



California ISO



ITP Evaluation Process Plan

North Gila-Imperial Valley #2 Transmission Project

June 14, 2018

The goal of the coordinated Interregional Transmission Project (ITP) evaluation process is to achieve consistent planning assumptions and technical data of an ITP to be used in the individual regional evaluations of an ITP. The joint evaluation of an ITP is considered to be the joint coordination of the regional planning processes that evaluate the ITP. The purpose of this document is to provide a common framework, coordinated by the Western Planning Regions, to provide basic descriptions, major assumptions, milestones, and key participants in the ITP evaluation process.

The information that follows is specific to the ITP listed in the ITP Submittal Summary below. An ITP Evaluation Process Plan will be developed for each ITP that has been properly submitted and accepted into the regional process of the Planning Region to which it was submitted.

ITP SUBMITTAL SUMMARY

Project Submitted To:	California Independent System Operator (California ISO), and WestConnect
Relevant Planning Regions ¹ :	California ISO, and WestConnect
Cost Allocation Requested From:	California ISO, and WestConnect

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

ITP SUMMARY

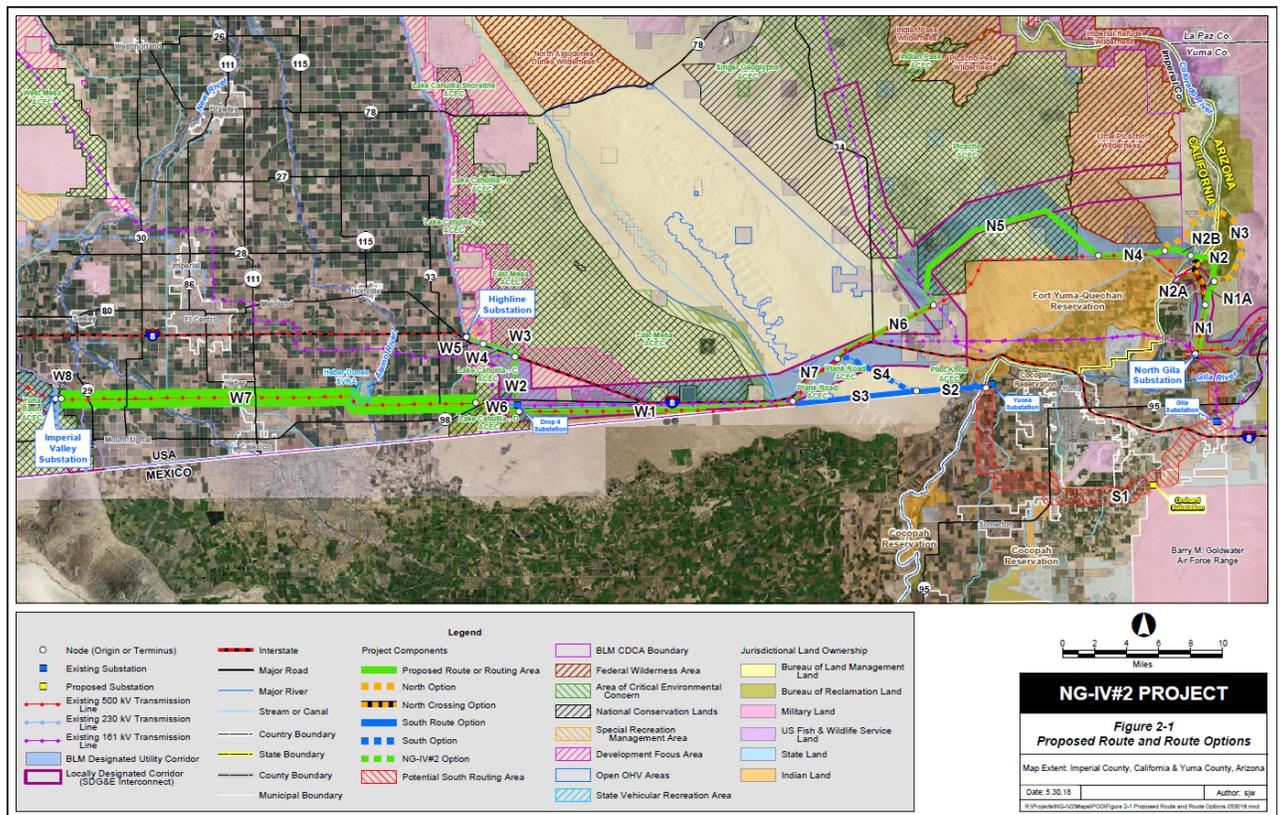
Southwest Transmission Partners, LLC (Southwest Transmission Partners) and ITC Grid Development, LLC (ITC Grid Development) submitted the 97-mile North Gila-Imperial Valley #2 (NG-IV#2) Transmission Project for consideration as an Interregional Transmission Project. NG-IV#2 is a proposed 500 kV HVAC transmission project that will be constructed between southwest Arizona and southern California (see

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.

