

SOUTHWEST POWER POOL, INC.

Strategic and Creative Re-engineering of Integrated Planning Team (“SCRIPT”)

RECOMMENDATION TO THE BOARD OF DIRECTORS

July 27, 2021

Generator Interconnection Backlog Mitigation Plan

ORGANIZATIONAL ROSTER

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BACKGROUND

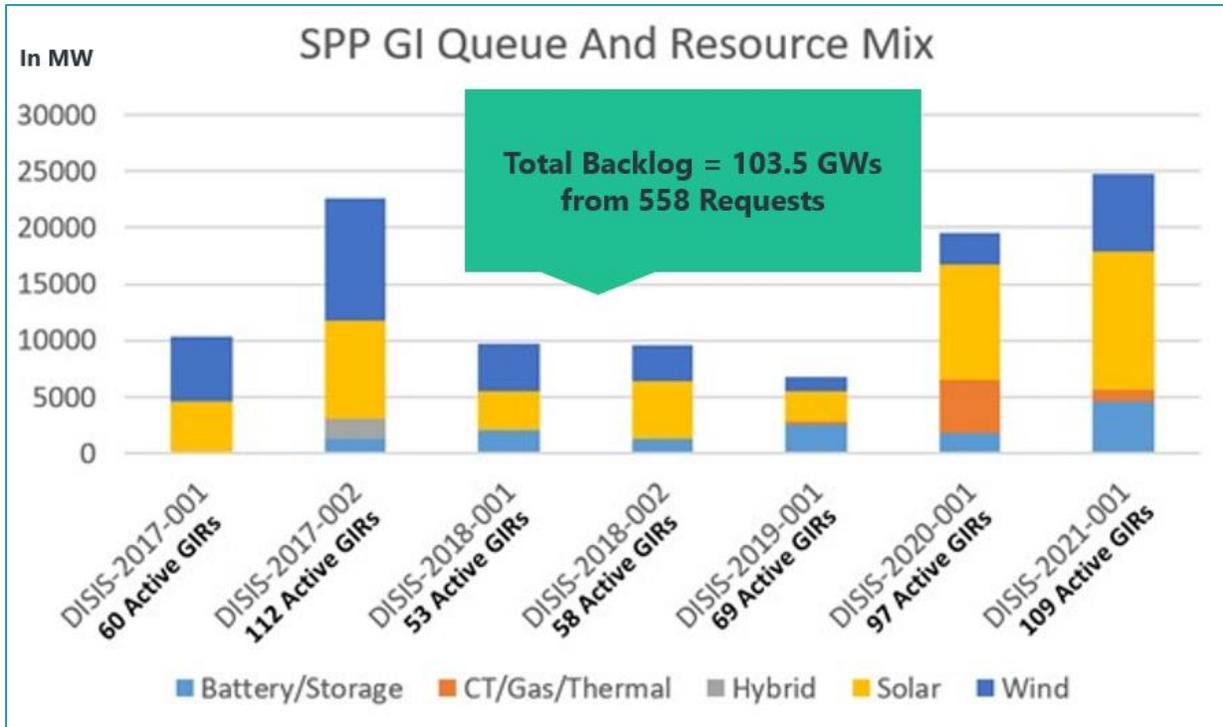
The SPP board of directors formed the Strategic & Creative Re-engineering of Integrated Planning Team (“SCRIPT”) Aug. 31, 2020. The SCRIPT is responsible for strategically developing broad changes to SPP’s transmission planning processes to better meet customer needs while resolving growing stakeholder concerns about the amount, nature and funding of continued transmission investment amid rapid industry changes. The SCRIPT is tasked with developing policy recommendations for SPP’s transmission planning processes. This Recommendation Report supports the SCRIPT’s Scope of Work by proposing policy modifications that will result in “improved responsiveness, efficiency and cost certainty of studies needed to provide customer-requested service.”¹

As of May 13, 2021, the Generator Interconnection (“GI”) backlog of requests was comprised of seven Definitive Interconnection System Impact Study (“DISIS”) clusters representing 558 individual GI requests and over 103,000 megawatts (“MW”) of generation capacity. Reducing the

¹ The SCRIPT Scope Statement is located at:

<https://www.spp.org/documents/63768/20210106%20revised%20script%20scope%20statement.pdf>

GI backlog was identified in SPP’s 2021 Operating Plan as one of the top corporate and departmental objectives.²



When SPP implemented its legacy cluster study process was, it was experiencing significantly smaller GI queues. This legacy process often resulted in numerous restudies as a result of customer withdrawals and minimal financial commitments to remain in the studies. In 2019 SPP implemented a set of GI study and queue reforms known as the “Three-Phase” process that was designed to address the causes of the backlog in SPP’s legacy cluster study process.

