

**Comments of the California Consumers Alliance
Regarding the September 26-27, 2012
California ISO 2012/2013 Transmission Planning Process Stakeholder Meeting,
Preliminary Reliability Assessment Results and Participating Transmission Owners'
Proposals.**

Introduction

The California Consumer Alliance (CCA) appreciates the opportunity to review and submit comments regarding the CAISO's preliminary reliability analysis and the PTOs' proposed mitigations. The CCA recognizes the significant amount of work that the CAISO Staff has accomplished since Phase 1 of the 2012/13 TPP. We also take note of CAISO's measured efforts to make its *preliminary reliability study results* available in a manner consistent with the Study Plan.

We consider some of the proposals, such as the “Barre - Ellis 230 kV Reconfiguration” project, to be needed and cost effective solutions for improving the reliability of the system and we are willing to support implementation of these projects. However, we question others; the CAISO has not yet provided enough data to support the conclusion that many of the proposed solutions are the least-cost solutions considering a reasonable range of feasible wires and non-wires alternatives. As required by FERC and NERC, CAISO uses a deterministic approach to its reliability studies—the likelihood of occurrence and the severity of outcomes does not come into play in identifying the contingencies that must be studied. Nor does likelihood of occurrence or severity of outcomes change the fact that under FERC and NERC reliability standards, mitigation must be identified where any violation of the standards is found. However, likelihood of occurrence and severity of outcomes are very relevant in determining what specific mitigation measures are sensible to pursue. For example, where the likelihood of a double contingency event is small and the resulting reliability standard violation is not too severe, load drop may be the sensible solution to pursue since it is low cost, unlikely to ever be needed, and avoids the possibility of cascading outages.

At the September 27, 2012 meeting, the PTOs presented their proposed mitigations to stakeholders for the first time. The PTOs have submitted a total of **57** transmission projects for CAISO approval in the 2012/13 TPP. In what amounts to just over two weeks time, stakeholders are being tasked with reviewing and responding to the CAISO's preliminary reliability results and the PTO's proposed mitigations. This is a daunting undertaking for stakeholders with limited resources.

The CCA would like to fully understand and examine the cases where the proposed mitigation may result in an extraordinary burden for consumers and the environment as compared to feasible alternatives. At the September 26, 27 meetings, CAISO staff stressed the importance of consistent and early involvement of stakeholders. In tune with staff's recommendation, we point out that timely and transparent access to information plays a crucial role in facilitating stakeholders' early and meaningful involvement.

Central California Study

Central California has been the subject of numerous and nearly continuous transmission studies for at least the last seven years. When one includes Path 15 studies, the time span stretches back much further. The CCA notes that the current Central California Study distinguishes itself from its numerous predecessors in that the current analysis has not started as a project objective-based planning effort, but rather, it explicitly sets out to evaluate the transmission system in Central California to determine if need(s) exists in the first place. We believe this approach to be superior to previous study efforts in the area. Nevertheless, we have concerns. As the process unfolds, we request the CAISO consider the following:

1) Durability of Preliminary Reliability Results.

Three of the CAISO's September 26 presentations: 1) *PG&E Bulk Transmission System Preliminary Reliability Assessment Results*, 2) *Fresno & Kern Areas Preliminary Reliability Assessment Results*, 3) *Central California Study Area Preliminary Reliability Assessment Results*, and the corresponding *2012/13 ISO Reliability Assessment-Preliminary Study Result posted on August 15* indicate that the assessments for these reliability studies are ongoing and the *results* reflect 2017 cases and a few additional 2022 PG&E Bulk Transmission Assessment cases only.

As we understand it, key assumptions and other factors that could significantly impact the 2022 cases that have not been incorporated into the 2017 assessments; not the least of which are accounting for updated generation portfolios and fully meeting the 33% RPS requirement. Since the currently posted *results* are subject to change in the 2022 assessment, stakeholders are currently tasked with reviewing and responding to an incomplete assessment. We urge the CAISO to provide stakeholders with extended time for examining the more complete ten-year assessment results and developing fully informed comments.

