SPP-MISO Joint Targeted Interconnection Queue Cost Allocation and Affected System Study Process Changes

White Paper

December 20, 2022

Disclaimer – This is not the final version of the whitepaper. MISO and SPP technical, legal and management teams are working with both internal and external subject matter experts to calibrate and provide more details on certain portions of the whitepaper. Content in this version of the whitepaper may be modified in future iterations or during the drafting of governing language. The final whitepaper is expected to be available in January 2023.
## Revision History 2

<table>
<thead>
<tr>
<th>Date</th>
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<tbody>
<tr>
<td>8/17/2022</td>
<td>SPP &amp; MISO Staff</td>
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</tr>
</tbody>
</table>
Contents

1 Overview .......................................................................................................................................... 4

2 Cost Allocation .................................................................................................................................. 7
  2.1 Cost Sharing between Generators and Load ................................................................................. 7
  2.2 Cost Sharing of JTIQ Projects between SPP and MISO Loads ......................................................... 7
  2.3 Cost allocation within each RTO ...................................................................................................... 8
  2.4 Other Potential Funding Options ..................................................................................................... 8

3 Rate/Charge to Generator Interconnection Customers for Costs of JTIQ Projects ......................... 9
  3.1 Information to be considered when determining total cost of JTIQ Portfolio to be assigned to generator interconnection customers ................................................................................................................................. 9
    3.1.1 Planning-level costs of JTIQ portfolio ....................................................................................... 9
    3.1.2 Available and/or Projected Queue information ...................................................................... 9
  3.2 Calculating and Collecting JTIQ Cost Allocation for Generator Interconnection Customers...... 10
    3.2.1 True up of JTIQ Rate and MWs .............................................................................................. 10
  3.3 JTIQ Study Cost .............................................................................................................................. 10

4 JTIQ Financial Security via Milestones in Generator Interconnection Process .......................... 12
  4.1 JTIQ Milestone Payments in MISO Generator Interconnection Process .................................... 12
  4.2 JTIQ Milestone Payments in SPP Generator Interconnection Process ......................................... 13

5 Distribution of JTIQ Funds to Transmission Owners...................................................................... 16
  5.1 Allocation of funds to JTIQ projects ............................................................................................... 16
  5.2 Ensuring 100% Transmission Owner Cost Recovery from GI Customers and Load ....................... 16

6 Generator Interconnection Process Enhancements ...................................................................... 18
  6.1 Determining Which Interconnection Customers Impact the Seam ............................................... 18
    6.1.1 Screening Analysis .................................................................................................................. 18
    6.1.2 Subregional Study Considerations ......................................................................................... 19
  6.2 Transition Plan ............................................................................................................................... 20
    6.2.1 Embedding JTIQ in GI schedule for SPP DISIS/MISO DPP – Timing ........................................ 20
  6.3 JTIQ study replacing AFS (Subsequent JTIQs) ................................................................................ 20
    6.3.1 Study Assumptions ................................................................................................................. 20
    6.3.2 Futures ................................................................................................................................... 21
    6.3.3 Study Models .......................................................................................................................... 21
    6.3.4 Study Constraint Identification criteria .................................................................................. 21

SPP-MISO JTIQ White Paper Cost Allocation & AFS Process Changes
1 Overview

The Joint Targeted Interconnection Queue (JTIQ) effort was conceived by Southwest Power Pool, Inc. (“SPP”) and Midcontinent Independent System Operator (“MISO”) in mid-2020 to address certain transmission system needs along the SPP-MISO seam contributing to delays in processing regional generator interconnection queues. The two Regional Transmission Organizations (RTOs) worked together to analyze issues, identify system needs and complete the technical study work by late 2021. The final study report was published in March 2022 and included the following projects:

1 https://www.spp.org/Documents/66725/JTIQ%20Report.pdf or link to study report on MISO site
2 MISO has elected to move forward, outside of the JTIQ process, with two of the projects that were included in the JTIQ study that was published in March 2022, and, as such, those projects are no longer included as part of the JTIQ portfolio
Following the identification of this first-of-a-kind portfolio of projects between the RTOs have begun work on the issues related to implementing the JTIQ proposal. These issues include:
• Cost Allocation – this includes policy development regarding cost sharing between generator interconnection customers and load, cost sharing of the load portion between RTOs, cost allocation within each RTO and other potential funding options
• JTIQ Charge/Rate Development – this includes development of a $/MW rate that will be charged to interconnection customers that are determined to impact the SPP-MISO seam
• JTIQ Financial Security Processes – this includes updating the existing MISO and SPP generator interconnection financial security processes to include financial security related to the JTIQ projects
• Distribution of JTIQ Funds to Transmission Owners – this includes development of rate mechanisms to distribute the funds collected from generator interconnection customers and load to the transmission owners constructing the JTIQ projects
• Generator Interconnection Process Enhancements - this includes development of the processes to determine which generator interconnection customers impact the SPP-MISO seam and evaluation of the potential to replace the current Affected System Study (“AFS”) process with a repeatable JTIQ process for major transmission upgrades (e.g., 300 kV and above)
• Approvals – this includes approvals by the MISO and SPP Boards of Directors as well as approval by the Federal Energy Regulatory Commission (“FERC”).
2 Cost Allocation

