**Southern California Edison Comments**

***CAISO 2013/14 Transmission Planning Process Stakeholder Meeting***

| Submitted by | Company | Date Submitted |
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## Executive Summary

SCE appreciates the opportunity to make comments on the CAISO's presentation and to better understand the CAISO's underlying assumptions and approach. SCE recognizes the CAISO has undertaken a significant restudy effort and appreciates the ISO's efforts throughout the stakeholder process. SCE is continuing to review the CAISO's study and at this time offers several comments for CAISO's consideration. In summary SCE's overall comments include recommendations and observations including:

***Delaney Colorado River Study Project – Assumptions and Methodology:***

- **CAISO Should Describe How it Will Address Potential Upgrades on Affected Systems in the Economic Analysis.** Additional studies outside the CAISO's economic study process (e.g., through WECC or affected systems studies) may identify additional upgrades that are necessary to accommodate the Delaney-Colorado River project. SCE requests the CAISO to indicate how it will incorporate the results of such studies, as applicable, into the overall cost/benefit assessment of the Delaney-Colorado River project.

- **Impacts of COD Beyond 2020 Should Be Studied.** Transmission projects take on average 7-11 years to construct. Simulations for a Commercial Operating Date (COD) beyond 2023 would be ideal. Also, use of data from the CAISO-focused 2012 LTPP is preferable to the 2012 NERC Reliability Assessment.

- **Improvement to cost forecasting.** It would be more statistically accurate to draw from a larger sample size of transmission projects to determine the all-in cost of constructing the Delaney-Colorado River line.

***Resource Portfolio Assumptions, Approval of New Equipment, and Approval of a Third Lugo AA Bank:***

- **A more robust stakeholder process is needed** to discuss the development of the RPS portfolios prior to these portfolios being used in the CAISO TPP to determine policy driven transmission.

- **SCE Supports the CAISO's proposal to approve the Lugo-Mohave 500 T/L Series Capacitor** and Terminal Equipment Upgrade as policy projects in this planning cycle. SCE also recommends the CAISO review a recently submitted SSR study for possible mitigations needed in order to allow

the Eldorado-Lugo and Lugo-Mohave 500 kV transmission lines to be operated at the increased compensation level.

- **Recommend the ISO Consider for Approval the Lugo No. 3 AA Bank as a Transmission Project** Given the significant interest in renewables developing in the Victor area, this must be considered for transmission planning to ensure renewable resources are deliverable.

***Other Policy Considerations Including Storage and Varying RPS Sensitivities in Economic Studies:***

- **SCE recommends that the CAISO include sensitivities reflecting State policy** on storage and various RPS levels in its Delany Colorado River economic and other economic studies.

## I. SCE Comments for CAISO Consideration in Finalizing its Economic Study for Delaney Colorado River Project

### *A. Potential Impacts on Affected Systems May Impact Total Costs of Delaney-Colorado River Project*

SCE recognizes that the Project Sponsor will need to obtain necessary approvals through the WECC study processes, as applicable, and, in conjunction with the CAISO, address potential affected systems impacts. However, as a result of these analyses, there may be additional upgrade costs associated with the Delaney-Colorado River project. Such impacts may result from conditions other than those studied for this economic analysis (e.g., WOR at 11,200 MW and the EOR at 9,600 MW during light load conditions).

SCE requests that the CAISO indicate how it will incorporate the costs of upgrades identified outside of the CAISO's economic study into the CAISO's overall assessment of the benefits of the Delaney-Colorado River project.

### *B. Resource Planning Considerations*

The CAISO's Delaney-Colorado River Transmission study assumes that the line will be operational in 2020 as a base case. Historically, transmission project takes between 7-11 years to be fully constructed and SCE believes that 2020 may be an optimistic assumption. SCE recommends that the CAISO analyze years beyond 2020 as more realistic operation dates of the line. If the CAISO analyzes operation dates of the line beyond 2020, SCE recommends that the CAISO runs simulations for additional years beyond 2023 for a more robust analysis.