The new three-phase process was implemented beginning with the DISIS-2017-001 cluster. The three-phase process was designed to facilitate consistent, timely processing of *new* DISIS clusters. However, SPP does not believe that the existing three-phase process is sufficient to clear the existing backlog of GI requests without additional reforms. Without additional queue reforms, it is expected that it could take at least eight years or more for SPP to complete all current and future backlogged DISIS cluster studies This timeframe will be unacceptable to meet the needs of SPP’s GI customers. SPP staff engaged stakeholders through the SCRIPT’s Services sub-team, the Generation Interconnection Users Forum (GIUF) and ad hoc discussions with generation developers and various SPP members. This process has built general consensus for the need to address the GI backlog and for a package of additional GI queue reforms to specifically target reducing, and ultimately mitigating, the GI backlog. Over the last several

² SPP’s 2021 Operating Plan is located at: [https://www.spp.org/documents/63478/2021%20operating%20plan%20\(spp.org\).pdf](https://www.spp.org/documents/63478/2021%20operating%20plan%20(spp.org).pdf)

months, SPP has implemented numerous process improvements to the way it models and conducts GI studies, which will help in the overall goal of reducing study times. The reforms described in this Recommendation Report are in addition to these reforms and are based on three backlog mitigation strategies:

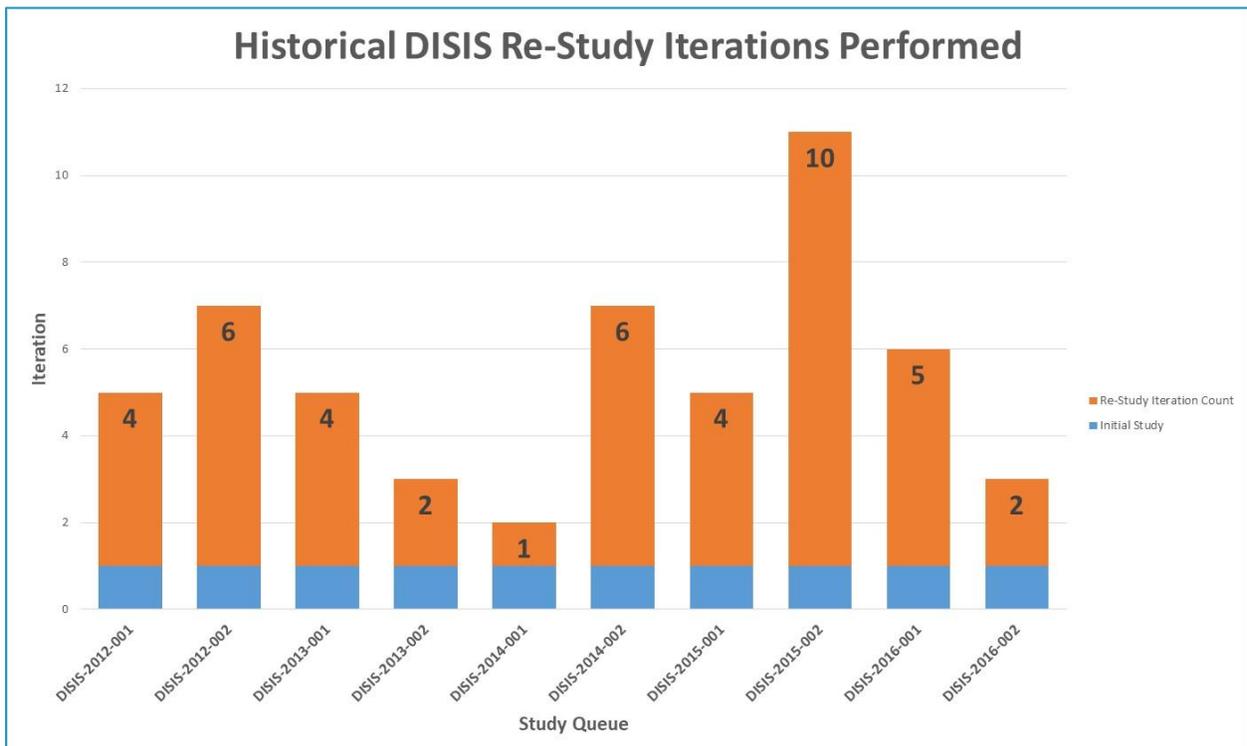
- 1. Strategy 1: Reduce restudies through development milestones**
- 2. Strategy 2: Increase financial commitments**
- 3. Strategy 3: Simplify and reduce study timelines**