The goal of the cost allocation methodology for JTIQ is to appropriately distribute the costs of the recommended transmission upgrades between generator interconnection customers and between the loads of each RTO in a manner that is roughly commensurate with the benefits received.

2.1 Cost Sharing between Generators and Load

For projects in the initial JTIQ portfolio, approximately 90 percent of project costs are proposed to be recovered from future generator interconnection customers interconnecting in both RTOs and that are determined to impact the SPP-MISO seam. The remaining approximately 10 percent is proposed to be allocated to load in both RTOs. Under this proposal, generator interconnection customers will fund 90% of engineering and construction ("E&C") costs, 90 percent of transmission owner carrying costs, and 100% of the JTIQ study costs. MISO load and SPP load will fund the remaining 10% of E&C costs, 100% of O&M costs, and 10% of the transmission owner carrying cost of JTIQ projects.

2.2 Cost Sharing of JTIQ Projects between SPP and MISO Loads

SPP and MISO loads are proposed to be allocated, in aggregate, 10% of the total E&C costs and carrying costs of each approved JTIQ project and 100% of the operations and maintenance ("O&M") expenses. Each RTO’s allocation will be based on the proportion of benefits received, as determined through an approach similar to that employed in the SPP-MISO Coordinated System Plan (CSP). SPP and MISO will each conduct a regional review of the portfolio of approved JTIQ projects to determine the amount of benefits each RTO’s footprint is expected to receive over a 10-year period. The two RTOs’ calculated benefits will be summed together to calculate the total benefit, and each RTO’s share of the 10% of JTIQ costs allocable to load will be that RTO’s individual calculated benefits divided the sum of the two individual calculated benefits. For the initial suite of JTIQ projects, SPP and MISO intend to rely on the methodology described above and the initial JTIQ study results of calculated APC benefits to determine each RTO’s allocable share of the 10% of total JTIQ portfolio E&C, 100% of O&M, and 10% transmission owner carrying costs.

For example, the E&C portion of costs assigned to load is 10% of an approximate $1B portfolio, or about $100M. The MISO APC benefits over a 10-year period through preliminary analysis in the MISO MTEP study is roughly $56M, and the SPP APC benefits over a 10-year period through preliminary analysis in the SPP study is roughly $133M. For the E&C portion of costs, MISO load will be allocated about $30M in

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3 For purposes of JTIQ project costs, carrying costs will include the overall rate of return for the relevant transmission owner.

4 SPP-MISO JOA Section 9.6.3.2. This approach to sharing costs between MISO and SPP load is similar to the FERC-approved methodology used in determining the proportional cost share of Interregional Projects in the Coordinated System Plan. See SPP-MISO JOA Section 9.6.3.2 available at: https://www.spp.org/spp-documents-filings/?id=18418.
costs ($56M/(56M+133M) x $100M) and SPP load will be allocated about $70M in costs for the JTIQ portfolio of projects.

2.3 Cost allocation within each RTO

SPP and MISO are each working separately to address how each RTO will recover its portion of these costs through its respective tariff mechanisms.

2.4 Other Potential Funding Options

MISO and SPP are exploring ways for the Department of Energy (“DOE”) to be involved in JTIQ funding. However, even if DOE funding is granted, it is not expected to fully fund the JTIQ portfolio. Accordingly, cost allocation for the JTIQ portfolio must be addressed immediately and the application of DOE funding will be reserved until such time as funding is granted.
3 Rate/Charge to Generator Interconnection Customers for Costs of JTIQ Projects

JTIQ projects will be predominately extra high voltage facilities 300kV and above, that are needed to interconnect significant amounts of new generation. The costs associated with these JTIQ projects assigned to generator interconnection customers will be allocated across multiple generator interconnection queue clusters from both regions. This approach recognizes that transmission enables interconnections across multiple study clusters and helps to ensure more equitable cost allocation.

