COST ALLOCATION WORKING GROUP

Evaluation of Cost Allocation for Energy Storage as a Transmission Asset White Paper

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I. Introduction.

In March 2018, the Southwest Power Pool ("SPP") Board of Directors (Board) and Members Committee created the Holistic Integrated Tariff Team ("HITT") to comprehensively review SPP's cost allocation model, transmission planning processes, Integrated Marketplace services, and disconnects or synergies between planning and real-time reliability and economic operations. The board appointed 15 stakeholders to the HITT, including two board members, two state regulators from the Regional State Committee ("RSC"), and members representing diverse sectors. After 17 meetings and vigorous debate and discussion, the HITT agreed on 21 high-level recommendations in its final report for the Board's consideration. In July 2019, the SPP Board approved the package of recommendations.

Following the Board's approval the HITT recommendations were assigned to the applicable SPP committees and working groups for implementation. The Cost Allocation Working Group ("CAWG") and the RSC were assigned as the lead working groups on three[1] of the recommendations and as a secondary group on four[2] of the secondary recommendations.

[1] The CAWG and RSC have lead group responsibility on the following three recommendations: (1) Cost Allocation Recommendation #1 - Decouple Schedule 9 & Schedule 11 pricing zones; (2) Cost Allocation Recommendation #2 - Evaluate a byway facility cost allocation review process; and (3) Cost Allocation Recommendation #4 - Evaluate cost allocation for transmission storage devices.

[2] The CAWG and RSC have secondary group responsibility on the following four recommendations : (1)

The Evaluation of Cost Allocation for Energy Storage as a Transmission Asset White Paper ("White Paper") focuses on HITT Cost Allocation Recommendation 4, which is to evaluate cost allocation for an Electric Storage Resources ("ESR") as a transmission asset.

Marketplace Enhancement Recommendation #1 - Implement congestion hedging improvements; (2) Transmission Planning Recommendation #1 - Implement modifications to NRIS and ERIS; (3) Cost Allocation Recommendation #3 - Eliminate Z2 revenue crediting; and (4) Strategic Recommendation #3 - Create energy storage white paper.

II. HITT Directive C4

The HITT C4 recommendation is as follows:

> Evaluate whether SPP should establish cost allocation and rates under the tariff for energy storage resources to treat them as transmission assets if used as transmission assets.
>
> Developments at the federal level and in other RTOs are pointing toward a comprehensive view of energy storage resources as assets that can provide transmission services as well as energy. SPP stakeholders should evaluate whether to develop transmission cost allocation for these facilities and, if so, what form it should take.
>
> SPP is engaged in significant activity regarding the integration of energy storage resources for the Integrated Marketplace and for capacity accreditation. Investment tax credits supporting the development of energy storage will most likely limit the use of such resources to being exclusively paired with solar resources for at least the next five years. The HITT believes that exploring and establishing cost allocation for energy storage resources as transmission assets would allow the benefits of such resources to be incorporated more directly into the SPP region more rapidly.
>
> The CAWG and RSC should evaluate the establishment of cost allocation and rates for energy storage resources used as a transmission asset.

The HITT Report assigns the CAWG and RSC as the lead working groups for this recommendation. The secondary working groups are the Market Working Group ("MWG"), Regional Tariff Working Group ("RTWG"), and Transmission Working Group ("TWG").

III. CAWG Review of Related Precedents and Federal Energy Regulatory Commission ("FERC") Guidance

CAWG started its review of energy storage as a transmission asset by reviewing the FERC orders on energy storage as a transmission asset and how other Regional Transmission Organizations ("RTOs") have implemented energy storage as a transmission asset. Concurrently, SPP staff assembled a white paper on energy storage and created the Electric Storage Resources Steering Committee ("ESRSC").

A. FERC *Order No. 841*, Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators.

On February 15, 2018, FERC issued *Order No. 841*, Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators[3], ("*Order 841")*. The purpose of *Order No. 841* was to remove the barriers to energy storage participating in RTO markets[4]. FERC found that existing RTO/ISO market rules impede competition and produce unjust and unreasonable rates[5]. The Commission thus required RTOs to establish market rules to facilitate storage resource participation in RTO markets[6]. *Order No. 841* required that the RTO tariff provisions:

> (1) ensure that a resource using the participation model for electric storage resources is eligible to provide all capacity, energy, and ancillary services that it is technically capable of providing in the RTO/ISO markets; (2) ensure that a resource using the participation model for electric storage resources can be dispatched and can set the wholesale market clearing price as both a wholesale seller and wholesale buyer consistent with existing market rules that govern when a resource can set the wholesale price; (3) account for the physical and operational characteristics of electric storage resources through bidding parameters or other means; and (4) establish a minimum size requirement for participation in the RTO/ISO markets that does not exceed 100 kW. Additionally, each RTO/ISO must specify that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets must be at the wholesale locational marginal price (LMP) [7].

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[3] 162 FERC ¶ 61,127 (2018)
[4] Order 841 at ¶ 1
[5] Id. at ¶ 1
[6] Id
[7] Id. at ¶ 4

Order 841 applies to energy storage interconnected to either the transmission or distribution system[8].

B. FERC Policy Statement

On January 19, 2017, FERC issued a Policy Statement regarding the "Utilization of Electric Storage Resources for Multiple Services When Receiving Cost-Based Rate Recovery." [9] ("Policy Statement"). The Commission provided this guidance with the intent to "provide guidance on the ability of [energy] storage resources to provide services at and seek to recover their costs through both cost-based and market-based rates concurrently." [10] . The Policy Statement observes that energy storage resources provide a variety of grid services to multiple entities in multiple markets and can switch from one service to the next instantaneously. [11] According to the Policy Statement, allowing energy storage resources to provide multiple services allows the full capabilities of these resources to be realized and maximizes their efficiency and value. [12] The Policy Statement does not explain how a storage asset becomes a transmission asset, but addressed whether it would be eligible, when classified as a transmission asset, to receive both cost- and market-based revenue, and what issues to address before it receives both streams of revenue., To receive cost-based and market-based revenue, an energy storage resource owner must address potential double recovery of costs, adverse market impacts, and RTO/ISO independence[13].

[8] Id. at ¶ 31
[9] 158 FERC ¶ 61,051 (2017)
[10] Id. at ¶ 1
[11] Id
[12] Id
[13] Id at ¶ 10

C. Developments in other RTOs: The MISO SATOA Approval.

California Independent System Operator ("CAISO"), Midcontinent Independent System Operator ("MISO"), and PJM Interconnection Company ("PJM") have all explored storage as a transmission asset.

1. <u>CAISO AND PJM Efforts</u>

While CAISO's exploration stopped because its stakeholders believed that additional questions needed to be answered,[14] it produced a white paper on the matter. PJM began its discussion on this issue in March 2020 and the issue tracking page on its website shows its completion is TBD.[15]

2. <u>MISO SATOA Approval</u>

MISO's analysis of the issues commenced in 2018 and culminated in a filing in FERC Docket No. ER20-588 to incorporate tariff changes to allow storage as a transmission asset.[16] In September of 2020, FERC accepted a proposal from MISO to incorporate electric storage resources as transmission only assets ("SATOA") and to include the rate base and O&M associated with those assets in MISO's transmission revenue requirement (the "MISO SATOA Approval").

[14] As of May 31, 2021, the CAISO website continues to show its last activity on this initiative occurring in January, 2019. CAISO's work on Storage as a transmission Asset can be found at http://www.caiso.com/StakeholderProcesses/Storage-as-a-transmission-asset (last visited April 3, 2020).

[15] https://www.pjm.com/committees-and-groups/issue-tracking/issue-tracking-details.aspx?Issue=%7bB435C39B-D4BB-4C3C-ADA9-8EFBC0E52246%7d

[16] MISO's storage as a transmission asset white papers and presentations can be found at https://www.misoenergy.org/stakeholder-engagement/issue-tracking/energy-storage-as-transmission-reliability-asset/ (last visited April 3, 2020).

The MISO SATOA Approval has provided the CAWG with a roadmap on SATOA planning and operations that it has used to address the HITT directive on cost allocation issues associated with SATOAs.

Many of the issues identified in the MISO SATOA Approval will need to be addressed by the ESRSC and other related working groups. The broad categories of issues covered by the MISO SATOA Approval, and discussed in more detail below, and the assumed primary working groups for these issues are:

1. A SATOA must be identified as the preferred transmission solution – TWG and Economic Studies Working Group ("ESWG") responsibility.
2. Interaction with Transmission Expansion Planning and the Generator Interconnection Queue needs to be developed – TWG and ESWG responsibility.
3. Operating guides that grant SPP exclusive functional authority need to be developed – Operating Reliability Working Group ("ORWG") responsibility.
4. Market activities and potential market impacts need to be addressed – MWG responsibility.
5. A cost recovery mechanism, including the method of cost allocation, needs to be developed – CAWG/RSC responsibility.

IV. CAWG Review of SATOA Non-Cost Recovery Issues

A. Preferred Transmission Solution.

MISO's filing originally identified a SATOA as having the following:

> Unique characteristics or circumstances of the proposed SATOA necessary to meet the identified Transmission System performance requirements and not otherwise available at comparable costs from other proposed solutions, including speed of operation, lead-time to implement, right of-way or other property considerations.

Through the approval process, MISO provided further clarification to this statement by stating that: (i) "Transmission System performance requirements" has the same meaning as the defined term "Transmission Issue"; (ii) by "right of way or other property conditions," MISO will consider any advantages of the SATOA over other solutions that may be hampered by right-of-way acquisition problems or substation space limitation; and (iii) the criteria for determining unique characteristics would be the exact same as that used to evaluate traditional wire solution (e.g. effectiveness of solution, longevity of solution and cost of solution).

