

ITP Evaluation Process Plan

TransWest Express Transmission Project

June 14, 2020

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 Independent System Operator (California ISO), Northern Tier Transmission Group (NorthernGrid)
Relevant Planning Regions¹:	California ISO, NorthernGrid
Cost Allocation Requested From:	California ISO

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

1 ITP Summary

The TransWest Express (TWE) Transmission Project consists of three discrete interconnected transmission segments that, when considered together, will interconnect transmission infrastructure in

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.

Wyoming, Utah, and southern Nevada. TransWest has submitted each of the following TWE Project segments as separate ITP submittals:

1. TWE WY-IPP DC Project;
2. TWE IPP-Crystal 500 kV AC Project; and
3. TWE Crystal-Eldorado 500 kV AC Project.

TransWest states that each of these segments can be evaluated by the Western Planning Regions (WPRs) as both individual ITPs and as a unified ITP including either two or three of the interconnected segments. Details of the transmission segments are described as follows:

1. A 405-mile, bi-directional 3,000 MW, ± 500 kV, high voltage direct current (HVDC) transmission system with terminals in south-central Wyoming and central Utah (the WY-IPP DC Project);
2. A 278-mile 1,500 MW 500 kV alternating current (AC) transmission line with terminals in central Utah and southeastern Nevada (the IPP-Crystal 500 kV AC Project; and
3. A 50-mile, 1,680 MW 500 kV AC transmission line with terminals in southeastern Nevada and southwestern Nevada (the Crystal-Eldorado 500 kV AC Project).

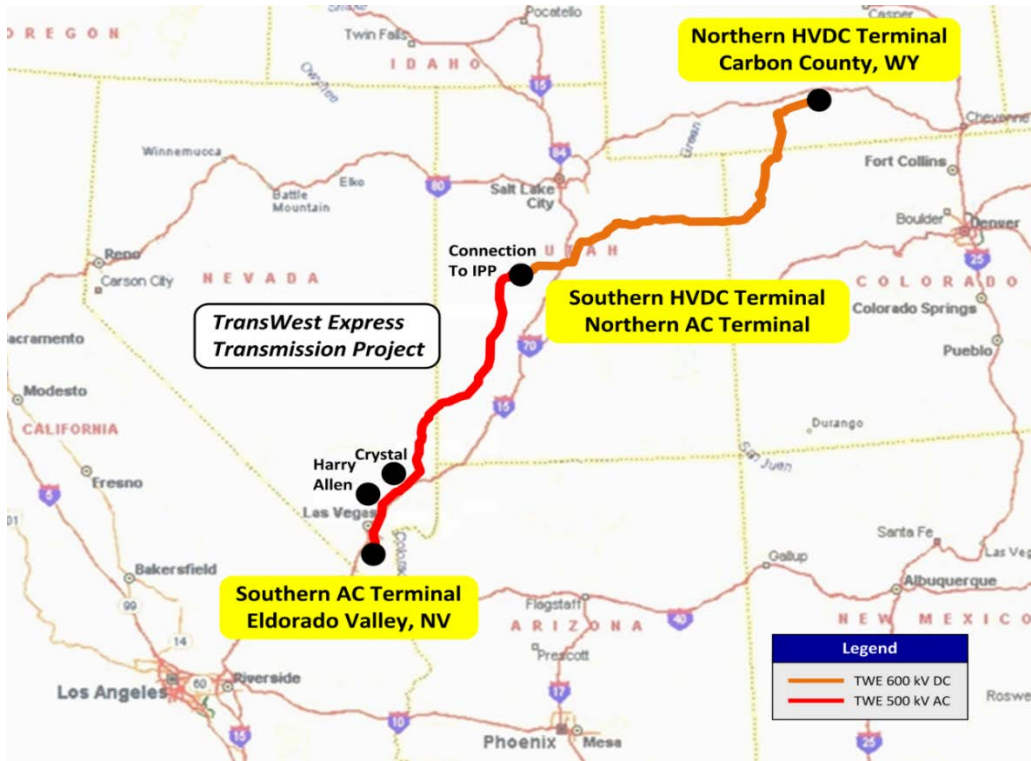
The TWE Project will interconnect with facilities owned and/or operated by some WestConnect Transmission Owners with Load Serving Obligations (TOLSOs); however, TransWest did not submit the TWE Project to WestConnect. The WestConnect Regional Planning Process considers single-TOLSO needs as local needs to be evaluated by TOLSO(s). Because the TWE Project will meet local needs and does not anticipate meeting any regional needs within WestConnect, TransWest will submit the TWE ITP Project data to individual WestConnect TOLSOs that request such data and requested that the California ISO and NorthernGrid coordinate, as necessary, directly with those TOLSOs during the 2020-2021 regional planning cycle.

