



NEDTF WHITE PAPER

POLICY WHITEPAPER FOR HITT TRANSMISSION PLANNING RECOMMENDATION #1

By SPP NRIS, ERIS and Deliverability Task Force

Published on September 29, 2020

REVISION HISTORY

VERSION	DATE PUBLISHED	DESCRIPTION
1	May 18, 2020	Draft for May 20 meeting. Future State section added.
2	June 2, 2020	Draft for June 4 meeting.
3	June 16, 2020	Draft for June 23 meeting.
4	June 30, 2020	Draft for July 1 meeting.
5	July 23, 2020	Draft for July 29 meeting.
6	August 19, 2020	Draft for August 25 meeting.
7	September 17, 2020	Draft for September 22 meeting.
8	September 25, 2020	Draft for September 29 meeting.
9	September 29, 2020	As approved by NEDTF.

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1 EXECUTIVE SUMMARY

1.1 Introduction

The SPP Markets and Operations Policy Committee (“MOPC”) formed the NRIS / ERIS Deliverability Task Force (NEDTF) to develop the policy described in the Holistic Integrated Tariff Team’s (“HITT”) Transmission Planning Recommendation #1. This specific assignment delegated to the NEDTF from that recommendation was to develop a policy to create appropriate balance between Energy Resource Interconnection Service (“ERIS”) and Network Resource Interconnection Service (“NRIS”) Generator Interconnection (“GI”) products and long-term transmission service by proposing policies to:

1. Add more value to the NRIS product by incorporating deliverability on a sub-regional basis and capacity accreditation akin to existing Designated Resources (“DRs”), without requiring a separate transmission study process in addition to the NRIS GI process; and
2. Tighten thresholds for mitigation of ERIS system impacts

More specifically, the HITT’s recommendation directed that the following details be addressed:

- Add more value to NRIS by making it eligible for benefits comparable to those awarded to designated resources without requiring a separate transmission service study
- Include deliverability on larger sub-regional basis
- Address capacity accreditation
- Maintain cost/value balance throughout all transmission services, transmission planning and Integrated Marketplace processes
- Consistency with how NRIS has been implemented by other Regional Transmission Organizations (“RTOs”)
- Existing transmission service processes are expected to continue -
 - NRIS resources may be studied for transmission service to specific Load Responsible Entity (“LRE”) loads within or outside of the sub-region for Network Integration Transmission Service (“NITS”) or point-to-point service on request
 - It is not anticipated that congestion hedges (Auction Revenue Rights/Transmission Congestion Rights) would be granted based on an NRIS interconnection without firm transmission service

- Consider whether the previous Generator Interconnection Improvement Task Force (“GIITF”) recommendation to the MOPC is adequate in light of HITT’s recommendations for changes to NRIS and congestion hedging
- Consider use of a congestion study to develop a thorough basis of support for any changes to ERIS thresholds
- Tighten thresholds for mitigation of ERIS system impacts

In its policy recommendations, the NEDTF addressed each of these items. Further, the work performed by the NEDTF was extensive, collaborative, and inclusive of a broad range of expertise provided by SPP Staff, members of the task force, and participating SPP stakeholders.

The NEDTF started meeting in October 2019 and began its work with a set of education sessions involving review of technical and legal topics by SPP Staff and existing deliverability constructs by personnel from other RTOs. This was followed by presentations from stakeholders and then concluded with policy deliberations and the development of this whitepaper. The NEDTF also collaborated with other working groups, such as the Supply Adequacy Working Group (SAWG), Transmission Working Group (TWG), and the Cost Allocation Working Group (CAWG), and requested their input as directed by the MOPC in its formation of the NEDTF.

1.2 Recommendations

NRIS Deliverability (CRIS)

As the result of its activity over the past year, the NEDTF has developed policy recommendations that, as a package, provide for the development of a “NITS-ready” interconnection service that:

- Has been studied in a manner substantially similar to that of a designated NITS resource,
- Is available to be designated by any load within a specified sub-region of SPP (Deliverability Area) without further study upon submission of a transmission service request, and
- Utilizes SPP’s existing interconnection and transmission service processes with as little alteration as possible to accomplish the goals of the HITT recommendation.

The NEDTF makes the following policy recommendations to MOPC for its consideration and approval regarding the development of deliverability for NRIS in SPP. These recommendations are separated into those describing the Future State, and those that pertain to the Transition to the Future State.

Future State

1. **Replace NRIS with CRIS** - the term Capacity Resource Interconnection Service (CRIS) be adopted for the new product to replace the existing NRIS product and provide a clearer

designation between these two types of generator interconnections, which provide different services

2. **Retain NITS and Integrate CRIS Deliverability Constructs into Existing NITS Processes** - NITS and CRIS deliverability constructs should co-exist in SPP in the future if the MOPC chooses to pursue the development of a CRIS deliverability interconnection product. As a result, the deliverability of specified resources to a specified load through NITS should continue to be counted for resource adequacy purposes. Further, the NITS request and designation process should be used for designating a resource with available CRIS capacity to serve load, effectively incorporating CRIS interconnected resources into the firm transmission service process. Following designation, the existing transmission planning processes can be used to maintain deliverability to loads over time
3. **Align CRIS Models and Dispatch Assumptions with NITS Product** - A set of models and dispatch assumptions should be used for the new CRIS product to make CRIS reasonably comparable to SPP's current NITS product
4. **Study CRIS Resources for Delivery to Loads Within the Same Deliverability Area** - CRIS resources would be deliverable to any load within the same Deliverability Area (DA), but they would not be deliverable across DA boundaries without separately requesting and being studied for transmission service.
5. **Grant a Congestion Hedge from a Designated CRIS Resource to an LSE (comparable to a NITS designation)** – Since CRIS resources will be studied comparably to NITS resources in the generator interconnection process and will be designated by load serving entities and incorporated into the existing firm transmission service processes to serve load, congestion hedges from designated CRIS interconnected resources should also be granted to load serving entities in a similar manner to those from designated NITS resources due to the comparability of the two services
6. **Grant CRIS Deliverability up to Level of ERIS Capability** - Resources may be studied and granted for CRIS in amounts up to and including their respective Energy Resource interconnection limits

Transition

7. **Conduct Transition Study to Set Size and Scope of Deliverability Areas** - A study should be conducted to determine the optimal initial configuration of Deliverability Areas in SPP based on a recommended set of principles included in this whitepaper
8. **Grant CRIS Deliverability to Existing Resources with Firm Transmission Service and to Existing NRIS Resources** - Eligible existing resources in SPP should be studied for, and granted, CRIS deliverability in an amount up to the limits imposed on their deliverability to the Deliverability Area in which they are located

9. **Identify Potential Upgrades to Optimize Deliverability for Existing Resources and Expand Deliverability Areas** - The transition study should evaluate potential facility upgrades that would relieve constraints and allow for larger Deliverability Areas and for resources to reach a threshold of deliverability that is deemed reasonable for a Deliverability Area

ERIS Threshold

The NEDTF also has developed the following recommendations that together provide a path forward regarding tightening thresholds for mitigation of ERIS system impacts.

1. **Resume the Revision Request Process for the GIITF ERIS Threshold Recommendation** – the NEDTF finds that the GIITF’s policy recommendation to MOPC in late 2018 on the ERIS contingency threshold is adequate in light of the HITT’s recommendations for changes to NRIS and congestion hedging. The development of a Revision Request (“RR”) implementing the GIITF policy recommendation for tightening the ERIS contingency threshold was delayed at the start of the NEDTF’s work. The RR process should be resumed by SPP Staff and completed consistent with the Oct 2018 action item to SPP Staff from the MOPC Chair
2. **Conduct Congestion and GI-ITP Comparison Studies to Assess Further Tightening of the ERIS Contingency Threshold** - Should MOPC decide to evaluate additional ERIS threshold changes beyond the GIITF recommendation, the NEDTF recommends that two additional studies, a GI-ITP Comparison Study and a Congestion Study, be conducted to provide a thorough basis of support to establish a reasonable criteria for a basic, minimal generator interconnection in SPP. Such studies would help ensure that costs and benefits of ERIS interconnection service are being appropriately aligned
3. **Get TWG and GIUG Assessment on ERIS Study Process and Models** - the TWG, with the support of the Generator Interconnection User Group (“GIUG”), should assess whether changes to the ERIS study process and models are recommended in advance of the commencement of the recommended Congestion and GI-ITP studies to assess further tightening the ERIS contingency threshold to mitigate system impacts in SPP

1.3 Benefits

A variety of benefits resulting from the implementation of NRIS deliverability were listed by the HITT in its report, including that it:

- Adds to the NRIS value proposition and differentiates NRIS from ERIS through an incentive-based approach.
- Promotes the construction and funding of transmission facility upgrades by generators rather than LSEs.

- Reduces by half the time necessary to convert an NRIS resource to a DR within a planning sub-region.
- Expands options for LREs to acquire capacity resources by pre-qualifying resources with NRIS.
- Improves consistency in assessments that qualify generating resources for capacity, since NRIS resources and DRs could be studied with the same thresholds.

The NEDTF engaged in a discussion with stakeholders regarding the benefits to both load serving entities and generation developers of the HITT's recommendation. As a result, it appears to the NEDTF that load serving entities within SPP would be the primary beneficiaries of the implementation of CRIS deliverability in SPP. While there would undoubtedly be benefits to non-LSE Generator Owners as well, such benefits will most likely be assessed on a case by case basis and depend on the expected value of capacity and the level of capacity accreditation expected for a particular resource requesting interconnection in SPP. From an Interconnection Customer's perspective, it appeared that the most significant benefit of a CRIS interconnection would be a competitive advantage in being more attractive to LSEs for capacity and energy purchases.

1.4 Next Steps And Action Plan Recommendation

As policy recommendations, further efforts will be required in the form of studies, and development of business protocols and tariff language to implement this package of recommendations. However, the NEDTF has prepared a recommendation for next steps and an Action Plan for MOPC to adopt for purposes of implementing the recommendations in this policy white paper.

The NEDTF believes that the policy recommendations regarding tightening the ERIS threshold are ready for consideration by the MOPC. The next steps are contained herein for continuing the delayed RR process for the GIITF recommendation and the scope and costs of the GI-ITP Comparison and Congestion study costs have been developed by Staff.

The set of recommendations for implementing NRIS deliverability in the form of CRIS is more complex and will require further development of policies by affected working groups. The details of integrating CRIS into existing SPP transmission planning processes should also be developed in more detail and the costs of implementation estimated prior to a final approval by MOPC. The NEDTF recommends that the MOPC take action on the CRIS recommendations in terms of the following next steps:

- providing direction to SPP working groups to further explore the coordination issues outlined in this whitepaper, and

- directing SPP Staff to further assess the costs of implementing and integrating NRIS deliverability in the form of CRIS in SPP, including costs of the recommended transition study and changes to existing SPP transmission planning processes.

An Action Plan for these items is also provided in Section 6.1 below.

2 BACKGROUND

2.1 HITT's Recommendation

2.1.1 Overview

MOPC formed the NRIS / ERIS Deliverability Task Force (NEDTF) to develop the policy described in the HITT's Transmission Planning Recommendation #1, which is attached as Appendix 2 to this report. The HITT motion that was passed unanimously with regard to this recommendation is:

SPP should develop and adopt a policy that creates the appropriate balance between cost assessed and value attained from SPP ERIS and NRIS generation interconnection products and generating resources with long-term firm transmission service. The policy should add more value to the NRIS product by making NRIS eligible to attain benefits comparable to those awarded to designated network resources (DNR) without the requirement for a transmission service study while also tightening thresholds for mitigation of ERIS system impacts. This includes the concept of deliverability on a sub-regional basis. The policy should also address capacity accreditation. The value proposition should be maintained throughout all transmission services, transmission planning and Integrated Marketplace processes to ensure effectiveness and equity for all impacted stakeholders.

Further guidance and explanation of this motion was provided by the HITT in its four-page recommendation, which the NEDTF reviewed to thoroughly understand the expectations for its work.

The work of the NEDTF starts with the premise outlined by the HITT that the overall goal of the full set of the HITT's recommendations is to ensure that the "value proposition", also stated by the HITT as "the benefit/cost balance", be maintained throughout all transmission services, transmission planning and Integrated Marketplace processes to ensure effectiveness and equity for all impacted stakeholders.

2.1.2 NEDTF's Assignment

The specific assignment delegated to the NEDTF from that recommendation is develop a policy to create appropriate balance between ERIS and NRIS GI products and long-term transmission service by proposing policies to do the following:

1. Add more value to the NRIS product by incorporating deliverability on a sub-regional basis and capacity accreditation akin to existing DRs, without requiring a separate transmission study process in addition to the NRIS GI process; and

2. Tighten thresholds for mitigation of ERIS system impacts.

2.1.3 NRIS

With regard to adding value to NRIS, the HITT recommendation stated that NRIS currently is a higher level of generator interconnection than ERIS that typically has higher upgrade costs, but NRIS provides little or no additional benefit in comparison to ERIS. Therefore, NRIS is rarely selected for interconnection service.

As discussed further in the recommendation, the HITT provided the following guidance regarding its recommendation:

1. This recommendation makes NRIS eligible to attain capacity accreditation and deliverability benefits comparable to those awarded to designated resources (DRs) without requiring an additional transmission service study;
2. This recommendation includes the concept of deliverability on a larger sub-regional or regional basis; and
3. This recommendation is consistent with how NRIS has been implemented by other RTOs.

2.1.4 Transmission Service and Congestion Hedging for NRIS Resources

With regard to transmission service and congestion hedging, the HITT recommendation implied that firm transmission service processes would continue to exist, stating that:

1. NRIS resources may be studied for transmission service to specific LRE loads within or outside of the sub-region for NITS or point-to-point on request; and
2. It is not anticipated that congestion hedges would be granted based on an NRIS interconnection without firm transmission service.

The HITT recommendation also clarified that “congestion hedges” (actually transmission upgrade funding compensation in the form of Incremental Long-Term Congestion Rights (“ILTCRs”)) could still be received when selected as compensation for the construction of necessary directly-assigned network upgrades identified through the GI process consistent with the current rules in place for compensation for construction of such network facilities.

2.1.5 ERIS

With regard to tightening thresholds for ERIS, the HITT recommendation stated that the group(s) working on this issue should:

1. Consider whether the previous GIITF recommendation to the MOPC in late 2018 is adequate in light of the recommendation for changes to NRIS and congestion hedging in HITT's recommendations; and
2. Consider use of a congestion study to develop a thorough basis of support for any changes to ERIS thresholds.

2.2 Information and Precedent Reviewed

In developing the policy positions recommended in the HITT's Transmission Planning Recommendation #1, the NEDTF went through an extensive education period reviewing the following:

1. Federal Energy Regulatory Commission ("FERC") Policy
2. Deliverability Structures of Other RTOs
3. Current SPP Deliverability
4. ERIS Thresholds

2.2.1 FERC Policy

The task force reviewed the series of orders issued by FERC that established the currently effective Generator Interconnection process as well as other relevant precedent that was identified. The material reviewed included the following, much of which was presented by and discussed with SPP's legal staff:

- History of ERIS AND NRIS in SPP presentation pertaining to FERC Order 2003, SPP's compliance filings in FERC Docket ER07-1311 and ER10-681 and a comparison of SPP's current tariff language versus FERC's pro forma Order 2003 language for the NRIS and ERIS products.
- Additional relevant FERC precedent regarding the NRIS and ERIS products, including FERC Docket Nos. ER08-1169 (MISO), ER14-83 (MISO), ER04-449 (NYISO) and ER04-457 (PJM). This material was originally requested by the HITT in RFI 64; and
- In response to questions posed by the task force, relevant sections of Order 2003-A, and FERC Docket Nos. EL19-40, EL08-81, and ER09-1581.

2.2.2 Deliverability Structures of Other RTOs

The task force reviewed materials regarding the capacity deliverability structures and areas in use by other RTOs and received presentations from representatives of the PJM Interconnection ("PJM") and Midcontinent Independent System Operator ("MISO") regarding the design, modeling and processes for their capacity deliverability constructs.

2.2.3 Current SPP Deliverability

The task force reviewed the modeling of NRIS and ERIS products and NITS firm transmission service as currently implemented in SPP. Specifically, the task force received the following information in presentations:

- Implementation of ERIS and NRIS products in SPP,
- An overview of the Aggregate Transmission Service Study process,
- A review of the current Resource Adequacy short-term Deliverable Capacity product and processes, and
- A review of the potential Deliverability Areas discussed by HITT and CAWG and the Loss of Load Expectation (“LOLE”) Zones in use in the current Resource Adequacy LOLE studies

2.2.4 ERIS Thresholds

In addition to the ERIS-related materials referenced above in this section, the task force reviewed materials from the GILTF’s previous work and its recommendation to MOPC regarding ERIS Thresholds. That recommendation was presented to MOPC in October 2018, but no action was taken by the MOPC to approve the policy recommendation. Instead, the MOPC Chair assigned an Action Item to SPP Staff to initiate the SPP Revision Request (“RR”) process to develop language to implement the recommendation and then return to the MOPC for approval of the RR.

3 GUIDING PRINCIPLES AND KEY DECISION POINTS

In this whitepaper, the NEDTF makes policy position recommendations to the MOPC for its consideration, following the task force's coordination and collaboration with the CAWG, SAWG and TWG. Due to the complexity of the issues that the NEDTF was asked to address and their potentially broad impact on SPP's customers and customer-facing processes, this whitepaper lays out the recommendations as well as other alternatives discussed and other issues that were raised. This is done so that the MOPC can utilize its broader perspective and oversight of other working groups to fully explore and debate any unresolved issues thoroughly.

