



Via email

To: U.S. Department of Energy
From: San Diego Gas & Electric Company
Date: October 17, 2014

Comments of San Diego Gas & Electric Company on the Department of Energy's National Electric Transmission Congestion Study – Draft for Public Comment

I. Introduction

On August 19, 2014, the Department of Energy (“Department”) issued a Notice¹ inviting public comment on the draft National Electric Transmission Congestion Study.² The Draft Study is the third congestion study since the enactment of the Energy Policy Act of 2005, which amended the Federal Power Act to require the Department to study electric transmission constraints and congestion within the Eastern and Western Interconnection. Based on publicly available information, the congestion study and comments on the congestion study from states and other stakeholders, a geographic area may be designated a National Interest Electric Transmission Corridor (National Corridor). The Department has invited public comments on all aspects of the Draft Study, but noted that comments will be particularly useful to the extent they address definitions, approaches and data relied upon by the Department in preparing the Draft Study, as well as the Draft Study’s findings.

San Diego Gas & Electric (“SDG&E”) appreciates the opportunity to provide its views on the issues raised by the Department in the Draft Study. SDG&E is an electric utility with both business and residential customers. SDG&E constructs, owns and maintains transmission facilities, and as such has a substantial interest in all aspects of the study. SDG&E is located in Southern California, an area that has historically been challenged by transmission constraints and congestion.

In addition to addressing the questions highlighted by the Department in the Draft Study, SDG&E’s comments will also focus on the economic impact of congestion in Southern California.

¹ 79 Fed. Reg. 49076 (August 19, 2014).

² U.S. Department of Energy, *Draft for Public Comment, National Electric Transmission Congestion Study*, August 2014. (“Draft Study”).

SDG&E generally agrees with the Draft Study's conclusion that the western transmission infrastructure has changed in the past several years. The Department is correct in its finding that since the initial National Electric Transmission Congestion Study was issued in 2006, many lines, substations and groups of equipment have been upgraded, capacitors installed and other improvements made to increase capacity of certain interfaces without building new lines. As well, some new lines have been built, are in construction or are in the final stages of permitting. SDG&E commends the Department for recognizing that despite the progress that has been made to relieve the transmission constraints and congestion in the Southern California region, important challenges still remain.³

In the comments offered below, SDG&E provides more context on the impact that the closure of the San Onofre Nuclear Generating has had on the region and suggests that use of more comprehensive data sources would indicate higher Southern California congestion-related costs than those indicated in the study. In addition, SDG&E's comments offer several recommendations which, if adopted by the Department, would provide additional insight and documented evidence to assist the Secretary of Energy in deciding whether to designate a National Corridor.

II. The Draft Study Understates the Economic Impacts of Congestion in Southern California

The Draft Study notes that the "permanent closure of the San Onofre Nuclear Generating Station ("SONGS") in June 2013 has created some local reliability challenges for Southern California." The Draft Study discusses plans that have been developed to address the reliability impacts created by the closure of the plant, as well as by the planned retirement of coastal gas-fired generation using ocean water for cooling – Once Through Cooling ("OTC") plants.⁴ These plans were developed for the years 2018 and 2022.

However, the Draft Study does not explain that the shut-down of this generating capacity actually exacerbates "congestion" into the San Diego and Los Angeles basin Local Capacity Requirement ("LCR") areas, and that even with the approved transmission upgrades mentioned in the report, there will be congestion during extreme weather conditions in the event of critical transmission contingencies. During these conditions, transmission import capability into the LCR areas will be less than the load within the area. To make up the difference, the California Public Utilities Commission ("CPUC") requires load serving entities within the LCR areas to contract with generators within the LCR areas; the contracts require the generators to be available in the event the subject congestion occurs.⁵ Since there are a limited number of

³ Draft Study at 40.

⁴ Draft Study at 41.

⁵ See, <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M097/K619/97619935.PDF>

generators within the LCR areas, there is reduced competition among the generators and contract capacity prices are much higher than capacity prices from generators outside the LCR areas.⁶

Accordingly, while this congestion would not be “frequent” -- since it would only occur during atypical conditions -- it is nevertheless severe because considerable costs⁷ must be incurred on behalf of consumers to ensure that adequate amounts of dependable capacity would be available to serve loads.