The proposed route of the TWE Project is shown in Figure 1. The TWE Project route has been reviewed and approved through a series of environmental and land use reviews conducted over the past eleven years. The U.S. Department of the Interior, Bureau of Land Management (BLM) and Western Area Power Administration (WAPA) acted as joint lead agencies on the TWE Project Environmental Impact Statement (EIS), which was completed in 2015. Multiple federal, state, local, and tribal authorities participated in the development of the EIS and in finalizing the TWE Project route. BLM, WAPA, the United States Forest Service (USFS), and the U.S. Department of the Interior Bureau of Reclamation (BOR) issued records of decision finalizing and approving the route for the TWE Project on federal lands.² TransWest has been granted rights-of-way (ROWs) over all of the federal land along the route, which represents about 66% of the TWE Project route. TransWest has nearly completed the acquisition of all remaining ROWs.

2 Evaluation by Relevant Planning Regions

The California ISO has been identified as the Planning Region that will lead the coordination efforts with the other Relevant Planning Regions identified for the ITP. In this capacity, the California ISO will

Figure 1: TransWest Express Transmission Project Route



organize and facilitate interregional coordination meetings and track action items and outcomes of those meetings. For information regarding the ITP evaluation conducted within each Relevant Planning Region’s planning process, please contact that Planning Region directly.

Given that the joint evaluation of an ITP is considered to be the joint coordination of the regional planning processes that evaluate the ITP, the following describes how the ITP fits into each Relevant Planning Region’s process. This information is intended to serve only as a brief summary of each Relevant Planning Region’s process for evaluating an ITP. Please see each Planning Region’s most recent study plan and/or Business Practice Manual for more details regarding its overall regional transmission planning process.

2.1 California ISO

The project sponsor states that the TWE Project will provide needed transmission capacity between the Rocky Mountain region and the Desert Southwest and CAISO regions. This additional transmission capacity will provide load serving entities with access to high quality wind generation resources and enhanced market efficiency through broader interregional integration. Moreover, the TWE Project can contribute significantly to the Desert Southwest states meeting statutory and public policy goals to obtain a large percentage of electricity from renewable energy resources, to decrease greenhouse gas emissions, and to move to 100% carbon-free electricity.

The project states that the TWE Project is designed to interconnect with the Bulk Power System in Wyoming, Utah, and Nevada to meet the needs of CAISO, LADWP, and other utilities. The main objective

of the TWE Project is to provide additional, efficient incremental transmission capacity to meet the renewable energy and reliability needs of transmission owners in the Desert Southwest and California in a cost-effective manner. Thus, TransWest requests that the California ISO evaluate at least 1,500 MW of the TWE Project capacity as a policy-driven transmission solution with economic and reliability benefits. TransWest further requests that the California ISO evaluate the TWE Project as a potential California ISO Category 2 transmission “regional” solution as well as an interregional transmission project in the 2020-2021 Transmission Planning Process.²

The project sponsor states that the California ISO identified the need for additional transmission capacity to deliver new wind generation located in Wyoming to California in a Special Study within the 2016-2017 Transmission Planning Process (“Special Study”).³ In this Special Study, the California ISO determined that there is a “severe shortage of available contractual transmission capacity” (ATC) between the wind resources in Wyoming and California load centers” TransWest referred the California ISO to the findings regarding the “Severe Lack of ATC” as the “pre-project results” that help demonstrate how the proposed TWE Project, as an interregional transmission project, will meet a regional need more efficiently and cost effectively than the identified regional transmission solution.^{4,5}

The project sponsor states that the TWE Project will also help the California ISO meet economic and reliability needs. The TWE Project’s 500 kV AC capacity between Eldorado, Crystal, and IPP will facilitate higher levels of energy transactions within the California ISO’s Energy Imbalance Market and the planned Day-Ahead markets, as well as bilateral energy transactions between entities with diverse resource and load profiles. Adding wind generation resources to the Desert Southwest market will also assist in meeting reliability needs by adding diversity to the grid resources, which the California ISO relies on for reliable operations.