Figure 1). The line will parallel the existing North Gila-Imperial Valley line, also known as the Southwest Power Link (SWPL), and will connect the existing 500 kV North Gila substation (in the WestConnect planning region) with the existing 500 kV Imperial Valley substation (in the California ISO planning region) through an interconnection with a new 500/230 kV Highline substation (in the WestConnect planning region), interconnecting to the existing IID Highline 230 kV substation. This project will become an additional component of the West of Colorado River path (Western Electricity Coordination Council (WECC) path 46) and is expected to increase the East of Colorado River path (WECC path 49) transfer capability. Series compensation may be added to the project to balance flows on this new circuit and the existing SWPL line.

The project submitters have initiated the National Environmental Policy Act (NEPA) process with several proposed alternative proposed routes and have a National Program team from BLM assigned and engaged to lead the NEPA process. According to Southwest Transmission Partners and ITC Grid Development, the project is expected to be in-service by December 2022.

Figure 1: North Gila-Imperial Valley #2 Project Overview
(Source: NGIV2 Plan of Development June 2018 Draft)



ITP EVALUATION BY RELEVANT PLANNING REGIONS

WestConnect 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, WestConnect will 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.

California Independent System Operator

This will be the first time that the California ISO will consider the NG-IV#2 project as an ITP in its planning cycle. In the 2016-2017 interregional coordination cycle the California ISO considered several proposed projects in the context of California's 50% RPS goal where accessing out-of-state renewable resources for California was considered in the proposed project's assessment at a "high" or " cursory" level. The effort to perform an "informational" assessment of California procurement of out-of-state resources was concluded and documented in the 2017-2018 Transmission Plan².

California renewable procurement portfolios for the 2018-2019 transmission planning cycle were provided to the California ISO in early 2018 and provide direction that all renewable procurement to achieve the 50% RPS goal to be considered by the California ISO's planning process be obtained from within California. As such, the 2018-2019 planning process will consider the NG-IV#2 Project in the context of increasing San Diego import capability, reducing the San Diego and Greater IV/San Diego local LCR for contingencies studied to establish LCR requirements in the area, integrating with newly installed synchronous condenser installations to improve system voltage profiles within the California ISO region, and to consider the need for a continued reliance on the "Safety Net" load-shedding scheme. The California ISO will coordinate its studies with WestConnect and as appropriate, will jointly consider analysis results and develop recommendations and input refinements should further analysis be conducted in future study cycles.

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.

WestConnect

WestConnect's 2018-19 Regional Study Plan was approved by its Planning Management Committee (PMC) in March of 2018.³ The study plan describes the system assessments WestConnect will use to determine if there are any regional reliability, economic, or public policy-driven transmission needs. The models for these assessments are built and vetted during Q2 and Q3 of 2018. If regional needs are identified during Q4 of 2018, WestConnect will solicit alternatives (transmission or non-transmission alternatives (NTAs)) from WestConnect members and stakeholders to determine if they have the potential to meet the identified regional needs. If an ITP proponent desires to have their project evaluated as a solution to any identified regional need, they must re-submit their project during this solicitation period (Q5) and complete any outstanding submittal requirements. In late-Q5 and Q6 of the 2018-19 planning cycle, WestConnect will evaluate all properly submitted alternatives to determine whether any meet the identified regional needs, and will determine which alternative(s) provide the more efficient or

² http://www.caiso.com/Documents/BoardApproved-2017-2018_Transmission_Plan.pdf

³ <https://doc.westconnect.com/Documents.aspx?NID=18068&dl=1>

cost-effective solution. The more efficient or cost-effective regional projects will be selected and identified in the WestConnect Regional Transmission Plan. Any regional or interregional alternatives that were submitted for the purposes of cost allocation and selected into the Regional Transmission Plan as the more efficient or cost-effective alternative to an identified regional need will then be evaluated for eligibility for regional cost allocation, and subsequently, for interregional cost allocation.⁴

WestConnect regional needs assessments are performed using Base Cases as identified in the regional study plan. Base Cases are intended to represent “business as usual,” “current trends,” or the “expected future”. WestConnect may also conduct information-only scenario studies that look at alternate but plausible futures. In the event regional transmission issues are observed in the assessments of the scenario studies, these issues do not constitute a “regional need”, will not result in changes to the WestConnect Regional Transmission Plan, and will not result in Order 1000 regional cost allocation. The WestConnect PMC has ultimate authority to determine how to treat regional transmission issues that are identified in the information-only scenario studies. They will determine whether an issue identified in a scenario —whether it be reliability, economic, or public-policy based—constitutes additional investigation by the Planning Subcommittee.

