ITP Evaluation Process Plan

GLW Upsize to Esmeralda

The Interregional Transmission Project (ITP) joint evaluation process provides for planning assumptions and ITP technical data coordination for the individual regional evaluations of an ITP. This evaluation process plan was developed through coordination among the relevant planning regions. Its purpose is to document the outcome of the Western Planning Region's coordination of the basic descriptions, key assumptions, milestones, and key participants in the ITP evaluation process that will be followed in the regional evaluations of the ITP.

The information that follows is specific to the ITP listed in the ITP Submittal Summary below. An ITP Evaluation Process Plan is developed for each ITP that has been properly submitted and accepted into the regional process of the Planning Regions to which it was submitted. ITP project sponsors will be provided an opportunity to review this evaluation process plan before it is finalized by the relevant planning regions who developed this evaluation process plan. Once finalized, the Western Planning Regions will post this evaluation process plan on their public websites.

ITP SUBMITTAL SUMMARY

Project Submitted To:	California ISO, and NorthernGrid
Relevant Planning Regions[1]:	California ISO, and NorthernGrid
Cost Allocation Requested From:	California ISO, and NorthernGrid

The Relevant Planning Regions identified above developed and have agreed to the ITP Evaluation Process Plan.

ITP SUMMARY

The GridLiance West LLC (GLW) Upsize to Esmeralda includes the following:

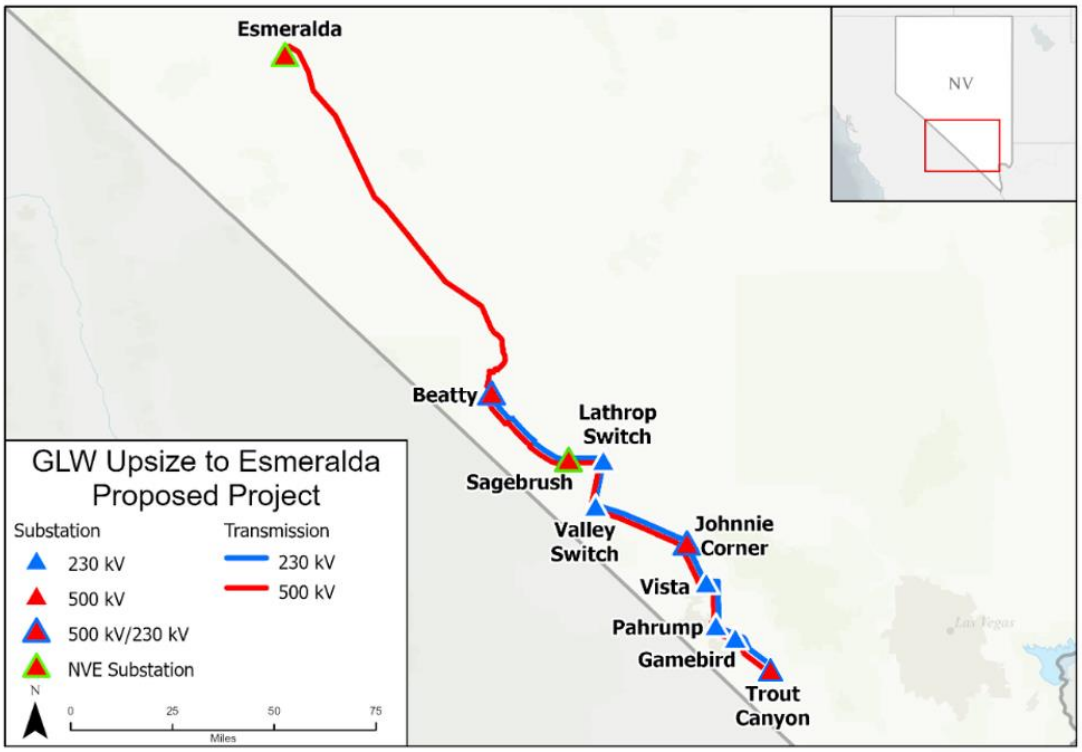
- Expand Johnnie Corner Substation to 500/230 kV.
- Convert Trout Canyon – Gamebird – Pahrump – Johnnie Corner from double circuit 230kV to double circuit 500 kV towers. This section is proposed to be constructed to the 500 kV standard, with one circuit operating at 500 kV and the other circuit operating at 230 kV.

