Comments of North Gila Imperial Valley #2, LLC on
CAISO Draft 2018-19 Transmission Plan
February 28, 2019

ITC Grid Development, LLC, and Southwest Transmission Partners, LLC have entered into a joint venture, North Gila Imperial Valley #2 (NGIV2), LLC, to develop the North Gila Imperial Valley #2 (NGIV2) transmission line project. NGIV2, LLC appreciates the opportunity to provide comments to the CAISO on the draft 2018-2019 Transmission Plan and its analysis of the NGIV2 project.

We are encouraged that the CAISO is analyzing Local Capacity Requirement (LCR) reductions in evaluating the economic benefits of proposed projects, and that the LCR analysis demonstrates the potential for the NGIV2 project to reduce LCR for the greater San Diego/Imperial Valley area by 865 MW. However, below we provide comments on the CAISO's reliability and economic analysis, as well as the determination of the 865 MW LCR reduction. We also reiterate details that demonstrate project benefits beyond those noted in the CAISO's current draft Transmission Plan, and request that the CAISO consider in its analysis the full range of benefits – reliability, economic and public policy – provided by the NGIV2 project.

Adjustments Are Needed to the Reliability and Economic Analysis for NGIV2

The proposed NGIV2 Project would become an additional component of the Western Electricity Coordinating Council's (WECC) West of Colorado River Transmission Path (WOR or Path 46), and it is expected to raise the Path 46 non-simultaneous "Accepted Rating" from 11,200 MW to 12,450 MW (an increase of 1,250 MW), while satisfying NERC Reliability Standard and WECC System Performance Criteria. We understand that the analysis performed by the CAISO for the draft Transmission Plan did not include this incremental limit capacity addition on Path 46 and its additional benefits for relieving constraints. Therefore, we request that the CAISO modify the binding constraint for Path 46 and set it to 12,450MW for the post-NGIV2 project economic case.

We also request that the CAISO run a sensitivity to eliminate the 2000 MW net export limit from California, and re-evaluate the NGIV2 project's impact on net load payments and renewable curtailments. We believe that the net export limit in the production cost models artificially reduces the benefits of the NGIV2 project, and that the project can only be appropriately considered with the net export limit lifted. The CAISO's own analysis shows that eliminating the net export limit reduces renewable curtailment across the CAISO footprint, and may also reduce congestion, revealing NGIV2 project benefits that the CAISO's economic analysis is not otherwise measuring. Furthermore, since no net export limit is applied in market operations, its

application in the economic studies creates unrealistic dispatch scenarios in the production cost models, which calls the validity of such modeling assumptions into question.

Our review of the economic analysis in the draft Transmission Plan indicates that the production cost models may not be dispatching existing and proposed HVDC lines economically. Coupled with the net export limit, we suggest that uneconomic dispatch of the Pacific DC Intertie and Inter-mountain HVDC lines is creating some of the regional congestion and LCR increases identified in the pre- and post-project study results for the NGIV2 project. The separate analysis of SDG&E's proposed HVDC conversion of the existing North Gila – Imperial Valley 500 kV line, shows similar impacts on congestion and LCR, despite proposing to convert the existing ties into Miguel and Suncrest into completely controllable bi-directional DC interfaces. Intuitively, the post-SDG&E project production cost models should hold hourly flows on these lines to the same amount as pre-project flows to avoid creating more costly congestion – and the SDG&E project should, at worst, show zero congestion relief benefits. The increases in congestion and LCR resulting from the SDG&E project, which are similar to those shown by the CAISO for the NGIV2 project, are further evidence of anomalies in the production cost model dispatch. We respectfully request that the CAISO restudy the NGIV2 project operating the HVDC lines economically, rather than assuming that controllable elements will be operated uneconomically.

Local Capacity Requirement (LCR) Reductions for NGIV2 Are Understated

The CAISO has indicated (in response to a question at the 2/14/19 stakeholder meeting) that its determination that the NGIV2 project has the potential to reduce LCR for the San Diego/Imperial Valley area by 865 MW was based on an N-1-1 analysis of the existing North Gila – Imperial Valley line and one of the segments of the NGIV2 project; specifically, the Highline to Imperial Valley segment. The permitting of the NGIV2 project will include a separation from the existing North Gila – Imperial Valley line of a minimum 250 feet, and we expect that the modeled outage would be considered an Extreme Event, rather than a P6. We request that the CAISO clarify whether this provides flexibility for further actions and reductions of the LCR. In addition, we request that the CAISO provide the value of LCR reduction associated with the relief of the El Centro 230/92kV transformer limitation (the next binding constraint).