Generator interconnection customers in either RTO that are determined to impact the SPP-MISO seam will be charged a $/MW JTIQ rate/charge. The rate charged to interconnection customers will reflect the revenue requirements of the JTIQ portfolio and a projected MW enablement of approximately 30,000 MWs. The RTOs will utilize available interconnection queue information and regional planning futures assumptions to estimate generation enabled in future queue cycles.

3.1 Information to be considered when determining total cost of JTIQ Portfolio to be assigned to generator interconnection customers

The following information will be considered when determining the JTIQ project costs to be allocated to generator interconnection customers determined to impact the SPP-MISO seam:

- Planning-level cost estimates from each RTO’s respective cost estimation methodologies
  - E&C costs
  - Transmission Owner carrying costs
- JTIQ study costs
- Available and/or projected queue information and estimates of MWs enabled
- Historical and projected queue withdrawal rates

3.1.1 Planning-level costs of JTIQ portfolio

The planning-level cost estimates of JTIQ upgrades identified through a JTIQ study will be developed in accordance with each RTO’s respective cost estimation methodologies and in coordination with the impacted MISO and SPP transmission owners. These costs will include E&C costs and transmission owner carrying costs.

3.1.2 Available and/or Projected Queue information

Actual queue information will be utilized to the extent it is available and informative to the amount of generation expected to interconnect and impact the SPP-MISO seam during the JTIQ study horizon. Where actual data is not available, MISO and SPP may use information from regional planning futures to predict the capacity (in MW) and number of interconnection projects in upcoming queue cycles that are expected to be submitted into the future interconnection queues and that are expected to impact the SPP-MISO seam.
### 3.2 Calculating and Collecting JTIQ Cost Allocation for Generator Interconnection Customers

The estimated JTIQ Rate will be the 90% of E&C and 90% of the carrying costs of the JTIQ portfolio divided by the projected/actual generation that is determined to impact the SPP-MISO seam. The estimated rate will be used until the final rate is calculated, based on actual costs and actual generation interconnecting in each RTO and that is determined to impact the SPP-MISO seam. SPP and MISO will take necessary measures to ensure the actual rate is not materially different than the estimated JTIQ Rate. These measures will include, but are not limited to, monitoring the actual construction cost of the JTIQ portfolio through each RTO’s project tracking processes will provide appropriate transparency on each JTIQ project’s status and cost.

SPP and MISO propose to charge generator interconnection customers determined to impact the SPP-MISO seam for as many SPP DISIS or MISO DPP clusters as it takes to execute enough GIAs to fully recover the generator interconnection customer portion of the JTIQ portfolio’s cost. SPP and MISO will not pursue approval of any subsequent JTIQ portfolio until each portfolio has received sufficient executed generator interconnection agreements (GIAs) to fully fund the generator interconnection customer portion of the most recently approved portfolio.

#### 3.2.1 True up of JTIQ Rate and MWs

As described below, the SPP and MISO will update the estimated rate based on actual costs and actual interconnection capacity subscribed once the applicable information is available. Within eight (8) months after the last JTIQ Network Upgrade project, of the applicable JTIQ portfolio, is placed in-service the portfolio transmission owners will provide the RTOs with the final costs used in the numerator of the rate calculation. Additionally, the RTOs will determine when enough SPP DISIS or MISO DPP clusters have resulted in executed GIAs to cover the actual numerator costs and will utilize the associated subscribed MWs as the denominator in determining the JTIQ Rate. Once both the numerator and denominator have been determined the RTOs will calculate an updated rate to be applied to each generator interconnection customer’s GIA MWs to determine the revised revenue requirements to be paid over 120 months.

### 3.3 JTIQ Study Cost

Generator interconnection customers are responsible for costs related to Affected System studies in the current generator interconnection processes and similarly will be responsible for the cost of JTIQ studies. A JTIQ total study cost charge will be assessed to the generator interconnection customers of the JTIQ portfolio as a separate $/MW charge (JTIQ Study Charge). The JTIQ Study Charge Rate will be the total JTIQ study cost divided by the interconnection capacity assumed in the denominator of the JTIQ Rate. The JTIQ Study Charge Rate will be applied to the generator interconnection customer’s subscribed interconnection capacity to produce the generator interconnection customer’s JTIQ Study Charge, which will be paid to the RTOs at the time of the applicable Generator Interconnection Agreement is executed or filed unexecuted with the Federal Energy Regulatory Commission.
After the applicable JTIQ portfolio has been fully subscribed and the actual interconnection capacity is known, the RTOs will recalculate the JTIQ Study Charge Rate and will refund/surcharge the applicable generator interconnection customers for any over/under-collections of JTIQ study costs due to the use of estimated values.
4 JTIQ Financial Security via Milestones in Generator Interconnection Process

