

The following comments were sent by Bary Flynn on April 28th within an email titled “SF Peninsula Phase 2 Studies”

Subject: Comments on the Grid Planning Studies and Cost Estimates

OVERALL EFFORT

The following comments are made on behalf of the Cities of Alameda, Palo Alto and Santa Clara (Cities). We applaud the work completed to date by PG&E and the ISO on the Phase 2 Study of the San Francisco Peninsula. The Cities appreciate the efforts to take a long-term (2018) look at satisfying the CAISO reliability requirements through alternative transmission projects. However, as professional and well documented the work is to date, it is important to recognize its limitations.

It appears the intent of the study is to focus on the Pittsburg-Potrero Transbay DC project proposed by a potential new Participating Transmission Owner (PTO). Nevertheless, the Cities are pleased that the developers claim for project justification, based upon operational economics and transmission losses, has led to a broad assessment by the ISO and PG&E of the economic impact of the DC project and three Alternative transmission expansion scenarios. We are encouraged to see the nascent effort which is being undertaken to perform an economic study of the Alternatives. As you know, the position of the Cities is to advocate for an in-depth methodology and consider such an approach suited for the unique conditions in the Greater Bay Area. This is the type of analysis we have advocated for the Greater Bay Area for many years in many forums.

Major policy issues appear to have been created by this proposal. There are indications that the planning of transmission facilities for an area like the Greater Bay Area may go through a significant change.

BACKGROUND

For most of the years of the ISO’s existence, transmission additions for the Bay Area have been justified based upon selecting the least initial capital cost project to meet ISO planning and reliability standards. In the last few years PG&E has shifted policy somewhat by considering and proposing specific transmission additions based upon Reliability Must Run (RMR) savings. Although the economic tradeoff of these “economic projects” based upon RMR savings have not been made public, when one compares the fixed capital costs associated with the terminated RMR contracts, with the relatively small added transmission expenditures, one assumes it must have been a straightforward decision to approve the transmission expenditure. However, no studies have been completed (or at least made public) that would allow one to know which further additions to the transmission grid could be justified based upon RMR savings alone. We urge further, multi-year RMR reduction benefits be quantified in

additional studies under a more transparent stakeholder process. It is absolutely imperative that RMR contract (or other local deliverability) costs be captured in the ongoing efforts to compare the Alternatives in the current study. The above market additional fixed costs of local capacity may be much different amongst the Alternatives.

In the work completed to date we have four Alternative transmission scenarios for the SF Peninsula that have a range of capital costs of \$114 million dollars to \$457 million dollars. The reconductoring option is the lowest capital cost Alternative and does not spend more than \$22.2 million dollars prior to 2017. It is instructive to recall that in prior years, when operational economics were not considered, the choice between these Alternatives was obvious. But the studies to date by Babcock and Brown create the expectation that a transmission project that far exceeds the least capital cost project can be justified by operational savings. And in fact, the economic studies performed by Utility System Efficiencies (USE) indicate an annual savings of about \$55.4 million dollars. While these claims may have merit, projected operational savings of this magnitude dictate that any assessment of Alternatives include a *consistent* approach to create a level playing field and offer decision makers the ability to make an objective decision. This approach must include a consideration of energy supply impacts of ALL the Alternative expansion scenarios. This is what we understand the current studies being conducted by the ISO will accomplish. If those CAISO ongoing economic studies, as critically reviewed by Stakeholders, show that it is economical to build any of the higher capital cost projects early (in 2011), it should dramatically alter the planning process for electric transmission in areas like the Greater Bay Area.

Study Scope

In our previous comments of the Study Plan, we expressed concern at limiting this study to the needs of just the San Francisco Peninsula. The Jefferson-Martin line and reinforcements for the San Jose Area, including a new Newark Substation to Los Esteros Substation 230kV line, constitute the only major new lines constructed within the Greater Bay Area during the existence of the ISO. Additions to the ability to import into the Greater Bay Area have been relatively minor additions of additional transformer banks at existing substations and the reconductoring of existing transmission lines. The addition of the major Jefferson-Martin line in conjunction with new 115kV cable additions within San Francisco will substantially reduce the RMR needs of the San Francisco sub-pocket. The reinforcements in the San Jose area have done the same for that sub pocket. Plan A indicates that the \$22.2 million reconductoring option is sufficient to meet the ISO planning standards for the load in the San Francisco Peninsula through 2017 with about 190 MW of local generation. Contrast this with existing studies of the Greater Bay Area pointing to a continuing need of close to 3000 MW for the Greater Bay Area as a whole.

It is noteworthy that only one of the proposed development scenarios, Alternative 3 (Tesla-Potrero) actually adds new transmission capacity into the Greater Bay Area. The others add capacity within the Greater Bay Area but not into it. Therefore, although we remain optimistic that the economic studies being completed in conjunction with the current grid planning and cost estimate work will help with the decision making process, we are concerned that the results will not be definitive because of the limited scope. The reduction in local sub pocket needs is indicative of a successful approach that has outgrown its roots and should be expanded to include the Greater Bay Area needs as a whole.