Further, CAISO’s July 2, 2014 draft discussion paper for the “*Imperial County Transmission Consultation*” indicates that the retirement of the SONGS has significantly reduced the ability to count the output of renewable generators in the Imperial Valley towards California Independent System Operator (“CAISO”) load serving entities’ system Resource Adequacy (“RA”) requirements: “...the deliverability of future renewable generation from the Imperial Valley area may be significantly reduced from previous estimates primarily due to changes in flow patterns resulting from the retirement of the San Onofre Nuclear Generating Station.”⁸ Deliverability analysis performed by the CAISO for the year 2024 tested the capability of the transmission system to deliver the output of specific generators to loads under stressed system conditions. Where this analysis encountered transmission constraints, the ability to count the output of the tested generators towards system RA requirements is reduced.

Specifically, the CAISO has found that “despite the impacts being heavily offset by other reinforcements proposed in the transmission plan, only 1000 MW of the 1715 MW of the Imperial County renewable generation portfolio amounts developed for the 2013-2014 transmission planning process can be made deliverable without additional actions.”⁹ The inability to count the output of renewable generators towards system RA requirements means that the economic viability of those generators is jeopardized. In turn, the ability to meet California’s Renewable Portfolio Requirements (“RPS”) and the state’s Greenhouse Gas reduction targets could be threatened.¹⁰

⁶ <http://www.cpuc.ca.gov/NR/rdonlyres/94E0D083-C122-4C43-A2D2-B122D7D48DDD/0/2012RAReportFinal.pdf> at 27, Table 12 illustrates the weighted average price for the San Diego-Greater Imperial Valley local area is \$4.39/kW-mo or ~\$53/kW-yr. All other local areas are well below this price. CAISO System is \$2.90/kW-mo or ~\$35/kW-yr. Importantly, while not presented in the report, capacity prices for the San Diego local area are significantly higher than for the San Diego-Greater Imperial Valley local area because the San Diego local area contains the same amount of load but much less generation.

⁷ *Id.*

⁸ *Imperial County Transmission Consultation*, CAISO, July 2, 2014 at p. 2.

⁹ *Id.* At 2

¹⁰ Limitations on the deliverability of generation located in Imperial County represent “congestion” since the applicable “transmission constraints reduce transmission flows...below levels desired by market participants...” (page xii defining the term “congestion”) Market participants would prefer a higher level of flows because this would increase the amount of generating capacity in Imperial County that could be counted towards load serving entities’ system RA requirements. Planned renewable resources in Imperial County would thereby have more value and would be more likely to get built.

The CAISO's draft discussion paper references "transmission solutions that would be necessary to enable previously-targeted levels of renewable import from Imperial County..."¹¹ These solutions could include new transmission between the Imperial Valley and the southern California load centers (*i.e.*, the Los Angeles basin and San Diego area).

SDG&E believes the above information should be included in the final report. Inclusion of this information will provide a more comprehensive depiction of the constraints and congestion in Southern California.

III. The Decision Not to Consider Long-Term Analysis of Potential Congestion Significantly Reduces the Value of the Draft Study

The Draft Study relies solely on "transmission constraints and congestion in the recent past and current expectations for the next three to five years."¹² The decision not to consider projected congestion-related impacts beyond the next five years (such as the congestion impacts described above for the 2018-2024 period in Southern California) greatly undermines the usefulness of the report. The planning, permitting, design and construction of major new transmission can take seven years or longer.¹³ Once in service, transmission assets have long lifetimes – "typically 40 years or more" as the Draft Study notes.¹⁴ This means new transmission will be operating in distant time periods and decisions to commit substantial investment to these projects requires an assessment of the costs and benefits of the projects over that time period.

SDG&E understands well the limitations and uncertainty inherent in long-term analysis. However, in our view, this does not excuse policy makers from undertaking this analysis. When ratepayers will bear the burden of paying for such an investment, there needs to be a rational basis, relying on a full analysis of the costs and benefits over the life of the project, for deciding which of several feasible alternatives is most likely to provide consumers with the best overall result.

SDG&E agrees with the Draft Study's observations that new transmission projects can "serve multiple purposes that are not always recognized or quantified in planning."¹⁵ But this is not a reason for the Draft Study to turn a blind eye to the long-term planning analysis that many parties throughout the Western interconnection are engaged in. The Western Electric Coordinating Council's ("WECC") Transmission Expansion Planning Policy Committee ("TEPPC"), for example, is conducting grid simulations for the years 2024 and 2034 that will

¹¹ *Imperial County Transmission Consultation*, CAISO, July 2, 2014 at p. 3

¹² *Id.* at 6.