Additionally this transmission analysis relies on the information in the 2012 NERC Reliability Assessment to determine that California is resource deficient prior to 2020. However, results from the 2012 Long Term Procurement Plan (LTPP) show that the supply of resource in the CAISO system does not drop below a 15% margin until 2024 (http://www.cpuc.ca.gov/NR/rdonlyres/CA96D98A-F855-4C48-B6BC-298901887082/0/SummaryDataofRevisedScenariosv6.xls, "1A Early SONGS" tab).

Also, recent decisions regarding local area generation and preferred resource targets have been made that will likely increase the supply of resources in the future. SCE recommends that the CAISO use the resource forecast from the 2012 LTPP and the recent generation procurement decisions as this information will change the capacity benefit that the transmission line is expected to provide. The

impact of a later online date for the transmission line and a later year of when California becomes resource deficient will likely reduce the capacity benefits that this line provides.

### *C. Improvement to cost forecasting*

The CAISO estimates the cost to construct the Delaney-Colorado River transmission line using the contract costs from one transmission project. SCE recommends that the CAISO also look at costs from other transmission lines that have been built or are currently being constructed to have a more complete estimate of the costs. The concern is that the costs from only one project may not fall within the average range of transmission construction costs so it would be useful to have a larger sample size. Additionally, SCE believes that the contract costs may not include the all-in costs of a line and that there may be additional costs missing from the CAISO's estimate such as environmental costs and other indirect costs.

### *D. SCE requests the CAISO to indicate whether the Delaney-Colorado River project is a Regional or Inter-Regional project, including an explanation for its answer.*

## II. Resource Portfolio Assumptions, Lugo-Mohave 500 T/L Series Capacitor, and Recommend the ISO Consider the Lugo No. 3 AA Bank as a Policy Driven Project

### *A. Introduction and Overview Policy-Driving and Economic Assessment (Neil Millar)*

Page 7 Commercial Interest Portfolio

For the 2013-14 TPP SCE requests the CAISO, in coordination with the CPUC/CEC, to have a more robust stakeholder process to discuss the development of the RPS portfolios prior to these portfolios being used in the CAISO TPP to determine policy driven transmission projects. SCE understands that there is an Energy Division Workshop which in collaboration with the CEC and CAISO scheduled for December 18, 2013. SCE looks forward to participating in upcoming efforts to redefine the appropriate RPS portfolios based on more accurate available data, and also provide transparency to the process.

In the 2012-13 TPP SCE provided comments on the CPUC/CEC Commercial Interest Portfolio expressing concern that there may be values being understated in the various SCE zones[1]. For the 2013-14 TPP, similar updates may be needed. (For example, SCE offers as an example that for Riverside East, the total generation in the portfolio is indicated to be 1,209 MW. As of the date of these comments, for Riverside East, the total megawatts for executed Large Generator Interconnection Agreements (LGIA's) is 2,035 MW, and the total for executed PPA's is 1,550 MW. For the Tehachapi Area, the total generation in the portfolio is indicated to be 2,101 MW. As of the date of these comments, for Tehachapi, the total megawatts for executed Large Generator Interconnection Agreements (LGIA's) is 4,451 MW (does not include Rule 21 projects), and the total for executed PPA's is 2,492 MW). SCE would appreciate ensuring that it understands the details behind discounting the portfolios and the opportunity to work with the CPUC/CEC/ISO staffs to update these values.