[1] With respect to an ITP, a Relevant Planning Region is a Planning Region that would directly interconnect electrically with the ITP, unless and until a Relevant Planning Region determines that the ITP will not meet any of its regional transmission needs, at which time it will no longer be considered a Relevant Planning Region.

    - For this Section, the 500 kV circuit terminal points are Trout Canyon and Johnnie Corner 500 kV.
    - For this Section, the 230 kV circuit terminal points are Trout Canyon – Gamebird – Pahrump – Johnnie Corner 230 kV.
- Expand Beatty Substation to 500/230 kV
- Convert Johnnie Corner – Valley – Lathrop – Beatty from double circuit 230kV to double circuit 500 kV towers. This section is proposed to be constructed to the 500 kV standard, with one circuit operating at 500 kV and the other circuit operating at 230 kV. Extend the 500 kV circuit from the original Lahtrop terminus to the proposed Beatty 500 kV station and loop it into Sagebrush 500 kV.
    - For this Section, the 500 kV circuit terminal points are Johnnie Corner – Sagebrush – Beatty 500 kV.
    - For this Section, the 230 kV circuit terminal points are Johnnie Corner – Valley – Lathrop – Beatty 230 kV.
- Add new Beatty – Esmeralda 108 mi, approximately 3000 MVA, Single Circuit 500 kV.
- Bus work to interconnect at NVE's Esmeralda.

It must be noted that GLW submitted two ITP projects to CAISO for these transmission corridors, as an upsize to Sagebrush and as an upsize to Esmeralda. The latter includes the upsize to Sagebrush as a component. The best approach to evaluating these sections will be jointly determined by the relevant planning regions.

Figure 1: GLW Upsize to Esmeralda project schematic



ITP EVALUATION BY RELEVANT PLANNING REGIONS

CAISO is the Planning Region that will lead the coordination among the Relevant Planning Regions involved in

this evaluation process. In this capacity, CAISO will organize and facilitate interregional coordination meetings related to this ITP and document meeting action items and outcomes. For information regarding each Relevant Planning Region's ITP evaluation process, please contact that Planning Region directly.

The following is a summary of each Relevant Planning Region's evaluation process that will be followed to assess the ITP in its regional planning process. Please refer to each Planning Region's current study plan and/or Business Practice Manual for more details regarding its regional transmission planning process.

NorthernGrid

The NorthernGrid Regional Transmission Plan evaluates whether transmission needs within the NorthernGrid region may be satisfied on a regional and/or interregional basis. While the NorthernGrid Regional Transmission Plan is not a construction plan, it provides valuable regional insight and information for all stakeholders, including developers, to consider and use in their respective decision-making processes.

The first step in developing NorthernGrid's 2024-2025 Regional Transmission Plan is to identify the Baseline Projects of Enrolled Parties. The Baseline projects are those that have been submitted into NorthernGrid for Regional consideration from the Enrolled Parties or Non-Enrolled Developers. NorthernGrid then evaluates combinations of the Baseline Projects to determine the set of projects that best meets the reliability needs of NorthernGrid in a 10-year future in a cost effective fashion.

Power flow and production cost modeling techniques are used to determine if the modeled transmission system topology meets the system reliability performance requirements and transmission needs. The regional combination that addresses the reliability concerns in the most effective fashion will be selected into NorthernGrid's Regional Transmission Plan. A more detailed discussion of NorthernGrid's study process can be found in NorthernGrid's Biennial Study Plan posted on NorthernGrid's website.

California Independent System Operator (CAISO)

The draft study plan for the 2024-2025 Transmission Planning Process was posted on the CAISO website on February 24th, 2024[2]. The final study plan will be posted sometime in Spring 2024.The study plan details the load, resources, interchange levels and other modelling assumptions and methodologies for the required studies to identify any need for reliability, economic, or policy-driven transmission projects. The CAISO has collaboratively worked with the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) to align the planning assumptions between the CAISO's TPP and the CPUC's Integrated Resource Plan (IRP) process, as well as the demand forecast assumptions embodied in the 2023 IEPR adopted by the CEC on February 14th, 2024. Please refer to the Memorandum of Understanding (MOU) between the state agencies and the CAISO, posted on the CAISO website, which reflects the collaboration, engagement and roles and responsibilities of these entities in California. [3]

GLW has submitted the project as an ITP to CAISO for consideration in its transmission planning process (TPP) during the submission window for the 2024-2025 TPP, which closed on March 31, 2024. The CAISO will study this project along with all other ITP submissions to (a) determine alignment with CPUC provided resource portfolios for the TPP process as the CAISO is required to plan transmission solutions that enable the integration of resource portfolios provided by the CPUC and (b) determine if the ITP submission is more efficient or cost-effective solution to meet a CAISO-identified regional need than any identified regional solution and that can be constructed and operational in the same timeframe as the regional solution.