The Project sponsor indicated the ITP submission was for an ITP with cost allocation to the California ISO. The project sponsor seeks consideration of cost allocation for any portion of the TWE Project approved by the California ISO as a transmission solution. The Project sponsor stated they would provide transmission service funded through the sponsor’s customers for any portion of the TWE Project not approved by the California ISO as a transmission solution.

² TransWest is not aware of any other proposed regional solutions to meet the need for delivery of Wyoming wind generation to California in the IRP planning horizon. Therefore, there is no other regional solution to compare and eliminate or defer through selection of the TWE Project.

³ CAISO, Interregional Transmission Project (ITP) Evaluation and 50% RPS Out-of-state Portfolio Assessment (Jan. 4, 2018), available at <http://www.caiso.com/Documents/InterregionalTransmissionProjectITPEvaluationand50RPSOut-of-StatePortfolioAssessment.pdf>

⁴ See CAISO Business Practice Manual, Transmission Planning Process, at 29.

⁵ Id. at 8 (“Severe lack of ATC: ATC assessment revealed a severe shortage of available contractual transmission capacity to deliver new Wyoming and New Mexico renewables to California. TWE would provide ~1,500 MW of ATC and is the only ITP that would provide ATC from southwestern Wyoming to southern CA without having to rely on other transmission facilities not owned by the project sponsor.”)

The project sponsor states that they seek to include the TWE Project within one or more existing balancing areas to both minimize the proliferation of balancing areas in the Western Interconnect and further integrate the TWE Project within the Bulk Power System. The sponsor requested that the CAISO evaluate the TWE Project, or any portion of the Project's capacity, for inclusion within the CAISO Controlled Grid, independent of whether the project has costs allocated to the CAISO or not.

The California ISO has considered the TWE Project in the forms it was submitted during the 2016-2017 and 2018-2019 interregional transmission coordination cycles. As stated earlier, for the 2020-2021 interregional coordination cycle TransWest has proposed their project as individual segments which can be considered singularly or as a single overall project. TransWest has requested that the California ISO coordinate directly with specific WestConnect entities as the TWE Project is considered in the California ISO's 2020-2021 planning process.

The California ISO acknowledges these requests and will consider them in its consideration of the TWE Project in its 2020-2021 planning cycle. Further, the California ISO notes that as in past interregional coordination cycles, California renewable procurement portfolios provided by the California Public Utilities Commission for reliability and "informational" policy analysis for the 2020-2021 transmission planning cycle will be followed⁶.

At this point in time the California ISO has not fully considered how it may study the TWE project in the 2020-2021 planning cycle. However, it is expected that the 2020-2021 planning process will likely consider all three segments of the TWE Project as a single 1500 MW project in the context of an "informational" policy analysis. The 2020-2021 planning process will focus on a reliability assessment and production cost simulations.

The production cost simulation analysis will examine the benefits from importing and exporting surplus resources between California and the Wyoming area using the TWE Project capacity.

The California ISO will develop the detailed modeling information for the GridView and GE PSLF computer programs and exchange that information with WestConnect commensurate with existing data confidentiality requirements.

2.2 NorthernGrid

The NorthernGrid Regional Transmission Plan evaluates whether transmission needs within the NorthernGrid may be satisfied by regional and/or interregional transmission projects. The NorthernGrid Regional Transmission Plan 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 2020-21 Regional Transmission Plan is to identify the Baseline Projects of Enrolled Parties. Baseline Projects are the transmission projects included in the Enrolled Parties' Local Transmission Plans plus those projects included in the prior Regional Transmission

⁶ <https://www.cpuc.ca.gov/General.aspx?id=6442464144>

Plan that will be reevaluated (there will be no reevaluation for this first Regional Transmission Plan).. NorthernGrid then evaluates combinations of the Enrolled Parties Baseline Projects and Alternative Projects to identify whether there may be a combination that effectively satisfies all Enrolled Party Needs (“Regional Combination”). Power flow and dynamic analysis techniques are used to determine if the modeled transmission system topology meets the system reliability performance requirements and transmission needs. The Regional Combination that effectively satisfies all Enrolled Party Needs will be selected into NorthernGrid’s Regional Transmission Plan. A more detailed discussion of NorthernGrid’s study process can be found in NorthernGrid’s Study Scope posted on NorthernGrid’s [website](#).