Another important part of MISO's proposals was its statement that a SATOA must demonstrate a need to resolve the transmission issues through the storage facility's functioning as a SATOA instead of a resource that participates in MISO's markets.[17] FERC ultimately accepted MISO's basic approach to identifying a SATOA as the "Preferred Transmission Solution;" however, FERC further required the identification to include the specific following language in the MISO Tariff:

> a storage facility will not be evaluated as a potential SATOA unless MISO requires functional control of the resource in order to resolve a non-routine

[17] FERC has already found that if it believes the SATOA is operating more as a back up generator that it would not qualify for cost of service based rate recovery (AEP PJM filing).

(i.e., not an N-0 or N-1) reliability Transmission Issue that could not be addressed by a market solution.

The CAWG recognizes that the ESRSC, working with and through the TWG and ESWG, is in the best position to incorporate this direction into proposed changes to SPP tariff provisions and Business Practice Manual ("BPM") provisions.

B. Interaction with GI Queue.

Based upon the MISO SATOA Approval, SPP will need to consider the SATOA's impact on resources in the generator interconnection queue ("GIQ"). MISO noted in its proposed approval process that it would evaluate the SATOA's impact on the GIQ in the same manner it does for any other transmission asset.

In its approval, FERC specifically required the following language in the MISO Tariff:

> The expansion planning model with the DPP generating facilities incorporated will be tested with and without the SATOA operation under the NERC transmission planning reliability standard contingent conditions for which, and in the manner which, the SATOA will be operated.
>
> If the incremental SATOA operation causes any facilities to exceed limits with the DPP generating facilities modeled, the costs of any necessary upgrades as mitigation will be included in the SATOA project costs and will be considered part of the overall SATOA project.
>
> If the SATOA project is still the preferred solution based upon cost, performance, and other evaluation criteria in the Tariff, the combined project costs will be included in the MTEP and eligible for cost recovery through the appropriate Attachment and Schedule of the Tariff.

The CAWG recognizes that the ESRSC, working with and through the TWG and ESWG, is in the best position to incorporate this direction into proposed SPP tariff provisions and BPM provisions.

C. Operating Guides-SPP Must Have Functional Control.

For each SATOA, an operating guide must be developed specifying the operating practices applicable to the SATOA consistent with the system performance requirements determined through the planning study that yielded the Notification to Construct ("NTC") for the SATOA. In the MISO SATOA Approval, MISO stated that its planning staff would coordinate with the owner of the SATOA, MISO Operations, and the transmission operator to develop the operating guide that establishes conditions for which the SATOA should be discharged and charged to meet the anticipated planning objective. These operating guides should be similar to the creation of any other operating guide for a transmission facility asset.

Examples of information that may be included in an Operating Guide were provided and included:

i. the purpose of the SATOA facility;
ii. coordination requirements between the transmission operator and MISO as the Reliability Coordinator for charging and discharging;
iii. area or system load levels at which reliability issues may occur;
iv. line facility outages that in combination could cause a reliability concern;
v. operational requirements of the SATOA needed to resolve reliability issues;
vi. communication protocols, including that the SATOA may be discharged either by verbal communication between the Reliability Coordinator and the transmission operator and/or that it may be discharged when triggered by automatic protective relay operation following a critical contingency;
vii. limits on the operation of the SATOA above the maximum capacity determined to be needed to address the Transmission Issue; and

viii. protocols to reflect that the SATOA will not be used for congestion management when market congestion management protocols are available.

The CAWG recognizes that the ESRSC, working with and through the ORWG, is in the best position to incorporate this direction into proposed SPP tariff provisions and BPM provisions.

D. Market Activities and Market Impacts.

Pursuant to the MISO SATOA Approval, the SATOA owner is responsible for maintaining the necessary state of charge to serve the transmission function for which it may be approved in the SPP Planning Process, and SPP must exercise functional control of the SATOA for transmission purposes only. A SATOA may only participate in the market to the extent necessary to receive energy from the transmission system and to inject energy into the transmission system to provide its services. MISO proposed that the SATOA would have its own commercial pricing node; FERC then further required MISO to clarify that no other trading activities would be allowed at this node. The SATOA is not to set price, but rather be a price taker. FERC acknowledged that a SATOA drawing charge in the market would theoretically have some impact on the market but found that the impact on the energy market would be *de minimis*. One exception for SATOAs was allowed, in that the SATOA was to be included for consideration in transmission and generation emergency operations procedures as a step after routine congestion management but before the calling of load shedding. This would be the only exception to the boundaries limiting the SATOA's operation so as to not interfere with market operations.

The CAWG recognizes that the ESRSC, working with and through the MWG, is in the best position to incorporate this direction into proposed SPP tariff provisions and BPM provisions.

V. CAWG Review of SATOA Cost Recovery Issues.

A. Review of Existing SPP Non-SATOA - Cost Allocation.

The SPP Bylaws grant the RSC with authority over four areas, of which cost allocation is one.[18] The CAWG and the RSC have a long history of analyzing and implementing cost allocation methodologies for transmission facilities within the SPP region, with the RSC having exercised its authority over cost allocation a number of times since 2004.

Transmission projects that receive a NTC from SPP are eligible for cost recovery pursuant to the SPP Tariff. The annual SPP Transmission Expansion Plan ("STEP") is a comprehensive listing of all transmission projects in SPP. Transmission projects listed in the STEP encompass various planning processes included in the SPP tariff. Generally, the STEP is comprised of several planning processes that can yield an NTC. The SPP Tariff, based upon past guidance and authorization from the RSC, provides an identified cost allocation methodology for each NTC coming out of a particular process. The planning processes generally are:

1. <u>The Integrated Transmission Planning Process (the "ITP")</u>

The (ITP) is an annual planning cycle that assesses near- and long-term economic and reliability transmission needs. The ITP identifies projects needed to meet regional reliability, economic, or policy needs. The ITP produces a 10-

[18] Southwest Power Pool, Inc. Bylaws, First Revised Volume No. 4 Section 7.2.

year transmission expansion plan each year, combining near-term, 10-year, and NERC transmission planning (TPL-001-4) assessments into one study. Further, the ITP conducts a 20-year assessment once every five years unless otherwise directed by the SPP Board[19].

2. Transmission Service Request ("TSR")

TSRs involve projects associated with a FERC-filed Service Agreement. TSRs are aggregated and studied periodically as part of an aggregated study process to identify necessary transmission upgrades to accommodate the TSRs. The aggregated study planning process performs a system impacts study for the aggregated TSRs, and for those projects that elect to remain in multiple rounds of study, each additionally goes through an individual facilities study.

3. Generator Interconnection Projects ("GIP")

GIPs involve projects associated with a FERC-filed Generator Interconnection Agreement (a "GIA"). The SPP process that reviews these is the Definitive Interconnection System Impact Study (the "DISIS"). GIP requests are aggregated into these periodic DISIS reviews, which includes system impact studies and, for those projects continuing to seek approval after those results, individual facilities studies.

4. Sponsored Projects

Any entity can request that a project be reviewed and endorsed by the SPP

[19] Southwest Power Pool, Inc., FERC FPA Electric Tariff, Open Access Transmission Tariff, Sixth Revised Volume No. 1, Attachment O Section IV, Attachment O Section IV, 8.0.0; Southwest Power Pool, Inc., FERC FPA Electric Tariff, Open Access Transmission Tariff, Sixth Revised Volume No. 1, Attachment Y Section I, Attachment Y Section I, 8.0.0.

Board.

5. Interregional Projects

Interregional Projects are defined as: A Network Upgrade that has been approved through the Interregional Planning Process in accordance with Attachment O. The MISO/SPP Interregional Planning Stakeholder Advisory Committee ("IPSAC") is an example of an interregional planning process that could yield an NTC.

6. High Priority Projects

Stakeholders may request high priority studies, which could yield NTCs. Annually, up to three high priority studies requested by stakeholders can be performed[20] and have their study cost recovered through Schedule 1-A1 of the Tariff.

The above-identified planning processes are the various ways transmission projects can receive SPP Board-approved NTCs. Each of these projects may be eligible for cost recovery. The outstanding issue for this White Paper is how the costs of any SATOAs coming out of these various planning processes will be allocated and recovered.

Generally, there are two primary ways that NTC projects identified in the various planning processes are cost allocated in SPP: (1) Base Plan Funding or (2) Directly Assigned Upgrade Cost ("DAUC"). Base Plan Funding involves NTC projects that will have their costs allocated across a portion of the SPP footprint (e.g. zonally or regionally) through rates for transmission service. Projects that are not eligible to receive Base Plan

[20] Balanced Portfolio is a planning process contained in Attachment J that is no longer used.

Funding, in full or in part, generally have their cost directly assigned to the requestor/sponsor of the project.

The most significant change to cost allocation for Base Plan Funded projects has been the development of the Highway/Byway ("HWBW") cost allocation methodology. Pursuant to the HWBW cost allocation methodology, SPP allocates the costs for projects identified as eligible for Base Plan Funding based on the voltage level and location of the specific facility, as provided in Table A below.

Table A: Highway Byway Cost Allocation Methodology[21]

Voltage	SPP Region Pays Based on Member Utilities' Load Ratio Share	Local Zone Where the Transmission Facility is Located Pays
300 kV and above	100%	0%
above 100 kV and below 300 kV	33%	67%
100 kV and below	0%	100%

The first factor in determining which projects are eligible for Base Plan Funding and thus allocated pursuant to the HWBW methodology, is the planning process out of which the NTC was developed. Table B below provides a generalized summary of how NTCs coming out of the various processes are allocated as between Base Plan Funding versus Directly Assigned Upgrade Costs.

[21] Any project under $100,000 is allocated to the zone in which the upgrade is located.