[2] Draft-Study-Plan-2024-2025-Transmission-Planning-Process.pdf (caiso.com)

[3] https://www.caiso.com/Documents/ISO-CEC-and-CPUC-Memorandum-of-Understanding-Dec-2022.pdf

The power flow and production cost model datasets used in CAISO studies are posted on the CAISO's Market Participant Portal. The California ISO will coordinate its studies with NorthernGrid and will exchange modeling information commensurate with existing data confidentiality requirements.

DATA AND STUDY METHODOLOGIES

The coordinated ITP evaluation process strives for consistent planning assumptions and technical data among the Planning Regions evaluating the ITP. Below, the Relevant Planning Regions have summarized the types of studies that will be conducted that are relevant to the Western Bounty Project evaluation in each Planning Region. Methodologies for coordinating planning assumptions across the Relevant Planning Region processes are also described.

Figure 2: Relevant Planning Region Study Summary Matrix

Planning Study	NorthernGrid	CAISO
Economic/Production Cost Model	PCM will be used to influence the reliability base cases. NorthernGrid will use the 2034 Anchor Data Set with GridView software.	Using the California ISO PCM Base Case, based on the WECC 2034 Anchor Data Set (ADS), GridView will be used to perform production cost simulation. All model information will be shared with the planning regions.
Reliability/Power Flow Assessment	The study scope is being developed. NorthernGrid plans to use approved 2034 WECC base cases.	If needed, the GE PSLF will be used to perform steady state and as needed, transient stability analysis. The WECC 2034 ADS and relevant WECC power flow cases will be modified as needed to accurately model the California network and resources that reflects the ISO's finalized 2024-2025 study plan. All model information will be shared with the planning regions.

Data Coordination

The Planning Regions will strive to coordinate major planning assumptions through the following procedures.

Economic/Production Cost Model

The Planning Regions intend to use the WECC 2034 Anchor Data Set (ADS) as an input into their regional economic planning studies conducted in 2024 and 2025 (as applicable). Each Planning Region intends to update the 2034 ADS with their most recent and relevant regional planning assumptions to reflect its starting point transmission topology and generation data. The Planning Regions will strive to coordinate major updates made to the 2034 ADS as part of their regional model development efforts in late Q3, 2024.

As an example, the California ISO will update the 2034 ADS to reflect their recently approved 2023-2024 Transmission Plan and NorthernGrid will ensure that its prior Regional Transmission Plan[4] is reflected. Through this coordination of planning data and assumptions, the Relevant Regions will strive to build a consistent platform of planning assumptions for Economic/Production Cost Model evaluations of the ITP.

Reliability/Power Flow Assessment

Since each Planning Region reflects characteristics and a planning focus that is unique, different power flow models are generally needed to appropriately reflect each region's system and key assumptions. As such, each Planning Region will develop its models and data that accurately reflect their Planning Region, but will seek to coordinate this information with the other Relevant Planning Regions subject to applicable confidentiality requirements. The identification of the starting WECC power flow cases ("seed cases" for the purpose of this evaluation plan), and significant assumptions or changes a Planning Region may make to a seed base case are examples of information that will be considered by each Planning Region and coordinated with the other Planning Regions. As such, the inclusion or removal of major regional transmission projects will be coordinated through existing data coordination processes, but the season or hour of study and particular system operating conditions may vary by Planning Region based on its individual regional planning scope and study plan.

Cost Assumptions

In order for each Relevant Planning Region to evaluate whether the project is a more efficient or cost-effective alternative within their regional planning process, it is necessary to coordinate ITP cost assumptions among the Relevant Planning Regions. For planning purposes, each Relevant Planning Region's cost share of the project will be calculated based on its share of the calculated benefits provided to the Region by the project.