2) Clarification of Base Case Parameters

The CAISO's *Preliminary Reliability Assessment Results* incorporated into the *Central California Study* includes several 2017 cases with various parameters that appear to be meant to "stress" grid elements in Central California. The CAISO also indicates that it has used historical data to set path flows used in the modeling. The 2017 cases have identified several normal overloads and numerous post contingency reliability concerns. The CCA understands that the stress cases that the CAISO has developed may be an informative modeling exercise that simulates critical system conditions, however, we question whether the particular pre-contingency scenarios (a convergence of the parameters used in the various base cases) incorporated into the *Central California Studies* are reasonable to utilize. The reasonableness of the generation dispatch pattern is central to assessing whether the power flow results are truly indicative, or merely a matter of intellectual curiosity. Thus, we are compelled to ask the following:

- i. How often during a given year are the particular generation dispatch patterns and load levels likely to occur?
- ii. Are the generation dispatch patterns and load levels used in the pre-contingency power flow cases realistic?
- iii. Are we dealing with system conditions that could be present in a significant number of hours a year?
- iv. Or, are we dealing with system conditions that are highly unlikely to simultaneously occur?
- v. Could the identified reliability standard violations be avoided altogether by redispatching out-of-economic-merit order controllable fossil-fired generation? If so, what are the estimated annual costs of such redispatch?

As one example, we note that some of the most severe 2017 reliability concerns in the Central California Study Area are identified in the ISO's *PG&E Bulk - Summer Light Load, Summer Off-Peak & Summer Partial Peak Study*. As we understand it, the base case for this study includes the simultaneous occurrence of following parameters:

- Northern Cal Hydro – dry year historical data
- Path 15 modeled according to dry year historical data for partial peak hours (25 MW South-to-North)
- Path 66 stressed at maximum per dry year historical data for partial peak hours (4350 MW North-to-South)
- North of Los Banos flow modeled at 800 MW North-to-South
- Helms Off-line

The CCA believes it would be instructive for the CAISO to test whether alternative generation dispatch patterns for the *Summer Off peak* and the *Summer Partial Peak* study conditions would result in the same, more severe or less severe reliability standard violations than those identified in the CAISO's published results. Different generation dispatch patterns—which could be achieved through the out-of-economic-merit order redispatch of generation (i.e., congestion management)—could change the Path 15, Path 66 and North of Los Banos flows and thereby post-contingency results.

Another example where we seek clarification regarding the reasonableness of a utilized base case parameter is in the *2017 Fall/Winter Off-Peak--Dry Hydro Scenario*. Slide 9 of CAISO's presentation indicates *Helms pumping with two pumps* in the base case. For the reasons we explain below, the assumed simultaneous operation of two 300 MW pumps may not be a realistic scenario for Fall/Winter drought conditions in the Central Sierra Nevada. Nor is the parameter of *Helms pumping with two pumps* completely consistent with other "dry-hydro" cases that CAISO has put together for the Central California Study.

The Helms' lower pool, Wishon reservoir, is situated in the watershed of the North Fork of the Kings River. The upper pool, Courtright reservoir, is situated in the adjacent tributary watersheds of Helms and Dusy Creeks. Both of these reservoirs are largely dependent upon annual precipitation, as are any users of water from the North Fork of the Kings River. During the fall and winter months of past drought years, it has not been all that uncommon to find Wishon reservoir to be significantly drained. Furthermore, review of historic data from The Water Resources Division of the U.S. Geological Survey reveals extreme variation in annual runoff in the watershed of the North Fork of the Kings River. Ten year statistics published by the USGS show as much an 8 fold difference between the min and max fall/winter month inflows into the Helms lower pool, and that the period from Nov-Mar is when the reservoir tends to be at its lowest annual levels, While the Helms PSP essentially operates as a closed loop of sorts, the pools are not immune to *dry-hydro* conditions but are highly dependent on inflows and minimum levels to facilitate pumping and generation. Furthermore, it is our understanding that each of the three Helms units is capable of pumping at a rate of 2400 cubic feet per second. All told, it is less than clear that *Fall/Winter--Dry Hydro Scenario* conditions would regularly allow for the simultaneous operation of two Helms pumping units.

Being a relative condition, drought has differing degrees of severity that would affect a *Dry-Hydro scenario*, and presumably the dispatch pattern of the hydro generation fleet that supplies energy to the Greater Fresno area. Nevertheless, we believe the *dry-hydro* base case should strive to account for supportable, hydrological data based conditions. Moreover, we believe *Dry-Hydro Scenarios* should be modeled in a consistent manner across all of the base cases.