Table B: COST ALLOCATION BY PLANNING PROCESS

Planning Process	Primary Cost Allocation	Safe Harbors-Additional Allocation Provisions	Additional Allocation Provisions
ITP	Base Plan Funding (HWBW)	NA	
GIP	Directly Assigned (DAUC)	GI Requests costs are generally directly assigned. However, NTCs coming out of GI request are eligible for Incremental Long Term Congestion Rights (ILTCR) which may provide some cost recovery to the party sponsoring the upgrade if the project provides an increase in Available Transfer Capability (ATC) and other requirements are met.	
TSR	Directly Assigned (DAUC), except for an amount eligible for HWBW under a Safe Harbor Provision	Safe Harbor Provision: If a NTC is a result of a TSR that is not associated with a wind designated resource and meets the following criteria then cost up to $180,000 per MW are eligible for Base Plan Funding (HWBW) and any excess cost would be a DAUC with such directly assigned cost being eligible for ILTCR Treatment. The main criteria are: 1. Transmission Customer commitment to Designated Resource bust be at least 5 years 2. Combined (old and new) accredited capacity of Transmission customer not to exceed 125% Transmission customer's system peak. 3. Customer's transmission service capacity for wind resources not to exceed 20% of customer's system peak responsibility	There are additional special HWBW allocation provisions related to service upgrade requests where the designated resource is wind, and which are different depending on if the upgrade and transmission customer are located in same area or different areas.
Sponsored Upgrades	Directly Assigned	Eligible for ILTCRs	
Interregional Upgrades	Base Plan Funding (HWBW)	NA	
High Priority Upgrades	Base Plan Funding (HWBW)	NA	

B. CAWG Recommendation for SATOA Cost Allocation

A SATOA may be identified as a preferred transmission solution coming out of any of the above planning processes; thus, as with any other wire-based transmission asset, the different planning processes can yield different cost allocation methodologies for SATOAs. Accordingly, the cost allocation associated with a SATOA first will be determined by the planning process by which the SATOA project is identified. If any portion of the costs of a SATOA coming out of any of the planning processes is to be Base Plan Funded, then as with any wire-based solution, the next step is to determine the voltage level and the location of the transmission solution.

For purposes of base plan funding, CAWG recommends cost allocation for SATOAs be based upon the location and voltage level associated with the transmission issue being resolved. The CAWG further recommends that the ESRSC work with the TWG to the extent any technical specifications or processes need to be developed for that determination.

C. CAWG Discussion of Additional SATOA Cost Allocation Issues

1. <u>Mobile ESRs Issues</u>

   The CAWG has identified a potential issue related to the Base Plan Funding of a SATOA if there were to be a proposal for a mobile ESR to be treated as a SATOA. In such event, there likely will not be one identified transmission issue being resolved. The CAWG notes that the ESRSC and TWG are better suited to decide whether such a mobile ESR solution would/should be considered as a SATOA, and if so, what location and voltage level transmission issue such mobile ESR should be considered as resolving.

2. Safe Harbor Threshold for SATOAs

The CAWG has also identified a potential issue related to the Base Plan Funding of a SATOA that is the result of a TSR. As noted in Table B above, pursuant to the Safe Harbor Provisions, the first $180,000 per MW of a current wire solution identified as a TSR solution is allowed to be included for Base Plan Funding. When that safe harbor amount was first implemented, there were enough concerns raised over the $180,000 per MW amount that CAWG is directed to periodically review the amount to determine if it remains appropriate.

At this time, wire solutions are expected to have a much longer useful life than an ESR that may be proposed as a SATOA solution. Accordingly, the CAWG considered whether it is appropriate for that same $180,000 per MW dollar threshold to apply in determining the amount of an ESR that would be eligible for Base Plan Funding. The CAWG notes that regardless of the useful life of the solution, be it a 30-year wire solution or a 10-year ESR solution, the only time requirement for Safe Harbor treatment is a five-year commitment on the part of the transmission customer. Further, if an ESR has been identified as the preferred solution to a transmission need, then the total costs over the expected lives of the of the two alternatives presumably would have been compared and the ESR determined to be the lower cost alternative. For these reasons, the

CAWG recommends that the Safe Harbor threshold of $180,000 per MW be the same for a SATOA as it is for any other wire solution.

3. ILTCRs for SATOAs

Regarding a SATOA that would result in a DAUC, the CAWG identified the issue of whether such a project would be eligible to participate in any ILTCRs. While there is a question as to whether a SATOA will result in an increase to the Available Transfer Capability ("ATC") as is required for participation in an ILTCR, to the extent that a SATOA can establish that it meets the requirements for ILTCRS, the CAWG recommends that it be allowed to apply and receive ILTCRs in the same manner as any wired solution.

The CAWG expects to be provided the opportunity to review and approve any technical specifications or tariff changes that are developed by other working groups to accomplish the SATOA cost allocation set forth here.

D. Amount of SATOA to be Recovered in Transmission Rates

The MISO SATOA Approval provides guidance on the amount of costs to be included for cost-based recovery if only a portion of the ESR capacity is needed to provide the preferred transmission solution. Cost recovery for a SATOA under transmission rates will be limited to the cost of the maximum capacity needed to address the transmission issue and will be pro-rated on that basis if a SATOA of higher capacity is proposed. The methodology for determining the capacity needed will be decided by the ESRSC and TWG. To the extent SPP allows an ESR with capacity in the excess of the transmission need, that excess will be required to go through the full GIP process if the SATOA seeks to offer that excess capacity into the market.

E. Revenues and Costs of Charging/Discharging and Method of Recovery

SPP will need to determine how the revenues and cost associated with charging and discharging of the ESR would be accounted for to ensure that ESR owners whose assets are being utilized as a SATOA would not over or under recover the actual operating costs of the ESR. The CAWG recommends the adoption of the methodology approved by FERC in the MISO SATOA Approval: Any revenues collected from the SATOA's market activities directed under SPP's functional control shall be credited through transmission rates in a manner consistent with the treatment of costs associated with the project category in transmission rates. The costs resulting from a SATOA's market activities directed under SPP's functional control shall be collected through transmission rates in a manner consistent with the treatment of costs associated with the transmission project type. Specifically, the SATOA owner will need a registered market participant to receive energy net costs, but only in a pricetaking role in which bids and offers are not submitted.

Generally, the revenue, cost and market participant requirements operate to ensure that all revenues and costs associated with the operation and charging and discharging of the SATOA are netted and applied to the cost of service such that the SATOA owner gets exact cost recovery, no more-no less. To ensure that desired result is achieved, the CAWG recommends that the ESRSC work with the MWG and SPP settlements to implement whatever business practices are necessary.

Additionally, due to competing proposals on how such revenues and costs were to be specifically recovered through the Attachments of the MISO Tariff, FERC provided very specific USOA (Uniform System of Accounts) complaint accounting guidance on which FERC accounts are to be used for purposes of cost recovery. FERC, in establishing its accounting regulations for energy storage assets, concluded that the costs to purchase power for use in storage operations are to be recorded in Account 555.1 (Power Purchased for Storage Operations), the costs of maintaining and operating transmission storage assets are to be recorded in Account 562.1 (Operation of Energy Storage Equipment), and the revenues derived from energy storage operations are to be recorded in the relevant revenue accounts.

FERC stated that the modifications it made to its accounting regulations in *Order No. 784* were to increase transparency for energy storage facilities, and that MISO's proposed accounting was contrary to this goal and to the Commission's accounting regulations. Accordingly, FERC stated that, as provided in its *Order No. 784* and the Commission's regulations and related accounting guidance, MISO transmission owners must record:

- The transmission storage asset in Account 351 (Energy Storage Equipment - Transmission),
- Expenses associated with charging the transmission storage asset in Account 555.1 (Power Purchased for Storage Operations),
- Expenses incurred that are associated with the operations and maintenance of the transmission storage asset in Account 562.1 (Operation of Energy Storage Equipment) and Account 570.1 (Maintenance of Energy Storage Equipment),

respectively

- The revenues associated with discharging the asset in the appropriate revenue accounts.
  - To the extent the revenues associated with discharging the storage asset are associated with net settlements for exchange of electricity or power, such revenues are to be recorded in Account 555.1, a production account not included in the MISO transmission formula rates.
  - Accordingly, a MISO transmission owner that develops a SATOA will need to make a filing pursuant to FPA section 205 to update its Attachment O with a line item to ensure any revenues or expenses associated with the discharging and charging of the SATOA are treated in a manner consistent with the treatment of costs associated with the project category in transmission rates.

Further, a MISO transmission owner is required to include a work paper with its annual informational filing showing the amounts of the charging and discharging of the storage asset for transparency purposes.

VI. Summary of Recommendations

The CAWG recommends the adoption of the above methodology, <u>which is generally consistent with the methodology</u> approved by FERC in the MISO SATOA Approval for cost recovery. These recommendations include the following:

- Cost allocation should be determined by the planning process by which the SATOA project is identified. For the purposes of base plan funding, cost allocation for

SATOAs should be based upon the location and voltage level associated with the transmission issue being resolved.

- The ESRSC and TWG are better suited to decide whether a mobile ESR solution would/should be considered as a SATOA, and if so, what location and voltage level transmission issue such mobile ESR should be considered as resolving.
- The Safe Harbor threshold of $180,000 per MW should be the same for a SATOA as it is for any other wire solution.
- To the extent a SATOA can establish it meets the requirements for ILTCRS, SATOA's should be allowed to apply and receive ILTCRs in the same manner as any wires solution.
- Cost recovery for a SATOA under transmission rates be limited to the cost of the maximum capacity needed to address the transmission issue and pro-rated on that basis if a SATOA of higher capacity is proposed. Any excess capacity beyond the required capacity will be required to go through the full GIP process if the SATOA seeks to offer the excess capacity in the market.
- Any revenues collected from the SATOA's market activities directed under SPP's functional control shall be credited through transmission rates in a manner consistent with the treatment of costs associated with the project category in transmission rates. The costs resulting from a SATOA's market activities directed under SPP's functional control shall be collected through transmission rates in a manner consistent with the treatment of costs associated with the transmission project type. The SATOA owner will need a registered market participant to receive

energy net costs, but only in a price taking role in which bids and offers are not submitted. The ESRSC, working with the MWG and SPP settlements are best suited to implement the necessary business practices.