3.1 NITS and NRIS Deliverability (CRIS)

SPP currently provides for both long-term (for more than one year) and short-term (for less than one year) firm deliverability of resources to loads through firm network (NITS) and point-to-point transmission service. Limited, summer-only capacity deliverability (Deliverable Capacity) is also available to loads for the planning reserve margin portion (12% of peak load) of a load serving entity's resource adequacy requirement from resources determined to have deliverable capacity based on the results of an annual planning study. The NEDTF was directed by MOPC to evaluate the potential for resources that are interconnected using the current NRIS to be deliverable on a long-term firm basis to loads located within specified deliverability areas, as discussed in the Background section above. Other RTO markets similar to SPP, such as MISO and PJM, offer this deliverability as a component of the interconnection service they offer that is equivalent to NRIS (NRIS in MISO and Capacity Interconnection Rights or CIR in PJM).

Replace NRIS with CRIS

In its discussions, the NEDTF found that continually referring to both transmission service and interconnection services as "network" products was frequently confusing. **As a result, the NEDTF recommends that MOPC adopt the term Capacity Resource Interconnection Service (CRIS) for the new product to replace the existing NRIS product and to provide a clearer designation between these two types of interconnection, which provide different services.** As outlined later in this whitepaper, CRIS would replace the existing NRIS service and all existing NRIS interconnected resources would be converted to CRIS interconnected resources through a transition study process.

3.2 NITS and CRIS Products – Co-existence and Integration

In its Order 2003 series of issued orders, FERC stated that NRIS firm deliverability is a similar, but different, product than NITS firm deliverability.¹ Each product has a distinct purpose that is not necessarily mutually exclusive. NITS provides deliverability from resources at multiple receipt points to a load served at multiple delivery points. CRIS provides capacity deliverability from a single resource to any load within a control area, balancing authority or other designated region that contains more than a single load (Deliverability Area). Further, the purpose of CRIS is to

*provide for only those Network upgrades needed to allow the **aggregate** of generation in the Generating Facility's local areas to be delivered to the **aggregate** of load on the Transmission Provider's Transmission System, consistent with the Transmission Provider's reliability criteria and procedures. [CRIS] does not ensure physical delivery to **specific** loads or locations, and it does not provide delivery service rights to **specific** loads or locations. TAPS is correct that [CRIS] is similar to the procedures used by PJM and other ISOs to identify the Network Upgrades that are needed for the Generating Facility to qualify as a "capacity resource". [CRIS] ensures that the Generating Facility, as well as other generating facilities in the same electrical areas, can be operated simultaneously at peak load and that any output produced above peak load requirements can be transmitted to other electrical areas within the Transmission Provider's Transmission System. Thus, [CRIS] ensures that the output of the Generating Facility will not be "bottled-up" during peak load conditions.²*

Retain NITS and Integrate CRIS Deliverability Constructs into Existing NITS Processes

As a result, **the NEDTF recommends that NITS and CRIS deliverability constructs should co-exist in SPP in the future** if the MOPC chooses to pursue the development of a CRIS deliverability interconnection product. Further, **the NEDTF recommends that the deliverability of specified resources to a specified load through NITS should continue to be counted for resource adequacy purposes and designation of CRIS-interconnected resources should utilize existing NITS processes.** CRIS deliverability adds the option for loads to be assured of long-term, firm deliverability from a CRIS resource under a certain set of parameters related to the location of the load and the resource based on how the resource is studied for CRIS and how the Deliverability Areas are developed. Other RTOs utilize both NRIS and NITS products to meet different deliverability needs. In Order 2003-A, at paragraph 535, with regard to this matter, FERC specifically stated that "this rule should not be construed as taking away any option that a Network Customer, or any other Transmission Customer, now has with respect to interconnecting a new Generating Facility and obtaining firm transmission service to load" and stated further reasons for this policy.

¹ See Order 2003-A at paragraphs 530-535

² See Order 2003-A at paragraph 531

The NEDTF believes that the NITS request and designation process should be used for designating a resource with available CRIS capacity to serve load, effectively incorporating CRIS-interconnected resources into the firm transmission service process. Following designation, the existing transmission planning processes can be used to maintain deliverability to loads over time (see [Section 4.6](#)). The NEDTF recognizes that the continuation of NITS and implementation of CRIS would require the harmonization of CRIS and NITS studies to consider and maintain the deliverability of both products. These changes would also have “downstream” effects on other study processes as well, such as in the Integrated Transmission Plan (“ITP”). The NEDTF will address its recommendations in this area later in this whitepaper.

3.3 CRIS Deliverability Study

Based on its review of FERC precedent in the Order 2003 dockets, the NEDTF determined that SPP’s current NRIS interconnection product could be deemed to be able to provide long-term firm deliverability similar to that of NITS if the two study processes were reasonably comparable. As stated by FERC, to provide deliverability of resources to loads, NRIS

would require the Transmission Provider to undertake the Interconnection Studies and Network Upgrades needed to integrate the Generating Facility into the Transmission System in a manner comparable to that in which the Transmission Provider integrates its own generators to serve native load customers. If that Transmission Provider is an RTO or ISO with market-based congestion management, it would have to integrate the Generating Facility in the same manner as all other Network Resources.³

Further, NRIS

is intended to provide the interconnection Customer with an interconnection of sufficient quality to allow the Generating Facility to qualify as a designated Network Resource on the Transmission Provider’s system without additional Network Upgrades. This means that Network Resource Interconnection Service entitles the Generating Facility to be treated in the same manner as the Transmission Provider’s own resources for purposes of assessing whether aggregate supply is sufficient to meet aggregate load within the Transmission Provider’s Control Area, or other area customarily used for generation capacity planning. Thus, with Network Resource interconnection Service, the Interconnection Customer would be eligible to obtain Network Service under the Transmission Provider’s OATT, or network access service under the Tariff of an RTO or ISO, without the need for additional Network Upgrades.⁴

Align CRIS Models and Dispatch Assumptions with NITS Product

³ See FERC Order 2003 at paragraph 754

⁴ Ibid, at paragraph 768

After a thorough review of the current study parameter differences between SPP's current NRIS and NITS products, **the NEDTF recommends a set of models and dispatch assumptions to be used for the new CRIS product to make CRIS reasonably comparable to SPP's current NITS product.** This recommendation was informally reviewed by the TWG, whose members generally provided positive feedback, though no formal vote was taken by the group.

3.3.1 Study Methodology

A significant difference between the current NITS and future CRIS products is that NITS is studied to a specific load for the purpose of delivering capacity and energy. CRIS, however, according to FERC policy, is studied to a broader region, the "Transmission Provider's Control Area, or other area customarily used for generation capacity planning" as noted above. For SPP as an RTO that spans all or part of fourteen states and includes eighteen existing load zones for purposes of NITS, this could be a significant difference between the NITS and CRIS products.

The NEDTF developed and assessed two different methods for meeting the goals of the HITT recommendation, which were to include "the concept of deliverability on a larger sub-regional or regional basis" and consistency with "how NRIS has been implemented by other RTOs."

3.3.2 CRIS In Deliverability Area

The first method started with SPP's existing generator interconnection and transmission service planning processes and modified them to apply to one or more Deliverability Areas within the SPP footprint, each of which would include multiple current load zones. This method was named the "CRIS in Deliverability Area" option. Under this method, CRIS service would be studied to the Deliverability Area within which a resource is located. Within that Deliverability Area, capacity from the resource would be deliverable to any load that includes the resource on its list of Designated Resources to serve its load, using appropriate processes similar to those in place today for requesting firm transmission service for such a resource.

Under this method, the number and size of Deliverability Areas is important to the level of benefits received from the CRIS product, because the CRIS product would only allow for deliverability within the borders of each Deliverability Area. A firm transmission service request and study would continue to be required to deliver capacity from a resource across the borders of one Deliverability Area to load in another Deliverability Area. However, in exchange, this CRIS product would be studied in a manner that is very similar to that in which NITS is studied within SPP today, which implies that it may also be possible to provide a congestion hedge to a load serving entity that designates the CRIS resource's capacity to serve its load, using methods similar to the congestion hedging processes that are in place today.

3.3.3 CRIS in SPP Footprint

The second method assessed by the NEDTF started with an assessment of the generator interconnection NRIS-style deliverability products developed by other RTOs that are consistent

with FERC policy and are studied to deliver capacity to the entire RTO footprint rather than a smaller sub-region of the RTO. This method was named the “CRIS in SPP Footprint” option. Under this method, capacity from a CRIS resource is studied and determined to be deliverable to any load within the entire RTO footprint, subject to import/export limits established by assessing transmission constraints at the borders of each Deliverability Area. The import/export limits of the Deliverability Areas are also intended to ensure that enough resources are maintained with each area for resource adequacy purposes. As with the CRIS in Deliverability Area method, the number and size, as well as the level of the import/export constraints, are important to the level of benefits received from the CRIS product. However, as in other RTOs, this method could support a larger number of Deliverability Areas in the SPP region, if more than a few Deliverability Areas are deemed necessary.

However, since the SPP region has a bilateral contract-based capacity market rather than a regional auction-based market, it was determined by the NEDTF that an ATC-style calculation for the import/export constraints would need to be maintained and checked for each CRIS resource that is designated for capacity by a load in a Deliverability Area other than the one in which the resource itself is located. This process may be simpler than requesting transmission service across the border of a Deliverability Area, as would be required in the CRIS-in-Deliverability Area option, but it would mean that there would still be an extra process required to confirm the availability of CRIS deliverability between Deliverability Areas.

It was also determined by the NEDTF that under this methodology, other RTOs may not be required to study CRIS resources as rigorously as NITS resources, because only capacity and not capacity and energy are being studied for delivery from the CRIS resource.⁵ As a result, under this method, it is not likely that a load serving entity in SPP should reasonably be able to obtain a congestion hedge by designating the CRIS resource’s capacity to serve its load, using methods similar to the congestion hedging processes that are in place today.

3.3.4 Study Method Recommendation

Study CRIS Resources for Delivery to Loads Within the Same Deliverability Area

Of these two methods, **the NEDTF recommends studying CRIS Resources for Delivery to Loads within the same Deliverability Area**, consistent with the CRIS in Deliverability Area option. This decision was not unanimous, and the support of some members for this method was dependent upon the number of Deliverability Areas needed to appropriately implement this method in the SPP footprint. However, the NEDTF believes that this method would meet the requirements of the HITT recommendation, could potentially be justified at FERC, and would be the easier and more cost-effective of the two options to implement while still providing significant benefits if no more than a few Deliverability Areas are required to adequately implement CRIS resource deliverability in SPP. The assessment needed to make this

⁵ See Order 2003 at paragraph 769

determination is discussed in more detail in the Deliverability Areas section below. With regard to obtaining FERC approval, FERC did reference cases in which multiple Deliverability Areas within a Transmission Provider's Transmission System could be accommodated.⁶

3.4 Requirements for Integrating CRIS Deliverability

Implementing deliverability during the generator interconnection process does require additional integration with the transmission service and planning processes that also grant and maintain deliverability in SPP. Based on FERC policy reviewed by the NEDTF, two requirements for developing any type of NRIS deliverability, including through CRIS, are the following.

3.4.1 GI and ATSS Process Coordination

First, the two study processes that grant long-term firm delivery in SPP in the future, the GI and Aggregate Transmission Service Study ("ATSS") processes, would require closer coordination than currently exists today. FERC iterated this policy in the following statement:

Although interconnection and delivery are separate services, we agree that the queues for the two services must be closely coordinated. This means that in general, Interconnection Customers and transmission delivery service customers should have equal access to available transmission capacity, with priority being established on a first come, first served basis according to the date on which service is requested. Furthermore, Interconnection Studies for Interconnection Services should be coordinated with the facilities studies performed for transmission delivery services. This ensures that all required upgrades are planned and designed in a least cost manner.⁷

Given the current significant backlog in the GI process and the difference in overall process timing in comparison with the ATSS process for approving long-term transmission service, coordination of the two processes will require additional work by the appropriate SPP stakeholder groups, which may include the TWG, GIUG and the newly formed SCRIPT.

The NEDTF discussed various issues related to the potential coordination and methods for achieving coordination in the two processes. The task force was also briefed on MISO's and PJM's queue coordination, which take differing forms. PJM appears to have a greater level of coordination with a single study process for both Generator Interconnection and Transmission Delivery services, while in MISO, the two processes remain separated. In SPP, the NEDTF believes that any solution that is developed for coordinating the two processes should follow FERC's policy guidance, but should also avoid negatively impacting the effectiveness of the

⁶ See FERC Order 2003 at paragraph 771

⁷ See FERC Order 2003-A at paragraph 541

current aggregate study transmission service process, which is performed and completed in a timely fashion every six months.

Given the differences in the two processes, the appropriate consideration may be to determine at what point are requests in the two processes most similarly situated. This seems to have been MISO's approach to coordination as an alternative to developing a single study process similar to PJM's. Requests in the SPP aggregate study transmission service process are unable to withdraw without significant risk after the first round of results (AFS1) in the study process. One suggestion presented to the NEDTF that merits further assessment is the potential for a coordination point at 60 days after Decision Point #2 in the current Generator Interconnection process, which may be the best point of linkage for coordination for the two processes as they exist today.

3.4.2 Maintaining CRIS Deliverability

Second, another regulatory requirement for granting deliverability in the GI process through CRIS is the need to maintain CRIS deliverability in the transmission planning process for the life of the interconnected generator's interconnection agreement, as referenced in the excerpted paragraphs below.

Reliant notes that Network Resource Interconnection Service conveys the right for the Generating Facility to be designated as a Network Resource in the same manner as the Transmission Provider would designate its own resources. It proposes that the Commission limit the time that the Transmission Provider is required to hold this right for the Network Resource Interconnection Service Interconnection Customer. For example, if the resource is not designated as a Network Resource by a Network Customer within the Transmission Provider's planning period from the Commercial Operation Date of the Generating Facility, the Network Resource Interconnection Service Interconnection Customer might lose the right, but the right should not be lost before that time expires.⁸

In response to Reliant, we consider it reasonable for the Interconnection Customer to hold, through the life of the interconnection agreement, the right to use the Network Upgrade capacity that allows the Generating Facility to be designated as a Network Resource.⁹

Utilizing the NITS designation process for both CRIS and NITS resources would result in the deliverability of CRIS resources that are designated to serve load being maintained in the transmission service and planning processes. However, an additional process would also be needed to maintain the deliverability of CRIS resources during periods of time in which they are not designated to serve load, which could occur for new resources

⁸ See FERC Order 2003-A at paragraph 552

⁹ See FERC Order 2003-A at paragraph 560

or if a resource is in-between off-take agreements with load serving entities. The NEDTF discussed this requirement for an additional process and considered whether the SAWG's existing annual, short-term Deliverable Capacity process could be modified or expanded to include the task of ensuring maintenance of deliverability of non-designated CRIS resources.

3.5 CRIS and Deliverable Capacity

Since SPP already has a deliverable capacity product available to aid LSEs in meeting their annual summer peak resource adequacy requirement obligations, it is worthwhile to explain the differences between CRIS and Deliverable Capacity that result from the recommendations of the NEDTF.

With the recommendations above, CRIS effectively becomes a "NITS-ready" interconnection. Resources with CRIS interconnection status will have been studied to a Deliverability Area, either during the interconnection process or upon SPP's implementation of CRIS, in a manner substantially similar to the manner in which a NITS-designated resource has been studied to a load. As a result, resources with CRIS capacity can become deliverable without further study when the capacity of the CRIS resource is designated to serve a load in the Deliverability Area through the transmission service request process. The type and term of service, and the other related benefits such as congestion hedging through Long-Term Transmission Congestion Rights ("LTCRs") or Auction Revenue Rights ("ARRs"), depends on the type of transmission service requested by an LSE,

Deliverable Capacity is a flexible, summer-only, short-term resource adequacy designation that is pre-allocated to existing resources through an annual study process and is available to any LSE within the SPP footprint without a request for transmission service. It is allocated to any existing resource in SPP without differentiation with regard to interconnection service type. However, capacity purchased using short-term Deliverable Capacity cannot be used by LSE's to serve their load. It can only be used to serve the planning reserve margin portion of an LSE's resource adequacy requirement.

As a result of coordination with the SAWG during the process of developing the recommendations in this whitepaper, the SAWG indicated through a straw poll that the members' preference would be to keep the Deliverable Capacity mechanism in place at least through the implementation of CRIS, then reassess whether Deliverable Capacity continues to provide value to SPP stakeholders or should be eliminated.

3.6 Congestion Hedging

In its recommendation, the HITT stated that it was "not anticipated that congestion hedges would be granted based on an NRIS interconnection without firm transmission service." However, as the NEDTF developed its recommendations regarding aligning CRIS and NITS studies, utilizing the existing firm transmission service processes to designate CRIS-

interconnected resources to serve load and maintain deliverability, and studying CRIS-interconnected resources to Deliverability Areas, SPP Staff raised the issue of whether the HITT's presumption was appropriate. Consistent with the development of NRIS deliverability in a non-RTO region, upon designation to serve a load, CRIS-interconnected capacity would effectively be identical to a NITS-designated resource. As a result, the NEDTF further investigated the potential links between CRIS deliverability and granting congestion hedges consistent with obtaining firm transmission service in SPP.