The determination of the 100MW incremental impact on the LA Basin LCR, and subsequent impact on the overall net benefits of the NGIV2 project, is limited by a 1% overload on the Mesa – Laguna Bell 230kV line under the N-1-1 of Mesa-Redondo and Mesa-Lighthipe 230kV circuits. We propose making other system adjustments, including potential operational solutions referenced in the draft Transmission Plan that "are often selected in lieu of transmission upgrades," following the N-1 to reduce the 1% overload following the subsequent N-1. By doing so, the economic and LCR reduction benefits of the NGIV2 project further increase by

11%. This increase, coupled with the economic benefits provided by enabling the delivery of additional renewable resource output from the Imperial Valley, would push the Benefit/Cost ratio for the NGIV2 project above 1.0.

The CAISO draft Transmission Plan notes the benefit cost ratio of NGIV2 would go down if "potential negative impacts" were included in the calculation. We respectfully note that the "potential negative impacts" criterion/phrase does not appear anywhere else in the draft Transmission Plan, and further, that other projects would likely also see a reduction of Benefit Cost ratios if "potential negative impacts" were evaluated as CAISO appears to do only with NGIV2. Thus, one wonders whether the NGIV2 project is being held to a standard not imposed on other projects. Moreover, the statements about the "potential negative impacts" are based on exceeding criteria that are assumed elsewhere in the document that study the San Diego Import as operating between 2400 and 3500 MW. Our analysis shows that with adherence to the 3,500 MW San Diego Import Limit, there are no negative reliability impacts due to the NGIV2 project. We request the CAISO to limit its evaluation to the criteria for study as stated in Section 2.3, reiterated in Section 2.9.2. We note that NGIV2 would help provide flexibility and strengthened connection to the San Diego area that could potentially help avoid operational issues such as those experienced in 2011.

CAISO's own analysis demonstrates that NGIV2's economic and LCR reduction benefits are over $20M per year, that the project enables additional renewable resources to be delivered to regional load, including resources directly connected to the Imperial Irrigation District (IID), and that it adds capacity and reliability for Path 42 and the CAISO system in the form of improved ties between California and neighboring states. By enabling more renewable generation to be delivered from the Imperial Valley, the NGIV2 project also has the potential to spark new development in that area, creating economic growth and jobs for a disadvantaged community.

NGIV2 Compliments and Expands Benefits Provided By the S-Line Upgrade

We would also like to take this opportunity to comment on the S-Line Upgrade Project approved in the 2017-2018 Transmission Plan. We support the continued need for this upgrade for reliability reasons, and for delivery of energy from renewable resources from the IID system. However, as the CAISO has noted, the need to mitigate for the loss of the existing North Gila – Imperial Valley line is still warranted following completion of the S-Line upgrade. We maintain that the NGIV2 project compliments and rounds out the benefits provided by the S-Line Upgrade.

The combination of the S-Line Upgrade and NGIV2 projects would provide long-term reliability improvement, further increase the LCR reduction benefits, and offer more complete congestion

relief for the southern region. Additionally, this combination offers a least-regrets solution that provides bi-directional outlet from the Palo Verde hub, which will be critical as the Energy Imbalance Market continues its expansion eastward from California.

In summary, we respectfully request that the CAISO make the following adjustments to the analysis informing its draft recommendations and the calculation of the Benefit/Cost ratio for the NGIV2 project:

- Set the binding constraint for WECC Path 46 to 12,450MW for the post-NGIV2 project economic case;
- Re-evaluate the NGIV2 project's impact on net load payments and renewable curtailments in a sensitivity case eliminating the 2000 MW net export limit;
- Restudy the controllable HVDC lines in the production cost model dispatch operating them economically;
- Address the potential for further LCR reduction benefits to be attributed to the NGIV2 project with the clarifications and adjustments discussed above; and
- Clarify or remove statements attributing potential negative impacts arising from the project that are based on criteria that go beyond the assumptions used elsewhere in the document.

NGIV2, LLC thanks the CAISO for the opportunity to submit these comments. We look forward to continuing discussions and to further work with CAISO staff on analysis and benefits of the NGIV2 project.