

**COMMENTS ON THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR'S
DRAFT 2013-2014 TRANSMISSION PLAN
FROM THE VOTE SOLAR INITIATIVE**

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Introduction

The Vote Solar Initiative (Vote Solar) appreciates the opportunity to submit comments on the California Independent System Operator's (CAISO) Draft 2013-2104 Transmission Plan. Vote Solar is a non-profit, non-partisan organization working to bring rooftop and large scale solar into the mainstream. Our comments and recommendations focus on the following areas:

- 1) Modifying the Preferred Resources scenarios for the SONGS area
- 2) Adding Vehicle-Grid Integration (VGI) as a Preferred Resources option
- 3) Supporting the Mesa Loop-In project
- 4) Supporting the Lugo-Mojave upgrades
- 5) Relieving Imperial Valley renewable energy deliverability issues
- 6) Urging approval for El Dorado-Harry Allen transmission project
- 7) Supporting the Delaney–Colorado River 500 kV transmission project, with caveats

We appreciate the CAISO's focus on accommodating Preferred Resources in its planning efforts, but encourage CAISO to maximize the potential amount of Preferred Resources relative to natural gas assumed to meet the needs in Southern California, post SONGS. As the CAISO is well aware, the recommendations included in this plan could have a significant impact on the state's ability to meet its greenhouse gas (GHG) reduction targets in a timely manner. In that spirit, we offer the following recommendations:

I) Modify the Assumption Used in the Preferred Resources Scenarios

In its assessment of local Preferred Resources (Non-Conventional Transmission Alternatives Assessment) for the area around the shuttered San Onofre Nuclear Generating Station (SONGS), the CAISO chose to evaluate a number of scenarios that include distributed generation, demand response and energy storage. However, the CAISO (basing its scenarios on ones developed by SCE) did not evaluate combinations including distributed generation (DG), demand response (DR) ***and*** energy storage. We believe this is the most probable scenario and one that would provide additional benefits not identified in the scenarios studied. We strongly recommend CAISO include a scenario to evaluate this additional combination of Preferred Resources.

II) Include Vehicle-Grid Integration Capabilities as a Preferred Resources Option

Vote Solar has provided comments and/or testimony in various California Public Utilities Commission (CPUC) proceedings, including the Long Term Planning and Procurement (LTPP), Resource Adequacy (RA) and Alternative Fuel Vehicle (AFV) proceedings, recommending that VGI capabilities be evaluated alongside other Preferred Resources as a viable resource option for replacing SONGS. VGI is a valuable tool for dealing with ramping events, potential daytime over-generation, and evening peaks that could be associated with future high penetration of solar PV. The Governor's Zero Emission Vehicle (ZEV) Action Plan calls for 1.5 million ZEVs on the roads in California by 2025. The CPUC's AFV proceeding has already begun the process of identifying regulations and programs to support achievement of this goal. Consistent with the CAISO's own VGI Roadmap, we recommend CAISO include an estimate of the potential benefits of VGI in its evaluation of Preferred Resources options.

III) Approve the Mesa Loop-In Upgrades

As we stated in our testimony and comments in LTPP Track 4, Vote Solar supports the development of the Mesa Loop-In project as a means for improving reliability and expanding options for meeting LA-Basin and San Diego area needs. We are pleased to see that the Draft Transmission Plan supports this project and encourage the CAISO to model additional renewable and Preferred Resources as part of any evaluation of the benefits of the Mesa Loop-In. In its Proposed Decision for LTPP Track 4, the CPUC indicated a strong desire to replace SONGS with Preferred Resources, suggesting SCE and SDG&E could meet the entire Track 4 procurement authorizations with Preferred Resources alone. The retirement of SONGS requires non-carbon emitting resources in order to meet the energy needs of the LA Basin and San Diego areas while protecting air quality and helping the State meet its aggressive GHG reduction goals.