ANALYSIS



STRATEGY 1: REDUCE RESTUDIES THROUGH DEVELOPMENT MILESTONES

Frequent restudies under SPP’s legacy cluster study process were a key reason for the existing GI backlog. Restudies were required when a GI customer withdrew an interconnection request during the study process. The restudy examined the effect of the withdrawn request on the remaining requests in the cluster. The restudy would often have a snowball effect, producing a result that remaining customers found unacceptable and leading to additional withdrawals and more restudies. The legacy cluster study process did not create enough incentives or penalties for customers to withdraw their requests until very late in the study.



The three-phase process implemented in 2019 attempted to address the issue of late stage withdrawals by requiring customers to make payments of financial security at each phase of the process. Under the new process, a portion of these financial securities would be “at risk” of forfeiture in the event a customer’s withdrawal increases costs for remaining customers. While this financial security design is encouraging GI customers to make better decisions regarding the viability of their projects, it does not appear likely that the substantial amount of generation in the queue can be addressed with these changes alone. Additional reforms are needed to better ensure that the most viable interconnection projects remain in the latter stages of the study process.

1.1 Development Milestones: In addition to the financial securities, the existing Generator Interconnection Procedures (“GIP”) contained in Section 11.3 of Attachment V of the Tariff require a demonstration that “one or more” development milestones have been satisfied, however these milestones are not currently required until 15 days after receipt of a final GIA.

| Existing Development Milestones | |
|---|---|
| Contract for Fuel | Inclusion in State Resource Plan |
| Contract for Cooling Water | Designated Resource Qualification |
| Contract for Engineering, Procurement or Construction | Application for Air, Water or Land Use Permit |
| Contract for Sale of Energy or Capacity | |

In addition to the existing development milestones, the SCRIPT determined that five (5) new development milestones should be added. Two of the new development milestones would be required, if applicable, and relate to additional site control requirements while three would be added to the list of existing development milestones in which “one or more” would be required to demonstrate sufficient project development.

| New Development Milestones | |
|---|--|
| (Required) Site Control for Generator’s High Voltage Tie Line (not including utility owned land) | Pre-Confirmed or Confirmed Long-Term Transmission Service Request (“TSR”) |
| (Required) Site Control for New Point-of-Interconnection (“POI”) Substations, if applicable (not including utility owned land) | Interim LGIA Accepted by the Federal Energy Regulatory Commission (FERC) |
| | Final Detailed Plant Design, and for Inverter-Based Resources, Submission of EMT Model |

GI customers will be required to satisfy at least 50% of the new site control requirement for a generator's high voltage tie line before the start of Phase 1 of the customer's DISIS cluster. This requirement will increase to at least 75% by the conclusion of Decision Point 2.

Because a portion of the high voltage tie line site control is required very early in the three-phase process, GI customers will have the option of making additional payments of financial security "in lieu of" meeting the high voltage tie line site control requirement. The appropriate amount of "in lieu of" financial security will be further developed through the revision request process. Other transmission providers such as Midcontinent Independent System Operator (MISO) have previously adopted similar financial security payments "in lieu of" certain site control requirements.

If a GI customer elects to pay additional financial security "in lieu of" the high voltage tie line site control, the "in lieu of" security will be additive to the Financial Security 1, Financial Security 2 or Financial Security 3, as applicable, that is otherwise required in the three-phase process.