3 Data and Study Methodologies

The coordinated ITP evaluation process strives for consistent planning assumptions and technical data among the Planning Regions evaluating the ITP. The Relevant Planning Regions have summarized, in Table 1, the types of studies that will be conducted that are relevant to the TWE Project evaluation in each Planning Region. Methodologies for coordinating planning assumptions across the Relevant Planning Region processes are also described.

Table 1: Relevant Planning Region Study Summary Matrix

Planning Study	California ISO	NTTG
Economic/Production Cost Model	Using the California ISO PCM Base Case, based on the WECC 2030 Anchor Data Set (ADS), GridView will be used to perform production cost simulation. All model information will be shared with NorthernGrid and WestConnect.	Regional Economic Assessment will be performed with the WECC 2030 Anchor Data Set (ADS)
Reliability/Power Flow Assessment	Depending on the results of the production cost modeling, the GE PSLF may be used to perform steady state and as needed, transient analysis. The WECC 2030 ADS and	The Regional Transmission Plan Study Scope is in development with an expected approval date of mid-July – the following WECC power flow base cases are under consideration: 2029-30 Heavy Winter 1 2030 Light Spring 1

	<p>2030 LSP1 will be modified as needed to accurately model the California network and resources that reflects the ISO's finalized 2019-2020 transmission plan. The TWE Project will be added to that model. All model information will be shared with NorthernGrid and WestConnect.</p>	<p>2030 Heavy Summer 1 2030 Heavy Spring WECC ADS PCM export 2030 Heavy Fall WECC ADS PCM export</p>
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Note that the TWE Project evaluation will be conducted by each Relevant Planning Region in accordance with its approved Order 1000 Regional Planning Process. This includes study methodologies and benefits identified in planning studies.

4 Data Coordination

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

4.1 Economic/Production Cost Model

The Relevant Planning Regions intend to use the WECC 2030 Anchor Data Set (ADS) as an input into their regional economic planning studies conducted in 2019 and 2020 (as applicable). Each Planning Region intends to update the 2030 ADS with their most recent and relevant regional planning assumptions to reflect its starting point transmission topology and generation data.⁷ The Planning Regions will strive to coordinate major updates made to the 2030 ADS as part of their regional model development efforts in late Q3, 2020.⁸

⁷ For WestConnect, this update occurs when the WestConnect member Transmission Owners provide their local transmission plans for 2030 to WECC for inclusion in the WECC 2030 Heavy Summer power flow base case, which is used as a starting point for the WECC 2030 ADS.

⁸ This schedule is dependent on the 2030 Anchor Data Set being provided by WECC no later than the end of Q2, 2020, and the sharing of planning data or assumptions will be subject to applicable confidentiality requirements in each Planning Region.

As an example, the California ISO will update the 2030 ADS to reflect their recently completed 2019-2020 Transmission Plan⁹. NorthernGrid members are working on the 2030 ADS model with WECC staff to incorporate the 2028 ADS topology and 2020 L&R submittals in the 2030 power flow case. WestConnect members will represent their local transmission plans for 2030.¹⁰

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.

4.2 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. Project sponsor WECC Path Rating studies may be accessed from the WECC website and used to augment the assessment¹¹.

4.3 Cost Assumptions

In order for each Relevant Planning Region to evaluate whether the TWE 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 Region's cost share of the TWE Project will be calculated based on its share of the calculated benefits provided to the Region by the TWE Project (as quantified per that Region's planning process). The project cost of the TWE Project, as provided in their ITP Submittal form, is provided in Table 2.