Currently, load serving entities are eligible to receive congestion hedges in the form of candidate LTCRs ("cLTCRs") and candidate ARRs ("cARRs") from resources designated to serve their load under NITS. Since the study processes for both CRIS and NITS will be reasonably comparable under the recommended CRIS in Deliverability Area study option, the NEDTF considered whether cLTCR and cARR congestion hedges should similarly be granted to load serving entities that designate CRIS resources for deliverability.¹⁰ The NEDTF specifically considered several issues related to this topic, including:

- Comparability of the CRIS and NITS services; and
- Potential need to grant congestion hedges to Deliverability Areas for CRIS instead of load zones as with NITS; and
- Potential duplication of awarded congestion rights between Incremental Long-Term Congestion Rights ("ILTTCRs") for CRIS interconnection facility upgrades and TCRs for CRIS delivery service

3.6.1 Comparability

With regard to comparability, failure to provide cLTCR and cARR congestion hedges to load serving entities from designated CRIS resources could result in failing to maintain an appropriate balance between CRIS and NITS delivery services in SPP. As stated in the Background section of this whitepaper, the overall goal of the full set of the HITT's recommendations is to ensure that the "value proposition", also stated by the HITT as "the benefit/cost balance", be maintained throughout all transmission services, transmission planning and Integrated Marketplace processes to ensure effectiveness and equity for all impacted stakeholders. In this regard, a concern expressed by NEDTF members was that failing to grant cLTCR and cARR congestion hedges to load serving entities that designate from CRIS resources for deliverability would result in load serving entities being unable to obtain the full value of deliverability from their selected fleet of resources.

Under the expected future state, with both NITS and CRIS in place, load serving entities would continue to pay for resource deliverability to meet their peak load needs under existing NITS

¹⁰ As mentioned above, it is not likely that granting congestion hedges to load serving entities under the alternative CRIS in SPP Footprint study option would be appropriate due to the differences in that service and NITS.

agreements, while having the flexibility to designate either CRIS resources (without a separate transmission service study) or NITS resources to serve their load pursuant to existing processes. It is reasonable to expect that paying for resource delivery under the NITS agreement should allow a load serving entity to be granted cLTCR and cARR congestion hedges under current processes for any designated resource, whether it is a NITS or a CRIS resource. Further, it could be unduly discriminatory to fail to grant cLTCR and cARR congestion hedges to load serving entities for designated CRIS resources given the comparability of NITS and CRIS deliverability under the CRIS in Deliverability Area study method.

3.6.2 Deliverability Area vs Load

However, while the recommended CRIS in Deliverability Area study option was designed to be reasonably comparable to NITS, the fact that CRIS is studied for capacity delivery to any load within a Deliverability Area, and NITS is studied for capacity and energy delivery to a specific load, does result in a potential difference in the two services. As a result, the NEDTF discussed whether cLTCR and cARR congestion hedges, which are an energy-related product, that might be granted for CRIS would need to be granted from a CRIS resource to the Deliverability Area in which it is located rather than to the specific load within that Deliverability Area that it may be designated to serve. The NEDTF also discussed whether granting such congestion hedges to the Deliverability Area rather than to a specific load would actually provide the value expected from a congestion hedge.

3.6.3 Potential Duplication of Congestion Hedges From the Same Facilities

Finally, a question was raised by stakeholders regarding whether there is a potential for an overlap or conflict between the candidate ILTCRs ("cILTCRs") that a Generator Owner could receive as compensation for funding network upgrades to interconnect using CRIS and the cLTCRs and cARRs that a load serving entity could be granted for designating a CRIS resource to serve its load. At this time, the NEDTF has been informed that no cILTCRs have been requested and granted to Interconnection Customers in SPP. However, with the recent elimination of revenue crediting as a future option for compensation for Interconnection Customers in exchange for paying the up-front costs of network facility upgrades, it is expected that cILTCRs will be requested and granted in the future. These cILTCRs will be in return for network upgrades constructed for any generator interconnection regardless of whether it is requested as ERIS, NRIS today, or CRIS in the future.

The HITT's recommendation to eliminate revenue crediting as compensation for the upfront cost of network upgrades results in the future source of that potential compensation coming from the TCR market rather than from long-term firm transmission service payments made by load serving entities. As a result, the dynamics of the TCR market may change over time as more cILTCRs are converted into TCRs. This change may take years to materialize, but when developing new policies, it is important to consider potential future impacts.

Load serving entities' congestion hedging practices may need to adapt over time to the recently adopted change in policies for compensation of the up-front cost of network upgrades funded by Interconnection Customers. It is also possible that the need to adapt may be accelerated if NRIS deliverability in the form of CRIS is implemented in SPP and succeeds in incenting Interconnection Customers to build more network facility upgrades on the SPP transmission system. However, after substantial review and discussion with SPP Staff and stakeholders, the NEDTF believes that this issue does not create a conflict. The ILTCR process is designed to facilitate the conversion of a cILTCR into a TCR that can be obtained by a Market Participant that values it in order to hedge congestion for its load. This can occur through the TCR auction or by a direct sale to a Market Participant that values the TCR for congestion hedging purposes. As a result of this process, the cILTCR holder receives compensation for the network facility upgrade that it paid to construct. While TCR market dynamics may change as a result, there does not appear to be a fundamental conflict between the granting of candidate ILTCRs (cILTCRs) that a Generator Owner could receive as compensation for funding network upgrades to interconnect using CRIS and the cILTCRs and cARRs that a load serving entity could be granted for designating a CRIS resource to serve its load.

3.6.4 Recommendation

Grant a Congestion Hedge from a Designated CRIS Resource to an LSE (comparable to a NITS designation)

The NEDTF recommends that candidate LTCR and candidate ARR congestion hedges from designated CRIS interconnected resources be granted to load serving entities in a similar manner to those from designated NITS resources due to the comparability of the two services. The NEDTF has not yet coordinated with the Market Working Group (MWG) on this subject. Therefore, the NEDTF believes it would be appropriate for MOPC to also obtain input from both the MWG and the SPP Staff responsible for the congestion hedging process to determine whether congestion hedges from designated CRIS resources should be to the load or to the Deliverability Area. In terms of these determinations, the NEDTF believes that MWG and Staff should address concerns raised that hedging to a particular load rather than to the Deliverability Area could provide opportunities for gaming or a misallocation of available transfer capability for congestion hedges, since CRIS deliverability from a resource, as recommended by the NEDTF, would be studied to the Deliverability Area as a whole rather than to the load of a specific load serving entity within the Deliverability Area that designates the CRIS resource to serve its load. In addition, MWG and Staff should consider congestion hedging in terms of the principles of Deliverability Area configuration below, including that larger Deliverability Areas are desirable, but would likely lead to reduced value from cLTCR and cARR congestion hedges that are assessed to a Deliverability Area rather than to the load of a designating load serving entity.

3.7 Reserved

3.8 Flexibility in Requested CRIS Amounts

Grant CRIS Deliverability up to Level of ERIS Capability

As in other RTOs, **the NEDTF recommends that in the SPP Generator Interconnection process, resources may be studied and granted for CRIS in amounts up to and including their respective Energy Resource interconnection limits.** Stated another way, resources may choose to be studied for CRIS at levels below their total interconnection limits and CRIS deliverability would be obtained in amounts up to the requested capacity values for CRIS. This is similar to the manner in which similar NRIS deliverability products have been implemented in other RTOs, although some other RTOs do not allow intermittent resources to request their NRIS-style deliverability product in amounts more than their expected accredited capacity for an interconnecting Resource.

As an example, in SPP with the CRIS product, an intermittent resource with an expected amount of accredited capacity (for example, 25 MW) that is substantially lower than the resource's Energy Resource interconnection limit (for example, 100 MW) may request CRIS for the expected amount of accredited capacity (25 MW) and receive deliverability for only up to that amount upon completion of the CRIS study and the required transmission facility upgrades, if any. Any remaining non-CRIS interconnection service would be ERIS, which would not provide capacity deliverability rights similar to those of CRIS. To the extent congestion hedges are granted, they should only be available up to the amount of CRIS deliverability for any such resource.

3.9 CRIS Deliverability Study Region and "Sub-Region" Development

The benefits and costs of CRIS deliverability to resources and loads is highly dependent upon both how potential CRIS resources are studied (as mentioned above) and how the deliverability regions (or sub-regions) are developed. The NEDTF evaluated information from various RTOs regarding their similar capacity deliverability models in considering the number, size and shape of potential Deliverability Areas that should be developed in SPP. For example, MISO's Resource Adequacy Business Practice Manual (BPM-011) contains a comprehensive description of their guidelines for the configuration and geographic boundaries of their equivalent regions, called Local Resource Zones (LRZs). MISO's guidelines are:

- Electrical boundaries of Local Balancing Authorities,
- State boundaries,
- Relative strength of transmission interconnection between Local Balancing Authorities,
- Results of previous LOLE studies,

- The relative size of the LRZs, and
- Market seams compatibility.

MISO also states that it may re-evaluate the boundaries of its LRZs if there are changes within the MISO region, including changes in the factors listed above, as well as significant changes in RTO membership, the transmission system and resources in the MISO footprint.¹¹ . A map of MISO's LRZs is attached as [Appendix 4](#).

Conduct Transition Study to Set Size and Scope of Deliverability Areas

As mentioned above, the implementation of the "CRIS in Deliverability Area" study method recommended by the NEDTF is somewhat different than the implementation of similar deliverability models in other RTOs, including MISO. With these differences in mind, **the NEDTF recommends that a study be conducted to determine the optimal initial configuration of Deliverability Areas in SPP based on the following set of principles:**

1. In order to provide substantial benefits to load and resources, each Deliverability Area should be as large as possible. Ideally, the entire SPP footprint would be a single Deliverability Area. This configuration should be tested first in the proposed study.
2. In order to minimize the potential costs of implementing CRIS deliverability, and for reliable delivery to be preserved, the size and shape of Deliverability Areas, if more than one is needed within the SPP footprint, should consider recognized, significant transmission constraints. The boundaries of some of the currently utilized LOLE zones in SPP in various configurations could provide guidance regarding some of the potential boundaries for incrementally adding Deliverability Areas for study.
3. The costs and benefits of the size of each Deliverability Area should be studied and balanced. The benefits of developing a larger footprint for a particular area may exceed the costs of constructing projects to eliminate existing transmission system constraints that become internalized as a result of expanding the geographic boundary of a particular Deliverability Area. These costs and benefits should be studied as part of the development process.
4. Whenever possible, the load delivery points of load serving entities aggregated under a single NITS agreement should not be split between different Deliverability Areas.
5. The costs of upgrading transmission facilities, if any are needed, for the initial establishment of a Deliverability Area should be borne by the load serving entities within that area, subject to adequate justification for the construction of such upgrades. After

¹¹ See MISO BPM-011-r21 dated Feb 20, 2019 at section 5, page 70

that, parties requesting CRIS or NITS would pay for the transmission facilities upgrades required for firm deliverability from resources to loads.

A significant component of this proposed study is the level of CRIS that can be allocated to existing resources in SPP based upon the options for Deliverability Areas that are considered in the study, as discussed in the next section. The details and scope of the proposed study are included in the Transition section later in this document.

3.10 Transition to CRIS Deliverability

Grant CRIS Deliverability to Existing Resources with Firm Transmission Service and to Existing NRIS Resources and Identify Potential Upgrades to Optimize Deliverability for Existing Resources and Expand Deliverability Areas

The NEDTF extensively discussed the policies and principles that would be appropriate to apply to a transition process for implementing CRIS in SPP and considered several potential methods of implementation. The NEDTF balanced the need for reliable implementation and the value of the SPP members and stakeholders obtaining the benefits of CRIS in a timely fashion. As a result, if CRIS is implemented in SPP, **the NEDTF recommends that eligible existing resources in SPP should be studied for, and granted, CRIS deliverability in an amount up to the limits imposed on their deliverability to the Deliverability Area in which they are located.** Such limits should be based upon both the geographic boundary of the Deliverability Area, whether it be the entire SPP footprint or a sub-region of SPP, as discussed in the prior section, and any transmission facility constraints affecting the deliverability of the existing resource to the Deliverability Area in which it is located, unless transmission upgrades are considered and approved that would relieve such constraints as a result of the study. **The NEDTF recommends that the transition study evaluate potential facility upgrades that would relieve constraints and allow for larger Deliverability Areas and for resources to reach a threshold of deliverability that is deemed reasonable for a Deliverability Area.**

An important principle to consider for this recommendation is that the SPP transmission system is currently being designed and maintained through SPP's ATSS and ITP processes for firm transmission service delivery from existing resources to loads utilizing either network or point-to-point long-term firm transmission service. This also includes resources currently utilizing short-term service to one LSE but with long-term rollover rights to another LSE in SPP. As a result, if and when a decision is made to implement CRIS deliverability in SPP, an allocation of any CRIS deliverability available from the existing transmission system to these existing resources would allow load-serving entities and other Generator Owners to obtain the benefit of their investment in the SPP transmission system for delivery purposes under the new delivery model. The allocation of available CRIS deliverability will be dependent upon the size and shape of the Deliverability Areas as well as the existing transmission facilities in SPP. Since the current SPP transmission system has been constructed for delivery to individual loads rather than to Deliverability Areas, evaluating potential facility upgrades that would increase the delivery to Deliverability Areas and/or allow for larger Deliverability Areas, based on relieving reliability

constraints, could provide benefit to existing load serving entities and optimize the use of the transmission system for delivery to Delivery Areas from existing resources through the Transition Study process before new resources begin requesting CRIS through the Generator Interconnection process.

Further details regarding this recommended study are included in the Transition section later in this document. Owners of existing resources without firm deliverability, and existing resources with firm deliverability that do not obtain the full amount of desired CRIS deliverability from the transition study process, may obtain such CRIS deliverability by requesting CRIS through the generator interconnection service process for any remaining portion of the resource that does not have CRIS deliverability.

3.10.1.1 SCOPE AND COSTS OF STUDY

The NEDTF has requested SPP Staff to develop the scope and cost of the recommended study. It is anticipated that the SPP membership would bear the costs of the recommended transition study, as well as any other process development costs identified by SPP Staff as part of the implementation process. As a result, **the NEDTF recommends that the costs of implementing NRIS deliverability in the form of CRIS be thoroughly assessed by SPP Staff and the appropriate working groups prior to a final implementation decision being made by the SPP membership.** A next steps action plan is provided below in Section 6 with the full set of recommendations to assist SPP Staff and the membership with further management and review as part of the overall HITT recommendations management process.

3.10.2 Alternatives Considered by the NEDTF:

3.10.2.1 TRANSITION USING GENERATOR INTERCONNECTION PROCESS

CRIS deliverability could also be implemented by establishing the Deliverability Areas and then allowing the owners of all new and existing resources to enter requests for the new CRIS product into the existing generator interconnection process in SPP. However, requiring all existing resources that desire such CRIS deliverability to the deliverability region rather than just to the load previously studied under NITS to request such service through the interconnection service request process could be unmanageable and potentially inconsistent with the principle that load serving entities should pay for the cost of transmission facility upgrades required for the establishment of deliverability regions. It could also delay the benefits available to resources and loads from the new NRIS deliverability construct. No NEDTF members expressed support for this option to evaluate NRIS deliverability for all existing generating facilities through the existing Generator Interconnection process.

3.10.2.2 TRANSITION BY DEEMING RESOURCES DELIVERABLE WITHOUT FURTHER STUDY

Another option discussed by the NEDTF, and the one originally proposed to the HITT at the beginning of that group's NRIS deliverability discussions, was automatically granting NRIS

deliverability to all existing units (both ERIS and NRIS) with firm transmission service to load. Some NEDTF members expressed support for this approach while others were concerned that current reliable deliverability to specific loads through firm transmission would not automatically equal reliable firm deliverability to a proposed deliverability region that is formed of multiple loads and to which the deliverability of the existing resource has not been studied. If this “grandfathering” method could be reliably implemented, a benefit would be that the time and expense required for a “baseline” study could potentially be avoided. However, this method was not supported by the NEDTF.

3.11 Benefits of CRIS Deliverability Model for Loads and Resources in SPP

During the NEDTF’s deliberations, stakeholders raised questions regarding the potential benefits to both Generator Owners and load serving entities in SPP of adding deliverability to NRIS as recommended in this whitepaper in the form of CRIS. These questions will be important to answer in order for SPP members and the Board to decide whether to implement the recommendations in this whitepaper. Specifically, during the NEDTF’s discussions, generation developers questioned whether adding deliverability to NRIS would provide adequate incentive for any developer to request CRIS interconnection service. The reason for this is that deliverability primarily pertains to capacity, which is of less interest to some developers than energy delivery. The task force believes that this is due to the both the fact that production tax credits (PTCs) are based on energy output and the relative lack of capacity accreditation available to wind resources.

In its recommendation on this topic, the HITT stated in its summary that its recommendation:

- “Adds to the NRIS value proposition and differentiates NRIS from ERIS through an incentive-based approach.
- Promotes the construction and funding of transmission facility upgrades by generators rather than LSEs.
- Reduces by half the time necessary to convert an NRIS resource to a DR within a planning sub-region.
- Expands options for LREs to acquire capacity resources by pre-qualifying resources with NRIS.
- Improves consistency in assessments that qualify generating resources for capacity, since NRIS resources and DRs could be studied with the same thresholds.”¹²

However, this list of benefits provided by the HITT includes items that are not necessarily beneficial to some generation developers, particularly since load serving entities could receive regional funding for transmission facility upgrades for deliverability through NITS. Regional funding is not anticipated to be available for Generator Owners that interconnect using CRIS,

¹² See Appendix 2 at page 4.

even though some of the same facility upgrades could be constructed for deliverability purposes under either NITS or CRIS. Such additional costs of CRIS that are directly allocated to generation developers, in comparison to potential regional funding through NITS, would likely need to be outweighed by other benefits in order for generation developers to see the value in requesting CRIS, if it costs more than an ERIS interconnection due to the need to construct additional facility upgrades, and the recovery of upgrade costs through ILTCRs is uncertain.