Financial security for JTIQ costs allocated to generator interconnection customers will be collected via new milestone payments and financial security requirements in MISO and SPP’s respective interconnection processes. JTIQ-related funds collected from generator interconnection customers via financial security milestones will be fully refundable upon withdrawal before the GIA is executed. All security amounts, including JTIQ study costs, will be collected from generator interconnection customer(s) before or shortly after the execution of a GIA. New milestones added to the process will be in-line with the existing milestones on the amount of funds collected at each stage. After GIA execution, any security amounts collected for JTIQ costs become refundable as the interconnection customer makes payments toward the collection of the interconnections customer’s share of the TO’s ATRR for the JTIQ projects. Any unutilized financial securities being held from generator interconnection customers that withdraw from the MISO DPP or SPP DISIS for the purposes funding a JTIQ project portfolio will be refunded after sufficient generator interconnection requests have executed GIAs and committed to fully funding the generator interconnection portion of the JTIQ project costs.

Collecting JTIQ funds throughout the interconnection study process will provide more certainty to the funding of JTIQ upgrades during and after construction.

MISO and/or SPP will enter into a GIA with the generator interconnection customer. On a JTIQ portfolio by JTIQ portfolio basis, MISO and/or SPP will collect the security payments from the GICs and deposit the funds in a trust.

4.1 JTIQ Milestone Payments in MISO Generator Interconnection Process

MISO’s Interconnection process is structured around milestones and corresponding deposits. https://cdn.misoenergy.org/GI%20Process%20Flow%20Diagram106549.pdf
Proposal is to add:

- First JTIQ M1 milestone of 10% of JTIQ NU along with GI M3 milestone
- Second JTIQ M2 milestone of another 20% of JTIQ NU along with GI M4 milestone
- Third JTIQ M3 milestone of remaining 70% of JTIQ NU at the GIA execution

For example - If an Interconnection Customer’s share of JTIQ costs is $30,000/MW, A deposit of $3,000/MW is required for JTIQ M1 milestone, $6,000/MW is required for JTIQ M2 milestone, and the remaining $21,000/MW is required upon execution of the Generator Interconnection Agreement.

4.2 JTIQ Milestone Payments in SPP Generator Interconnection Process

The JTIQ process will utilize deposit and financial security requirements that are similar to the SPP generator interconnection process. Information related to SPP’s deposits and financial security requirements can be found in Section 1.3 of the SPP Guidelines for Generator Interconnection Requests.

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<th>Type of Deposit</th>
<th>Amount</th>
<th>Payment Requirement</th>
<th>Payment Form</th>
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<td>GIR Application and DISIS Cluster Study Deposit</td>
<td>$25,000</td>
<td>For generation less than or equal to 2 MW</td>
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<td>(with Appendix 3) to enter into DISIS Phase One Study</td>
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<td></td>
<td>$35,000</td>
<td>For generation greater than 2 MW and less than</td>
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<td></td>
<td>or equal to 20 MW</td>
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<td></td>
<td>$50,000</td>
<td>For generation greater than 20 MW and less than</td>
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<td></td>
<td>or equal to 75 MW</td>
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<td></td>
<td>$90,000</td>
<td>For generation greater than or equal to 75 MW</td>
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<td>For Generating Facility Replacement Requests Only</td>
<td>$60,000</td>
<td>For All Generating Facility Replacement Requests</td>
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Per Section 8.2(b): Study deposits provided pursuant to this section shall be applied toward any Interconnection Studies applicable to the Interconnection Request. Twenty percent (20%) of the study deposit shall be non-refundable at the start of DISIS Phase One.

**AND**

<table>
<thead>
<tr>
<th>DISIS Financial Security One</th>
<th>$4,000 per/MW</th>
<th>Security Deposit equal to $4,000 per generation requested capacity of the plant</th>
<th>Check, Wire, or Letter of Credit</th>
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<td>DP1 (Decision Point 1) - TO PROCEED INTO DISIS PHASE TWO, PRIOR TO THE END OF DP1</td>
<td>Equal to the greater of a) Ten percent (10%) of the Financial Security Two Cost Factor**, less the amount of Financial Security One that was provided to enter DISIS Phase One, or b) $4,000 per MW of the requested capacity advancing to DISIS Phase Two. If applicable, “in lieu of” Financial Securities for Gen Tie Site Control equal to $80,000 per ROW mile, for the entire Gen Tie Line Length</td>
<td>Check, Wire, or Letter of Credit</td>
<td></td>
</tr>
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| DISIS Financial Security Two | 10% Or $4,000 per/MW | Equal to twenty percent (20%) of the total upgrade costs**, less the amount of Financial Security One and Financial Security Two that was provided to enter DISIS Phase One and DISIS Phase Two. If applicable, “in lieu of” Financial Securities for Gen Tie Site Control equal to $80,000 per ROW mile, for the entire Gen Tie Line Length | Check, Wire, or Letter of Credit |
| DP2 (Decision Point 2) - TO PROCEED INTO FACILITIES STUDY, PRIOR TO THE END OF DP2 |