Similarly, the "in lieu of" security will be "at risk," as applicable, consistent with the amount of Financial Security 1, Financial Security 2, or Financial Security 3 that is "at risk." If at any point during the three-phase process the GI customer later satisfies the applicable high voltage tie line site control requirement, the "in lieu of" financial security will be refunded to the customer.

The additional site control requirement for new POI substations, if applicable, will be 100% and must be demonstrated by the conclusion of Decision Point 2. Because the POI substation site control is not required until later in the three-phase process, no "in lieu of" financial security option will be available.

The other three new development milestones will be added to the list of existing development milestones in which "one or more" would be required to demonstrate sufficient project development. To ensure that GI projects in the later stages of the study process are progressing in their development, "one or more" of these development milestones will be required by the end of Decision Point 2 in order for a customer to remain in the queue and progress to Phase 3 of the three-phase process.

GI projects that are more developed are less likely to withdraw their requests in the latter stages of the study process. Fewer late-stage withdrawals will result in fewer restudies required to complete each DISIS cluster which will facilitate mitigation of the GI backlog. In an effort to more efficiently address the GI backlog, the SCRIPT recommends that GI customers be required to demonstrate certain project development milestones earlier in the three-phase process.



Strategy 1, Recommendation 1: *The SCRIPT recommends the adoption of new high voltage tie line and POI substation site control requirements, incorporating an "in lieu of" financial security option for the high voltage tie line site control requirement, and that "one or more" of the additional development milestones be required before the end of Decision Point 2.*

In addition to adding new development milestones and advancing the demonstration of development milestones, the SCRIPT recommends several other enhancements to the existing three-phase process that will provide better incentives for customer decision-making, greater cost certainty for customers, and eliminate unnecessary steps in the study process.

1.2 Non-Refundable DISIS Study Deposits: The existing three-phase process requires each GI customer to post a study deposit that is based on the size of the generator requesting interconnection service. The study deposits are applied toward the costs of performing any studies applicable to the interconnection request, and the amount of unused study deposits are refundable to the extent the actual costs incurred are less than the study deposit. To better incentivize timely withdrawals that create fewer issues and discourage late-stage withdrawals, the SCRIPT recommends adopting progressively non-refundable³ DISIS study deposits in accordance with the following schedule:

- 20% of initial study deposit non-refundable after the start of Phase 1
- 50% of initial study deposit non-refundable after the end of Decision Point 1
- 100% of initial study deposit non-refundable after the end of Decision Point 2

Other transmission providers, including California Independent System Operator (CAISO) and MISO, have a portion of their study deposits non-refundable or collect a non-refundable application fee upon entry into the GI queue.



Strategy 1, Recommendation 2: *The SCRIPT recommends adopting progressively non-refundable DISIS study deposits.*

1.3 Perform Facilities Study for POI Facilities During Phase 2: During the development of this GI Backlog Mitigation Plan, generation developers expressed concerns about the level of cost certainty they are able to get from the existing three-phase process. These concerns were heightened by the additional development milestone and financial security requirements that are being proposed to facilitate mitigation of the GI backlog.

To help address these concerns, the SCRIPT recommends beginning the Interconnection Facilities Study for POI facilities as a part of Phase 2 of the three-phase process. In the existing three-phase process, no part of the Interconnection Facilities Study is conducted until Phase 3 of the three-phase process. The SCRIPT believes this change is a reasonable compromise to provide increased cost certainty for generation projects who remain in the study process after Decision Point 1 because the extent of transmission upgrades needed at the POI are well understood by SPP, Transmission Owners, and the GI customer at this phase of the study. MISO

³ Non-refundable refers to the portion of each customer's initial study deposit that would be retained by SPP to offset current study costs and reduce future study costs.

has adopted similar practices of beginning its Interconnection Facilities Study for POI facilities during Phase 2 of its study process.



