



**Comments of Trans Bay Cable, LLC  
CAISO 2012-2013 Transmission Plan**

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<b>Submitted by (name and phone number)</b>	<b>Company or Entity</b>	<b>Date Submitted</b>
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Trans Bay Cable, LLC (TBC) has been an active participant in the CAISO's 2012-2013 Transmission Planning process. TBC submitted seven project proposals to solve identified grid reliability problems and policy needs in both Northern and Southern California. The proposals TBC put forth are practical, executable, cost-effective, and designed to minimize siting risks and the uncertainties associated with transmission project development to the benefit of California consumers.

We commend the CAISO staff for their diligence in preparing the studies resulting in the Plan to be presented to the Board of Governors for approval on March 20-21, 2013. The 2012-2013 Transmission Plan marks continuous improvement in the CAISO's ongoing effort to conduct a transparent planning process inclusive of all stakeholders. TBC appreciates the opportunity to comment on the 2012-2013 Transmission Plan.

TBC also commends the CAISO for approving TBC's "Dead Bus Energization Project." This project would allow for the energization of the TBC High Voltage Direct Current (HVDC) Potrero 115 kV bus and to energize the HVDC cable to supply power from Pittsburg to Potrero in order to speed the restoration of service to the load in the City of San Francisco. Once placed into service, in 2015, this project will realize the full potential of TBC's initial investment in our advanced technology. TBC looks forward to working in collaboration with CAISO staff and other stakeholders on project engineering, planning, and implementation soon after obtaining management approval.

While TBC is pleased that this year's Plan has identified projects eligible for competitive solicitation, we believe the Plan falls short in several respects. First, TBC recommends that the CAISO reconsider its plan for addressing reliability to the San Francisco peninsula. As detailed below, TBC recommends that the CAISO, in collaboration with TBC and PG&E, jointly perform a comprehensive analysis of the reliability conditions in the San Francisco peninsula to determine the optimal solution as part of the 2013-2014 transmission planning cycle. In addition, while TBC supports the Gates - Gregg 230 kV Transmission Line, we recommend that the CAISO revert to a 2017 in-service date to support deliverability of renewable generation in a timely fashion. Finally, as detailed herein, TBC requests that the CAISO reevaluate and recommend for competitive solicitation for the following projects:

- South Orange County (SONGS vicinity) Static Var Compensator (SVC);
- Talega area SVC or similar reactive support; and
- Gates #2 500/230 kV Transformer Addition.

The CAISO inappropriately determined that it need not conduct an economic or policy benefits analysis for these projects because the upgrades are located inside a PTO's existing substation. However, the CAISO has not provided any evidence that these projects must, or even should, be located within the substation perimeter. Under the CAISO's tariff, if the facilities are placed outside of the substation, the CAISO would be required to perform an economic or policy benefits test. TBC believes that these projects would likely provide economic and/or policy benefits, and that a competitive solicitation would be beneficial to ratepayers by ascertaining the "least-cost, best-fit" solutions. By failing to consider whether the facilities could be placed outside the substation, the CAISO, without proper justification, has foreclosed the potential for competitive solicitation.

#### 1. San Francisco Peninsula Reliability

The Plan recommends further evaluation to address the risks and consequences of an extreme event, per the reliability criteria, in assessing modifications to the existing transmission system in the San Francisco Bay Area. In this planning cycle, TBC proposed two projects which, we believe, are needed to address reliability issues in the City of San Francisco. Neither of these projects was recommended for approval in Transmission Plan. TBC believes that the run back scheme the CAISO has relied upon does not adequately address the Mission and Larkin overloads, and the reliability issues that will result once the proposed Embarcadero to Potrero project is placed into service.

At the February 11, 2013, stakeholder meeting, CAISO staff reported that it is coordinating with PG&E to study reliability in the San Francisco peninsula. Moreover, CAISO staff reported that further analysis would become available at a later stage in this planning cycle or in the next cycle. As a PTO in the region, TBC deserves a place in this collaborative effort and offers to contribute its technical expertise and full participation. TBC recommends that the CAISO, in collaboration with TBC and PG&E, jointly perform a comprehensive analysis of the reliability conditions in the San Francisco peninsula to determine the optimal solution as part of the 2013-2014 transmission planning cycle. TBC also

recommends that the CAISO give further consideration to the proposals TBC offered in this planning cycle and, in particular, to adopt the comprehensive solution for the peninsula offered by TBC.

## 2. Gates - Gregg 230 kV Transmission Line

TBC is pleased that the Gates - Gregg project is being recommended for adoption and will be eligible for competitive solicitation. The CAISO's recommendation mirrors the project design proposed by TBC in the open request window. This project will address reliability needs in the Fresno and Central California area, provide flexibility for the Helms Pump Storage facility, and enable renewable resource development in the Central Valley, particularly in the Westlands CREZ. TBC is pleased that the CAISO has determined that this line is open to competitive solicitation; however, TBC recommends that the estimated in-service date be reset to 2017, (the in-service date proposed by TBC), rather than 2022, as stated the Plan (p. 143). This in-service date is more reasonable to develop the necessary transmission infrastructure to enable renewable resource development in Westlands, which would promote the California's policy goal of achieving 33 percent renewable energy by the year 2020.

## 3. Gates #2 500/230 kV Transformer Addition

The Plan recommends adding a 500/230 kV transformer at the Gates substation in the Fresno area of Central California. The cost of this project is estimated to be \$75-\$85 million (p. 376). At the February 11, 2013, Stakeholder Meeting, CAISO staff explained that the overall cost of this project includes the cost of the transformer as well as the cost of upgrading the Gates substation to a breaker-and-a-half scheme, but provided no justification for recommending this project in its current configuration. The CAISO should decouple the transformer addition from the substation upgrade and evaluate the two projects independently.