| DISIS Financial Security Three | 20% Less Previous Securities | Equal to twenty percent (20%) of the total upgrade costs**, less the amount of Financial Security One and Financial Security Two that was provided to enter DISIS Phase One and DISIS Phase Two. If applicable, “in lieu of” Financial Securities for Gen Tie Site Control equal to $80,000 per ROW mile, for the entire Gen Tie Line Length | Check, Wire, or Letter of Credit |
| INTERCONNECTION FACILITIES STUDY QUEUE, AFTER DECISION POINT TWO HAS ENDED |

| Facilities Study Deposits | -- | No additional cash Study Deposits are required to enter into the Facilities Study, other than satisfying requirements under Section 8.5.2 and providing the DISIS Financial Security Three (above). However, Transmission Owners may invoice SPP (and interconnection Customer) for study costs. These costs may be received even | Cash via check or wire |

**Figure 3: SPP Generator Interconnection Deposit Requirements**

Decision Point 1, Financial Security 2 deposit (similar point as MISO’s M3) is 10% of NU (Similar to MISO’s M3 milestone)
Decision Point 2, Financial Security 3 deposit (similar point as MISO’s M4) is 20% of NU (Similar to MISO’s M4 milestone)
Proposal is to add:

- First JTIQ M1 Financial Security of 10% of JTIQ NU along with Decision Point 1, Financial Security 2 deposit
- Second JTIQ M2 Financial Security of Another 20% of JTIQ NU along with Decision Point 2, Financial Security 3 deposit
- Third JTIQ M3 milestone of remaining 70% of JTIQ NU at the GIA execution

For example - If JTIQ Interconnection Customer share of cost is $30,000/MW, A deposit of $3,000/MW is required for JTIQ M1, $6,000/MW is required for JTIQ M2 milestone, and the remaining $21,000/MW is required upon execution of the Generator Interconnection Agreement.
5 Distribution of JTIQ Funds to Transmission Owners

5.1 Allocation of funds to JTIQ projects

Each dollar collected from generator interconnection customers will be proportionally accounted for among the JTIQ projects according to each TO’s share, on a project specific basis, of the total portfolio. This approach will reduce the risk of all the JTIQ projects in a specific portfolio not being fully funded at the same time.

Between the time the first JTIQ portfolio project is placed in-service and the time the JTIQ rate is updated with actual information, the estimated revenue requirements will be used for distributing funds to transmission owners collected from generator interconnection customers. For each GIA executed, a portion of the funds and/or security received will be allocated proportionally to each constructing transmission owner, on a project specific basis, of the applicable JTIQ portfolio based on the transmission owner’s estimated annual transmission revenue requirement (“ATRR”) as a percentage of the total portfolio estimated ATRR. Once all the JTIQ portfolio of projects have been placed into service and actual construction costs are known, the RTOs will determine if the JTIQ Rate is materially different from the estimated JTIQ Rate.

After a JTIQ project has been placed in-service, 120 monthly installment payments will begin on a project specific basis to the constructing TO(s). Due to the various project in-service dates of the JTIQ portfolio projects, funds will be distributed to the TO(s) based on the estimated E&C cost of the specific project as a percentage of the total JTIQ portfolio E&C costs. The allocation based on estimated E&C costs will continue until shortly after the last project of the applicable portfolio is placed in-service. Once the actual E&C costs are determined, subsequent distributions will be based on the new allocations (actual project E&C cost as a percentage of the total portfolio E&C costs). An example will be provided below.

All installment payments made prior to actual E&C costs being known (based on estimated E&C costs), will be subject to refunds or surcharges to the applicable TOs.

5.2 Ensuring 100% Transmission Owner Cost Recovery from GI Customers and Load

The charge to be paid by generator interconnection customers will be based on a per MW rate that will be levied periodically (e.g., monthly or annually) for the purpose of recovering 90% of applicable JTIQ upgrade costs. The calculation can be characterized generally as 90% of the upgrades’ projected 20-year costs divided by expected generation impacting the SPP-MISO seam in order to generate the full GI share (90%) of cost on a present value basis over the term of the GI contracts.