⁹ <http://www.caiso.com/Documents/ISOBoardApproved-2019-2020TransmissionPlan.pdf>

¹⁰ WestConnect 2020-2021 Base Transmission Plan

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https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Reliability/Path%20Rating%20Process%20Logbook.docx&action=default&DefaultItemOpen=1

Table 2: Project Sponsor Cost Information¹²

Project Configuration	Cost (\$) (2020\$)
TWE WY-IPP DC	\$2,100 million
TWE Crystal-Eldorado 500kV AC Project	\$180 million
TWE IPP-Crystal 500kV AC Project	\$660 million

4.4 Cost Allocation

Interregional cost allocation may apply for the TWE Project for the 2020-2021 cycle.

TransWest Express LLC requested cost allocation from California ISO and met the necessary requirements within the California ISO’s regional process to be considered eligible to request cost allocation. Cost allocation was requested from the California ISO. Cost allocation was not requested from either Northern Grid or WestConnect. The project sponsor is in discussion with several WestConnect members with respect to their local planning processes to consider potential funding (cost allocation) of applicable TWE Project Capacity. In addition to these potential funding sources, the Project sponsor stated they would also like to be considered by the California ISO as an ITP without cost allocation where a “merchant” (or participant-funded) transmission model would be employed.

If all costs for any TWE Project segments are fully allocated to the California ISO, the California ISO would consider the applicable TWE Project segment as a regional project and it would be considered in the competitive solicitation process as described in Phase 3 of the California ISO’s transmission planning process¹³.

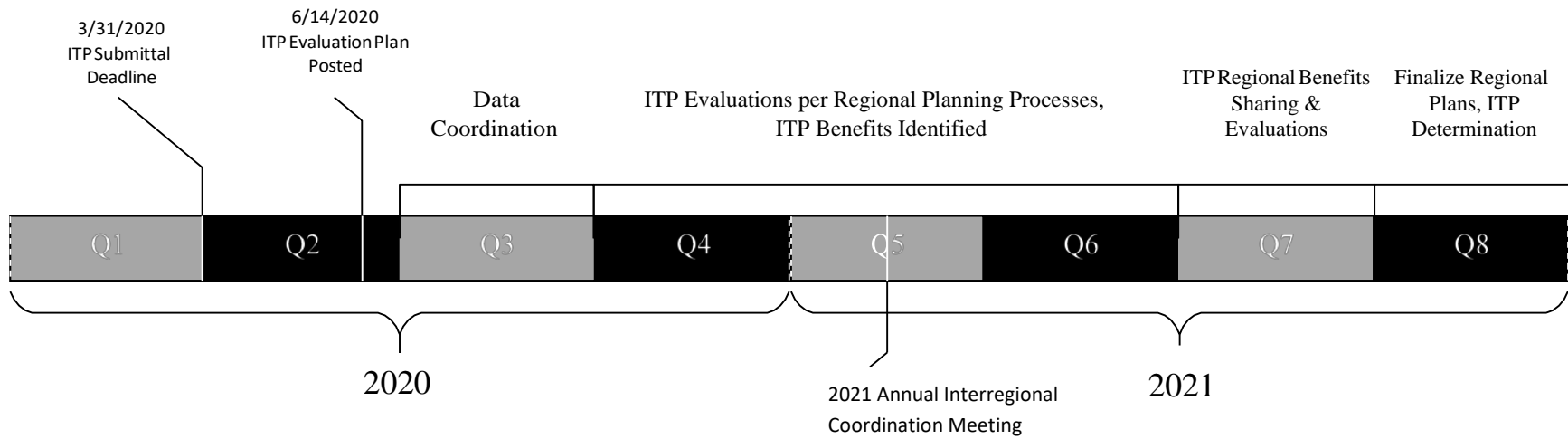
¹² This information is contingent upon verification by the Planning Regions and may be subject to change during the ITP evaluation process

¹³ Section 24.5; [California ISO Conformed Tariff](#)

5 Schedule and Evaluation Milestones

The ITP will be evaluated in accordance with each Relevant Planning Region’s regional transmission planning process during 2020 and (as applicable) 2021. The ITP Evaluation Timeline, shown in Figure 2, 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 2: 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.

6 Contact Information

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

Planning Region: California ISO
Name: Gary DeShazo
Telephone: 916-608-5880
Email: gdeshazo@caiso.com

Planning Region: NorthernGrid
Name: Dave Angell
Telephone: (503) 445-1088
Email: dave.angell@nwpp.org