- Specific FERC/USOA accounting guidance on which FERC accounts are to be used for purposes of cost recovery.

APPENDIX A
STAKEHOLDER FEEDBACK NOVEMBER 2020

HITT Cost Allocation Recommendation #4 **Evaluate cost allocation for transmission storage devices**
SPP should evaluate whether to establish cost allocation and rates under its Open Access Transmission Tariff for energy storage resources to treat them as transmission assets if used as transmission assets.

1) Should SPP allow for the use of energy storage resources as transmission assets under the Tariff by establishing cost allocation and rates for such under the Tariff? *Yes / No / Yes with conditions (please specify conditions)*	
AEP	Yes, energy storage has a place as a transmission asset to solve transmission issues at the lowest reasonable cost and SPP should allow for cost allocation under the tariff.
ITC	Yes. SPP should establish provisions to enable an energy storage resource to address transmission needs when it is the most cost-effective long-term solution. However, in doing so, SPP should ensure that energy storage is not used as a "band-aid" solution to long-term issues that would be more efficiently or effectively resolved by a traditional transmission solution.
EVERGY	Yes, with conditions. Please refer to additional comments below. Further, we note that all responses are dependent on the definition of a SATA and allowable uses.
EDPR	No. The recent FERC approval of MISO's SATA filing required several things: 1) A SATA must solve a unique transmission need that cannot be addressed by the market (no N-0 or N-1) that requires the unit to be under MISO's functional control 2) Cost analysis of SATAs must include the cost impacts to GI projects 3) SATAs cannot trade at their LMP node above the need to address the function it is serving Although the same rules may not apply to an SPP filing, they serve as a reasonable proxy on what FERC is likely to approve. SATA will likely only be utilized for very unique situations. Because of the relatively limited use of SATA, the CAWG should delay its consideration of cost allocation. In the unlikely event that a SATA is identified as a preferred option to a unique issue SPP, CAWG, and RSC could determine a fair cost allocation methodology. Subsequently, SPP could make a Section 205 filing for approval to include the SATA in transmission rates.
ENEL	SPP should not establish tariff changes to allow transmission to participate as storage. SPP should complete the implementation of FERC Order 841 before considering taking on broader issues related to storage. Enel encourages SPP to focus on existing priorities such as FERC Order 841, FERC Order 2222,hybrid resource integration, and SPP's initiative to implement ELCC accreditation for variable resources. These major projects require significant time and resources. Additionally, these projects will provide value to SPP and its stakeholders. Enel appreciates SPP's work on these issues, and encourages SPP to continue work on these projects, instead of pursuing issues with unknown value to SPP and Stakeholders, such as Storage as Transmission.

(cont.) Should SPP allow for the use of energy storage resources as transmission assets under the Tariff by establishing cost allocation and rates for such under the Tariff? Yes / No / Yes with conditions (please specify conditions)	
SPS/EXCEL	Yes. Energy storage resources should be allowed to be used as transmission assets under specific conditions. Conditions should be: 1) The energy storage resource should be studied and operated to resolve a transmission reliability issue. 2) There should be no economic or market participation by an electric storage device used to resolve a transmission reliability issue. 3) SPP/TOP should solely direct the operation of the electric storage device used to resolve a transmission reliability issue i.e. when it charges and discharges.
SAVION	Yes with conditions. 1) If energy storage is to be placed into service strictly as a transmission asset, its operation cannot be used in a manner that negatively impacts, 1) the operation or value of generation resources, or 2) energy storage installed as a generation asset, or 3) prior queued generation resources residing in the generator interconnection (GI) study queue. 2) Energy storage resources installed as transmission should not be able to participate in SPP energy or ancillary services markets.
OPPD	SPP should allow for the use of energy storage resources (ESR) as transmission assets under the Tariff, but only if they are utilized solely as transmission assets. This is largely due to the transmission asset costs being allocated to the SPP transmission customers. Some additional conditions that may be considered include that a SATA would need to be charged and available to meet the transmission need every time that the need exists and the SATA would also need to meet the duration that the transmission need requires.
NPPD	Yes, with conditions. If it stays as a transmission only asset, then it should not be paying any transmission costs. Any charging costs need to be charged to the Transmission Owner so they can collect via tariff rules. SATA, removing the O (“only”) in the SATOA (Storage as a Transmission Only Asset), is not a good idea. It will create winners and losers in the marketplace while the storage owner has the guarantee of cost recovery through cost-based revenue requirement (like currently allowed for a transmission asset). A RTO should not be determining how a transmission asset is operated (whether in-service / out-of-service in the topology optimization or whether charging / discharging in SATA). If we start doing that, LMP may not be the right mechanism to appropriately compensate generation and charges consumption, and more studies are needed to account for the actions done on the transmission assets.
CUS	Cost allocation and rates should mimic transmission assets to the greatest extent possible—e.g. Highway/byway depending on interconnection voltage, must be continuously available to the Transmission Operator/Reliability Coordinator.

(cont.) Should SPP allow for the use of energy storage resources as transmission assets under the Tariff by establishing cost allocation and rates for such under the Tariff? Yes / No / Yes with conditions (please specify conditions)	
SPP MMU	To the extent storage as a transmission asset can be demonstrated to be regionally beneficial and cost effective, SPP should allow for it and establish a cost allocation mechanism. FERC has allowed for the use of energy storage as transmission assets for specific purposes in docket nos. ER20-588 (MISO) and EL10-19 (Western Grid) and has not indicated that all other proposals would be unjust and unreasonable. The MMU would expect the planning process to show no bias for or against a storage solution. If a storage asset is the best solution, it may be possible that a resource in the energy market may be a more cost-effective solution than storage as transmission or any other passive transmission solution. Currently, generation in the energy market supports transmission (e.g., voltage support) and its costs are uplifted to the energy market. As technology advances, it may be beneficial for the transmission planning process to evaluate whether or not a resource in the energy market is a more efficient solution. A storage as transmission asset should not get biased treatment in the generator interconnect study or any similar process.
IUB	Yes, if storage is selected as a transmission asset, it should be eligible for cost allocation as a transmission asset.
MO PSC	If ESRs are allowed to be SATA then, yes. They cannot be treated differently than other transmission assets. But that means no market participation and dispatch only for reliability purposes.
KCC	Yes, if an ESR is determined to be more cost effective than other traditional transmission assets. However, there must be strict protocols and requirements in place that maximize the use of the ESR as a Transmission Asset. The ESR must be available to fulfill/provide the function that it was originally modeled/intended for. If other Energy or Capacity functions are allowed, either in the beginning or eventually, then those functions must always be subordinated to the primary intended purpose of the ESR, which is as a Transmission Asset.
ND PSC	Yes

Assuming that SPP does establish a Tariff framework for storage as a transmission asset (SATA), please address the following:

<table>
<tr><td colspan="2">2) Should a SATA be treated solely as a transmission asset or should it also be permitted active participation in the Integrated Marketplace (e.g., submitting offers)?

a. If SATAs are permitted active participation in the Integrated Marketplace, should this be allowed initially or only in a later phase of implementation under the Tariff?</td></tr>
<tr><td>AEP</td><td>Transmission only at this time. SATA should be predominantly used to mitigate the transmission need for which it was deployed. In a later phase, SPP should consider whether or not there are periods of time when the SATA could be utilized for other purposes.

A. Later phase</td></tr>
<tr><td>ITC</td><td>Customers will be paying a regulated annual transmission revenue requirement for a SATA serving a transmission function. Customers and SPP therefore have the right to expect that the SATA will be reserved and available to fulfill its responsibilities. Allowing a SATA to also participate in the Integrated Marketplace would potentially impact the resource’s ability to serve its transmission functions. As such, SATAs could be limited to treatment as transmission assets, or be required to use incremental capacity for market activity or any other purpose the storage asset will serve over and above the transmission function.
If SPP proceeds with allowing SATAs to participate in the Integrated Marketplace, several complex issues will need to be resolved to ensure that they are available to meet transmission obligations, and that they are evaluated on a level playing field with SATA serving only a transmission function. A few examples of these issues are:
Regular charging and discharging of a SATA associated with participation in the Integrated Marketplace may significantly shorten the asset’s life, resulting in incremental costs to repair or replace the asset in order to have it available to meet transmission needs. This market usage pattern is in sharp contrast to that of a SATA that is held in reserve for reliability emergencies or system events. Benefits calculations in the transmission planning process, as well as cost allocation policies, would need to consider how to treat incremental repair or replacement costs associated with the market usage of a SATA.
Rules for revenue crediting or retention would also need to be considered for SATAs that participate in the Integrated Marketplace. Since transmission customers would fund the entire cost of a SATA in cost-of-service transmission rates, a mechanism for crediting any market revenues earned by the asset owner would need to be developed, and decisions made about how to credit the revenues to various customers who have paid the cost-of-service rate for the SATA.
SATAs may also wish to provide other services outside of the Integrated Marketplace – such as primary frequency response, black start service, or voltage support – when not being deployed as transmission assets. The pattern of resource deployment and the resulting impact on repair and replacement costs, as well as crediting of revenues for these other services to customers who have paid the cost-of-service rate for the SATA, would also need to be considered.</td></tr>
</table>