During the HITT's development of its recommendations, a more detailed list of benefits was presented to that group, which is attached as [Appendix 5](#). This list of benefits includes a number of items that are also mostly of interest to load serving entities in SPP, but not necessarily generation developers.

The NEDTF requested interested SPP stakeholders to provide suggestions regarding the potential benefits of implementing NRIS deliverability beyond those discussed in the HITT's recommendation and meeting materials. However, no specific suggestions were provided. As a result, it appears that load serving entities within SPP would be the primary beneficiaries of the implementation of NRIS deliverability through CRIS in SPP. While there would undoubtedly be benefits to non-LSE Generator Owners as well, such benefits will most likely be assessed on a case by case basis and depend on the expected value of capacity and the level of capacity accreditation expected for a particular resource requesting interconnection in SPP.

3.12 Impacts of CRIS Deliverability on Setting ERIS Study Thresholds

After developing policy proposals to add more value to the current SPP NRIS product as outlined above, the second aspect of the NEDTF's work was to evaluate tightening thresholds for mitigation of ERIS system impacts. With regard to this second task, the NEDTF was provided the following directions in the HITT's recommendation:

1. Consider whether the previous GIITF recommendation to the MOPC in late 2018 is adequate in light of the recommendation for changes to NRIS and congestion hedging in HITT's recommendations; and
2. Consider use of a congestion study to develop a thorough basis of support for any changes to ERIS thresholds.

The NEDTF received presentations and comments from SPP Staff and stakeholders regarding the GIITF's work and recommendation on ERIS contingency thresholds to the MOPC. To summarize, the GIITF recommended that ERIS continue with the current 20% OTDF contingency threshold, but that it also be tightened with an additional criteria which identifies upgrades and allocates costs to each request in which the sum of the individual impacts having a contingent (OTDF) threshold greater than or equal to 5% is at least 20% of the applicable facility rating. The GIITF studied the potential results of tightened ERIS contingency thresholds in SPP in its effort to develop this recommendation. The NEDTF heard from various stakeholders and Staff who either

had direct involvement in the development of the current 20% OTDF ERIS contingency threshold in SPP or were involved in the work of the GIITF, then engaged in several substantive discussions on this topic. It is the NEDTF's understanding that the GIITF's recommendation did not involve potential changes to the current ERIS system intact threshold of 3%. Further references to an ERIS threshold in this whitepaper are to the contingency threshold, unless specifically stated otherwise.

3.12.1 Adequacy of GIITF Recommendation on ERIS Threshold

CRIS Deliverability

The NEDTF considered the information described above along with the subject matter reviewed in developing CRIS deliverability policy proposals. The NEDTF's conclusion is that there is no obvious link between the implementation and availability of CRIS deliverability as a "NITS-ready" interconnection in SPP and the implementation of a more restrictive ERIS threshold in SPP than has already been recommended by the GIITF. The primary reason for this lack of a link is that it does not appear to the NEDTF that the fundamental purpose of an ERIS interconnection is impacted by the availability of CRIS deliverability in SPP. The fundamental purpose of ERIS as described by FERC in Order 2003 is that of "a basic or minimal interconnection service". Specifically, FERC states that ERIS,

would allow the Interconnection Customer to ... be eligible to deliver its output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. In an area with a bid-based energy market (e.g., ISO New England, NYISO, or PJM), Energy Resource Interconnection Service would allow the Interconnection Customer to place a bid to sell into the market and the Generating Facility would be dispatched if the bid is accepted. (FERC Order 2003 at page 156, paragraph 753)

Replacing the existing non-deliverable NRIS with deliverable CRIS in SPP's Generator Interconnection process would provide a substantial differentiation between the existing NRIS and ERIS products, but in the opinion of the NEDTF, it does not affect the purpose of the ERIS thresholds. The ERIS threshold is a component of the ERIS study, which attempts to approximate a minimal interconnection requirement for every resource interconnection. As a result, the NEDTF does not believe that any changes to the GIITF's recommended changes to the ERIS threshold in SPP are necessary based on the implementation of CRIS deliverability.

Congestion Hedging

The NEDTF was also asked to consider the adequacy of the GIITF's recommendation in terms of the HITT's recommended changes to congestion hedging in SPP. Since the implementation of the HITT's recommendation has been under development by the MWG during the NEDTF's work, the NEDTF did not specifically engage in an assessment of the particulars of recommended congestion hedging changes. However, the NEDTF did discuss and agree that an adequate and effective congestion hedging mechanism is critical to providing a key

differentiation between resources in SPP that are interconnected without deliverability (ie, using ERIS) and those that are designated as being deliverable to load, which is currently accomplished through use of firm transmission service in SPP. Conversely, an inadequate congestion hedging mechanism would undermine the necessary differences between these services, thereby preventing them from performing their expected functions within the interconnection and deliverability frameworks developed by FERC's policies. While SPP could attempt to make ERIS thresholds more restrictive to compensate for an inadequate congestion hedging mechanism, the NEDTF believes that, based on its review of FERC's policies, ERIS thresholds should not be modified for the purpose of impacting congestion hedging.

Resume the Revision Request Process for the GIITF ERIS Threshold Recommendation

As a result, **the NEDTF finds that the GIITF recommendation to the MOPC in late 2018 is adequate in light of the recommendation for changes to NRIS and congestion hedging in HITT's recommendations.** The NEDTF did not assess and does not take a position on the adequacy of the existing or any proposed future congestion hedging mechanisms in SPP.

At the start of the NEDTF's work, the task force was informed that the review of the RR implementing the GIITF policy recommendation was delayed by the withdrawal of the RR in order to provide the NEDTF with an opportunity to assess the GIITF's recommendation as directed by the HITT. As a result of the finding above that the GIITF recommendation to the MOPC in late 2018 is adequate in light of the recommendation for changes to NRIS and congestion hedging in HITT's recommendations, **the NEDTF recommends that the development of a Revision Request implementing the GIITF policy recommendation for tightening the ERIS contingency threshold be resumed by SPP Staff and completed consistent with the Oct 2018 Action Item to SPP Staff from the MOPC Chair.** MOPC's decision on this recommendation may be impacted by the recommendations below regarding further tightening of the ERIS contingency threshold beyond the GIITF recommendation, but this recommendation is consistent with the NEDTF's findings regarding the HITT's recommendations, as directed by MOPC.

3.12.2 Tightening Thresholds for Mitigation of ERIS Impacts

In determining the criteria for tightening the 20% OTDF ERIS contingency threshold beyond the recommendations made by the GIITF, the NEDTF considered the use of a congestion study to develop a thorough basis of support for any changes to ERIS thresholds, as recommended by the HITT. The NEDTF also considered methods for assessing whether an ERIS interconnection is minimal, as stated in FERC policy. While MOPC could choose to use these methods to further assess the GIITF policy recommendation on the ERIS contingency threshold, the NEDTF's interpretation is that the MOPC and HITT did not specifically intend for the NEDTF to assess the GIITF's recommendation other than as specifically stated in the prior sections. Instead, the NEDTF focused on developing methodologies that would develop a thorough basis of support for further changes to the ERIS contingency threshold beyond those recommended by the GIITF and previously reviewed by MOPC.

3.12.2.1 CONGESTION STUDY

The NEDTF extensively discussed the topic of using a congestion study to develop a thorough basis of support for any changes to ERIS threshold and received several presentations from Staff and stakeholders on the matter. The NEDTF's conclusion is that a congestion study would be useful to help justify changes to the ERIS threshold, but it would provide only half of the picture. Such a study would act as a snapshot in time to inform SPP GI customers of how much value a specific group of GI customers would receive from reduced congestion as a result of constructing upgrades required by reduced ERIS thresholds. Such a study would answer the question posed to the NEDTF by stakeholders during the discussion regarding, "what are the benefits received for the cost that the customer is being asked to pay" for interconnection.

The results of a congestion study could help reduce the opposition of GI customers to a more restrictive ERIS threshold when regulatory approval is sought for changes in SPP's processes. However, by itself, a congestion study would not provide an indication to LSEs whether the ERIS threshold currently recommended by the GIITF, or a tighter threshold, would actually be consistent with the requirement that ERIS provide a minimal generator interconnection product, but no more than a basic, minimal interconnection.

3.12.2.2 GI-ITP STUDY

In an attempt to resolve this issue for LSEs, the NEDTF requested that SPP Staff scope out a study to compare GI and ITP process results to determine whether any constraints identified in later ITP studies would have appeared in an earlier GI study if the ERIS threshold had been lower at the time of the study. Representatives of several LSEs asserted that specific transmission facility upgrades that were constructed as a result of past ITP processes were reliability upgrades that should have instead been paid for by Interconnection Customers through the GI process. SPP Staff responded that it did not have evidence to support the LSE representatives' assertions. The NEDTF believes that studying the historical results of the GI and ITP processes may definitively answer the question of whether the ERIS threshold recommended by the GIITF is adequate for a minimal interconnection to the SPP system or should be tightened further. In interpreting the results of this study, identification of common constraints in the two processes may not necessarily indicate a need to change the ERIS threshold. Before recommending an ERIS threshold change from the GI-ITP study, careful consideration should be given to how the results are impacted by recent policy changes, generation dispatch and the benefits to both generation and load.

3.12.2.3 STUDY SCOPES AND COMBINED COST

The scopes of these two studies are provided in [Appendix 10](#). SPP Staff has estimated that the combined cost of both studies would be approximately \$400,000 and would take 2,000 hours of work, using outsourced resources to complete the work, as shown in the table below. SPP Staff recommends outsourcing the analysis due to Staff's current full allocation of work to complete current GI and ITP studies with existing SPP personnel. The timeline of the study would be determined following MOPC approval and would depend on consultant availability.

Study	Time	Cost
GI-ITP Comparison	800 hours	\$160k
Congestion Study	1200 hours	\$240k
Total	2000 hours	\$400k

SPP Staff also identified that some efficiencies would be gained by performing both studies in the same scope. The pricing of the congestion study above reflects a reduction of 240 hours and \$48,000 in cost that is included in the GI-ITP study and does not need to be replicated in the congestion study scope. As a result, the GI-ITP study time and cost estimates are also useful as a stand-alone estimate, but the congestion study estimate is not and would need to be increased if not performed in conjunction with the GI-ITP comparison study.

3.12.2.4 RECOMMENDATION

Conduct Congestion and GI-ITP Comparison Studies to Assess Further Tightening of the ERIS Contingency Threshold

While the NEDTF was tasked with tightening thresholds to reduce ERIS system impacts, the task force did not believe it had the authority to direct SPP Staff to pursue these studies at this level of effort and expenditure and should instead present to MOPC its recommendation to conduct these studies. As a result, the NEDTF does not have any additional data to support changing the GIITF recommendation to the ERIS thresholds at this time. **Should MOPC decide to evaluate additional ERIS threshold changes beyond the GIITF recommendation, the NEDTF recommends that two additional studies, a GI-ITP Comparison Study and a Congestion Study, be conducted to provide a thorough basis of support to establish a reasonable criteria for a basic, minimal generator interconnection in SPP.** Such studies would help ensure that costs and benefits of ERIS interconnection service are being appropriately aligned.

3.12.3 ERIS Study Procedure Changes

As the NEDTF discussed the development of CRIS study procedures, GIITF's recommendations on the ERIS threshold and considered input from stakeholders and SPP Staff, the issue of potential changes to the ERIS study models, assumptions and procedure was raised. During these discussions, the NEDTF was informed that the TWG and the newly formed GIUG have been engaged in an ongoing discussion regarding options for realigning or reducing the set of models used to evaluate the performance of the SPP transmission system. Since the impact of the ERIS threshold is likely to be influenced by the underlying models, assumptions and procedures of the ERIS study process under review by TWG and GIUG, the NEDTF believes that the long-term value of the results of the proposed Congestion and GI-ITP Comparison Studies in tightening the ERIS threshold to mitigate system impacts would be enhanced if any recommended changes to the ERIS study process were considered by TWG, GIUG and MOPC, as

appropriate, and either approved or denied in advance of the commencement of the congestion study. The NEDTF started coordinating with the TWG to obtain input on this matter, but it is not easily assessed and requires further study and feedback from SPP staff, particularly regarding the issue of which models are needed for SPP's and its members' compliance requirements.

Regarding the specific feedback requested from TWG, stakeholder input was brought to the NEDTF on the ERIS study procedures, so the NEDTF sought input from the TWG about the feasibility of making decisions on the following recommendations prior to the commencement of the proposed Congestion and GI-ITP studies:

- Reduce the number of seasons studied in GI studies. Use seasons during which impacts are most likely to be observed and generators are most likely to be generating.
- Reduce the number of model years utilized in GI studies. Eliminate 1-2 year models because many generators are not built in this timeframe, and replace with limited operation studies for those which are. Eliminate 10-year models as there are typically very few major system changes beyond the five-year horizon.
- Combine the high variable and low variable model sets into a single model set which reduces the dispatch of certain fuel types during seasons in which the generator is unlikely to run (e.g. wind during peak loads, solar during night cases, peaking units during light load).
- Consolidate underutilized study groups into neighboring groups

Stakeholders asserted that these changes would be consistent with the practices of neighboring RTOs and have the potential to eliminate hundreds of models in each SPP DISIS study cycle. This would reduce the workload for SPP's GI study team, thus helping SPP catch up on the severely delayed interconnection study process. Further, if fewer models are utilized in the future to assess the minimal interconnection requirement of ERIS, then it could be argued that a further reduction in the ERIS threshold could be warranted to compensate for evaluating fewer scenarios in the ERIS interconnection study process.

Get TWG and GIUG Assessment on ERIS Study Process and Models

As a result of its review of this activity, **the NEDTF recommends that the TWG, with the support of the GIUG, assess whether changes to the ERIS study process and models are recommended in advance of the commencement of the recommended Congestion and GI-ITP studies to assess further tightening the ERIS contingency threshold to mitigate system impacts in SPP.**

3.13 Coordination with SPP Working Groups

3.13.1 Transmission Working Group - TWG

CRIS STUDY PARAMETERS

The TWG reviewed models and study process modifications recommended for CRIS to align with NITS studies. Positive feedback was received with no objections from TWG members, but no formal action was taken by the TWG regarding the recommended changes.

POTENTIAL CHANGES TO PLANNING PROCESSES

An overview of the proposed integration of CRIS into existing transmission service and planning processes has been presented to the TWG, including the need to develop closer coordination between the GI and ATSS processes and queues, as well as maintaining deliverability from undesignated CRIS resources in downstream transmission planning processes.

TRANSITION AND DELIVERABILITY AREA STUDIES

An overview of the CRIS transition study has been presented to the TWG, and a proposed scope was presented in Sept 2020. These studies involve both the development of the proposed Deliverability Areas and the allocation of CRIS Deliverability to existing resources in SPP.

CONGESTION AND GI-ITP COMPARISON STUDIES

The TWG reviewed changes to ERIS study models and assumptions recommended for the TWG's consideration prior to any potential further evaluation of ERIS thresholds in the form of the recommended Congestion and GI-ITP comparison studies. Some concerns were expressed by TWG members, but no formal action was taken by the TWG regarding the information provided on behalf of the NEDTF.

An overview of the comparison studies themselves have been presented to the TWG, and a proposed scope was presented in Sept 2020.

3.13.2 .Supply Adequacy Working Group - SAWG

3.13.2.1 DELIVERABLE CAPACITY

The SAWG considered whether the new CRIS Deliverability product would replace, or exist in addition to, the current limited, short-term Deliverable Capacity product. The SAWG also considered whether aspects of the current Deliverable Capacity product may need to be changed in order to ensure that the same deliverability is not allocated in both processes. Since SPP's Resource Adequacy rules already includes such a process, this does not appear to be a significant hurdle.

The SAWG was also asked to consider the implications of the NEDTF's recommendation of the CRIS in Deliverability Area methodology. Implementing a Deliverability Area-only CRIS methodology may increase the SAWG's desire to maintain the current short-term Deliverable Capacity product across the entire SPP footprint.

3.13.2.2 FUTURE ELCC ACCREDITATION

The SAWG has considered whether partial CRIS service for a designated Resource is equivalent to partial transmission service in the context of SAWG's currently approved ELCC tier approach. The NEDTF discussed that accredited capacity amounts less than CRIS amounts will be fully deliverable through CRIS, as in other RTOs, while acknowledging that MOPC-approved ELCC rules may result in different outcomes. It is possible that a legal review of FERC's precedent regarding this issue may be beneficial.

3.13.3 Cost Allocation Working Group - CAWG

The HITT report directed the NEDTF to coordinate with the Cost Allocation Working Group (CAWG) around the HITT C1 recommendation. The NEDTF included two CAWG members to help monitor and coordinate activities related to the size and scope of deliverability areas. The CAWG will consider the size and scope of Deliverability Areas in their review of consolidation of Schedule 11 transmission pricing zones.

During the course of the NEDTF policy proposals, a number of other potential cost allocation items were identified and communicated to the CAWG for their review. The cost allocation items identified to date are summarized below.