The fact that GI cost recovery will utilize a per unit charge computed before the numerator or the denominator of the rate are final means that the amount of revenue collected from generator interconnection customers are not likely to equal exactly 90% of the allocation to generator interconnection customers in any given year. However, although the above issue exists on a year-to-
year basis, it is possible to design a rate mechanism that recovers the proposed 90% share of the JTIQ upgrades’ revenue requirements over the long-term. For example, this can be done through either rate true-up mechanisms or contractual provisions that curtail GI customer payment obligations once the necessary share of long-term cost has been collected. Therefore, the issue of bridging the gap between annual revenue requirements and generator interconnection customer revenue collection appears to be an interim cost recovery problem.

The RTOs may propose that the annual mismatch be recovered from load. Assuming that the difference between GI revenue and load in any given year is borne by load, the primary question then becomes how that amount will be allocated, first between MISO load and SPP load and then among the loads in each RTO. Once these allocations are determined, Tariff and rate mechanisms need to be established to effectuate them. In SPP, for example, directly assigned service upgrades and sponsored upgrades are determined to have a cost recovery life that differs from standard depreciable life. The difference between the resulting revenue streams and the transmission owner’s annual revenue requirement (positive or negative) is typically reflected in the constructing transmission owner’s Schedule 9 zonal rates. For GI network upgrades, the operating and maintenance expense is typically not recovered from the GI customer, a result of which is that it is recovered through the constructing transmission owner’s Schedule 9 zonal and Schedule 11 highway/byway rates. In the case of the JTIQ upgrades, similar effects will occur each rate year in SPP unless specific steps are taken to allocate the costs and revenues differently from the way these default rate mechanisms operate.

The RTOs will collect the 90% share allocated to the generator interconnection customers during the construction of the JTIQ portfolio. For the early years as the projects start going into service, there should be GIA funds available to compensate the TO(s). However, it is possible that at some points during the construction phase of the JTIQ portfolio that collected GIA funds will not be sufficient to compensate the TOs. This occurrence will be temporary but could last for a few years. In these instances, the shortfall will be collected from load. However, over time, the load shall only be responsible for 10% of the E&C costs and carrying costs.
6 Generator Interconnection Process Enhancements

6.1 Determining Which Interconnection Customers Impact the Seam

The initial JTIQ study and subsequent JTIQ studies are intended to replace the cluster-by-cluster Affected System study coordination currently in place between MISO and SPP. Going forward, MISO and SPP will evaluate all generator interconnection requests within a given cluster through a screening analysis to evaluate if those interconnection requests will have an impact on the other RTO’s facilities. Interconnection requests that are determined to have a material impact will therefore qualify to be allocated costs for the JTIQ upgrades.

The scope of the existing MISO DPP and SPP DISIS studies will be enhanced to identify network upgrades for injection constraints in SPP and MISO respectively.

6.1.1 Screening Analysis

No later than five (5) business days after the close of the applicable queue application deadline, the Host RTO will share a list of interconnection requests with the Affected System RTO along with the Point of Interconnection bus numbers. The Affected System RTO shall request any deficiencies in the data from the Host RTO within five (5) business days of receiving the initial data. The Host RTO shall fulfill all data requirements within five (5) business days of such request.

The Affected System RTO shall perform a screening analysis to determine the list of the Host RTO’s interconnection requests that meet the threshold to materially impact the SPP-MISO seam. In the screening analysis, the Affected System RTO shall monitor its full transmission system 100 kV+. Any interconnection request that is determined to have greater than 5% distribution factor (OTDF or PTDF\(^5\)) impacts on one or more facilities of the Affected System RTO and have greater than 1.00 MW (positive) impact on at least one JTIQ Network Upgrade will be considered to materially impact the SPP-MISO seam and assessed the JTIQ Rate. The latest Affected System RTO model from the previous MISO DPP or SPP DISIS study can be utilized to perform the screening analysis, and these models will have been made available to Interconnection Customers who can perform their own screening analysis prior to submitting a new interconnection request.

The Affected System RTO shall provide the results of the screening analysis for the screened interconnection requests to the Host RTO no later than fifteen (15) calendar days prior to the kick-off of Phase 1 of the applicable MISO DPP or SPP DISIS.

The Host RTO shall publicly publish the list of interconnection requests identified to materially impact the SPP-MISO seam along with the $/MW JTIQ Affected System charge for the screened interconnection.