(Cont.) Should a SATA be treated solely as a transmission asset or should it also be permitted active participation in the Integrated Marketplace (e.g., submitting offers)? *If SATAs are permitted active participation in the Integrated Marketplace, should this be allowed initially or only in a later phase of implementation under the Tariff?*	
ITC	a. Given the complexity of the issues to be resolved, limiting SATAs to transmission functions only will reduce complexity and ensure their availability when needed. If rules are established to permit SATAs to participate in the Integrated Marketplace or provide other services, developing and implementing those rules in a later phase is advised.
EVERGY	Participation in market activities by a SATA which receives cost recovery from SPP may create an unlevel playing field for batteries relying solely on market revenues and may be deemed anticompetitive. We believe, however, that SPP should consider evaluating changes to the current tariff and protocols which would address these concerns while allowing the grid to benefit from the flexibility of storage resources. Some of the options that SPP should continue to evaluate are hybrid or mixed-use resources allowed to operate in both the marketplace and as a transmission asset (perhaps at different times of the day or year, or under different circumstances, such as during contingency events). A. The answer depends largely on how a SATA is defined. In general, if a SATA is selected to address a transmission contingency, which might occur at any time, allowing the SATA to participate in market functions which would prevent a SATA from being deployed when needed seems impractical. As discussed above, however, further consideration on this issue would be appropriate as discussions on modifications to SPP's tariff and protocols evolve around hybrid or mixed-use resources.
EDPR	No. The asset should be under SPP's functional control as a transmission asset at all time. a. SATA should not be allowed to participate in the marketplace. Traditional generators have gone through an interconnection queue, mitigated their impacts on the system, and directly paid for interconnection facilities. SATA has the ability to distort energy prices and harm other facilities that have interconnected through a long queue process. In MISO's SATA filing, FERC ruled that a SATA cannot trade at their LMP node above the need to address the MTEP function it is serving. SPP would likely receive a similar FERC decision.
ENEL	Enel does not support SPP establishing this tariff framework at this time. SPP should wait to address these questions until after current high priority initiatives are complete.
SPS/EXCEL	SATAs should only be used solely as a transmission function only. Transmission-only SATAs should not be allowed to participate in the market since it receives cost allocation treatment. The cost allocation for a transmission-only SATA will skew offers in the market with other electric storage resources participating in the market creating an unlevel market playing field. If the reliability need changes in the future and the SATA is no longer needed, SPP cost allocation should no longer apply. A. See above response

(Cont.) Should a SATA be treated solely as a transmission asset or should it also be permitted active participation in the Integrated Marketplace (e.g., submitting offers)? *If SATAs are permitted active participation in the Integrated Marketplace, should this be allowed initially or only in a later phase of implementation under the Tariff?*	
SAVION	SATA that is not approved through a GI study process should not be permitted to participate in SPP energy or ancillary services markets. a. If SATAs are permitted active participation in the Integrated Marketplace, should this be allowed initially or only in a later phase of implementation under the Tariff? If SATA applies through a GI study request, it can then have access to the markets
OPPD	Yes, in principal, it could be possible for the SATA to participate in the Integrated Market (IM) but there are some items that would need to be addressed: ○ Would FERC have reservations about an RTO/ISO Tariff that allows assets that receive cost recovery as a Transmission Asset (TA), to also receive market revenues? SPP and the Working Groups would need to address how market revenues can offset the projects' ATRR paid by the Transmission Customers (TC). ○ How a multi-use SATA would be guaranteed to be charged and available, when it is needed as a transmission solution. ○ Would multi-use cycling decrease the life span of the SATA? How are those costs allocated? ○ There have been concerns raised before about using dispatch options as a permanent solution to transmission issues. Are there other resources that could be used to dispatch around constraints and would they be used prior to dispatching the SATA? Would allowing ESR to be multi-use, blur the distinction between generation and transmission assets? ○ A. If multi-use is going to be permitted, it is probably best to consider it as the initial policy for SATA is being established. This would allow for a more comprehensive and cohesive policy to be formed. One concern with that is that SPP and its members as whole have little storage experience and it could be worth waiting a while to understand the technology better before incorporating the multi-use state. ○
NPPD	It should be treated solely as a transmission asset, aka SATOA. Cost recovery becomes murky if allowed to participate in the IM. If a facility is allowed to participate in the market, it should lose its status as a transmission only facility. A. They should only be allowed if there is a process that the energy cost/income is subject to the SATA and that the SATA pays Transmission costs. Use of the Transmission for Market makes it not a Transmission asset at that time.

(Cont.) Should a SATA be treated solely as a transmission asset or should it also be permitted active participation in the Integrated Marketplace (e.g., submitting offers)? If SATAs are permitted active participation in the Integrated Marketplace, should this be allowed initially or only in a later phase of implementation under the Tariff?	
CUS	Transmission Assets should never be allowed to participate in the Market. Manipulation of any transmission asset will create 'winners and losers'. Any load paying any amount to construct a transmission asset should never be harmed by its operation. If SATA is allowed to participate in the Integrated Marketplace, the credits received for allowing that participation should flow through to the customers paying cost of the facilities. For example, a SATA approved through the transmission planning process at the 69 kV level, when participating in the integrated marketplace, should credit any market revenue to the Zonal ATRR (similar to Schedule 9 revenue treatment). a. If a SATA is a transmission asset it should not be allowed to participate in the Integrated Marketplace; however, if it's allowed to participate, the SATA cost should be commensurate with the benefits of the asset.
SPP MMU	Functional control of the same capacity should not be transferred simultaneously to both the transmission provider and the energy market. To the extent a portion of a physical unit could be functionally controlled by the transmission provider for transmission and a portion of the physical unit could be independently operated in the energy market, then that may be acceptable as multi-use of a physical unit. This, however, is not transferring functional control of the same capacity. Any portion of a physical storage asset for which functional control has been transferred to the transmission provider could not be treated like a resource in the energy market for purposes such as counting it as a capacity resource. Costs of a multi-use physical asset would need to be allocated proportionally so that neither transmission nor energy market is funding the other. a. The MMU would find a two-phased approach acceptable.
IUB	If it follows FERC's policy statement on energy storage participating in the market and serving a transmission asset, it should be permissible. a. There should be a phased approach to allow SPP to gain experience with storage being used in the market and as a transmission asset.
MOPSC	There is a possibility for double-dipping here. If we allow SATA to bid into any markets it will collect or lose revenues (and be potentially eligible for make-whole payments) and collect ATRR. If this is allowed the ATRR has to be adjusted or weighted to be $0 when the ESR is acting economically and the market rules adjusted to ensure the ESR is not paid by the market when acting as a transmission asset. a. No. If this is allowed. The ATRR has to be adjusted or weighted to be $0 when the ESR is acting economically.

(Cont.) Should a SATA be treated solely as a transmission asset or should it also be permitted active participation in the Integrated Marketplace (e.g., submitting offers)? *If SATAs are permitted active participation in the Integrated Marketplace, should this be allowed initially or only in a later phase of implementation under the Tariff?*	
KCC	We have no objection to an ESR being able to participate in the IM, as long as the ESR is always available for the purpose it was originally modeled/intended for. SPP should implement market participation rules that ensure this. Additionally, a Transmission Asset should not over recover its ATRR as a result of IM participation. What seems to make sense to us is that the ATRR of the asset is evenly spread throughout hours of the year, with transmission customers (load) only paying for the hours of the year that the ESR is functioning in Transmission mode. If the ESR is functioning in the IM for that hour, then the ESR owner is responsible for all excess/deficient market revenues. A. While we see pros and cons to either approach, it may make sense to develop the rules for dual use ESRs at the beginning, so that the economics of each ESR may be modeled during the transmission planning phases, and to encourage the adoption of this technology, where cost effective and technically feasible. If a SATOA approach is used instead, SPP should begin a process in parallel to evaluate a dual use ESR approach.
ND PSC	IF they are receiving full recovery as a transmission asset, they should not also be permitted to participate in the market. A. No participation in the market

3) *Should the same cost allocation rules apply to a SATA as apply to traditional transmission projects?*	
AEP	Yes
ITC	Yes, with conditions – assuming that a SATA serving only a transmission function is resolving the same transmission need as a traditional wires solution, the same cost allocation rules should apply to the SATA as would have applied to the traditional transmission project alternative. However, when a storage asset serves a transmission function and also participates in the Integrated Marketplace or provides other services, cost allocation rules will need to take this into account to ensure that all SATAs are considered and treated equitably. For example, it would be inappropriate for transmission customers to pay the increased maintenance and equipment replacement costs associated with a SATA's market participation; and it would also be necessary to determine how any revenues a SATA earns in the Integrated Marketplace should be credited back to transmission customers paying its revenue requirement.
EVERGY	If a SATA is ultimately defined as a transmission-only asset and evaluated for transmission planning, it is important to apply the same cost allocation policies to SATA's as for transmission projects.
EDPR	No. There are several lingering questions around the feasibility of utilizing storage as a transmission project as highlighted in other areas of these comments. FERC precedent also indicates that SATA will likely only be utilized for unique situations (not N-0 or N-1). Because of these uncertainties, there should not be a generic cost allocation established at this time for SATA.
ENEL	N/A
SPS	Cost allocation rules should be reassessed for SATAs since system impacts and costs for electric storage resources are different from other traditional transmission assets. Voltage, charging costs, physical location, and asset life all need to be considered in developing cost allocation for these types of solutions
SAVION	Yes, if the SATA passes the same C/B hurdles as other transmission asset it should have access to the same cost allocation.
OPPD	If SATAs are allowed as a transmission asset only, the cost allocation should follow similarly to traditional transmission projects. Maintaining highway/byway methodology would be possible if voltage level is still a criteria considered. If SATAs are also being incorporated into the IM, the cost allocation methodology would need to consider how revenue from the IM is incorporated. Potentially, an annual true up could be added that would reduce the cost that is allocated to the rest of the footprint, if the project received revenue from the IM. The ATRR should not increase because of participation in the IM as a non-transmission asset.
NPPD	No. See response to #1. If a SATOA, all Transmission Projects should be treated equal with no advantages given to energy storage devices.
CUS	Yes. However, the SATA cost should be prorated based on the amount of time needed as a transmission asset. While the asset is being used in the market, the owner of the SATA is responsible for the full cost of the asset. The transmission customers should not subsidize the cost of the asset.
SPP MMU	N/A
IUB	Yes, if it is a transmission asset, it should be treated as such.
MOPSC	Yes as long as these resources do not act economically.