This change would enable the CAISO to recommend placing the transformer *outside* the perimeter of the substation and perform an economic and policy analysis, thus making the project eligible for competitive solicitation. There is sufficient land available to place the transformer outside or adjacent to the substation. This least regrets approach may prove to be most cost effective by deferring or possibly avoiding the cost of the substation upgrade until a determination is made that it is needed, and, more importantly, by subjecting the transformer project and its costs to the rigor of an open competition as a further means to mitigate rate shock to consumers.

## 4. Sycamore - Penasquitos 230 kV Transmission Line

The Plan recommends this project as a "least regrets" mitigation solution to address grid reliability in the absence of SONGS, as well as for policy considerations. TBC is pleased that this project is eligible for competitive solicitation.

The Sycamore - Penasquitos transmission line was originally part of the Sunrise Power Link Project, approved by the CAISO in 2006; this segment was subsequently removed from the Sunrise Project. TBC performed an analysis to compare power flow impacts of this facility to the impacts of placing a 600 MW or a 1200 MW underground HVDC cable from the Sycamore to the Penasquitos substations. TBC believes an HVDC line would address the policy needs met by the Sycamore - Penasquitos 230 kV Line and provide the following additional benefits:

- With a +/- 300 kV HVDC system, the 600 MW line would only require two cables compared to four cables in the 230 kV AC system. A 1200 MW HVDC line would require four cables compared to nine cables in the 230 kV AC transmission line.
- An underground HVDC system would mitigate the siting risk previously encountered with the Sycamore - Penasquitos 230 kV overhead Line.
- An HVDC cable would eliminate the magnetic fields associated with an AC cable, and it would eliminate electric fields with the use of the cable insulation, sheathing, and grounding.
- An HVDC system would provide fast responding reactive support at both of the 230 kV buses. A converter station may be built at the Penasquitos 230 kV substation, thus providing an option to develop the remainder of the project. The CAISO studied installing synchronous condensers at the Penasquitos and Sycamore 230 kV substations as part of No-SONGS scenario.
- HVDC flow is easily controllable. For example, the flow may be reduced to 300 MW and eliminate rerouting of power, if and when required. Thus, overloads or congestion on the Bay Boulevard - Miguel 230 kV line and the Bay Boulevard - Silver Gate 230 kV bus may be controlled within their rated capabilities.
- Finally, an HVDC system would significantly enhance the delivery of renewable generation from the Arizona, Imperial, San Diego South, and Baja CREZ.

##### 5. Projects to Provide Reactive Support to Southern California

In its assessment of long-term grid reliability in the absence of SONGS, the Plan identifies the need for approximately 700 MVAR of reactive support in both the LA Basin and the San Diego Area (p.189). The Plan further recommends actions to provide the needed reactive support by adding Synchronous Condensers at the Talega 230 kV Substation and by commencing with the Orange County Static VAR Compensator project.

TBC believes that these upgrades may be classified as policy-driven upgrades because they are needed, at least in part, to mitigate the impact of the SONGS outage, and are thus fulfilling a directive of the NRC, NERC, and the CPUC. The CAISO Tariff provides that if a reliability-driven upgrade also serves, even in part, to meet state and federal policy requirements or directives, it will be eligible for competitive solicitation (CAISO Tariff 24.1, 24.4.6.2). The CAISO has not provided any explanation for why these projects could not be considered policy-driven upgrades, and in the absence of such justification, TBC believes that the projects should be eligible for competitive solicitation.

Moreover, the Plan recommends placing SVC or similar reactive support inside the fence of the incumbent utility's property without any stated justification. The implicit assumption is that locating equipment within the incumbent utility's property is the only place such equipment could be placed. The CAISO has provided no evidence to support this position. Land acquisition is a relatively small component of the overall cost of such a project. Project equipment could be located on property

outside or adjacent to an existing substation and an interconnection agreement put in place. The same tacit assumption is made with respect to the Gates #2 500/230 kV Transformer Addition discussed above.

A further weakness is the Plan's assertion that "operational requirements negate economic benefits" (p. 5 of Neil Millar's handout presented at the February 11, 2013 Stakeholder Meeting). TBC believes that, *prima faice*, there may be economic benefits associated with either the Telega or the SONGS reactive support projects, identified by the ISO as reliability-driven; further analysis to substantiate or invalidate the Plan's contention is warranted. Should such an analysis demonstrate sufficient economic benefits, the projects would then be eligible for competitive solicitation. A solicitation would attract competing ideas and enable the CAISO to choose the best option at the most attractive cost -- the least-cost/best-fit solution.

TBC is disappointed that the CAISO did not give greater weight to either of the proposals we submitted which are designed to solve for long-term grid reliability, as well to provide reactive support in the short run. Either of TBC's projects -- SONGS to South Bay or Huntington Beach to South Bay -- could satisfy the needs identified in the Plan. Moreover, either of these projects could deliver the needed MVAR support while providing a cost effective option to add additional transfer capacity in the future when needed.

Placing a converter station in the vicinity of SONGS would provide the necessary MVAR support in the short run and provide a cost effective means to develop a HVDC line at a later stage when additional transfer capacity is needed. TBC is uniquely positioned to build, own, and operate such facilities; the company has the technical knowhow, experience, spare parts and equipment, and operations systems and staff to develop and manage such facilities. We encourage CAISO staff and management to take a second look at the projects we proposed with these factors in mind.

TBC offers its expertise and assistance to the CAISO and recommends that a joint effort be commenced to evaluate TBC's proposals, to determine the best solution to provide MVAR support for SONGS, and to evaluate an expanded project at a future date.