NG-IV#2 Project representatives and other stakeholders are encouraged to participate in the development of the Base Cases to be studied in WestConnect’s 2018-19 Planning Cycle. These studies, as outlined in Figure 2, will form the basis for any regional needs that ultimately may lead to ITP project evaluations in 2019. Stakeholders are also encouraged to participate in the development of the scenarios identified in WestConnect’s 2018-19 Study Plan. These studies are also outlined in Figure 2.

Figure 2: WestConnect 2018-19Transmission Assessment Summary

10-Year Base Cases (2028)	10-Year Scenarios (2028)
Heavy Summer (reliability) Light Spring (reliability) Base Case (economic)	Load Stress Study (reliability) CAISO Export Stress Study (reliability)
May result in the identification of regional needs, requires solicitation for alternatives to satisfy needs	Informational studies that will not result in the identification of regional needs. Alternative collection and evaluation is optional and is not subject to regional cost allocation

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 NG-IV#2 Project evaluation in each Planning Region. Methodologies for coordinating planning assumptions across the Relevant Planning Region processes are also described.

⁴ Please see the [WestConnect Business Practice Manual](#) for more information on cost allocation eligibility.
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Figure 3: Relevant Planning Region Study Summary Matrix

Planning Study	California ISO	WestConnect
Economic/Production Cost Model	Using the California ISO PCM Base Case, based on the WECC 2028 Anchor Data Set (ADS), GridView will be used to perform production cost simulation. All model information will be shared with WestConnect.	Regional Economic Assessment will be performed on WestConnect 2028 Base Case PCM (based on WECC 2028 Anchor Data Set) ⁵
Reliability/Power Flow Assessment	The GE PSLF will be used to perform steady state and as needed, transient analysis. The WECC 2028 ADS and 2028 LSP1 will be modified as needed to accurately model the California network and resources that reflects the ISO's finalized 2017-2018 transmission plan. The HVDC Conversion Project will be added to that model. All model information will be shared with WestConnect.	Regional Reliability Assessment will be performed on WestConnect 2028 Heavy Summer and Light Spring cases ⁶

Note that the NG-IV#2 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.

Data Coordination

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

Economic/Production Cost Model

The Relevant Planning Regions intend to use the WECC 2028 Anchor Data Set (ADS) as the starting point data set for regional economic planning studies conducted in 2018 and 2019 (as applicable). Each Planning Region intends to update the 2028 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 2028 ADS as part of their regional model development efforts in late Q3, 2018⁷.

⁵ WestConnect TP Project evaluation is subject to a number of factors, the first and most critical being the identification of regional needs as a part of the 2018-19 Base Case transmission needs assessments.

⁶ Id

⁷ This schedule is dependent on the 2028 Anchor Data Set being provided by WECC no later than the end of Q2, 2018, and the sharing of planning data or assumptions will be subject to applicable confidentiality requirements in North Gila-Imperial Valley #2 Transmission Project ITP Evaluation Process Plan
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As an example, the California ISO will update the 2028 ADS to reflect their most recent Transmission Plan⁸. NTTG will ensure that its prior Regional Transmission Plan⁹ is reflected. WestConnect will represent their current Base Transmission Plan¹⁰, and ColumbiaGrid will provide major updates to the 2028 ADS based on the information from the latest Biennial Plan¹¹ to other Planning Regions subject to each region's applicable confidentiality requirements.

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.

each Planning Region.

⁸ California ISO 2017-2018 Transmission Plan

⁹ NTTG 2016-2017 Regional Transmission Plan

¹⁰ WestConnect 2018-2019 Base Transmission Plan

¹¹ ColumbiaGrid Update to the 2017 Biennial Transmission Plan

Cost Assumptions

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

Figure 4: North Gila-Imperial Valley #2 Project Sponsor Cost Information¹²

Project Configuration	Cost (\$)
Single circuit project cost estimate	\$291.0 million (2018 \$\$)

The following Table 5 provides a detailed breakdown of the total project cost submitted by Southwest Transmission Partners and ITC Grid Development for use by Planning Regions for their analysis and cost allocation.