(cont.)Should the same cost allocation rules apply to a SATA as apply to traditional transmission projects?	
KCC	As long as the ESR is available for the modeled/intended purpose and that purpose meets a transmission network need, then it should be eligible for cost recovery like any other transmission asset. If the asset is acting in a capacity or energy function, it must not receive compensation as a transmission asset for those hours in which it is providing those functions.
ND PSC	Yes

4) If voltage is used as a cost allocation criterion for a SATA, should allocation be based on the voltage at which the SATA is operated or the voltage of the transmission need for which the SATA is installed?	
AEP	Transmission voltage as the primary cost allocation criteria but allow some waiver /appeal process that is similar to transformer waiver if the SATA is addressing a higher voltage need.
ITC	If cost allocation works for SATAs in the same way as for traditional transmission projects, then it would be most appropriate to base allocation on the voltage at which the SATA is either interconnected or operated. This would be somewhat analogous to the cost allocation based on transmission facility voltage that currently applies under the Highway/Byway method. However, in certain instances, it could also be appropriate to allocate the costs of a SATA based on either the voltage of the transmission need being solved, or on the voltage of the alternative wires solution that the SATA is replacing. Regardless of the voltage basis that is selected for cost allocation of SATAs, energy storage is unlikely to replace traditional transmission projects in effectively resolving long-term system needs.
EVERGY	The same cost allocation policies used for transmission projects should be applied to the SATA.
EDPR	SATAs will be for unique situations that require unique cost allocation methodologies.
ENEL	N/A
SPS	If a voltage criterion is used with SATAs, it should be based on the voltage of the transmission need resolved by the SATA. Since it is not clear if there are any common industry voltages standard for SATAs at this time, the voltage criterion should be based on the transmission need. This can be reevaluated in the future as SATAs develop.
SAVION	Cost allocation should be based on the voltage of the transmission need for which the SATA is installed.
OPPD	Voltage level of the transmission need should be used for cost allocation of SATA.
NPPD	A SATA would be treated differently than a SATOA. If a SATOA, cost allocation should be based on the voltage of the Transmission need for which the SATOA is installed. The different cost mechanisms would apply for the different voltage levels.
CUS	The voltage at the injection point of the SATA should determine its cost allocation.
SPP MMU	N/A
IUB	The cost recovery should be based on the voltage level of the transmission issue it is solving.
MO PSC	Physically there is no difference between the conductor transmitting attached to a transformer and the storage device attached to a conductor attached to a transformer. From an accounting perspective, depreciation may need to be considered.
KCC	Cost causation/cost avoidance principles seem to support the concept that the cost allocation criteria should be the voltage of the transmission line that was avoided as a result of the ESR being installed. Our view is that the voltage the ESR happens to be operated at is less relevant than the cost avoidance that it has allowed.
ND PSC	Operating voltage

5) *In the planning evaluation, how should SPP address the potential difference between the expected service life of a SATA and the expected service life of a traditional transmission asset?*	
AEP	We do not view this as a cost allocation issue but more of a transmission planning evaluation issue. As with any other project, SPP should take into consideration the differences in life cycle and maintenance costs of various alternatives. As an example, assuming the life of a SATA is 20 years, when comparing a storage facility to a transmission line alternative one full replacement of the SATA components should be included in the evaluation to arrive at an equivalent 40-year projected life.
ITC	As discussed above, the project evaluation for SATAs will need to consider differences in expected service life. Specifically, SPP will need to determine and assign a cost for the maintenance, repair and replacement activities that would be necessary to extend the life of a storage asset over the 40 years of a traditional transmission asset's life. Obtaining objective, up-to-date lifecycle cost information from industry sources such as EPRI or NREL could assist with this determination. If there are rules permitting storage participation in the Integrated Marketplace, SPP will also need to factor this into the planning evaluation, including determination of the SATA's costs and benefits. For example, more frequent deployment of a SATA due to its participation in the Integrated Marketplace would result in an accelerated need – and incremental cost – for maintenance and/or component replacements. SPP will need to ensure these incremental costs are not considered when evaluating the SATA's cost in the planning evaluation, but that the wear and tear on the resource is taken into account in some manner, such as through crediting of market revenues. SPP would also need to determine whether and how to consider the crediting of any market revenues in comparing the cost of the storage asset to other alternative transmission solutions.
EVERGY	When performing a planning evaluation, a period should be chosen for the economic evaluation. The evaluation methodology chosen should ensure that any expected differences in service life are appropriately addressed. For example, if the period chosen for the analysis is 30 or 40 years, and the expected service life of a SATA is determined to be 10 years, one potential methodology that can be used is to incorporate replacement costs for the SATA, as appropriate. (It should be noted that if a SATA is not allowed to participate in market activities, battery life will be extended.)
EDPR	This question highlights one of the many issues when comparing storage to transmission. Other considerations include: • Impacts to firm transmission service • Improvements to ARR feasibility • Congestion reduction • O&M expenses • Impacts to the GI process • Value of the surplus capacity created by the solution In general, storage is not as robust a solution as traditional transmission. SATA should be reserved for solutions that are not likely to ever need additional upgrades.
ENEL	N/A
SPS	The planning evaluation should account for the expected service life of the SATA. SATAs are different types of assets and should be treated as such with different expected service life. These differences in SATA expected service life should be accounted for in the planning, evaluation, and cost allocation of a SATA solution. For example, if a SATA only has a 10-year life and SPP's transmission planning evaluation

	is based on a 40-year life, the SATA replacement costs over to provide 40 years of service should be accounted for in the cost-benefit analysis. Furthermore, charging costs and other O&M related to SATAs need to be considered in the overall cost-benefit in evaluating the solution.
(cont.) In the planning evaluation, how should SPP address the potential difference between the expected service life of a SATA and the expected service life of a traditional transmission asset?	
SAVION	The SATA should have to meet the expected service life of traditional transmission assets. This may mean that the economic evaluation of the SATA includes a repowering/replacement of the initial SATA equipment sometime during the term evaluated.
OPPD	The cost of the SATA should be based on the normal life span of a traditional project, with cost to repower/replace components of the project forecasted out for the SATA project to fulfill the standard life span of a traditional project.
NPPD	Financial consideration should be based on a reasonable expected service life.
CUS	The total projected cost to maintain the SATA for its projected period of need. This could be a potential benefit for SATA if transmission solution is only needed for a temporary solution—less than 40 years.
SPP MMU	N/A
IUB	If the life of the storage project is shorter than the transmission study period, SPP should look at the replacement costs of the storage project when comparing the storage project against the transmission project.
MO PSC	The costs could be weighted or a special class of depreciation sought.
KCC	For transmission planning purposes (including cost benefit analysis compared to traditional transmission assets) the ESR should only be assumed to last as long as the manufacturer's warranty or other actual operating experience case studies can support. If that's 20 years for an ESR, then the cost benefit analysis needs to assume the replacement of that ESR after 20 years in order to provide the equivalent 40-year assumed life for traditional transmission options. If the particular use of the ESR is expected to speed up the degradation of the equipment and it is only expected to last ten years, then the cost benefit analysis should assume the replacement of the equipment four times over the assumed 40-year life.
ND PSC	Service Life difference should come out in the ARR for each asset.

6) *If any traditional transmission upgrades are required to mitigate the impact of a SATA and are included as part of the overall project, how should they be cost allocated?*	
AEP	Transmission Voltage
ITC	The costs of required upgrades associated with a SATA should be allocated in the same manner as the costs of required upgrades associated with a traditional transmission project are allocated today.
EVERGY	If the SATA is determined to be the best solution to resolve a transmission contingency issue, all costs required to implement the solution should be included in the cost allocation and an approach consistent with other ITP assessments should be used.
EDPR	All upgrades should be considered as part of the cost of the SATA project. A SATA should not be allowed to participate in the market if it is receiving cost-based recovery of network upgrades that other generating units are directly assigned.
ENEL	N/A
SPS	Traditional transmission upgrades associated with a SATA should be treated the same as they are today from a cost allocation perspective. SPP has developed cost allocation for these types of facilities and the use of these facilities whether for SATA solution or not remains functionally the same.
SAVION	The entire cost should be allocated to the SATA owner, otherwise there is no logical manner in which to compare cost/benefit to a traditional transmission “wires” solution.
OPPD	The cost of traditional upgrades should be included in the entire project cost and should be evaluated as such during the project selection. Additionally, the B/C ratio should be based on the normal service life of a traditional project the same as Question 5 above.
NPPD	Costs should go to the cost causer. If upgrades are needed to install the SATA, then those costs should go to them. Further, if a facility is used for market participation, it should pay for any cost associated with the interconnection.
CUS	The individual pieces of the transmission project should be cost allocated according to interconnection voltage.
SPP MMU	N/A
IUB	If there are additional costs to implementing the solution, they should be included in the comparison.
MO PSC	Such upgrades should be considered in the same manner as any traditional transmission wireline upgrade would have been considered.
KCC	The ESR and any potential transmission project necessary to install/implement the ESR project should be evaluated as a package deal. In other words, if an ESR and minor 115 kV upgrades are more cost effective to ratepayers than a 345 kV upgrade, the ESR and 115kV upgrade should be cost allocated on the basis of the avoided transmission upgrade, i.e, regionally.
ND PSC	IF they are caused by the SATA, then it is part of the SATA’s overall cost and should be allocated as such.