Strategy 1, Recommendation 3: *The SCRIPT recommends beginning the Interconnection Facilities Study for POI facilities as a part of Phase 2 of the three-phase process.*

1.4 Eliminate Decision Point 3 Window: The existing three-phase process includes a period of fifteen (15) business days after SPP posts the results of the Interconnection Facilities Study in which GI customers may elect to proceed to negotiating a GIA. Additionally, the existing three-phase process provides that a customer may be eligible for a full refund of its Financial Security 1, Financial Security 2, and Financial Security 3 if the customer withdraws its request after Decision Point 2 and its allocated cost increases beyond certain criteria. This refund eligibility period is extended fifteen (15) business days after the posting of a revised Interconnection Facilities Study or a new or revised Affected System study which results in allocated costs that increase beyond the same criteria.

In an effort to further streamline the three-phase process, the SCRIPT recommends eliminating Decision Point 3 and beginning the GIA negotiation period in parallel with the Interconnection Facilities Study. This will reduce the time required to complete phase three and better facilitate the negotiation of GIAs. GI customers would maintain the refund eligibility period for financial securities contemplated in the existing three-phase process.



Strategy 1, Recommendation 4: *The SCRIPT recommends eliminating Decision Point 3, beginning the GIA negotiation period at the beginning of Phase 3, and retaining the existing financial security refund eligibility provisions.*



STRATEGY 2: INCREASE FINANCIAL COMMITMENTS

The existing three-phase process includes provisions for GI customers to provide financial securities at certain points in the study process. Those financial securities become “at risk” of forfeiture after certain decision points if the customer elects to withdraw their request and that withdrawal results in an adverse impact to other customers in the queue.

The SCRIPT recommends the amount of these financial securities be increased and the amount that is “at risk” be increased at certain points in the three-phase process in an effort to address the GI backlog, to reduce the risk of late-stage customer withdrawals, and to facilitate better GI customer decision making.

2.1 Revise Financial Security 1: In the existing three-phase process, Financial Security 1 is required from each GI customer before the close of the DISIS Queue Cluster Window and is currently not “at-risk” of forfeiture until after Decision Point 1. Financial Security 1 is currently \$2,000/MW. A customer who withdraws their request before Decision Point 1 is eligible for a full refund of Financial Security 1. To address the GI backlog, the SCRIPT recommends increasing the size of Financial Security 1 and making a portion of Financial Security 1 “at risk” after the start of Phase 1 of the three-phase process.



Strategy 2, Recommendation 1: *The SCRIPT recommends increasing Financial Security 1 from the current \$2,000/MW to \$4,000/MW and making 25% of Financial Security 1 “at-risk” after the start of Phase 1.*

2.2 Revise Financial Security 2: In the existing three-phase process, Financial Security 2 is required to be paid by customers who elect to remain in the DISIS after Decision Point 1 and is currently not “at-risk” until after a customer elects to remain in the DISIS after Decision Point 2. Financial Security 2 is currently equal to the *greater* of:

- a. Ten percent (10%) of the Financial Security 2 Cost Factor, less the amount of Financial Security 1 that was provided to enter DISIS Phase 1, or
- b. \$2,000/MW of the requested capacity advancing to DISIS Phase 2

A customer who withdraws their request before the end of Decision Point 2 is currently eligible for a full refund of their Financial Security 2. To address the GI backlog, the SCRIPT recommends increasing the *minimum* size of Financial Security 2 and making a portion of Financial Security 2 “at risk” after the end of Decision Point 1.



Strategy 2, Recommendation 2: *The SCRIPT recommends increasing the minimum amount of Financial Security 2 from the current \$2,000/MW to \$4,000/MW and making 25% of Financial Security 2 “at-risk” after the end of Decision Point 1.*