After each Relevant Planning Region identifies their transmission needs and (as applicable) the benefits of the ITP, project costs for each Region to use in the determination of the more efficient or cost-effective alternatives for the region will be determined as follows:

Assumptions
Total Benefits ($) = CAISO Benefits ($) + NorthernGrid Benefits ($)
Project Cost ($) = Total capital cost of project, as agreed upon by Regions

Cost Calculations (for Planning Purposes)
CAISO Cost for Planning Purposes = [CAISO Benefits/Total Benefits] * Project Cost
NorthernGrid Cost for Planning Purposes = [NorthernGrid Benefits/Total Benefits] * Project Cost

Note that this information on cost assumptions applies to costs that will be used for planning evaluation

[4] NorthernGrid 2022-2023 Regional Transmission Plan

purposes. These costs may be different than what is assumed for any relevant cost allocation procedures.

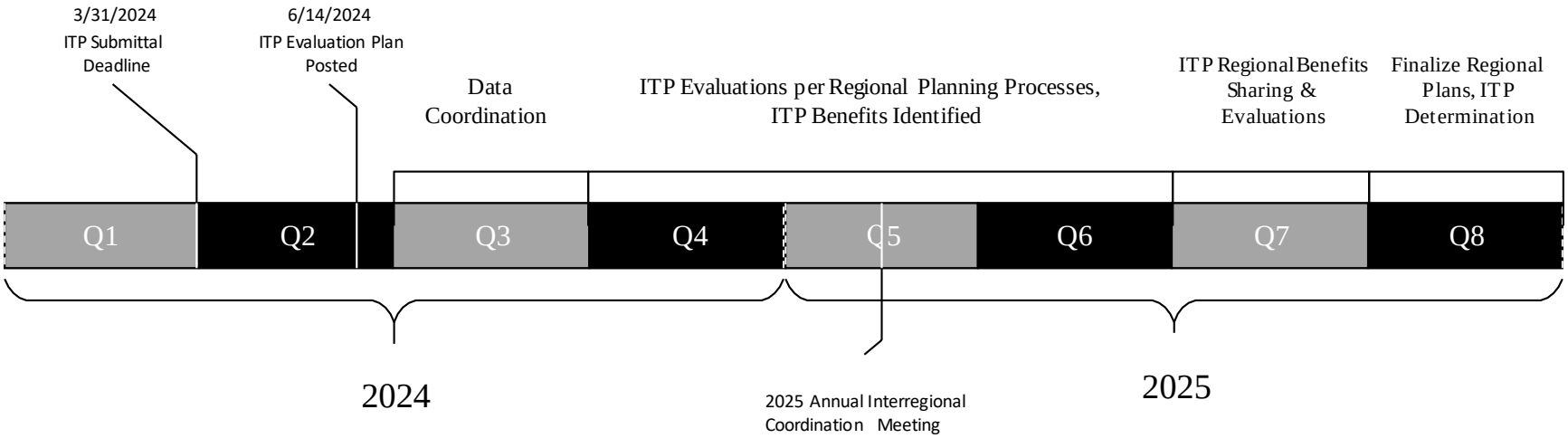
COST ALLOCATION

Interregional cost allocation may apply for the project for the 2024-2025 cycle. If only one of the two Relevant Planning Regions for the project select the project in its regional transmission plan for purposes of Interregional Cost Allocation, and the number of Relevant Planning Regions for the project is reduced to one, the project will no longer be eligible for interregional cost allocation.

SCHEDULE AND EVALUATION MILESTONES

The ITP will be evaluated in accordance with each Relevant Planning Region's regional transmission planning process during 2024 and 2025 cycle. The ITP Evaluation Timeline was created to identify and coordinate key milestones within each Relevant Planning Region's process. Note that in some instances, an individual Planning Region may achieve a milestone earlier than other Regions evaluating the ITP.

Figure 3: ITP Evaluation Timeline



Meetings among the Relevant Planning Regions will be coordinated and organized by the lead Planning Region per this schedule at key milestones such as during the initial phases of the ITP evaluations and during the sharing of ITP regional benefits.

CONTACT INFORMATION

For information regarding the ITP evaluation within each Relevant Planning Region's planning process, please contact that Planning Region directly.

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