7) *Are there any criteria that a SATA should be required to meet in order to be selected as a transmission solution?*	
AEP	We do not consider this a CAWG issue and should be part of the transmission planning evaluation process.
ITC	If a SATA is selected as the best solution to meet the identified transmission need – as viewed from the technical, reliability and economic perspectives – no other criteria should be needed.
EVERGY	The SATA should receive a full economic analysis of costs and benefits to support its use as a transmission alternative. SPP should consider including both intangible as well as tangible benefits. The economic evaluation should be vetted in a stakeholder process. Again, this view is dependent on how a SATA is ultimately defined.
EDPR	The recent MISO SATA guidelines are a good start: 1) A SATA must solve a unique transmission need that cannot be addressed by the market (no N-0 or N-1) that requires the unit to be under MISO's functional control 2) Cost analysis of SATAs must include the cost impacts to GI projects 3) SATAs cannot trade at their LMP node above the need to address the function it is serving Also, SATA should not be considered as solutions to economic issues. Other generators, including storage in the GI queue, cannot be utilized and receive a cost-based recovery in transmission rates. This is clearly a generator function, and SPP should be striving to increase, not decrease, the use of markets to guide resource decisions. Additionally, interconnecting generators are utilizing economic price signals to inform interconnection decisions. Allowing one form of generation a route around the interconnection queue has detrimental impacts on all other generators.
ENEL	N/A
SPS	As with any transmission solution, the planning evaluation needs to evaluate the reliability and cost effectiveness of the transmission solution by analyzing the benefits of the solution through its entire expected service life. Given the emerging and evolving technology of SATAs, SPP should consider the use of a cost cap on cost allocation of SATAs as a transmission solution similar to existing SPP safe harbor rules.
SAVION	Yes. It should meet all criteria required of inverter-based resources in the GI studies.
OPPD	In order for a SATA to be selected as a transmission solution, it would need to be capable of fulfilling the transmission need identified. This includes not only seasonal and daily needs, but also if the SATA has the capacity to fulfill the duration of individual transmission needs. Considerations should also be made on how to handle if the SATA isn't available or doesn't perform adequately to meet the identified transmission need.
NPPD	It would need to go through the planning process and be identified as the least cost and best solution when compared to traditional transmission upgrades. How many hours does the SATA need to run based on the study?
CUS	The SATA must be able to perform the same function of an equivalent transmission upgrade and at a comparable level of service. This could impact size, duration, and number of charge cycles that a SATA must meet
SPP MMU	N/A
IUB	They should have the same criteria that a traditional wires solution have.

MO PSC	These upgrades should be considered in the same manner as a traditional transmission wired upgrade. If such an upgrade were considered in place of building a CT then such a comparison should apply to ESRs-SATA

(cont.) Are there any criteria that a SATA should be required to meet in order to be selected as a transmission solution?	
KCC	There are likely several technical engineering standards that the ESR should meet to be selected as a transmission solution, but at a bare minimum, the ESR should be able to provide the technical service that it was intended/modeled for when it was selected in the transmission planning process. Market and or capacity services that the ESR can provide should always be subordinated to this purpose, and SPP should ensure that that is the case.
ND PSC	Same criteria and characteristics as any other transmission solution.

8) *If a SATA exceeds the capacity required to fulfill its specified transmission function, how should the additional capacity be treated?*	
AEP	Ideally, a SATA should be sized for the reliability need. If there is some small excess capacity available, then any use of it should be determined in a latter phase as suggested in question #2. We do view that as a different problem than oversizing to allow market interactions. For example, if the transmission need is 1.5 MW and the inverter size is 2MW because that's what sizes they come in is a much different situation that a 1.5MW need and putting in a 10 MW storage device to also participate in the IM.
ITC	Capacity in excess of that required to fulfill the identified transmission need should be treated in the same manner as the capacity of any other resource wishing to interconnect to participate in the Integrated Marketplace and/or provide other services.
EVERGY	In general, a SATA should be designed and selected to meet a specific need. Generally, treatment of any capacity regarded as "excess capacity" should be similar to the treatment used for other transmission projects. This view is heavily dependent on the ongoing discussions in SPP and how the definition of dual use or mixed-use resources evolves.
EDPR	At a minimum, the excess capacity should not be eligible for recovery in transmission rates.
ENEL	N/A
SPS	SATA solutions should be appropriately sized for capacity of the transmission need. Any additional capacity should be treated as headroom similar to a reliability margin. It should not be used to provide any economy service or non-firm type service.
SAVION	Excess capacity should only be specified as transmission excess. If excess capacity is desired to be offered to a market, the owner should make a GI study request for the excess capacity.
OPPD	Would the excess capacity be for use as a transmission asset or would it be used in the IM? If the capacity is being used in the IM, it would need to go through the GI process, and not be eligible for cost recovery. If excess capacity is only used as a transmission asset, OPPD's preference would be to only cost allocate to the specified function and utilize a ratio share of the cost to allocate to the customers. There may be certain circumstances where it may be prudent to go over the specified capacity need and there could be a reasonableness test to see if it is acceptable.
NPPD	That would be up to the SATA. It should be able to be put into the SPP IM if Tariff and Protocols are in place. Any additional costs for capacity over what is needed by specified transmission function should not go to anyone other than the SATA.
CUS	Similar to a traditional transmission asset, the SATA should not be purposefully overbuilt at additional cost; however, if the owner of the SATA wants to overbuild in order to participate in the market, then the owner should be allowed. Those costs in excess of the transmission needs identified in the transmission planning process should be shouldered by the owner.

(cont.) If a SATA exceeds the capacity required to fulfill its specified transmission function, how should the additional capacity be treated?	
SPP MMU	The capacity for which functional control has been transferred to the transmission provider should not be allowed to exceed the capacity required to fulfill its specified transmission function. This does not mean that the physical storage asset cannot exceed that capacity. An appropriate amount of additional physical capacity could reasonably be allowed to account for any degradation of the storage resource's maximum and minimum output. Additional charging or discharging beyond what is necessary to fulfill the specific transmission function should be explicitly prohibited. The MMU has submitted a revision request prohibiting a storage as transmission asset from operating inconsistent with the transmission provider's direction (RR419). The revision request was postponed by the Market Working Group September 2020.
IUB	The ratepayer should be responsible for paying only for the capacity needed to solve the transmission constraint. Any excess should not be recoverable in transmission rates.
MO PSC	This should not be the case as SATA can be sized. If the ESR for SATA is over sized, then the additional capacity should be treated as a separate facility or not allowed. IF there is any chance of cross subsidization the asset should be treated only as a SATA.
KCC	Transmission lines often exceed the minimum standards necessary to meet the intended/modeled reliability purpose for which they were built to serve. As long as the ESR is cost effective for ratepayers compared to other traditional transmission options, the ESR should still be eligible for cost recovery from ratepayers. To the extent that excess capacity can fulfill energy market or capacity functions as well, there should not be transmission cost recovery for the hours in the year that the ESR is providing those other services.
ND PSC	Capacity over the amount required would be similar to building a transmission line that was not part of the planning process.

9) *Please provide any other comments you may have regarding SPP's potential implementation of transmission cost allocation and rates for energy storage resources.*	
AEP	Regarding SATA, we believe existing FERC accounting, costs under the SPP tariff allocation, and waiver procedures already exist.
ITC	ITC has no additional comments at this time, but we appreciate the opportunity to provide input and look forward to further discussion.
EVERGY	In addressing these questions, we note that all answers are heavily dependent on how a SATA is defined and how discussions in SPP continue to evolve regarding use of hybrid/mixed-use resources. Another issue to consider in defining allowable uses for a SATA and associated cost recovery policies is how to treat charging costs as well as any market revenues which a SATA might be eligible to receive. In MISO's SATOA policies, charging costs are eligible for cost recovery and any market revenues gained during deployment would be credited to customers. Evergy believes it would be beneficial for SPP to develop some strawman definitions for terms like: SATA, hybrid, mixed-use, dual-use resources and other terms being used across working groups. These terms should not be set in stone, but revisited in parallel with working group discussions. Evergy is open to exploring ways to fully utilize energy storage technology if the cost allocation around those assets can be developed appropriately.
EDPR	Storage is an incremental solution that lacks the broader benefits of traditional transmission. It should not be utilized to replace transmission, but be limited to very unique situations. There are tradeoffs between replacing transmission with generation that need to be carefully considered. These tradeoffs include devaluing the SPP Integrated Marketplace and negative impacts to interconnecting generators. Cost-based recovery should not be the default solution for SATA. This solution results in a risk shift to transmission ratepayers who may be stuck with long-term assets with limited usefulness. Storage is an incremental approach that results in "just enough" solutions. Storage does not create additional capacity on the system and may result in higher overall transmission costs. Including SATA in transmission rates is also the most expensive option. There is very little incentive for Transmission Owners to control costs, because of the guarantee of a return on and of the asset, including all O&M expenses. TOs should not be allowed to own SATA because of their impacts to efficient markets. Alternatives should be considered at SPP before continuing down this road. One such alternative, storage could be procured as a service from generators. There are several advantages to this methodology including reduced costs to ratepayers through competitive processes and a transfer of risk from ratepayers to generation developers. Storage as a service could be required to go through the queue process and minimize impacts to other generators. The storage could take advantage of existing installations to minimize costs. Finally, once the service is no longer needed, the generation could simply be returned to the marketplace.
ENEL	Enel agrees with EDPR's responses to this survey. EDPR raises many concerns related to FERC direction on Storage as transmission. SPP should not proceed with Storage as Transmission until storage is fully implemented into the market and policy directives surrounding Storage as Transmission are clear.
SAVION	Savion holds that SATA is not a generation asset and its operation on the transmission system should not negatively impact the operation or value of prior queued generation in a GI study process. Further, if SATA is desired to participate in

	the SPP energy or ancillary services markets, the resource should be reviewed in the GI study process as any other generation resource.