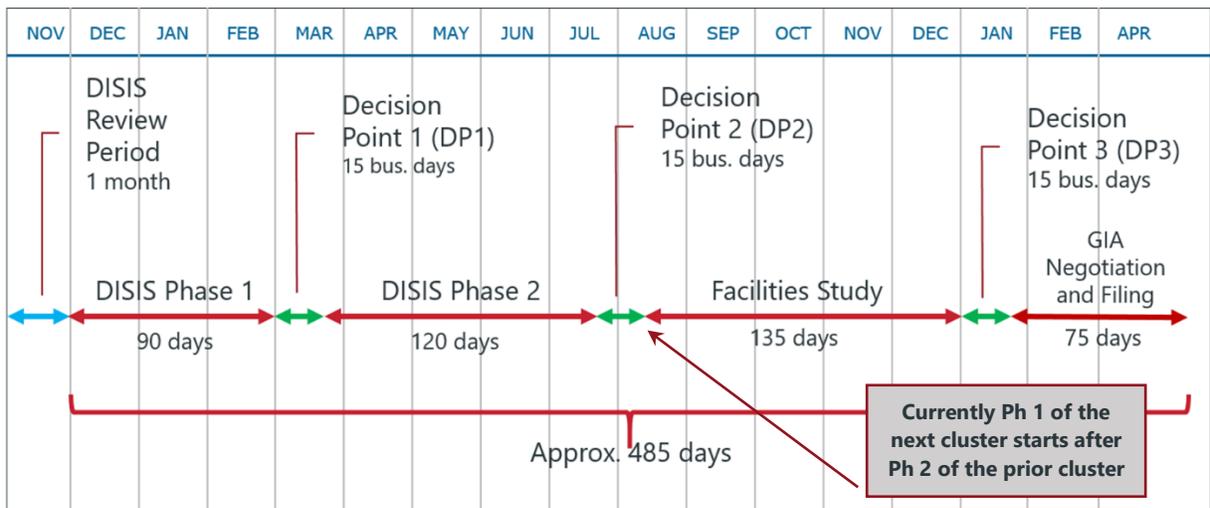
No other changes are proposed to the financial securities or for the determination of how financial securities are determined to be “at risk” of forfeiture due to withdrawal in accordance with Section 8.14 of Attachment V of the Tariff.



STRATEGY 3: SIMPLIFY AND REDUCE STUDY TIMELINES

Limiting the number of restudies required to complete a DISIS cluster through the reforms proposed in Strategy 1 and Strategy 2 is a key factor to addressing the GI backlog in a timely manner. In addition to limiting the number of restudies, the SCRIPT recommends four additional reforms to the three-phase process. These reforms are intended to simplify and reduce the overall study timelines to facilitate faster mitigation of the GI backlog.

The existing three-phase process takes approximately 485 days to complete each DISIS cluster from the beginning of Phase 1 to the execution and filing of GIAs, and this timeline is extended by at least 60 days for each required restudy that takes place when GI customers withdraw their requests at various stages of the process.



3.1 Parallel Processing: Currently, SPP only begins the study process of a new cluster after the prior cluster has completed Decision Point 2. While this practice helps to ensure the new cluster includes the best available information about the status of higher queued interconnection requests and their Network Upgrades, it delays the start of subsequent clusters and delays customers in those later clusters from getting information that could inform a decision of whether to proceed or withdraw their interconnection request. The SCRIPT recommends SPP process the backlogged clusters in parallel with each other to give customers their Phase 1 results earlier than under the existing study process.



Strategy 3, Recommendation 1: *The SCRIPT recommends SPP process backlogged DISIS clusters in parallel with each other by (i) starting Phase 1 of subsequent clusters after the end of DP1 of the prior cluster and (ii) starting Phase 2 of subsequent clusters after the end of DP2 of the prior cluster.*

3.2 Implement and Identify Improvements: The Transmission Working Group (“TWG”) has recently approved recommendations to reduce the number of models required to conduct GI studies as well as to reduce the number of unique study groupings. SPP staff should take these recent process improvements and continue to pursue other study process improvements in an effort to reduce the overall length of time to conduct the three-phase process.



Strategy 3, Recommendation 2: *The SCRIPT recommends SPP implement the TWG-approved process improvements and identify other process improvements to reduce the existing three-phase process timeline from approximately 485 days to approximately 365 days, or less, not counting the time required to conduct any necessary restudies.*

3.3 Delay Cluster Closing: With the closing of the DISIS-2021-001 cluster window, the GI backlog includes seven (7) clusters representing 558 requests and over 103,000 MW of generation capacity. With the parallel cluster processing and reduced study timelines described in the previous recommendations, it will still take at least four years to process all backlogged clusters. The SCRIPT recommends additional actions be taken to keep the GI backlog from growing larger and to further reduce the number of DISIS clusters while preserving, as much as practicable, the queue priority of GI requests currently in the backlog. The SCRIPT recommends leaving open the next DISIS Queue Cluster Window while the new backlog mitigation plan is implemented. SPP took a similar approach when it transitioned to its revised Aggregate Transmission Service Study process.