Another noteworthy observation is that this study is intended as an outgrowth of the study completed many years ago to study the long-term needs of the San Francisco Peninsula. The focus in that study was the "San Francisco Corridor". The Jefferson-Martin line was the outcome of that study process. Phase 2 was supposedly needed to determine the next addition. Yet the draft documentation of all four Alternatives explicitly states in the key findings that "No overloads were identified through 2018 (the last study year) to the transmission lines along the San Francisco Peninsula Corridor".

One of the Alternatives constructs a 230kV A-C line through Downtown Oakland and probably intersects the 115kV network serving Oakland and Alameda. This 115kV network is dependent upon turbines at Station C and at Alameda to provide sufficient load serving capability to the area. It has been identified as an area for more intensive study in PG&E's 2005 grid expansion plan. This 230kV A-C Alternative provides a readily available source for a 230/115kV substation in the area. The other alternatives do not provide this source.

All of the above observations indicate that the Greater Bay Area, as a whole, needs to be included for any study of major additions to the network within the Greater Bay Area.

Generation Assumptions

This long-range study assumed one very reasonable generation retirement scenario. Recent studies developed as part of the PG&E 2004 Grid Expansion Plan and planned for the 2005 Expansion Plan also analyze the effect of not having any of the 330MW units available.^[1] It would seem prudent to test the alternatives, as possible/probable scenarios under generation retirement scenarios beyond those assumed in the first set of studies.

Project Timing

Looking at the "Draft Preliminary Cost Estimates..., Attachment 1" one can easily develop hybrid alternatives that may be more attractive. For instance, in Alternative 1, the reconductoring Alternative, only \$22.2 million dollars is spent before 2017. A suitable planning lag time just before 2017 might be an

appropriate time to consider building one of the three major Alternatives. Another apparent logical alternative is to wait to build most of the Tesla-Potrero Alternative at least until 2012 when the Newark to Ravenswood alternative is needed or, allow the reconductoring and build the reinforcements in 2017. If built in 2012, it should probably only be the section from Tesla to San Mateo, with the remainder built in 2017. Of course, if the RMR and operational savings justify early project completion, the above combinations would not need to be investigated. If not, it should be easy to expand upon the Alternatives studied so far to determine if there is a sequence that is preferable to building one of the three proposed Alternatives (Moraga-Potrero, Pittsburg-Potrero or Tesla-Potrero).

Considering the Cities preferred shift towards a Greater Bay Area focus, another approach could involve a combination of San Francisco Peninsula corridor solutions, such as reconductoring, and Greater Bay Area solutions to alleviate broad transmission constraints. A reinvention of the San Francisco Peninsula Corridor Study Group as a more broadly focused group would be able to assess the projects or combination of projects that could accomplish this goal.

New Technology and New Ownership Structures

Two very important aspects of the current studies that need to be specifically recognized and accounted for is that the D-C Project proposed by Babcock and Brown is the very first privately owned project to be proposed for a load pocket within the ISO Grid and the first D-C light project proposed for the CAISO grid. Those two aspects require a unique approach, including a comparison of a new PTO financed line with its capital recovery requirements with other alternatives- all of which would require repayment of financing with a different capital structure.

The capital cost comparisons completed so far indicate that the second aspect, the employment of D-C light technology, may appeal to grid planners in assessing its utilization in a more comprehensive fashion for major metropolitan areas. The current capital cost estimates would indicate the DC light technology is a less costly technology than that used historically throughout California. Of course, each application needs to be studied separately and we need to be careful not to make too many generalizations based upon one site-specific assessment. On the other hand, the characteristics of this technology delineated so far would indicate it should be more widely studied as an alternative way to import power into constrained metropolitan areas. For instance, a revised Alternative 3, utilizing D-C light technology to transport power from Tesla to Potrero could be investigated. It may reduce that alternative's capital cost and

improve its feasibility, especially if the line remains submerged once it enters the Bay.

In December 2004, Sea Breeze Pacific Regional Transmission System Inc. announced they have filed an interconnection application with PG&E for a high-voltage DC undersea cable initially 1,600 MW (expandable to 3,200 MW) from British Columbia, Canada to California. We assume at least one alternative termination point would be the PG&E system in the GBA. Consideration should be given to including this proposal in the study group examination of long-term alternatives for the San Francisco Peninsula and the Greater Bay Area at large.

Conclusion

The Cities appreciate the opportunity to provide these comments. We are encouraged by the expanded nature of the economic assessment currently being completed. As we anxiously await the first results, we hope you will accommodate the above suggestions.

^[1] Assume Contra Costa 4,5,6,7, Pittsburg 5,6,7, and Moss Landing Units 6,7 are not online.

^[1] Consistent with the SF Phase II thermal analysis study and CAISO Generation Scenario 2, Pittsburg Unit 7, Contra Cost Unit 6, all of Hunters Point PP, and all of Potrero PP are assumed retired, and four CCSF generating units are assumed operational.