(cont.) Please provide any other comments you may have regarding SPP's potential implementation of transmission cost allocation and rates for energy storage resources.	
OPPD	OPPD understands this is a complex issue that will take a lot of effort to solve. One of our primary concerns is that if a storage device is selected as a solution for transmission issues that it is able to fulfill its duties as a transmission asset. If participating in the market puts that resource in jeopardy it should not be used as a transmission solution and have its costs allocated as such. It feels like there will be a desire to use SATA in the market and we should be clear about the expectations of the SATA to perform especially because of the cost allocation of such a resource. OPPD welcomes further discussion on these topics because we feel that knowledge of the membership will bring to light questions and concerns we may not have contemplated. We appreciate the CAWG taking this issue up and we thank you for allowing OPPD the opportunity to provide feedback on this issue.
NPPD	Costs need to go into the correct buckets. Any costs over the needs of the system should go to the cost causers.
CUS	SPP staff should perform a study to determine the potential of a SATA being chosen in the transmission planning process. CU has concerns that a number of resources are being used to resolve an issue that may be of very limited value.
SPP MMU	N/A
IUB	SPP should keep in mind that SATA is intended to be an alternative to the traditional wires solution to a transmission problem. It should only be selected if it solves the identified transmission issue in a more efficient and effective manner than the wires solution.
MO PSC	The concept of SATA was intended to substitute the need to build a transmission upgrade. SATA ESR owners should not be allowed to receive ATRR for transmission facilities and double dip by selling energy. The business case to construct SATA must be clear to eliminate the potential for cross subisidization.
KCC	None at this time.
ND PSC	This is a new concept and may have impacts we are not contemplating. We should try to move slowly and methodically to ensure they are evaluated and treated appropriately.

APPENDIX B
STAKEHOLDER FEEDBACK JUNE 2021

AEP COMMENTS:

Lane, this policy paper is very well done and AEP is in general agreement with the policies. We do have one comment/concern that you might consider. The cost recovery/sizing issue may present challenges in the future of storage sizing/design. If there is a normal size breakpoints like cap banks or transformers to some extent, is it reasonable to size up to the next logical size above need level? Wire/transformer solution sizes are based on TO standard sizes, not minimum conductor that would work. This might require some additional work with TWG as they work through a process to develop and evaluate any SOTOA projects. If you forego market function then is there an issue on slightly oversizing, especially if the industry gravitates toward common sizes?

ITC COMMENTS:

Thank you for your work on the Cost Allocation Working Group's (CAWG) Storage as a Transmission Only Asset (SATOA) white paper. ITC Great Plains appreciates the chance to provide comments on specific policy recommendations in the white paper in advance of its presentation to the full CAWG and the Regional State Committee. Below we provide comments on critically important issues which the CAWG and the RSC will need to be cognizant of should any SATOA provisions be included in the SPP tariff. Specifically, our comments are focused on five important aspects of the SATOA proposal: 1) cost allocation methodologies associated with a SATOA; 2) implications for the various planning processes utilized by SPP; 3) the necessity for absolute functional control of the asset by the RTO; 4) financial impact of the significantly shorter lifespan of storage assets when compared to traditional wires solutions; and 5) the cost recovery implications for the various reliability services that a storage asset serving a transmission function could potentially provide.

- **Cost Allocation Methodology for SATOAs:** Per the SPP Tariff, a transmission project receiving a Notice to Construct (NTC) from SPP is eligible for cost recovery, utilizing one of two cost allocation methodologies, depending on the planning process from which it emerges. Projects emerging from the Integrated Transmission Plan (ITP), Interregional Upgrades and High Priority Upgrade planning processes are eligible for Base Plan Funding, and utilizing the Highway-Byway methodology for cost allocation, while the costs for projects approved through the Transmission Service Request and Generator Interconnection Project planning processes are directly assigned to requestor or sponsor of the project. The white paper articulates a manner for determining the appropriate cost allocation methodology based on the planning process by which the SATOA is identified as the preferred solution (i.e. Base Plan Funding for any project coming out of an ITP, Interregional Upgrades or High Priority Upgrades processes and Directly Assigned Upgrade Costs for TSR and

GIPs). Further, for projects receiving Base Plan Funding utilizing Highway-Byway cost allocation methodology, the white paper states that the level of funding (voltage and location) will be based on the transmission solution that the SATOA is intended to resolve. ITCGP views this manner of cost allocation for SATOA as consistent with the provisions of the tariff, fair and appropriate, and would support its implementation.

- **Integrated Transmission Plan (ITP) Process Rules:** Changes to the Integrated Transmission Plan process will be required as part of implementing cost allocation and other rules for storage resources serving a transmission function. These particularly include rules for 1) evaluating transmission solutions that include both wires and storage options, and 2) determining the level of costs to be considered for Benefit/Cost analysis associated with portfolio development.

- **Functional Control:** Per FERC policy, SPP is required to have functional control of storage resources operating as transmission assets. However, a transparent and detailed process for SPP's functional control of these assets will need to be established, to include how SPP will instruct the entity actually charging and discharging the asset, and sufficient time and notice for return of the asset to set point.

- **Useful Life & Replacement Cost:** A serious cost consideration for storage assets serving a transmission function is the useful life of those assets. A chemical storage asset has a significantly shorter life than a traditional 40-year "poles and wires" transmission project, with components that will require replacement several times over those 40 years. Even for storage assets held in reserve for reliability emergencies or system events, SPP will need to take storage asset lifecycle into account in balancing benefits and costs, and in selecting among various solution alternatives in the planning process. It is not clear how SPP plans to make these corresponding changes to the Integrated Transmission Plan process.

- **Other Reliability Services:** A storage asset serving a transmission function could also provide Primary Frequency Response, black start service, voltage support, or inertial response when not being deployed for a reliability purpose. The revenues for these services would come from separate Federal Power Act Section 205 filings proposing different cost recovery mechanisms. However, in order for a storage asset to serve additional needs, its capacity would need to be greater than that required for the reliability purpose. As part of future stakeholder initiative or initiatives, SPP should consider the appropriate interconnection and other rules for storage resources providing multiple reliability services.

ITC Great Plains appreciates the opportunity to provide comments on the SATOA white paper and we stand ready to assist the CAWG in its important work in the future.

EVERGY COMMENTS

CAWG: Evaluation of Cost Allocation for Energy Storage as a Transmission Asset White Paper
6/30/21

1) III. CAWG Review of Related Precedence and FERC Guidance; C. Development in other RTOs

3. Operating guides that grant SPP exclusive functional authority need to be developed – ORWG Responsibility. (pg 6)

Evergy's Comment:
SPP needs to maintain independence in market operations. For example, SPP deploys a device when needed to meet the transmission contingency or reliability event for which the storage was selected, not to act to relieve market prices. Suggested language change; "Operating guides that describe how SPP will coordinate operations of the SATOA with the Transmission Owner need to be developed -ORWG Responsibility.

2) *IV. Non-CAWG Related Issues from the MISO SATOA Approval; A. Preferred Transmission Solution*

Evergy's Comment:
Evergy recommends considering adding the following language regarding N-2 contingencies.
"MISO's filing restricted SATOA's to be used for N-2 contingencies. CAWG recommends the TWG give further consideration as to whether this restriction should be adopted by SPP."

3) V. CAWG Review of SATOA Cost Recovery Issues; A. Cost Allocation

The CAWG recommends that the location and voltage level to be used for purposes of Base Plan Funding cost allocation for SATOAs be the location and voltage level associated with the transmission issue being resolved. The CAWG further recommends that the ESRSC work with the TWG to the extent any technical specifications or processes need to be developed for that determination. (pg 17)

Evergy's Comment:
Evergy recommends the following language to make the cost allocation more equitable by proposing to treat SATOAs the same as any other network upgrade that is a shunt device, such as a capacitor bank or reactor bank.

"The CAWG recommends that the Base Plan Funding cost allocation for SATOAs be the same as what is used for shunt devices such as capacitors and reactors. The CAWG further recommends that the ESRSC work with the TWG to the extent any additional technical specifications, considerations, or processes are required."

4) Further, if an ESR has been identified as the preferred solution to a transmission, then the total costs over the expected lives of the of the two alternatives presumably would have been compared and the ESR determined to be the lower cost alternative. (pg 18)

Evergy's Comment:
Evergy recommends the following revision for intangible criteria to be included in the evaluation.
"Further, if an ESR is selected to address a transmission need, then a life-cycle economic analysis of the alternatives would have been compared and the SATOA determined to be the preferred solution."

5) V. CAWG Review of SATOA Cost Recovery Issues; B. Amount of SATOA to be Recovered in Transmission Rates

The MISO SATOA Approval provides guidance on the amount of costs to be included for cost-based recovery if only a portion of the ESR capacity is needed to provide the preferred transmission solution. Cost recovery for a SATOA under transmission rates will be limited to the cost of the maximum capacity needed to address the transmission issue and will be pro-rated on that basis if a SATOA of higher capacity is proposed. Any SATOA with excess capacity beyond the required capacity selected as the preferred solution in the SPP planning process will be required to go through the full GIP process if the SATOA seeks to offer that excess capacity into the market. (pg 19)

Evergy's Comment:
Evergy recommends a clarification that if the SATOA design allows for supplemental modules to be added over time to replace capacity resulting from degradation, any such costs will be treated as O&M costs.