Figure 5: North Gila-Imperial Valley #2 Project Sponsor Cost Breakdown

Planning Level Cost Estimate	Total
Procurement and Construction	\$ 225 M
Rights of Way	\$ 12 M
Engineering	\$ 4 M
Development Costs	\$ 12 M
Contingency	\$ 38 M
Total	\$ 291 M
Total Circuit Miles	97 miles
Total Cost per mile (\$M/circuit miles)	3.0

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

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 (\$) = California ISO Benefits (\$) + WestConnect Benefits (\$)
Project Cost (\$) = Total capital cost of project, as agreed upon by Regions

Cost Calculations (for Planning Purposes)
California ISO Cost for Planning Purposes = [California ISO Benefits/Total Benefits] * Project Cost
WestConnect Cost for Planning Purposes = [WestConnect Benefits/Total Benefits] * Project Cost

Note that this information on cost assumptions applies to costs that will be used for planning evaluation purposes. These costs may be different than what is assumed for any relevant cost allocation procedures.

COST ALLOCATION

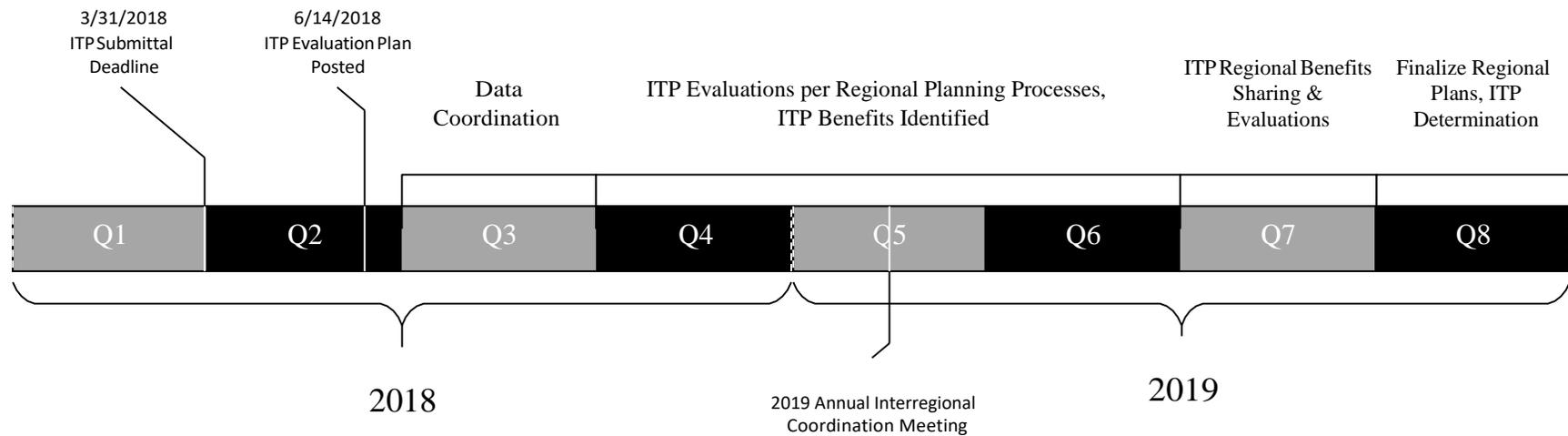
Interregional cost allocation may apply for the NG-IV#2 Project for the 2018-2019 cycle.

Southwest Transmission Partners and ITC Grid Development requested cost allocation from California ISO and from WestConnect, and met the necessary requirements within each respective Planning Region’s regional process to be considered eligible to request cost allocation. If both California ISO and WestConnect subsequently select the NG-IV#2 Project in their respective regional transmission plans for purposes of Interregional Cost Allocation, California ISO and WestConnect will individually apply their regional cost allocation methodology to the projected costs of the NG-IV#2 Project assigned to each region as described in the previous section and in accordance with each region’s regional cost allocation methodology. If only one of the two Relevant Planning Regions for the NG-IV#2 Project select the project in its regional transmission plan for purposes of Interregional Cost Allocation, and the number of Relevant Planning Regions for the NG-IV#2 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 2018 and (as applicable) 2019. 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 6: 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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