of SPP's services contribution emissions reduction, defined as the difference in wind generation with and without SPP. SPP's centralized market and transmission expansion have improved access to renewables and reduced CO_2 emissions by 23.9% since 2014.
- **Reduced upgrades**: This qualitative measure looks at the reduction in transmission upgrades that occurs through more regional planning

PUBLIC POLICY

Membership in SPP results in improved public policy outcomes:

- **Renewable goals** at the state level are met more efficiently and competitively
- **Society benefits** from cleaner electricity and lower electricity rates
- **Deferred cost and construction** of new facilities
- **Alternatives** to new right-of-way acquisitions
- **Equitable and participatory** stakeholder processes for collective decision-making

ECONOMIC DEVELOPMENT

Membership in SPP creates an economic development impact on the region that staff have measured as one quantitative and one qualitative benefit:

- **Investment:** SPP enables capital investment through upgrades and increased wind integration resulting in economic investments throughout the SPP footprint. As an example, from the period 2008 through 2019 SPP added 24.4 GW of wind capacity. The state taxes associated with this added capacity is calculated as $157 million per year. Land leases for these wind farms is calculated as $73.5 million per year. The associated transmission investment associated with these capacity additions are not included in

these amounts but also contribute to additional revenues and taxes in the SPP region.

- **Increased competitiveness:** Wholesale electricity rates in SPP remain among the lowest in the United States, which when combined with the high availability of renewables, are attracting and retaining investment in the region.

BENEFIT-TO-COST RATIO (18-TO-1)

The total savings and benefits achieved by SPP's members are $2.696 billion each year. Each year members fund the operations of SPP through a Net Revenue Requirement (NRR). The NRR is comprised of operating expenses (excluding depreciation and FERC assessment), principal payments on loans for capital expenditures and a capital reserve fund intended to partially offset future borrowings. Miscellaneous revenues provide a reduction in the NRR calculation and include reimbursements for engineering studies. SPP's 2021 NRR was $149.0 million, resulting in a **benefit-to-cost ratio of 18-to-1**.

CONCLUSION

SPP continues to provide significant, measurable value to its members. The Member Value Statement Strike Team, formed in 2020 to re-evaluate and refine valuation SPP's methodology, confirmed this through its efforts. The valuation updates undertaken by the strike team:

- Considered SPP's previous calculation approaches as well as approaches taken by other entities
- Considered SPP and industry changes since initial development of metrics
- Focused on quantifiable benefits estimated utilizing avoided costs and increased efficiencies
- Added new considerations for qualitative benefits, including those achieved through EPPED
- Emphasized avoiding overlaps in benefit calculations
- Standardized FTE cost for all areas considered
- Reassessed, added and removed categories, as appropriate, based on SPP's estimated added value.
- Allow members to consider value on an area-by-area basis, as applicable

SPP benefits continue to fall within the four key functions: operations and reliability, markets, transmission and professional services. The benefits can be measured both quantitatively and qualitatively.

Quantitatively, the updated methodology continues to clearly show the value provided by SPP: **more than $2.696 billion annually** at a **benefit-to-cost ratio of 18-to-1**.

Qualitative measurements include considerations of market-to-market coordination, environmental, public policy, and economic development value provided by SPP in the region and to the bulk electric system as a whole. These services enhance the SPP member experience and benefits to the region. **SPP's value to members and the region continues to grow.**