- Coordinate scope/scale discussion of Deliverability Areas with HITT C1 Recommendation, which recommends that CAWG evaluate consolidating Schedule 11 transmission zones.
 - The NEDTF will recommend that a deliverability study be performed under TWG direction to determine the appropriate size and scope of deliverability areas. It is also recommended that the CAWG review the results of the study to determine if there are related impacts to the Schedule 11 consolidation evaluation.
- Review and discuss identified and potential CAWG-related issues:
 - Modification of "wind rule" to accommodate larger deliverability areas
 - The wind rule applies to transmission service when wind resources and load are located in different transmission pricing zones. Since the Deliverability areas may span several of the current transmission pricing zones then should the wind rule need to be reviewed and possibly updated?
 - Application of future Z2 impact calculations for CRIS designations without the aggregate study process
 - SPP has removed Z2 crediting as an option prospectively. However, the historical Z2 funding is dependent upon future transmission service to fund Z2 credits and that determination is made in the aggregate study

process. The NEDTF is recommending that future designation of CRIS will not have to be studied in the aggregate study process and this will impact the calculation of Z2 obligations. Concerns have been raised about how Z2 credit impacts and funding responsibility would be assessed for designation of CRIS resources.

- Cost allocation incentives to utilize ERIS coupled with firm transmission service (NITS) instead of CRIS
 - There have been concerns raised on the comparability of CRIS upgrades paid for by generator interconnection customers and transmission service upgrades that are eligible for regional funding under the safe harbor provisions. The NEDTF recommends that CAWG review the NEDTF policies to determine if any changes are needed.
- Review similarity of CRIS and NITS for awarding candidate ARR to LSEs when designating CRIS units to serve load
 - NEDTF has recommended that loads that designate CRIS units should also be awarded candidate ARR nominations in the same way that loads that arrange for firm transmission service to designated resources.
- Review similarity of CRIS and NITS for cost allocation of any potential upgrades needed to maintain deliverability
 - The annual ITP base reliability study will maintain and preserve the rights of Designated Resources and CRIS. Transmission upgrades are identified in the annual reliability ITP study and are base plan funded.
- Review potential cost allocation of any potential upgrades evaluated in the transition process to provide full deliverability of existing firm resources to the entire deliverability area or to allow larger deliverability areas
 - The Transition study will determine how much CRIS deliverability existing DR resources are allocated during the transition. The transition may not provide full deliverability of resources within a deliverability area there could be transmission upgrades identified to improve that deliverability. The CAWG should consider whether upgrades identified and approved to increase deliverability within a zone should have a different cost allocation.
 - Similarly, the transition study could provide additional transmission upgrades that could allow for larger deliverability areas. The CAWG should consider whether there should be different cost allocation for upgrades that create larger Deliverability Areas.

3.14 Issues raised to be discussed and resolved if within the scope of this effort:

SPP Staff presented to the NEDTF regarding the development of Generator Outlet Facilities in the ITP process. Staff recommended that the NEDTF consider how potential recommendations might impact the ITP assessment and suggested that any changes made should still allow the ITP assessment to continue to meet its current objective in developing a 10-year plan that provides reliable and economic delivery of energy and facilitates achievement of public policy objectives, while maximizing benefits to the end-use customer.

A representative of NPPD raised a concern with regard to compensation for use of the legacy transmission system capability constructed by transmission owners in SPP. This issue was presented to the HITT, but the recommendations of the HITT may not have adequately addressed this issue. This issue appears to be outside of the scope of the NEDTF's work on NRIS deliverability and ERIS thresholds and more closely related to regional cost allocation and/or the fundamental implementation of open access transmission service in SPP and the payment for transmission service by load zone without regard to the region in which the resource is located, which is are much broader issues.

Similarly, a representative of OG&E requested that the NEDTF investigate and develop policies for changes to physical curtailment priorities, for example SPP's out-of-merit energy process, that further differentiate between the ERIS and proposed CRIS interconnection status and transmission service priorities. Based on consultation with SPP Staff, this issue also appears to be outside of the scope of the details of the HITT's recommendation on NRIS deliverability and ERIS thresholds. If the HITT's recommendations regarding these topics are not implemented, then the SPP membership may want to consider its available options further, including the possibility of developing the proposed curtailment priorities, subject to further legal review.

3.14.1 Assessment of Z2 Revenue Credit Impacts

Under current tariff provisions, revenue credit payments for the use of existing Creditable Upgrades are determined through the ATSS at the time a new transmission service request is evaluated. In the future state, because the designation of a new Network Resource or Designated Resource does not require study in the ATSS, an alternate method of determining revenue credits owed to Upgrade Sponsors will be necessary. Options for addressing this were explored by the NEDTF and are discussed in more detail in [Appendix 9](#). The NEDTF believes that SPP Staff should explore the legal and process issues related to legacy Z2 and developing CRIS, then coordinate with CAWG on potential resolutions.

4 FUTURE STATE

4.1 The Interconnection Service Product

At the time a new Interconnection Request is submitted, an Interconnection Customer will have two options to choose from: Energy Resource Interconnection Service or Capacity Resource Interconnection Service.

Energy Resource Interconnection Service (“ERIS”) shall mean an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. Energy Resource Interconnection Service does not in and of itself convey transmission service, nor any right to deliver electricity to any specific customer or Point of Delivery.

Capacity Resource Interconnection Service (“CRIS”) shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Generating Facility with the Transmission System in a manner comparable to that in which a generating facility is integrated to serve Native Load Customers as a Network Resource. Capacity Resource Interconnection Service in and of itself does not convey transmission service.

CRIS allows Interconnection Customer's Generating Facility to be designated as a Network Resource, up to the Generating Facility's full output, on the same basis as existing Network Resources interconnected to Transmission Provider's Transmission System, and to be studied as a Network Resource on the assumption that such a designation will occur. The customer may specify an amount of CRIS deliverability that is less than the Generating Facility's full capability.

The output of a CRIS Generating Facility will be pre-qualified for designation as a Network Resource or Designated Resource within the same Deliverability Area as the load it will serve.

The CRIS interconnection service product is available only to generators that are directly interconnected with the SPP Transmission System. Generators connected to other Transmission Providers' systems, such as MISO or AECI, are not eligible for SPP interconnection service, either ERIS or CRIS. Generators connected to non-SPP tariff facilities, such as sub-transmission and distribution facilities of SPP's Transmission Owners that have not been placed under the tariff, are also ineligible for SPP interconnection service, either ERIS or CRIS. However, these external generators may become Designated Resources through the Aggregate Study process.

A Deliverability Area may be expanded in the future through consolidation of one or more Deliverability Areas into a single new Deliverability Area, incorporation of a new Transmission Owner's facilities into SPP and adding them to an existing Deliverability Area, or other means.

Subsequent expansion of a Deliverability Area will not alter delivery rights associated with existing Designated Resources, regardless of whether the Interconnection Service has ERIS, NRIS, grandfathered interconnection service or CRIS. However, CRIS deliverability associated with each existing CRIS Generating Facility within the expanded Deliverability Area will be re-assessed to determine the amount of deliverability available to each. If the full CRIS amount is not fully deliverable to the expanded Deliverability Area, then upgrades to make it fully deliverable will be constructed consistent with initial transition process.

4.2 Study Procedures for New Interconnection Service

Every new request for interconnection service will be analyzed to determine the system enhancements and upgrades required to provide ERIS-level service.

New Interconnection Requests that are seeking CRIS will be analyzed to determine the system enhancements and upgrades that would be required to deliver the output to the same Deliverability Area.

4.2.1 SPP Generator Interconnection

When an Interconnection Customer submits a new request to interconnect to the SPP Transmission System, an ERIS study (powerflow, stability, and short-circuit analysis) shall be performed. Network Upgrades shall be identified and included in an applicable Generator Interconnection Agreement.

If requested by the interconnection customer, SPP will also perform a CRIS study (powerflow analysis). The CRIS study will use SPP "capacity models" (see [Appendix 3](#) for definition) that reflect the projected system conditions and generation dispatch that the resource will be expected to encounter in long-term deliverability studies, such as those used in the ITP Base Reliability Models. SPP would perform a capacity resource MW injection study for the interconnection customer's resource. The resource would be dispatched into the applicable Deliverability Area at the requested MW amount and delivered to each of the Deliverability Area's Schedule 9 transmission pricing zones on a load-ratio share (LRS) basis.¹³ CRIS and ATSS would use the same capacity models (ITP Base Reliability models) for this analysis, and a respective queue priority and study coordination process will need to be developed to define priority between CRIS and ATSS requests. Additionally, CRIS powerflow studies could potentially be performed by the Transmission Service department instead of GI, though the study timelines required by the SPP OATT Attachment V would still need to be adhered to. The Interconnection customer may elect to fund all or part of the Network Upgrades identified in these studies to get to their desired level of CRIS. Interconnection requests would be eligible to reduce or drop

¹³ This contrasts with just dispatching the resource to only serve load in the local schedule 9 transmission pricing zone currently done for NRIS studies.

their CRIS requests during the interconnection study process. CRIS units would be considered in the annual resource adequacy/SPP deliverability study going forward.

4.2.2 Conversion to CRIS

All existing NRIS generators and all existing generators associated with long-term firm transmission service will be assigned an amount of CRIS deliverability through the transition study process described in [Section 5](#). After the transition study, any existing generator may convert to CRIS or increase the amount of its CRIS deliverability by submitting a request in the GI DISIS process. The GI study will be limited to identification of upgrades necessary to provide CRIS deliverability up to the amount of existing interconnection service. The existing interconnection service will not be re-studied. The request may be dropped or modified, as permitted by the tariff procedures, without endangering the existing interconnection service. Pseudo-tied generators, not being directly interconnected to the SPP Transmission System, would not be eligible for CRIS deliverability under current SPP rules.

4.3 Designation Procedures

4.3.1 Designation of CRIS Units to Loads in the Same Deliverability Area

An SPP Eligible Customer may designate a CRIS generator as a Network Resource or Designated Resource to serve load located within the same Deliverability Area, without a transmission service study, by making a request through the SPP OASIS to designate a Network Resource under SPP NITS or to reserve point-to-point transmission service to establish a Designated Resource. A request must be entered into OASIS at least 60 days in advance in accordance with NAESB rules. Upon verification that the CRIS resource and loads to be served are located within the same Deliverability Area, the request will be granted. CRIS deliverability is not intended to facilitate point-to-point requests that do not satisfy the requirements for a Designated Resource.

4.3.2 Designation of CRIS Units to Loads in Different Deliverability Areas

An SPP Eligible Customer may designate a CRIS generator as a Network Resource or Designated Resource to serve load located in a different SPP Deliverability Area than the generator is located in by entering a request in the ATSS and paying for the required upgrades.

4.3.3 Designation of CRIS Units to Loads in Multiple Deliverability Areas

A Network Customer having load in a single NITS agreement in more than one Deliverability Area may designate a CRIS resource by submitting an OASIS request. The amount of capacity that may be designated will be limited by considering the amount of load in the same Deliverability Area as the CRIS resource. The details of how the designation amount is limited will be established in tariff or business practice.

4.3.4 Designation of ERIS and Grandfathered Units

As under the current framework, SPP ERIS and grandfathered Generating Facilities will be designated by submitting a request into the Aggregate Study.

4.3.5 Existing Designated Resources

Existing Designated Resources will be assigned an amount of CRIS Deliverability through the Transition Study. When an existing designation expires or is terminated, the CRIS Deliverability amount previously assigned to the existing generator through the Transition Study may then be newly designated to serve any load within the same Deliverability Area without submitting a request into the Aggregate Study. The resource will be treated as if it had been originally interconnected using CRIS with the amount of deliverability assigned.

Subsequent to the completion of the Transition Study, new or increased CRIS Deliverability will be granted to existing generators only through the GI study process.

4.4 Rights of Legacy Generators in Future State

Generators that currently have SPP ERIS, NRIS and grandfathered interconnection service will continue to have all the same interconnection rights afforded under their existing Generator Interconnection Agreements. Transmission Customers having a Designated Resource at the time of transition will retain all rights to continue delivery to load through the term of the designation, including renewal rights. Firm Transmission Service will continue to be available in SPP so that all resources currently delivering to load using Transmission Service can continue to do so for as long as they remain designated to serve load using firm Transmission Service.

4.5 Z2 Reimbursement for Network Upgrades Assigned to CRIS Requests

Under current tariff provisions, Network Upgrades assigned to new Interconnection Requests are eligible for reimbursement through Incremental Long-term Transmission Congestion Rights (ILTCR).

In the future state, Network Upgrades that are assigned to CRIS Generating Facilities will likewise be eligible for reimbursement through the prevailing method available to ERIS and NRIS customers.

4.6 Treatment in Planning Processes

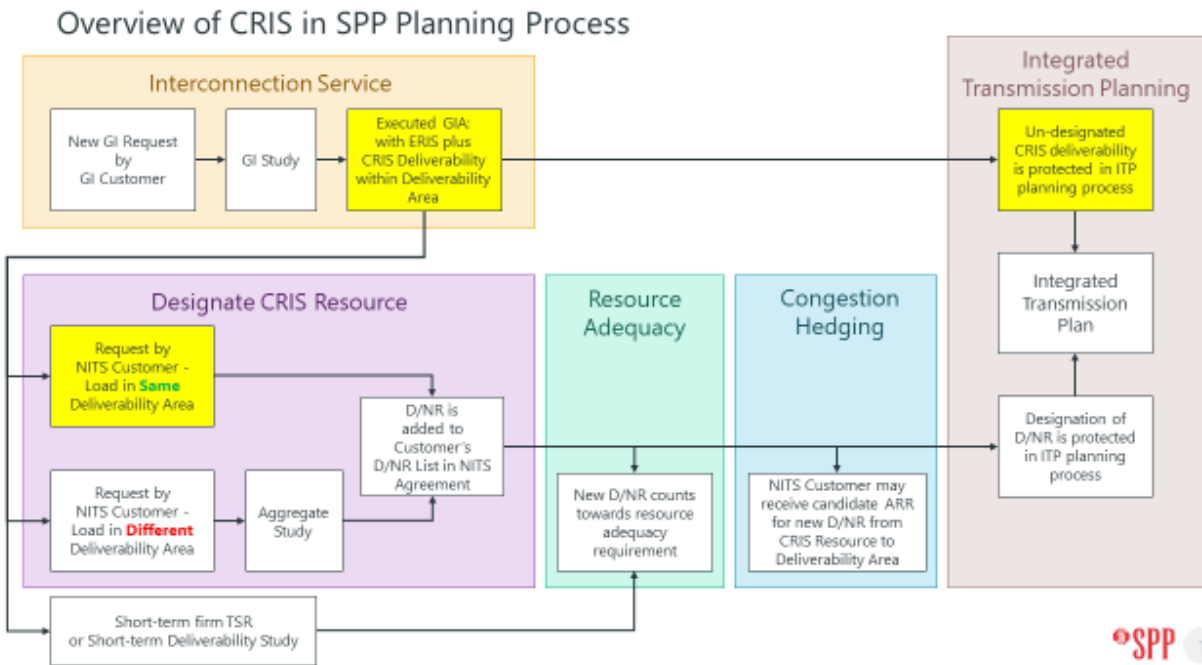


Figure 1: Planning Process Flowchart. Yellow highlight indicates differences from the current framework.

Existing transmission planning processes have modeling practices and study procedures intended to preserve and maintain long-term transmission service renewal rights. In the future state, consistent with FERC policy, these transmission planning processes must also ensure that the eligibility of CRIS resources to deliver their output is preserved and maintained for the duration of the Generator Interconnection Agreement associated with the CRIS Generating Facility. These transmission planning processes include, but are not limited to, ITP, ATSS, Delivery Point Transfer, Attachment AQ, and Generator Interconnection. It is anticipated an annual Deliverability Study may need to be performed to preserve CRIS deliverability within a Deliverability Area once its capacity has been designated. This study would need to be coordinated with the annual ITP study to recommend and approve Network Upgrades for any identified needs.

To ensure equitable treatment, a queue priority will need to be established between GI CRIS requests and ATSS requests to establish a system of rights to available transmission capacity and obligations to fund upgrades where no capacity exists.

4.6.1 SPP Long-Term Deliverability in ITP Studies

Network Upgrades identified in annual ITP studies to preserve Long-Term Firm Transmission Service and CRIS without Long-Term Firm Transmission Service would be base plan funded and the study would continue to be a part of annual SPP Transmission Tariff Attachment O studies.

4.6.2 SPP Long-Term Firm Transmission Service

Going forward, for long-term capacity (NITS for example), an LRE can designate

- Any CRIS resource with excess capacity in its Deliverability Area through an OASIS request with no further study or Network Upgrades required.
- Any ERIS, or legacy NRIS resource inside or outside its Deliverability Area or CRIS resource outside its Deliverability Area through the ATSS Process.

4.7 Congestion Hedges

Under current tariff provisions, candidate Auction Revenue Rights (“ARR”) are granted to the Transmission Customer holding a firm transmission service reservation. The Network Customer receives a candidate ARR for each Designated Resource and Network Resource. The point-to-point Transmission Customer receives a candidate ARR for each firm Transmission Service Reservation. The ARR is granted regardless of whether the source generator has NRIS, ERIS or grandfathered interconnection service or is external to SPP.

To the extent that requests for CRIS are studied in the same manner as the designation of a resource under NITS to a specific area and without re-dispatch, it should get a congestion hedge when designated by load. Therefore, future transmission service reservations that source from CRIS resources will also receive candidate ARRs defined by the source-to-sink path.

Potentially granted to either the entire internal deliverability Area or to just the LRE’s load .

4.8 Resource Adequacy Process

A NITS customer may purchase a CRIS resource’s un-designated capacity and if it is located within the same Deliverability Area as the load, designate it on request and have that capacity counted immediately toward meeting the resource adequacy requirement.

The designation may be made under the NITS customer’s NITS agreement as a long-term firm Designated Resource, under the NITS agreement using secondary (short-term) firm Network Service or using short-term firm point-to-point service.