IV) Approve Upgrades to the Lugo-Mojave Line

As detailed in the Draft Transmission Plan, renewable generators in the Desert Area may cause overloads on neighboring transmission systems. This limits the deliverability of renewable generation over a wide area in Southern California. Vote Solar therefore supports the proposed upgrades to the series capacitors and terminal equipment at the Mojave substation along with the suggested operational changes to the Lugo-Mojave transmission line to relieve this constraint. As discussed below, adopting these measures could provide relief to the serious deliverability constraints in the Imperial Valley area. Vote Solar encourages approval of the identified upgrades to this line.

V) Take Immediate Measures to Relieve Deliverability Constraints at Imperial Valley

The CAISO analysis indicates the closure of SONGS has changed flow patterns in Southern California that now preclude deliverability of any new renewable generation in the Imperial Valley area, potentially affecting up to 1,725 MW of new renewable generation. While CAISO's initial analysis indicates the possible need a for major new transmission line and equipment upgrades, the Draft Plan identifies some near-term options to allow for around 1,000 MW of renewables to be delivered from this area.

We support these measures, including upgrading emergency line ratings on the Suncrest-Sycamore 230 kV line, adding flow control devices and approving the Delaney-Colorado River 500 kV transmission project. We also encourage CAISO to study cost-effective upgrades or additions to restore full deliverability from the Imperial Valley zone as expeditiously as possible.

VI) Recommend Approval of the Harry Allen-El Dorado 500 kV Line

CAISO's analysis of the Harry Allen-El Dorado 500 kV transmission line yields the highest benefit-cost ratio of any project studied (1.38). Yet the CAISO is recommending further study before recommending this project for approval. CAISO states that this is based on the uncertainty over potential impacts of NV Energy's announced desire to join the Energy Imbalance Market (EIM). While we appreciate the CAISO's careful evaluation of costly and complex transmission projects, we believe the potential negative economic impacts to this project from NV Energy joining the CAISO are minor compared with the significant additional benefits.

We are also concerned about the inconsistency in how this project was evaluated compared to the Delaney - Colorado River 500 kV project. While NV Energy has indicated an interest in joining the CAISO, they have not yet signed an

agreement to do so. Similarly, Arizona Public Service (APS) and representatives from the Arizona Corporation Commission (ACC) have actively participated in the EIM stakeholder process, yet CAISO is not recommending additional study before recommending approval of the Delaney–Colorado River to assess the potential economic impacts of APS joining the EIM. This is despite the fact that the Delaney–Colorado River project has a lower benefit-cost ratio relative to the Harry Allen-El Dorado project¹.

We are unconvinced by the argument for delaying approval of the line pending additional study. Given the deliverability constraints in Imperial Valley and the need to access additional renewable resources, we see significant value in the Harry Allen-El Dorado line. Indeed, CAISO’s analysis shows that building the Harry Allen–El Dorado line improves the benefit-cost ratio of the Delaney–Colorado River line. We therefore recommend CAISO recommend approval of the Harry Allen–El Dorado line.

VII) Support Approval of the Delaney – Colorado River Line for Renewable Deliverability

Despite the concerns expressed above regarding the lack of evaluation of the potential economic impacts of APS joining the EIM, we encourage approval of the Delaney-Colorado River 500 kV transmission project. However, we disagree with CAISO’s presumption that the project’s value is its ability to deliver natural gas to Southern California. Rather, we see great value in this project for its ability to facilitate solar (particularly Concentrating Solar Power with thermal energy storage) and renewable energy deliveries to help California meet its GHG reduction goals. Arizona has very high quality solar resources and due to the state’s less stringent siting and permitting requirements, generation and transmission projects

¹ Per the Draft Transmission Plan, the Delaney-Colorado River project would have a lower capacity benefit of 200 MW with the restoration of the line rating of the Suncrest-Sycamore 230 kV line. We make the assumption that this will be the case.

can be brought online more quickly. And as CAISO states in the Draft Plan, the project will support delivery of up to 1,000 MW of renewable energy from the constrained Imperial Valley zone. These factors, combined with improved reliability, make this project very attractive and we encourage CAISO's approval of this project.

Vote Solar appreciates the opportunity to provide comments to the Draft 2013-2014 Transmission Plan.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Jim Baak", with a long horizontal flourish extending to the right.

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