¹³ *Planning for California's Future Transmission Grid: Review of Transmission System, Strategies Benefits, Planning Issues and Policy Recommendations*, Budharja, V., J. Dryer, and S. Hess (2003) at 17.

¹⁴ *Id.* at 8.

¹⁵ *Id.*

shed light on the magnitude and economic consequences of congestion during periods of time when new transmission could be in-service.

It makes little sense to SDG&E for the Draft Study to focus on a time-period (the “next three to five years”) that major new transmission projects could never operate in. We need to solve tomorrow’s challenges, not yesterday’s. The study does little to inform policy makers regarding the benefits of future transmission projects. SDG&E recommends that the report be augmented with information from TEPPC’s currently in-process and previous studies related to long-term congestion impacts.¹⁶ This will assist the Secretary of Energy in determining whether there are transmission corridors, within which transmission could be constructed to address long-term congestion-related costs, that should be designated as “national interest electric transmission corridors.”

IV. The Draft Study Does Not Usefully Inform the Discussion of Transmission Infrastructure Needs

In the Draft Study DOE asks:

“Does the Congestion Study continue to serve a useful purpose in informing the national discussion of transmission infrastructure needs? Should the scope and process for conducting such studies be modified to better serve this objective?”¹⁷

As discussed above, SDG&E believes the Draft Study falls well short of the mark. The Draft Study needs to be changed to provide a focus on the period of time in which new transmission would actually be operational; in the seven to twenty-year out time-frame. This is well past the “next three to five years.”

V. The Department Should Engage in a Collaborative Effort with the Utilities before Seeking New National Legislation Intended to Guide Data Collection and Data Sharing

The Draft Study states that DOE “believes that new authorization may assist in structuring and guiding...data collection and data-sharing...and is considering the development of a legislative proposal on the subject.”¹⁸ SDG&E does not believe new national legislation is needed at this time for the DOE to secure the information that would provide useful insight into future congestion-related impacts.

¹⁶ (1) TEPPC 2013 Grid Plan: http://www.wecc.biz/committees/BOD/TEPPC/External/2013Plan_PlanSummary.pdf (pub. 9/2013); (2) Assumptions for Current Planning Base Case (2024 Common case: http://www.wecc.biz/committees/BOD/TEPPC/Pages/TAS_Datasets.aspx) (pub. 8/2014); (3) Long Term Planning Tool (year 2034: http://www.wecc.biz/Lists/Calendar/Attachments/6153/LTPT_Model_Params_20140827_v2.xlsx) (pub. 8/2014)

¹⁷ *Id.* at 87.

¹⁸ *Id.* at xxv.

The Draft Study lists a number of data items that could be covered by new legislation. We believe that most of the data that the Department is seeking to collect is already readily available, at least in the Western interconnection.

- Historical power flows on major transmission paths are available on-line. Transmission facility ratings, path ratings and nomogram limits are available and explicitly modeled in TEPPC's grid simulation model.
- Source and contact information for data and modeling parameters are available through the WECC staff.
- TEPPC's grid simulation model produces nodal prices on an hourly basis for a full year; currently up to the year 2024. Projected price spreads across the entire Western interconnection are therefore available.
- Planned generation additions and rerates, and planned generation retirement information, is collected by the WECC for all WECC members. Generating capacity in the generation interconnection queues of WECC Balancing Authorities and utilities is publicly available on most of the entities' web sites.

Moreover, it is not clear to SDG&E the usefulness of more detailed operational data (e.g., real-time operational limits, circuit breaker capabilities) in long-term congestion analysis.

SDG&E agrees that there are several areas where more information and standardization could prove useful. Information on open circuit positions and available rights-of-way is not readily available. However, given concerns with safety, liability and utility property rights, it is unclear that gathering this information on a comprehensive basis would lead to better transmission planning. The lack of standardized naming conventions and GIS information has proven challenging for WECC members. We recommend that the Department, engage in a collaborative effort with the utilities and regional planning organizations before imposing legislatively-mandated requirements.

VI. Conclusion

SDG&E appreciates the opportunity to comment on the Draft Study. SDG&E urges the Department to adopt the recommendations proposed in these comments in order to improve the study to ensure that the Secretary of Energy has the documented evidence to assist the Secretary of Energy in deciding whether to designate a National Interest Electric Transmission Corridor as an appropriate response for congestion in a specific area.