4.9 Models for ERIS

During its investigation into the ERIS contingency threshold, it became clear to members of the task force that the GI process could benefit from further streamlining, particularly with respect to the number of models and scenarios being used to evaluate new interconnection service requests. When compared with RTOs of similar size, SPP considers a much greater number of models, seasons, scenarios, and conditions than the others. This has raised the question of whether SPP could accomplish the GI study process more efficiently by streamlining the set of

models, seasons, and scenarios used, as well as whether the set of models utilized goes beyond that needed for a basic, minimal interconnection using ERS.

Due to the complex and technical nature of this issue, as well as the details of the scope of the NEDTF's work, the NEDTF did not thoroughly research this matter. However, as part of its presentation to the NEDTF, SPP Staff indicated that it intended to explore the potential of reducing the number of GI models as well as review its methodology of dispatching low and high variable resources. The NEDTF supports this work and agrees that SPP staff should consult with the GI User Group and the TWG and attempt to finalize a proposal for approval by the TWG and MOPC, to be effective as soon as feasible.

The critical issues and questions that SPP staff should explore include, but are not limited to:

- Whether the NERC standards (TPL-001-4, FAC-002-2) can still be satisfied with a reduced model set?
- What is the impact for customers that wish to interconnect in 12-24 months if the year 1 and 2 models are eliminated?
- What is the impact to Limited Operation and Interim Service studies?
- What are the risks of not evaluating years 1, 2 and 10?
- What is the risk of not evaluating a spring season?
- What is the benefit to efficiency and cost?
- Is a fuel-based dispatch appropriate to focus upgrades for generator on seasons where they need service to be more available

4.10 Deliverability Areas

Deliverability Areas will be established through the process described in the Transition section. Every generator and load interconnected with the SPP Transmission System will be assigned to a Deliverability Area. As the SPP Transmission System is expanded, the Deliverability Areas will be adjusted through a similar process to that used in their establishment.

5 TRANSITION

The transmission system in SPP is currently being designed and maintained through the ATSS and ITP processes for firm transmission service delivery from resources to loads utilizing either network or point-to-point transmission service. Available CRIS Deliverability should be allocated to these existing Resources that have such firm transmission service to load in place in SPP. In this transition, a resource can be allocated CRIS Deliverability up to the MW level of firm transmission service currently in place. This allocation should not be limited by any consideration of accredited capacity of a resource, which the NEDTF has determined is not relevant for this transition study.

5.1 Consideration of Resources for Study

The NEDTF believes that the duration of existing transmission service matters for this initial allocation. The SPP transmission system is planned in the long-term for resources with transmission service term durations of five years or more as a result of the current service rollover rules. Accordingly, resources with transmission service of five years or more in duration should be given priority for CRIS Deliverability allocations in this transition / baseline study. SPP Staff has indicated that nearly all of the Resources in this category are utilizing NITS, while one Resource is designated as a DR using Point to Point service.

Existing NRIS Resources without firm transmission service, as well as existing resources with firm transmission service between one and five years in duration, should be included in the transition study to receive an allocation of available CRIS Deliverability. However, these resources should be studied as a second tier for an allocation after the existing resources with firm transmission service of five years or more in duration are studied and their allocations have been calculated. SPP Staff estimates that there are approximately 1,000 MW of such existing NRIS Resources without firm transmission service currently in the SPP system.

A Deliverability Area is a defined, contiguous portion of the SPP Transmission System.

CRIS Deliverability is the amount of capacity in MW that can be delivered from a generator with CRIS interconnection service to loads within the same Deliverability Area.

For the purposes of assessing deliverability of a new CRIS resource to serve loads within a Deliverability Area, the total Network Load within a Deliverability Area includes those Designated Network Loads not physically connected to the SPP Transmission System. The Designated Resources serving the Network Load within a Deliverability Area include those Designated Resources not physically connected to the SPP Transmission System.

5.2 Consideration of Deliverability Areas for Study

The NEDTF recommends that the entire SPP footprint be studied initially as a single Deliverability Area for CRIS allocations. If the amounts of allocated CRIS Deliverability are not acceptable based on the full SPP footprint study, then studying smaller Deliverability Areas would be appropriate until the right balance of area size and allocated amounts of CRIS Deliverability is found. When determining the shape and size of smaller Deliverability Areas, one possible course would be to use the two-step method reviewed with the NEDTF for developing the current LOLE zones.

It is important to note again that the CRIS Deliverability method recommended by the NEDTF received conditional support from some NEDTF members with the assumption that it could be implemented with either a single Deliverability Area for the SPP footprint, or by splitting the SPP region into no more than two or three Deliverability Areas.

5.3 Study Method

CRIS Deliverability should be studied in the Transition study for applicable existing resources in the same manner as it would be studied for resources that request new or expanded CRIS Deliverability through the GI process in the future.

5.4 Allocation Adequacy and Potential Facility Construction

The NEDTF considered, but did not decide upon, the level of CRIS Deliverability that would be deemed adequate or inadequate as a result of assessing the entire footprint as a Deliverability Area. The NEDTF does recommend consideration of upgrades that would significantly increase the amount of CRIS which is granted through the transition study process.

The NEDTF also considered whether the potential construction of additional transmission facility upgrades be considered for the transition process if such upgrades provide a significant increase in CRIS Deliverability within a Deliverability Area, or enable a larger Deliverability Area to be formed with a reasonable level of CRIS Deliverability for all applicable Resources in the new, larger Deliverability Area. Consistent with the NEDTF recommendation, such upgrades should be identified and evaluated in the transition study and the MOPC and SPP Board should consider whether or not to authorize them based on the potential value they would add.

5.5 Transition/Baseline Study

SPP will conduct a deliverability study considering all resources associated with long-term firm transmission service (LTFTS) as well as all NRIS resources not associated with LTFTS, to determine how much of its output can be delivered to the local Deliverability Area. The capacity calculated shall be reported in MW and percentage of currently granted LTFTS and/or NRIS.

Example 1: An ERIS-only resource having interconnection service of 100 MW is an existing Designated Resource for two different NITS customers for a total of 80 MW, leaving 20 MW undesignated. The transition study will determine how much of the 80 MW can be delivered to the local Deliverability Area. If the study determines that only 75 MW is deliverable to the local Deliverability Area, the amount of CRIS Deliverability assigned to the resource will be 75 MW. However, this assignment will not change the existing designation amounts or the rights of the NITS customers to continue renewing the designation of 80 MW in the future. If the designation is subsequently terminated or is not renewed, then any NITS customer in the Deliverability Area could designate up to 75 MW without going through the Aggregate Study. Any designation in excess of 75 MW would require an Aggregate Study as would a designation in any amount to load outside the Deliverability Area..

Example 2: If the resource in the first example has NRIS service instead of ERIS-only, the transition study will determine how much of the full 100 MW (instead of 80 MW) can be delivered to the local Deliverability Area. If the study determines that 95 MW is deliverable to the local Deliverability Area, the amount of CRIS Deliverability assigned to the resource will be 95 MW. Again, this assignment will not change the existing designation amounts or the rights of the NITS customers to continue renewing the designation of 80 MW in the future. A NITS customer in the same Deliverability Area could designate an additional 15 MW without going through the Aggregate Study. If the designations are subsequently terminated or not renewed, then any NITS customer in the Deliverability Area could designate up to 95 MW without going through the Aggregate Study. Any designation in excess of 95 MW would require an Aggregate Study, as would a designation in any amount to load outside the Deliverability Area.

SPP will also conduct an ITP-like Base Reliability powerflow study that includes only resources having NRIS or LTFTS. The study will economically dispatch them to serve the load. NRIS resources will be dispatched to serve their entire Deliverability Area on a load-ratio-share (LRS) basis up to the level of granted NRIS.

SPP will identify the required Network Upgrades and their need dates based on the results of the Deliverability and ITP Base Reliability Studies to obtain 100% of the currently granted LTFTS or NRIS. In cases where NRIS and LTFTS have both been granted, the amount of eligible capacity for conversion to a CRIS resource will be capped at the greater of the two values. SPP will also determine what Network Upgrades would be necessary to obtain lower percentages of aggregate deliverability (90%, 80%, etc.).

5.5.1 SPP Transition Study Determinations

All resources with existing LTFTS will be granted CRIS status and pre-qualified to be deliverable to any load in their Deliverability Area at MW levels determined by the transition study. Requests for additional CRIS capacity must go through the GI process.

Transition studies may need to be performed again from time to time such as ahead of a new geographic region being added to SPP.

5.5.2 Existing NRIS Generating Facilities

All existing Generating Facilities having SPP NRIS will be converted to CRIS. SPP will determine the amount of CRIS Deliverability it will be awarded within the same Deliverability Area.

5.5.3 Transition of the GI Study Queue

SPP staff should engage with stakeholders to determine how to transition pending Interconnection Requests to the new framework. The transition process should be fully developed and filed so that it can be implemented in concert with the framework changes.

Interconnection Customers should have the flexibility of selecting CRIS to the extent that such flexibility does not impede the Interconnection Study process or afford an inordinate advantage or disadvantage to other customers.

6 RECOMMENDATIONS

NRIS Deliverability (CRIS)

As the result of its activity over the past year, the NEDTF has developed policy recommendations that, as a package, provide for the development of a “NITS-ready” interconnection service that:

- Has been studied in a manner substantially similar to that of a designated NITS resource,
- Is available to be designated by any load within a specified sub-region of SPP (Deliverability Area) without further study upon submission of a transmission service request, and
- Utilizes SPP’s existing interconnection and transmission service processes with as little alteration as possible to accomplish the goals of the HITT recommendation.

The NEDTF makes the following policy recommendations to MOPC for its consideration and approval regarding the development of deliverability for NRIS in SPP. These recommendations are separated into those describing the Future State, and those that pertain to the Transition to the Future State.

Future State

1. **Replace NRIS with CRIS** - the term Capacity Resource Interconnection Service (CRIS) be adopted for the new product to replace the existing NRIS product and provide a clearer designation between these two types of generator interconnections, which provide different services
2. **Retain NITS and Integrate CRIS Deliverability Constructs into Existing NITS Processes** - NITS and CRIS deliverability constructs should co-exist in SPP in the future if the MOPC chooses to pursue the development of a CRIS deliverability interconnection product. As a result, the deliverability of specified resources to a specified load through NITS should continue to be counted for resource adequacy purposes. Further, the NITS request and designation process should be used for designating a resource with available CRIS capacity to serve load, effectively incorporating CRIS interconnected resources into the firm transmission service process. Following designation, the existing transmission planning processes can be used to maintain deliverability to loads over time
3. **Align CRIS Models and Dispatch Assumptions with NITS Product** - A set of models and dispatch assumptions should be used for the new CRIS product to make CRIS reasonably comparable to SPP’s current NITS product
4. **Study CRIS Resources for Delivery to Loads Within the Same Deliverability Area** - CRIS resources would be deliverable to any load within the same Deliverability Area (DA),

but they would not be deliverable across DA boundaries without separately requesting and being studied for transmission service.

5. **Grant a Congestion Hedge from a Designated CRIS Resource to an LSE (comparable to a NITS designation)** – Since CRIS resources will be studied comparably to NITS resources in the generator interconnection process and will be designated by load serving entities and incorporated into the existing firm transmission service processes to serve load, congestion hedges from designated CRIS interconnected resources should also be granted to load serving entities in a similar manner to those from designated NITS resources due to the comparability of the two services
6. **Grant CRIS Deliverability up to Level of ERIS Capability** - Resources may be studied and granted for CRIS in amounts up to and including their respective Energy Resource interconnection limits

Transition

7. **Conduct Transition Study to Set Size and Scope of Deliverability Areas** - A study should be conducted to determine the optimal initial configuration of Deliverability Areas in SPP based on a recommended set of principles included in this whitepaper
8. **Grant CRIS Deliverability to Existing Resources with Firm Transmission Service and to Existing NRIS Resources** - Eligible existing resources in SPP should be studied for, and granted, CRIS deliverability in an amount up to the limits imposed on their deliverability to the Deliverability Area in which they are located
9. **Identify Potential Upgrades to Optimize Deliverability for Existing Resources and Expand Deliverability Areas** - The transition study should evaluate potential facility upgrades that would relieve constraints and allow for larger Deliverability Areas and for resources to reach a threshold of deliverability that is deemed reasonable for a Deliverability Area

ERIS Threshold

The NEDTF also has developed the following recommendations that together provide a path forward regarding tightening thresholds for mitigation of ERIS system impacts.

1. **Resume the Revision Request process for the GIITF ERIS Threshold Recommendation** – the NEDTF finds that the GIITF's policy recommendation to MOPC in late 2018 on the ERIS contingency threshold is adequate in light of the HITT's recommendations for changes to NRIS and congestion hedging. The development of a Revision Request (RR) implementing the GIITF policy recommendation for tightening the ERIS contingency threshold was delayed at the start of the NEDTF's work. The RR process should be resumed by SPP Staff and completed consistent with the Oct 2018 action item to SPP Staff from the MOPC Chair

2. **Conduct Congestion and GI-ITP Comparison Studies to Assess Further Tightening of the ERIS Contingency Threshold** - Should MOPC decide to evaluate additional ERIS threshold changes beyond the GIITF recommendation, the NEDTF recommends that two additional studies, a GI-ITP Comparison Study and a Congestion Study, be conducted to provide a thorough basis of support to establish a reasonable criteria for a basic, minimal generator interconnection in SPP. Such studies would help ensure that costs and benefits of ERIS interconnection service are being appropriately aligned
3. **Get TWG and GIUG Assessment on ERIS Study Process and Models** - the TWG, with the support of the Generator Interconnection User Group (“GIUG”), should assess whether changes to the ERIS study process and models are recommended in advance of the commencement of the recommended Congestion and GI-ITP studies to assess further tightening the ERIS contingency threshold to mitigate system impacts in SPP

6.1 Action Plan

As policy recommendations, further efforts will be required in the form of studies, and development of business protocols and tariff language to implement this package of recommendations. However, the NEDTF has prepared a recommendation for next steps and an Action Plan for MOPC to adopt for purposes of implementing the recommendations in this policy white paper.

The NEDTF believes that the policy recommendations regarding tightening the ERIS threshold are ready for consideration by the MOPC. The next steps are contained herein for continuing the delayed RR process for the GIITF recommendation and the scope and costs of the GI-ITP Comparison and Congestion study costs have been developed by Staff.

The set of recommendations for implementing NRIS deliverability in the form of CRIS is more complex and will require further development of policies by affected working groups. The details of integrating CRIS into existing SPP transmission planning processes should also be developed in more detail and the costs of implementation estimated prior to a final approval by MOPC. The NEDTF recommends that the MOPC take action on the CRIS recommendations in terms of the following next steps:

- providing direction to SPP working groups to further explore the coordination issues outlined in this whitepaper, and
- directing SPP Staff to further assess the costs of implementing and integrating NRIS deliverability in the form of CRIS in SPP, including costs of the recommended transition study and changes to existing SPP transmission planning processes.

The following table lists action items necessary to implement the recommendations and a rough estimate of the time required to complete them.

