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CAISO
2012-2013 Transmission Planning Process

San Francisco Peninsula Reliability Assessment

Clean Coalition comments from stakeholder meeting held May 29th, 2013

Submitted June 19, 2013

Introduction

The Clean Coalition is a California-based nonprofit organization whose mission is to accelerate the transition to local energy systems through innovative policies and programs that deliver cost-effective renewable energy, strengthen local economies, foster environmental sustainability, and enhance energy security. To achieve this mission, the Clean Coalition promotes proven best practices, including the vigorous expansion of Wholesale Distributed Generation (WDG) connected to the distribution grid and serving local load. The Clean Coalition drives policy innovation to remove major barriers to the procurement, interconnection, and financing of WDG projects and supports complementary Intelligent Grid (IG) solutions - demand response; energy storage; advanced inverters; and monitoring, communications, and control systems.

Thank you for the opportunity to comment on the San Francisco Peninsula Extreme Event Reliability Assessment. Our concerns with the existing proposal and suggestions for its improvement are discussed below. In summary, these comments cover the following points:

- Site-specific studies such as this provide an opportunity to employ local resources that are currently underutilized.
- Any time new or upgraded transmission is proposed, non-transmission alternatives should also be proposed and analyzed.

- The existing proposals do not address the unique risks of the San Francisco area related to seismic instability and reliance on non-local generating capacity and are therefore an insufficient starting point for this assessment.
- A mitigation plan based on integrated Intelligent Grid solutions and distributed generation would address these risks.

Addressing the Needs of the SF Peninsula

The Clean Coalition supports the in-depth analysis of the specific energy needs of the San Francisco peninsula area. This is an opportunity to meet unique needs in line with long-term planning goals for increased resilience and sustainability through use of local renewable resources. A focused study such as this provides an opportunity to take advantage of the special resources of the peninsula.

None of the proposed mitigations address the unique risks of the San Francisco peninsula area, even those specifically enumerated in the background section of the published summary. A seismically volatile, geographically isolated area with high population density and stringent power requirements should not be highly reliant on imported power. Single supply lines for any resource are inherently vulnerable and power lines are especially susceptible to serious disruption through both natural disasters and intentional acts.

While attention was given in the published summary to the threat of seismic activity and to the vulnerability of substations, transmission towers should also be considered a potential point of failure. Transmission lines and towers are at least as vulnerable as a substation and more difficult to protect or repair. Limiting San Francisco's reliance on incoming transmission lines is therefore an investment in both safety and cost-savings.

With the retirement of two major generation facilities on the peninsula in recent years, weight should be given to replacing this capacity with local resources. However, the only mitigation proposals presented are for either new transmission or upgrades to existing lines. The "expanded mobile and spare equipment strategy", while likely involving less expense and environmental impact than a new transmission line, still looks only at modifications to the status quo transmission system. It does not address the underlying concerns with relying entirely on transmission to power the San Francisco region.

An Intelligent Grid Solution

The only way to ensure reliable power in the case of any of the events outlined in section 3.2 of the summary is to move the Peninsula area toward at least a degree of self-sufficiency and increased distributed generation. An Intelligent Grid (IG) solution involving location-appropriate generation, energy storage, demand response, grid communications, and microgrids would address these unique risks by improving local self-sufficiency and reducing reliance on critical infrastructure. CAISO should be striving to identify, analyze, and maximize these opportunities, as recognized and intended in the CAISO 2012/2016 Strategic Plan.[1]

Case for Inclusion of Non-Transmission Alternatives

As the Clean Coalition noted in joint comments to CAISO on the TPP submitted March 14, 2013, there are numerous reasons that non-transmission alternatives (NTA) should be considered in any analysis of energy infrastructure needs.

CAISO itself has acknowledged the importance of alternatives to transmission in its Transmission Planning Process (TPP) final study plan, which states that when considering "*the need for any transmission additions or upgrades required to ensure System reliability… the ISO… shall consider lower cost alternatives to the construction of transmission additions or upgrades, such as acceleration or expansion of existing projects, Demand-side management, Remedial Action Schemes, appropriate Generation, interruptible Loads, storage facilities or reactive support.*"

California has a long standing energy Loading Order for preferred energy resources. The loading order identifies energy efficiency, demand response, and distributed generation as the State's preferred means of meeting energy needs. The potential for these preferred resources to resolve concerns about reliability, efficiency, and affordability is significant and should not be downplayed in the CAISO planning process.

Nationally, FERC Order 1000 requires utilities to consider stakeholder input and state policies when making transmission investments. Within California, the 33% RPS is widely cited for its on-going impact on transmission expenditure and procurement of renewables. However, the state's emission reduction

[1] http://www.caiso.com/Documents/2012-2016StrategicPlan.pdf

goals and Governor Brown's goal of installing 12,000 MW of distributed generation, should also be consistently considered in planning. It is likely that the US will eventually move toward international emission reduction targets such as those already adopted throughout Europe and long-term investments should be made with this in mind.

In addition to satisfying reliability needs and meeting clean energy policy objectives, preferred resources are capable of providing benefits to a large number of consumers that are not achieved with transmission upgrades. For example, unlike projects based on loading order priorities, transmission investments do not effectively reduce peak load or help customers manage their energy use. At a time when Transmission Access Charges are increasing exponentially and affordable access to energy is of great public interest, preferred resources offer the potential to reduce the net costs of energy borne by consumers.

Creating Successful NTA

For these reasons, we recommend that the ISO more fully consider the ability of NTA to reduce transmission needs. Because most NTA require programmatic responses from numerous individual projects in aggregate, it would be appropriate for the ISO to model a preferred solution that could then be fulfilled, rather than relying upon submission of individual NTA proposals.

A single demand-side or distributed generation project alone cannot replace transmission or be expected to compete directly with utilities or industry advocates. Therefore, to ensure equal consideration is given to non-traditional and smaller-scale solutions, procurement decisions must take a proactive approach toward non-transmission alternatives. Targeted, programmatic solutions should be outlined by the ISO that actively seek out and coordinate small-scale participation.

The full cost of the least-cost transmission upgrade may be greater than the cost of a comparable solution involving one or more elements of a distributed generation and intelligent grid (DG+IG) system, including demand response, energy efficiency, and energy storage. This is especially likely when the cost of acquiring the components of an NTA is understood to be only the cost of any pricing or market incentive required to stimulate deployments consistent with a programmatic NTA. For example, a 10% addition to existing compensation rates for any preferred resource that contributes to an NTA's planned capacity may be more than sufficient to ensure such resources are committed and deployed in the

locations necessary to meet system requirements. The cost of this approach is therefore not the cost of the facilities, but only the incentive required to influence their location.

Such an approach would be consistent with the locational costs and benefits evaluations currently being undertaken at the CPUC.[2] These preferred resource solutions not only address demand, but also contribute to preferred procurement, current and future RPS goals and emission targets, and satisfy the state's Loading Order. In addition, such distributed solutions reduce the scale of risk associated with loss of a single, large facility, thereby enhancing grid resilience. In cases where NTA could be created at equal or lesser cost, policy and procurement should be developed to achieve this preferable alternative.

Thank you for your consideration of these comments,

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[2] CPUC workshop January 31st following the initial report "Technical Potential for Local Distributed Photovoltaics in California." that took into account, among other things: (a) theoretical resource potential, (b) an assessment and quantification of suitable site locations, (c) an assessment of technology costs, (d) an assessment of available distribution and substation capacity, and (e) a quantification of the locational benefits.