Strategy 3, Recommendation 3: *The SCRIPT recommends SPP seek approval from FERC to leave open (and not close) the DISIS-2022-001 Queue Cluster Window until after the completion of Phase 1 for DISIS-2021-001.*

3.4 Combine Clusters: To further reduce the length of time required to clear the GI backlog and to reduce number of backlogged DISIS clusters, SPP should combine at least two clusters to create one larger cluster. SPP should seek to accomplish the combining of clusters while preserving, as much as practicable, the queue priority of GI requests currently in the backlog.

Of the seven (7) clusters comprising the GI backlog, DISIS-2018-002 and DISIS-2019-001 are the two smallest clusters, and they are adjacent to each other in queue priority. As such, it would be expected that combining DISIS-2018-002 and DISIS-2019-001 would be the least impactful to the queue priority and would facilitate a more efficient study process than seeking to combine larger clusters.



Strategy 3, Recommendation 4: *The SCRIPT recommends SPP seek approval from FERC to combine clusters DISIS-2018-002 and DISIS-2019-001.*

RECOMMENDATIONS

The SCRIPT recommends the SPP board of directors approve the following recommendations and direct SPP staff to develop associated Revision Requests in coordination with the appropriate working groups as necessary to facilitate mitigation of the GI backlog:

STRATEGY 1: REDUCE RESTUDIES THROUGH DEVELOPMENT MILESTONES



Strategy 1, Recommendation 1: *The SCRIPT recommends the adoption of new high voltage tie line and POI substation site control requirements, incorporating an “in lieu of” financial security option for the high voltage tie line site control requirement, and that “one or more” of the additional development milestones be required before the end of Decision Point 2.*



Strategy 1, Recommendation 2: *The SCRIPT recommends adopting progressively non-refundable DISIS study deposits.*



Strategy 1, Recommendation 3: *The SCRIPT recommends beginning the Interconnection Facilities Study for POI facilities as a part of Phase 2 of the three-phase process.*



Strategy 1, Recommendation 4: *The SCRIPT recommends eliminating Decision Point 3, beginning the GIA negotiation period at the beginning of Phase 3, and retaining the existing financial security refund eligibility provisions.*

STRATEGY 2: INCREASE FINANCIAL COMMITMENTS



Strategy 2, Recommendation 1: *The SCRIPT recommends increasing Financial Security 1 from the current \$2,000/MW to \$4,000/MW and making 25% of Financial Security 1 “at-risk” after the start of Phase 1.*



Strategy 2, Recommendation 2: *The SCRIPT recommends increasing the minimum amount of Financial Security 2 from the current \$2,000/MW to \$4,000/MW and making 25% of Financial Security 2 “at-risk” after the end of Decision Point 1.*

STRATEGY 3: SIMPLIFY AND REDUCE STUDY TIMELINES



Strategy 3, Recommendation 1: *The SCRIPT recommends SPP process backlogged DISIS clusters in parallel with each other by (i) starting Phase 1 of subsequent clusters after the end of DP1 of the prior cluster and (ii) starting Phase 2 of subsequent clusters after the end of DP2 of the prior cluster.*



Strategy 3, Recommendation 2: *The SCRIPT recommends SPP implement the TWG-approved process improvements and identify other process improvements to reduce the existing three-phase process timeline from approximately 485 days to approximately 365 days, or less, not counting the time required to conduct any necessary restudies.*



Strategy 3, Recommendation 3: *The SCRIPT recommends SPP seek approval from FERC to leave open (and not close) the DISIS-2022-001 Queue Cluster Window until after the completion of Phase 1 for DISIS-2021-001.*



Strategy 3, Recommendation 4: *The SCRIPT recommends SPP seek approval from FERC to combine clusters DISIS-2018-002 and DISIS-2019-001.*

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| Approved: | SCRIPT | May 28, 2021 |
| | Passed Unopposed | |
| | MOPC | July 13, 2021 |
| | Passed Unopposed | |

Action Requested: Approve Recommendation