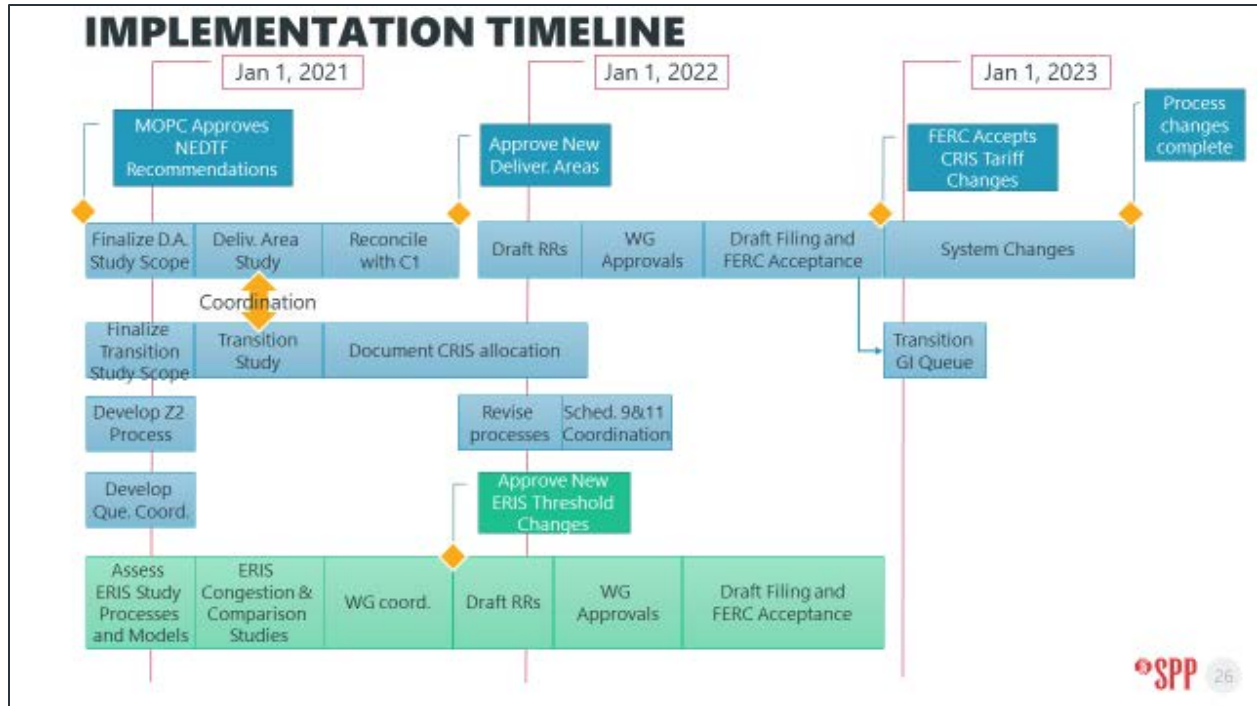


Figure 2: Timeline for Action Plan

Action	Owner(s)	Time Estimate
Deliverability Recommendations		
Finalize scope of Deliverability Area Study	TWG, GIUG, Staff	2-3 months
Give go-ahead for Deliverability Area Study	MOPC and Board	1 month
Conduct Deliverability Area Study	Eng. Staff	2-3 months
Reconcile study results with HITT C1	CAWG and TWG, GIUG	2-3 months
Approve new Deliverability Areas	MOPC, RSC, Board	1 month
Transition to Future State Recommendations		
Finalize scope of Transition Study	TWG, GIUG, Staff	2-3 months
Give go-ahead for Transition Study	MOPC and Board	1 month
Conduct Transition Study	Engineering Staff	3 months
Document CRIS Deliverability allocation amounts	Eng., Legal, and Regulatory Staff	3-6 months
Feedback results to Deliverability Area Study (upgrades to expand D.A.s)	CAWG, TWG, GIUG, and Staff	3 months
Governing Document Revisions		
Draft tariff and business practice revision requests	RTWG, Staff	2-3 months
Complete stakeholder approval process	Multiple WGs, Staff	3 months
Approve revision requests	MOPC	1 month
Prepare and file tariff revisions	Staff	1 month
Receive FERC acceptance of tariff revisions	Staff	2-3 months
Process Implementation		

Action	Owner(s)	Time Estimate
Revise existing processes and procedures	Staff	2-3 months
Implement System changes	Staff	3-6 months
Transition existing GI requests to new process	Staff	2 months
Coordinate C1 Schedule 9&11 changes with planning process changes	Staff	3-6 months
Affected Processes		
Develop and implement process for assessing Z2 impacts	Staff, CAWG, TWG, GIUG, MOPC	3 months
Determine queue coordination procedures	TWG, GIUG, Staff, MOPC	3 months
ERIS Threshold Recommendations		
Assess ERIS study process and models; recommend changes	TWG, GIUG, Staff	2-3 months
Approve ERIS study changes	MOPC	1 month
Conduct Congestion and Comparison Studies	Staff	2-3 months
Consider results of studies and recommend threshold changes	TWG, GIUG, Staff	2-3 months
Approve threshold changes	MOPC	1 month
Draft tariff and business practice revision requests	RTWG, Staff	1-2 months
Complete stakeholder approval process	Multiple WGs, Staff	2-3 months
Approve revision requests	MOPC	1 month
Prepare and file tariff revisions	Staff	1 month
Receive FERC acceptance of tariff revisions	Staff	2-3 months

APPENDIX 1: TEAM MEMBERS AND MEETINGS

Team Members

The NEDTF is comprised of representatives of SPP members. Rob Janssen served as chair and Jim Jacoby as vice chair. Steve Purdy served as SPP staff secretary. The following is a list of all who participated as voting members.

Member	Company
Aaron Vander Vorst	ENEL
Derek Brown	Evergy
Walt Cecil	Missouri Public Service Commission
Jason Chaplin	Oklahoma Corporation Commission
Ed Devarona	NextEra
Tim Hall	Southern Power
Brad Hans	Municipal Energy Agency of Nebraska
Natasha Henderson	Golden Spread Electric Cooperative
Travis Hyde	Oklahoma Gas & Electric
Jim Jacoby	American Electric Power
Rob Janssen	Dogwood Energy
Nathan McNeil	Midwest Energy
Chase Smith (Replaced Tim Hall)	Southern Power

Meetings

Date	Location
August 29, 2019	Teleconference
October 2, 2019	Dallas, Texas
October 22, 2019	Dallas, Texas
November 22, 2019	Teleconference

Date	Location
December 17, 2019	Kansas City, Missouri
January 10, 2020	Teleconference
January 30-31, 2020	Dallas, Texas
February 18-19, 2020	Dallas, Texas
March 5, 2020	Teleconference
March 18, 2020	Teleconference
March 31-April 1, 2020	Teleconference
April 24, 2020	Teleconference
May 20-21, 2020	Teleconference
June 4, 2020	Teleconference
June 11, 2020	Teleconference
June 23, 2020	Teleconference
July 1, 2020	Teleconference
July 29, 2020	Teleconference
August 25, 2020	Teleconference
September 22, 2020	Teleconference
September 29, 2020	Teleconference

APPENDIX 2: HITT TRANSMISSION PLANNING RECOMMENDATION #1

Implement modifications to NRIS and ERIS¹⁴

SPP should develop and adopt a policy that creates the appropriate balance between cost assessed and value attained from SPP ERIS and NRIS generation interconnection products and generating resources with long-term firm transmission service. The policy should add more value to the NRIS product by making NRIS eligible to attain benefits comparable to those awarded to designated network resources (DNR) without the requirement for a transmission service study while also tightening thresholds for mitigation of ERIS system impacts. This includes the concept of deliverability on a sub-regional basis. The policy should also address capacity accreditation. The value proposition should be maintained throughout all transmission services, transmission planning and Integrated Marketplace processes to ensure effectiveness and equity for all impacted stakeholders.

General discussion

The policy should add more value to NRIS by making NRIS eligible to attain capacity accreditation and deliverability benefits comparable to those awarded to designated resources (DRs) without requiring an additional transmission service study. This recommendation includes the concept of deliverability on a larger sub-regional or regional basis. This recommendation is consistent with how NRIS has been implemented by other RTOs.

The policy should address system upgrade cost responsibility for ERIS by tightening thresholds for mitigation of ERIS system impacts. SPP's Generator Interconnection Improvement Task Force (GIITF) has already made a proposal for tightened thresholds to MOPC. SPP and its stakeholders should consider whether that proposal is adequate given the related recommendations being made in this report or if a modification to the GIITF recommendation would be appropriate.

These recommended changes, along with others in this report, are an important step toward ensuring the benefit/cost balance is maintained throughout all transmission services, transmission planning and Integrated Marketplace processes to ensure effectiveness and equity for all impacted stakeholders.

¹⁴ Approved at April 3-4, 2019 HITT meeting by a unanimous vote of 15-zero. Motion by Mike Wise (Golden Spread) and second by Al Tamimi (Sunflower).

Additional information

Today, entities seeking to integrate a DR go through the transmission service process to attain Network Integration Transmission Service (NITS). If the prospective DR is not already interconnected to the SPP network, the resource will also need to go through the GI process.

The GI process identifies upgrades necessary for reliable interconnection based on the type of service requested (ERIS or NRIS), assesses costs and scheduled goals to provide service, and shares costs of studies and upgrades among study participants. GI upgrade costs may include both interconnection

facility costs and network upgrade costs. All GI upgrade costs are directly assigned to GI customers. The magnitude of upgrade costs may differ based on the GI product chosen.

The two available GI services are ERIS and NRIS. ERIS allows generators to connect to the transmission system with eligibility to deliver the generating facility's electric output using the transmission system's existing firm or non-firm capacity on an as-available basis. It is generally considered an "energy-only" interconnection service and makes available the dispatch of an interconnected generator up to the output consistent with congestion pricing based on transmission facility constraints.

Conversely, an NRIS interconnection integrates generators with the transmission system in a manner comparable to how TOs historically integrated generating facilities to serve native load customers as network resources.

Compared to ERIS studies, NRIS studies have more stringent system impact limits, or "thresholds", to identify needed network upgrades. As a result, NRIS studies are likely to assess more directly-assigned network upgrade costs than ERIS studies. However, as these services have been implemented in SPP, the potential additional investment in the transmission network associated with NRIS does not provide much, if any, incremental benefit compared to ERIS. Upon interconnection, both ERIS and NRIS resources have access to the Integrated Marketplace, although neither ERIS nor NRIS translates into transmission service.

Currently, the transmission service study process determines capacity deliverability in SPP by evaluating specific source-to-sink transfers within, into, out of or through SPP. Transmission service studies aggregate requests for service, streamlining and sharing costs of studies and new transmission upgrades among study participants who may need those upgrades to reliably accommodate service.

The transmission service process also determines ARRs candidacy. ARRs may be converted to transmission rights for hedging congestion. Network upgrades associated with DRs may be eligible for base plan funding.

NRIS MODIFICATIONS

This recommendation makes NRIS resources within a planning sub-region, to be designated, eligible to meet both load and planning reserve requirements for load responsible entities (LREs) within that same sub-region. As a result, additional transmission service studies would not be required to utilize NRIS resources to meet capacity requirements within the planning sub-region where the resource is located.

In addition to the NRIS sub-region studies, NRIS resources may be studied for transmission service to specific LRE loads within or outside of the sub-region for NITS or point-to-point on request. It is not anticipated that congestion hedges would be granted based on an NRIS interconnection without firm transmission service. Congestion hedges could still be received when selected as compensation for the construction of necessary directly-assigned network upgrades identified through the GI process consistent with the current rules in place for compensation for construction of such network facilities.

The SAWG is the stakeholder group responsible for the region-wide, short-term resource deliverability process for the planning reserve component of LREs' resource adequacy requirement in SPP. The TWG is the stakeholder group responsible for the long-term resource deliverability process associated with transmission service.

The SAWG is establishing modeling sub-regions for supply adequacy studies as a result of implementing new software for such studies. The SAWG would need to consider this recommendation's requirements along with developing those sub-regions. The TWG is responsible for establishing the basis for long-term deliverability through NRIS as part of this recommendation. These evaluations would likely lead to further policy considerations that would need to be reviewed and approved by the MOPC, SPC, RSC and board prior to implementation of this recommendation.

ERIS MODIFICATIONS

This recommendation would modify system impact limits to be more stringent in identifying needed network upgrades in ERIS studies. As a result, ERIS resources may be assessed more directly-assigned upgrade costs associated with their impacts to the transmission network. The GIITF recommended such a change to the MOPC in late 2018. The MOPC and its working groups, or possibly a new GI-related MOPC task force, should evaluate the GIITF's recommendation in light of the changes recommended in this report. The groups should particularly evaluate the HITT's recommendations related to NRIS and congestion hedging to determine if the GIITF recommendation is adequate or should be reconsidered. A congestion study should be considered to develop a thorough basis of support for any such changes to ERIS thresholds.

Summary

This recommendation:

- Adds to the NRIS value proposition and differentiates NRIS from ERIS through an incentive-based approach.
- Promotes the construction and funding of transmission facility upgrades by generators rather than LSEs.
- Reduces by half the time necessary to convert an NRIS resource to a DR within a planning sub-region.
- Expands options for LREs to acquire capacity resources by pre-qualifying resources with NRIS.
- Improves consistency in assessments that qualify generating resources for capacity, since NRIS resources and DRs could be studied with the same thresholds.

Action

The TWG and SAWG should draft a white paper on how to implement the HITT's NRIS modifications, with input from the appropriate secondary groups. After stakeholders approve the NRIS modification white paper, a Revision Request to implement the modifications shall be initiated. For changes to ERIS thresholds, the MOPC should decide what actions are appropriate.

Assignments

Lead group:	TWG (long-term deliverability through NRIS) SAWG (NRIS modifications) MOPC (ERIS modifications)
Secondary group:	MWG, RSC, CAWG
Goal:	Complete white paper on NRIS modifications and reassess appropriate ERIS thresholds by April 2020

Impacts on other identified issues

- Resource adequacy
- Attachment Z2
- Decoupling of Schedule 9 and Schedule 11 transmission pricing zones

Stakeholder comments/presentations

- August 1 brainstorming topics 1, 2, 4, & 7
- GIITF and Golden Spread presentations
- Sunflower presentation and comments
- Midwest Energy comments

APPENDIX 3: CRIS DELIVERABILITY STUDY MODELING

CRIS deliverability would be studied based on the procedures described above, using models that reflect the long-term firm use of the system.

Capacity Models

Dispatch Scenario	Condition	Requested Service Type
Base	Same as Current Aggregate Transmission Service Study (ATSS): Year 1 Winter Peak Year 2 Summer Peak Year 2 Winter Peak Year 2 Light Load Year 5 Summer Peak Year 5 Winter Peak Year 5 Light Load Year 10 Summer Peak Year 10 Winter Peak Year 10 Light Load	CRIS/ATSS

Generator Dispatch Method

In Group (zone)				Out Group (zone)			
Renewable		Conventional		Renewable		Conventional	
New	Existing	New	Existing	New	Existing	New	Existing
Requested MW	ITP Renew	Requested MW	ECDI	Requested MW	ITP Renew	Requested MW	ECDI

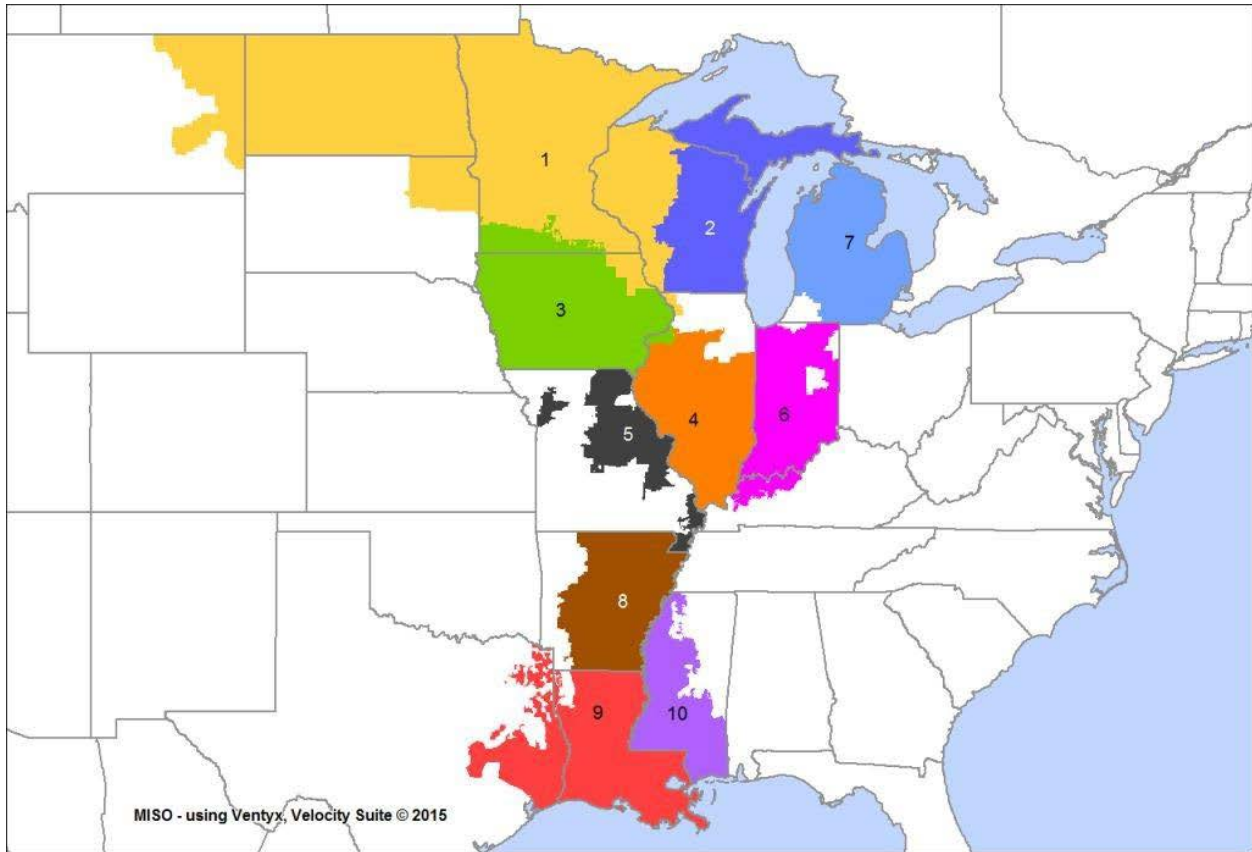
Where:

Requested MW is the amount of interconnection service requested by the interconnection customer or the amount of designation requested by the transmission customer. This amount may be less than the nameplate capacity.

ITP Renew is the methodology described in section 2.1.2 of the SPP ITP Manual for dispatching renewable resources based on average output over five years under the conditions prescribed for each season.

ECDI is the process used for initial dispatch of ITP models in which SPP uses PSS®E's built-in ECDI ("Economic Dispatch") function to economically dispatch generation in each zone (sub-region) using heat rates, fuel curves, and priorities.

APPENDIX 4: MISO LOCAL RESOURCE ZONE (LRZ) MAP



APPENDIX 5: NRIS DELIVERABILITY BENEFITS PRESENTATION TO HITT

A resource is a qualified capacity resource if:

1. It is a current network resource
2. Has an NRIS interconnection agreement with SPP
3. ERIS connected unit with a firm transmission path to a network load

Any qualified capacity resource is eligible for use by LREs within the SPP region and equivalent sub-region to meet capacity resource requirement w/o obtaining firm transmission.

What are the benefits of going to deliverability model?