### *B. Policy Driven Planning Deliverability Assessment Results –SCE Area (Songzhe Zhu)*

Slide 17 Desert Area Deliverability Constraints

[1] Please see, http://www.caiso.com/Documents/SCE-CommentsPreliminaryPolicyDrivenEconomicAssessment.pdf,

SCE supports the CAISO on proposing the Lugo-Mohave 500 kV T/L Series Capacitor and Terminal Equipment Upgrade as a policy-driven project for the 2013/2014 planning cycle in order to increase power transfer capability as well as integrate renewable generation in the East of Pisgah area. Since the Eldorado-Lugo 500 kV T/L Series Capacitor and Terminal Equipment Upgrade was approved as a policy driven project for the previous 2012-2013 cycle, it follows to recommend approval of the Lugo-Mohave 500 kV T/L upgrade for this planning cycle, since both lines will be operated in parallel with the increased series compensation. However, SCE has performed an SSR study to assess the impacts of the increase in series compensation and identified potential issues that will require mitigation. SCE recommends that the CAISO ensure that the mitigations are addressed in order to allow the Eldorado-Lugo and Lugo-Mohave 500 kV transmission lines to be operated at the increased compensation level.

## III. Recommend the ISO Consider for Approval the Lugo No. 3 AA Bank as a Transmission Project

While the commercial interest renewable resource portfolio shows 762 MW of generation in the Kramer area, it does not identify how much generation is assumed for the Victor, Jasper, and Pisgah areas. Based on public queue information, SCE is aware of over 1,000 MW of renewable resources pursuing developmentin the Victor, Jasper, and Pisgah areas. SCE believes the CAISO should be modeling these renewable resources in its TPP. Based on SCE's studies, the renewable generation developing in these areas drives the need for a third AA Bank at Lugo Substation.[2] SCE requests the CAISO to provide the amount of Victor, Jasper, and Pisgah area generation modeled in its 2013-14 TPP studies. SCE also requests the CAISO to complete TPP studies with this area generation modeled consistent with the generation currently in the interconnection queue and provide the results to stakeholders. SCE believes these additional studies will show that a third AA bank at Lugo substation is needed and therefore should be approved by the CAISO.

SCE has reviewed the CAISO's policy driven projects and understands the CAISO is following the pre-established Commercial Interest Portfolio. However, it appears that a considerable amount of Victor, Jasper, and Pisgah area projects are missing from the portfolio, which are detailed below. SCE strongly recommends that the Commercial Interest Portfolio generation assumption be updated and also incorporated in future commercial interest portfolios.

Below please find a summary of commercial interest generation in the CAISO and SCE WDAT generation queues, which are publically available at:
http://www.caiso.com/Documents/ISOGeneratorInterconnectionQueueExcel.xls and
http://www.sce.com/nrc/aboutsce/regulatory/openaccess/wdat/wdat_queue.xls

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|---|---|
| CAISO Kramer area: | 1,430 MW |
| CAISO Victor/Jasper/Pisgah area: | 770 MW |
| WDAT Kramer area: | 207 MW |
| WDAT Victor/Jasper/Pisgah area: | 322 MW |

Total Queued Generation which will flow into the Lugo AA Banks: 2,729 MW

[2] Please see SCE's Coolwater-Lugo CPCN filing for additional information: Application No. 13-08-023; In The Matter of the Application of Southern California Edison Company (U 338-E) for a Certificate Of Public Convenience And Necessity for the Coolwater-Lugo Transmission Project

## IV. Other Policy Considerations Including Storage and Varying RPS Sensitivities in Economic Studies

- CPUC recently mandated for California utilities (IOUs) to purchase 1,325 MW of Storage capacity by 2020 (please see CPUC October 2013 Storage proceeding). There may also be an additional potential of 200 MW Storage capacity (assuming POUs at 15% of State load) to be acquired by POUs in California. In case CAISO has not accounted storage in their economic studies presented to TPP Stakeholders, does CAISO plan to re-run their production models to account for this mandated storage (1,325 MW) for California IOUs in their Benefits calculations on the Delaney - Colorado River project, as it will impact their production and capacity calculations? This mandated storage capacity amount should be accounted before the results are finalized and presented to the Board.

- Also, SCE previously expressed concerned and has recommended the CAISO perform sensitivities including in 2030 to consider varying State of CA RPS policies and the impact on the interties on the benefits the CAISO is calculating.