\(^5\) Power Transfer Distribution Factor (PTDF) - The percentage of power transfer flowing through a facility or a set of facilities for a particular transfer when there are no contingencies.

Outage Transfer Distribution Factor (OTDF) - The percentage of a power transfer that flows through the monitored facility for a particular transfer when the contingency facility is switched out of service.
requests no later than five (5) business days prior to kick-off of Phase 1 of the applicable MISO DPP/SPP DISIS.

### 6.1.2 Subregional Study Considerations

MISO proposes to differentiate interconnection requests located in MISO Midwest from those in MISO South. The basis of this split will be similar to MISO’s existing DPP study regions or groups. SPP does not propose any subregional differentiation for interconnection requests within its footprint.

A MISO DPP South Region interconnection request that meets the screening criteria will be excluded from incurring costs of the initial JTIQ portfolio. All other Region/Group interconnection requests in MISO that meet the screening criteria will be assessed the JTIQ Rate. The RTOs intend to initiate a subsequent JTIQ study that would evaluate transmission and interconnection needs for MISO South and the southern seam with SPP after approval of the initial JTIQ portfolio.

![Figure 4: Geographical Representation of Subregional Areas of SPP-MISO Seam](image-url)
6.2 Transition Plan

The replacement of the existing affected system coordination processes with the proposed JTIQ process will be implemented with the MISO DPP/SPP DISIS clusters that have not commenced at the time of the effective date established in a FERC order approving the JTIQ process. The clusters that have begun the process (Phase 1 and beyond) will continue under the existing process, including the existing affected system study processes.

SPP and MISO intend to utilize the JTIQ concept to proactively plan for the addition of new generation along the entirety of the SPP-MISO seam. Due to the north-to-south configuration of the SPP-MISO seam, the propensity for generation to predominately develop in geographic clusters, and to better associate the JTIQ process with reasonable cost causation principles, SPP and MISO propose that separate JTIQ studies may be performed for the northern and southern seams. Until SPP and MISO have conducted a JTIQ study for the southern portions of the seam, the current approach of separate affected system studies for each SPP DISIS or MISO DPP cluster will continue for interconnection requests that are determined to not otherwise be subjected to the JTIQ Rate for the initial portfolio.

6.2.1 Embedding JTIQ in GI schedule for SPP DISIS/MISO DPP – Timing

The use of the JTIQ process to coordinate affected system impacts will be implemented and will replace the current affected system coordination between MISO and SPP in MISO DPP or SPP DISIS cycles that have not yet begun Phase 1 following FERC approval of filings made in support of this proposal.

For MISO DPP and SPP DISIS clusters already under way upon FERC approval of this proposal, the current affected system study process will be followed to completion. No impact or consideration of JTIQ projects are expected for these clusters.

The actual transition schedule will depend on the timing of a FERC order approving the proposed JTIQ process and the JTIQ projects receiving approval from each RTO’s Board of Directors.

6.3 JTIQ study replacing AFS (Subsequent JTIQs)

The JTIQ study will be a forward-looking interconnection study and will utilize futures information, as determined by the MISO-SPP Joint Planning Committee (“JPC”), to model projected interconnection requests near the MISO-SPP seam. MISO and SPP will perform two parallel, coordinated components of the JTIQ study in accordance with each RTO’s regional study methodologies.

6.3.1 Study Assumptions

Each RTO will dispatch study generation in accordance with their fuel-type dispatch methodology.
6.3.2 Futures

The JPC will determine the future(s) to be used. In advance of each JTIQ study, the MISO-SPP Joint Planning Committee will use information from the chosen future(s) to determine projected generation to be included as future generation in the model used in the study.

6.3.3 Study Models

Both MISO and SPP will utilize 5-year out planning models (MISO – MTEP and SPP – ITP) models. To capture impacts of all resource fuel types, summer-peak and shoulder-peak scenarios will be studied.

6.3.4 Study Constraint Identification criteria

In MISO’s portion of each JTIQ MISO study, MISO will assume SPP future sites as study units, and constraint identification criteria utilized will be the same as used for MISO’s DPP studies.

In SPP’s portion of each JTIQ SPP study, SPP will assume MISO future sites as study units, and constraint identification criteria utilized will be same as used in SPP’s DISIS studies.

The constraints identified by each RTO’s portion of the study will be coordinated to identify common constraints as well as any other constraints identified by either RTO that may need to be addressed to support the purpose of JTIQ. The JPC will meet to decide the constraints to be included for mitigation and solution development.

6.3.5 HVDC modeling

HVDC projects that have interconnection agreements with injection rights signed with their host entities will be included in the study models.