1. Expand resource choices for capacity (provides for capacity liquidity)
 - a. Reduce time in finding resource
 - b. Increase marketability of excess capacity
 - c. Avoid long term commitments for gen
 - d. Allows for small short-term incremental capacity choices for LREs large and small
 - i. Sales of short term capacity
 - ii. Purchases of short term capacity
 - e. Substantially reduce risks for LREs
 - f. SPP improves its functionality in facilitating a vibrant feasible liquid bilateral capacity market
2. Incent transmission investment for gen
3. Consistency in planning processes for equity
4. Consistency in cost allocation
5. Makes planning more aligned with how integrated marketplace works today
6. Recognizes the \$10 billion of consumer investment in transmission as connected to the old balancing authorities
7. No longer incents LSEs to look to leave the system due to uncertainty in capacity, transmission, & long lead times for decisions
8. NRIS can be studied as deliverable to the sub-region

APPENDIX 6: Q&A

1. What options will a generation developer have when requesting interconnection service?

A generation developer may request either ERIS or CRIS. If requesting CRIS, the customer may specify how much of the ERIS service will have CRIS deliverability. The GIA will show at least two quantities: ERIS-only service, and CRIS service. ERIS-only generators will show CRIS service of zero MW.

2. How will a current generator owner obtain CRIS deliverability?

If the current generator has NRIS service or has long-term firm transmission service, its CRIS deliverability amount will be determined during the transition study. The generator will be treated like a CRIS generator going forward with respect to the ability to be designated to loads in the same Deliverability Area up to the amount of CRIS deliverability awarded from the transition study.

3. How will additional CRIS deliverability be acquired?

After the transition study is complete, an interconnection customer may request additional CRIS deliverability for an existing generator by submitting a request in the GI study. The GI study will evaluate only what would be required to enable the amount of CRIS deliverability to the generator's Deliverability Area over and above the amount previously awarded in the transition study.

4. How will an existing non-NRIS generator transition to a CRIS generator?

An existing non-NRIS generator not having long-term firm transmission service may transition to CRIS deliverability by submitting a request in the GI study. The GI study will evaluate only what would be required to enable deliverability to the generator's Deliverability Area and assign upgrades accordingly.

5. If a non-NRIS generator not having long-term firm transmission service at the time SPP adopts the new CRIS framework later obtains long-term firm transmission service, will it be awarded CRIS deliverability from that point forward?

No. After the transition study, CRIS deliverability will only be awarded through the GI study process.

6. Will a generator owner have to request participation in the transition study?

No. The transition study will automatically include all non-NRIS generators having long-term firm transmission service at the time the study is conducted and all NRIS generators regardless of their firm transmission service status.

7. Will a CRIS generator owner receive a congestion hedge for funding upgrades necessary to obtain deliverability or for long-term firm transmission service from the generator?

Network Upgrades assigned to a CRIS generator request in the GI study process will be eligible for an incremental Long-Term Congestion Right (ILTCR) in accordance with tariff attachment Z2. Congestion hedges associated with long-term firm transmission service will be awarded to the transmission service customer.

8. How will these recommendations affect Transmission Owners' costs?

Under the SPP tariff, interconnection customers are obligated to fully fund the costs to construct Network Upgrades (i.e. "E&C costs") as well as the costs to construct Interconnection Facilities. Ongoing operation and maintenance ("O&M") costs for Network Upgrades are the responsibility of the Transmission Owner and can be included in the TO's Annual Transmission Revenue Requirement (ATRR) for recovery through SPP transmission rates. O&M costs for Interconnection Facilities owned by the TO can be recovered from the Interconnection Customer through direct billing by the TO. To the extent that more Interconnection Customers choose CRIS and fund new Network Upgrades, TOs' ATRR related to O&M costs for CRIS Network Upgrades may increase. Benefits associated with increased access to capacity resources and potential for reduced congestion provided by the upgrades may offset the increased costs.

9. Will a non-NRIS, non-LTFTS generator be able to request participation in the transition study?

No. Generators that are not eligible for inclusion in the transition study will be able to convert to CRIS by submitting a request in the GI DISIS study process and specifying an amount of CRIS deliverability to be studied.

10. Could a GI customer "game" the system and avoid paying for upgrades by requesting small amounts of CRIS several times?

Possibly, but it would require the customer to request very small increments in a series of GI studies in hopes of avoiding a thermal overload. The 3% distribution factor for CRIS impacts is based on the amount of service requested. So, for a 1 MW request, the impact would have to be less than 30 kW to avoid cost allocation. These facts likely make it impractical to game the system in this way.

APPENDIX 7: WORKING GROUP MEETINGS

Meetings where NEDTF participants met with other working groups for the purposes of discussing, coordinating, and receiving feedback on action items of specific interest to both groups.

TWG Meetings

- March 2020 - High-level overview and prep for future coordination
- April 2020 - ERIS-related GI Study models discussions; review of Order 2003 on ERIS; GI cluster groups and LOLE zones
- May 2020 - ERIS/NRIS Comparison for various RTOs; Purpose of ERIS Congestion study proposal
- June 2020 - CRIS study models review
- July 2020 (Planning Summit presentation) - Update on ERIS recommendations
- Aug 2020 - Review of the full set of draft recommendations before presenting to MOPC
- September 2020 – Update on recommendations; Detailed review of Congestion and GI-ITP Comparison studies, Transition study, and potential changes to “downstream” planning processes

CAWG Meetings

- March 18, 2020 – Joint meeting with CAWG to review staff analysis on C1 recommendation
- June 2, 2020 – Update
- July 7, 2020 – Review potential cost allocation issues
- August 11, 2020 – Preview of NEDTF recommendations
- September 10, 2020 – Discuss comments on NEDTF recommendations

SAWG Meetings

- March 11, 2020 – High-level overview and prep for future coordination
- April 29, 2020 – Update on NEDTF activities
- May 27, 2020 – Status update and review of NRIS/CRIS Deliverability
- June 24, 2020 – Status update and review of NRIS/CRIS Deliverability and Deliverability Areas
- July 30, 2020 – Review of the full set of draft CRIS recommendations before presenting to MOPC; Decision on continuing with short-term Deliverable Capacity product
- August 26, 2020 – Review of next steps for NEDTF / SAWG coordination
- September 23, 2020 – Discussion of comparability of partial CRIS and partial transmission service related to SAWG’s 3-tier approach to ELCC accreditation for renewable resources

APPENDIX 8: SUMMARY OF GENERATORS WITH LONG-TERM FIRM TRANSMISSION SERVICE

PRELIMINARY AND UNAUDITED

March 2, 2020

Modeling Area		NRIS or Equivalent			ERIS or Legacy			Notes
#	ID	Capacity (MW)	Firm Service (MW)	% with Firm Service	Capacity (MW)	Firm Service (MW)	% with Firm Service	
506	MJMEUC				168	0	0%	Note 1
515	SWPA				2,440	2,440	100%	Note 2
520	AEPW	99	23	23%	18,186	13,017	72%	Note 3
523	GRDA				1,734	1,346	78%	
524	OKGE	407	250	61%	15,011	11,520	77%	Note 4
525	WFEC				2,168	1,881	87%	
526	SPS	330	159	48%	11,340	9,074	80%	
527	OMPA				307	303	99%	Note 5
531	MIDW	303	302	100%	771	548	71%	
534	SUNC	110	110	100%	4,675	2,763	59%	
536	WERE				8,548	7,134	83%	
541	KCPL	500	500	100%	8,169	8,360	102%	Note 6
542	KACY				1,209	424	35%	Note 7
544	EMDE	250	285	114%	1,832	1,056	58%	Note 8
545	INDN				239	222	93%	Note 9
546	SPRM				813	974	120%	Note 10
640	NPPD	318	0	0%	4,950	3,917	79%	
641	HAST				387	352	91%	
642	GRIS	36	0	0%	203	202	99%	
645	OPPD	601	601	100%	3,114	3,093	99%	
650	LES	73	73	100%	495	479	97%	
652	WAPA	370	360	97%	2,826	2,480	88%	
659	BEPC-SPP	2,182	1,892	87%	3,666	3,375	92%	
Totals		5,579	4,555	82%	93,252	74,960	80%	

Notes

1. Behind-the-meter Gens
2. Firm service revised to reflect SWPA transmission service

3. Total plant amounts were revised to individual unit amounts.
4. Total plant amounts were revised to individual unit amounts.
5. Max capacity amounts were revised per OASIS
6. Amounts revised per OASIS. DNR+PTP exceeds 100% of capacity
7. May not reflect all firm capacity due to recent transition to NITS
8. Amounts revised per OASIS. Uncertainty in max capacity result in Firm>100% of capacity
9. Amounts revised per OASIS.
10. Uncertain capability amount.

Source Data

1. 2020 ITP BR Model

Gen ID, Area, PMAX, Firm Service

2. Gen Queue

Interconnection Service Level

3. WAPA Queue

Interconnection Service Level

4. OASIS DNR List

MAX_CAPACITY, CAPACITY_DESIGNATED

Capacity = Higher of PMAX from the ITP model or MAX_CAPACITY from OASIS DNR List (maximum possible output)

Firm Service = Maximum Firm Transmission Service used in dispatching the 2020 model (includes DNR and/or PTP)

Modeling Area = PSSE model Area Number for the generator (TO)

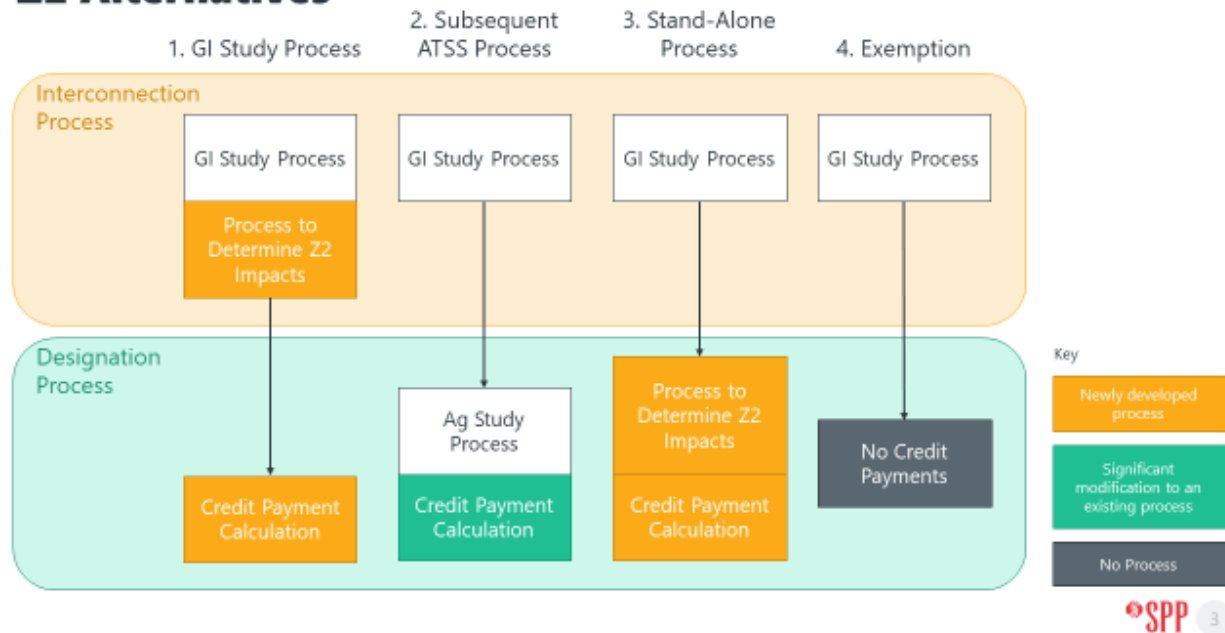
NRIS or Equivalent = Generator has either SPP or WAPA NRIS service

ERIS or Legacy = Generator has either SPP or WAPA ERIS service, or SPP has no record of the type of interconnection service

APPENDIX 9: ALTERNATIVES METHODS OF ASSESSING Z2 IMPACTS OF CRIS DESIGNATIONS

This presentation was given to NEDTF on July 29, 2020.

Z2 Alternatives



1. GI Study Process

- Create a new process for determining impacts during the GI study process
- Could determine only TDFs, not MW impacts, without knowing the amount of MW designated
- Could not determine CPO dollar amounts without knowing the NITS customer
 - Safe Harbor eligibility and amount could not be determined
 - Reverse creditability can't be known in advance
 - Payoff status can't be known in advance
- Would require a stacking calculation be done at the time of designation
 - This would require a new process be developed
 - Possible re-coding of the Credit Stacking System
 - Concern with completing the calculation within the time required for confirmation of the DR

2. Subsequent ATSS Process

- Add designations of CRIS gens to the ATSS process to determine impacts and CPOs alongside the other ATSS requests.
- Would be influenced by the other ATSS requests to some extent.
- There could be a nine-month or longer time lag between the start of service and the calculation of the CPOs.
- Customers would have to confirm reservations without knowing the dollar amount of the credit payments.
- Based on FERC rulings in the Z2 cases, it would not be tariff-compliant to complete a TSA/NITSA or even a study report without providing the credit payment amounts to the customer.
- Would the NITS customer be permitted to back out if the CPOs were too high?

DETERMINE Z2 IMPACTS IN THE AG STUDY

Worst-case scenario: Request to designate a CRIS resource is entered on the first day of the ag study open season, with service to start as early as possible. Credit payment obligations (CPOs) would not be known until the completion of the ag study. The customer would have to confirm service before knowing the cost of the credit payments. Back-payments for CPOs would have to be collected at the start of service.



3. Stand-Alone Process

- Create a new process for determining impacts at the time of designation
- This would require a new process be developed
- Possible re-coding of the Credit Stacking System
- Concern with completing the calculation within the time required for confirmation of the DR

4. Exemption

- Exempt CRIS resource designations from credit payments

- Would deprive Upgrade Sponsors of some portion of reimbursement or lengthen the time to be fully reimbursed
- Not fair to assign costs to the NITS customer for impacts to upgrades necessary to serve all the load in the area when delivery only to a specific load is needed
- Exemption from Z2 credit payments compensates for a less-valuable ARR due to the deliverability being to the area and not to a specific load
- Would avoid the time and expense required to implement new procedures, including potential system changes

APPENDIX 10: CONGESTION AND GI-ITP COMPARISON SCOPES

SCOPE OF CONGESTION STUDY FOR ERIS THRESHOLD CHANGE

1. Scope of Work

The purpose of this study is to determine the impact on market congestion that might be realized by reducing the distribution factor threshold for Energy Resource Interconnection Requests in the Generator Interconnection study process.

The scope of work is to perform an engineering evaluation that will include the following Tasks:

Task 1. Verify the assumption that by lowering the ERIS threshold, more transmission facilities would be constructed and thereby lead to a corresponding reduction in the cost of market congestion.

Task 2. Quantify the amount of congestion reduction at various threshold levels for the Options proposed by the Generator Interconnection Improvement Task Force (GIITF) listed in #5 below that would be realized:

- a. By the entire SPP Integrated Marketplace
- b. By each individual generator being allocated additional upgrade costs

Task 3. Quantify the benefit to each class of Market Participant and to Interconnection Customers, including the impact of shifting costs of upgrades that may result.

Task 4. Identify high-level differences in the applicable ITP portfolio that may result.

SPP will provide:

- A. Base Case ITP economic models
- B. The most recently completed DISIS study and models
- C. Information necessary to complete the Tasks.

2. Deliverables

- A. For Task 1, a report summarizing the results of the analysis showing that the assumption is valid or not and the reasons why.
- B. For Task 2, a report quantifying the amount of reduction in congestion costs for each of the Options listed in #5 for the entire SPP IM and for each individual generator that

would be allocated additional upgrade costs and the benefit/cost ratio for each upgrade.

- C. For Task 3, a report quantifying the benefit to each class of Market Participant and to Interconnection Customers, including the impact of shifting costs of upgrades that may result.
- D. On request, data, computer models, and other work papers related to the completion of the Tasks.

3. Contractual Arrangements

The contractual arrangements will be handled directly between SPP and the consultant.

4. Confidentiality

Consultant(s), sub-contractor(s), and all other individual(s) with access to the provided study models shall each have a non-competitive duty Non-Disclosure Agreement on file with SPP prior to start of the awarded work.

5. Description of Options

- 1. Generator Distribution Factor 20% (Baseline)
- 2. Generator Distribution Factor 15%
- 3. Generator Distribution Factor 10%
- 4. Generator Distribution Factor 5%
- 5. GIITF's original recommendation to MOPC "20%/5%"

GI ITP Comparison Study Scope

GI-ITP Comparison: determine whether constraints that are identified in the GI study below the 20% ERIS threshold are being identified in the ITP as reliability or economic needs.

GI-ITP Comparison Tasks

1. For the most recently completed ITP study, identify the most recently completed DISIS study which had study generators incorporated into and available for dispatch in the ITP models (315 hours)
2. Review the results of the final restudy of the DISIS (10 hours)
3. Identify the constraints seen in the Base Case and in the Transfer Case both above and below the DF: 20%, 15%, 10%, 5%, GIITF Recommendation (95 hours)
4. Compare constraints seen in the ITP study with the list of constraints from the DISIS (130 hours)
5. Identify constraints below each DISIS threshold line that appeared as a need in the ITP study (60 hours)
6. For each constraint identified, document the dispatch of the DISIS study generators in the ITP study (10 hours)
7. Document whether the DISIS upgrades associated with each study generator were also incorporated in the ITP (50 hours)
8. Document whether there is a correlation in the years and seasons in which the common constraints were identified (50 hours)
9. Document other significant differences in assumptions between the DISIS and ITP (80 hours)

In interpreting the results of this study, identification of common constraints in the two processes may not necessarily indicate a need to change the ERIS threshold. Before recommending an ERIS threshold change from the GI-ITP study, careful consideration should be given to how the results are impacted by recent policy changes, generation dispatch and the benefits to both generation and load.