6.3.6 Economic Analysis for APC Benefits

A separate economic analysis will not be performed as part of the JTIQ. As described in Section 2.3, each RTO will conduct a regional review of each set of JTIQ projects through their respective regional transmission planning processes. The results of the regional review will be used to determine the cost sharing for load in MISO and SPP as described in Section 2.3.

6.3.7 Conditionality of Interconnection on JTIQ projects

MISO and SPP will perform conditionality tests as part of their respective MISO DPP and SPP DISIS studies. In MISO DPP and SPP DISIS studies, dependency of interconnection requests on individual JTIQ upgrades will be evaluated. This conditionality test will be performed similar to the A10 test performed by MISO and the injection limit test performed by SPP.

For interconnection projects determined to be conditional on JTIQ projects, injection limits will be evaluated in the AERIS/QOL studies at MISO and SPP DISIS studies, or periodic SPP studies similar to the MISO AERIS/QOL studies if such studies are implemented at SPP. Interconnection requests will only be
limited by JTIQ projects in which they are determined to be conditional based on the results of that test as run in the respective MISO and SPP interconnection processes.

6.3.8 Expanded scope of SPP DISIS/MISO DPP studies
The scope of MISO’s DPP and SPP’s DISIS studies will be extended beyond each RTO’s boundaries to capture localized injection constraints of Interconnection projects connecting close to the MISO-SPP seam and that otherwise may not be addressed by JTIQ projects, which are intended to address broader interconnection constraints. Appendix A of this whitepaper provides a 345kV example and a less than 200kV example of the expanded scope of DISIS and DPP studies described below.

6.3.9 Expanded scope of MISO DPP studies
MISO’s DPP studies will monitor for localized constraints on SPP transmission facilities that are caused by MISO interconnection requests that are: 1) located within 5 substations for under 200kV facilities, 2 substations for 200-300 kV facilities, and 1 substation for facilities greater than 300 kV from a MISO substation, and 2) that have a ≥10% DFAX on those SPP facilities. MISO will coordinate with SPP Transmission Owners via SPP to formulate a mitigation plan to alleviate the identified localized constraints. The cost of network upgrades identified by MISO’s DPP will be assigned to the impacting DPP study interconnection requests utilizing MISO’s cost allocation methodology mentioned in section 6.1 of MISO’s BPM-015.

6.3.10 Expanded scope of SPP DISIS studies
SPP’s DISIS studies will monitor for localized constraints on MISO transmission facilities that are caused by SPP interconnection requests that are: 1) located within 5 substations for under 200kV facilities, 2 substations for 200-300 kV facilities, and 1 substation for facilities greater than 300 kV from an SPP substation, and 2) and have a ≥10% DFAX on those MISO facilities. SPP will coordinate with MISO Transmission Owners via MISO to formulate a mitigation plan to alleviate the identified localized constraints. The cost of network upgrades identified by SPP’s DISIS will be assigned to the impacting DISIS study interconnection requests utilizing SPP’s cost allocation methodology mentioned in Section 3.5 of SPP’s DISIS Manual located at: https://opsportal.spp.org/documents/studies/DISIS%20Manual.pdf.
7 Approvals

7.1 FERC Filing Effort

Both MISO and SPP will need to update certain sections of their existing Tariffs and other related
documents to incorporate the new JTIQ AFS concept, rate, and implementation mechanisms. The Tariff
sections and related documents that will need to be updated include, but are necessarily limited to:

- MISO – SPP JOA
- MISO Attachment X Tariff and Appendix 6
- MISO Attachment FF Tariff – Section 2 and 3
- SPP Tariff Attachment J, Attachment V, and other sections pending a comprehensive review

These Tariff changes will need to be approved by FERC in order to become effective. MISO and SPP’s
legal teams will continue this review of Tariff changes with a plan to proceed with FERC filings in Q2
2023.

7.2 Construction Authorization

Construction, of JTIQ projects will be authorized to begin: 1) after SPP and MISO Board of Directors
approval and 2) subsequent to FERC approval of both a mechanism for each RTO to approve the JTIQ
projects and a method of cost allocation to generator interconnection customers and loads in each RTO.
SPP and MISO will propose Tariff revisions to facilitate this approach.
8 Appendix A – DISIS and DPP Extended Coverage Examples
3.3.9 MISO DFP studies will monitor for localized constraints on SPP transmission facilities that are caused by MISO interconnection requests that are... located within 5 substations for under 200kV facilities from a MISO substation, and 2) that have a 210% DFAX on those SPP facilities.