Lastly, we recognize some high level similarities in the *2017 Fall/Winter Off-Peak--Dry Hydro Scenario* to transmission studies of the past. We request the CAISO consider the generation dispatch and load assumptions utilized in this case as a means to eliminate the *normal (101%) overload on the Midway-Gates 500 kV line*, and the post contingency overloads.

3) Potential Mitigation

It is noted that the *results* on Slide 7 of *Central California Study Area Preliminary Reliability Assessment Results/ 2017 Summer Partial Peak* presentation indicate that *dispatching Fresno Area internal peaking resources mitigates the identified normal overloads*. We have generally noticed that the CAISO has bulleted *potential mitigation(s)* throughout its September 26 presentations. However the CAISO presentations do not make clear what alternatives are actually being assessed in developing mitigation for identified reliability standard violations. The CCA requests that future study results clearly identify which alternative mitigation(s) are being analyzed for each reliability standard violation(s) and, the manner and level of detail at which the CAISO's analysis of the alternative mitigation(s) is being carried out.

4) Helms Pumped Storage.

The CCA observes that the Central California Study Scope shows, and the preliminary reliability results suggest, that the CAISO intends to perform the largest portion of evaluating the utilization of the Helms Pumped Storage Plant in the 2012/13 Economic Planning Study. The CCA recognizes that Helms PSP is a useful resource in certain system conditions. However, we are not aware of any studies that indicate it is necessary for grid reliability purposes, or for the integration of intermittent renewable resources, to have the 3 Helms units always available. If such studies exist, CCA requests that the CAISO make those studies available to stakeholders for their review and input.

CCA requests that with respect to Helms, the CAISO explain what is meant by "*full participation in ancillary services*" as the term is used in the *Central California Study Scope*. Should stakeholders assume it refers to the full pumping/generation capability of all three Helms units during all hours of a year?

According to the *Pumped Storage Generating Statistics (Large Plant) Report* included in the *2010 Annual Report of PG&E (Form 1) to the California Public Utilities Commission*, energy statistics for the Helms Pumped Storage Plant were reported as follows:

- Generation, (exclusive of plant use) = 583, 877, 767 KWH.
- Energy for Pumping = 899,144, 292 KWH
- Net output for Load = (-315,263,525) KWH

These 2010 statistics from *Form 1* indicate an efficiency factor of approximately 65%. Accounting for the installed capacities of the Helms turbines in pumping and generation modes, the statistics for the Helms PSP translate into **5.49 % & 11.4%** annual capacity factors for generators, and pumps, respectively.

The CCA believes that the CAISO's 2012/13 economic studies related to the utilization of Helms PSP should precisely explain the rationale behind "full participation". We request that the production simulation modeling the CAISO intends to perform fully account for all operational limits of the facility. We understand the production simulation modeling will reflect the limitations of the existing transmission grid so that the effect of those limitations on the ability to operate the Helms facility up to each pumping/generating unit's full capability, if any, will be accounted for. Importantly, the CAISO needs to expand the scope of the economic study to include cases that incorporate possible transmission upgrades in the Fresno area. This will allow the CAISO to compare the cost of operating the system as is, with the cost of operating the system with the transmission upgrades. The economic study should identify the most economical solution, considering both fixed and variable costs, for accommodating intermittent renewable resources.

5) PG&E's proposed mitigations

Two PG&E proposals, (i) *Northern Fresno 115 kV Area Reinforcement* (ii) *Greater Fresno Area Upgrade Project* appear to be in response to preliminary reliability concerns identified in the cases completed to-date that comprise the *Central California Study*. Due to the scarcity of information provided in PG&E's presentations and through discussions with PG&E representatives regarding the proposals, it is virtually impossible to tell if the PG&E-proposed mitigations are effective or economical. Note that the only way to determine whether the PG&E-proposed mitigations are economical is to understand the alternative mitigation solutions that PG&E evaluated and rejected, and their respective costs. It is necessary to establish whether those alternative mitigation solutions included a reasonable range of options (other infrastructure solutions, Remedial Action Schemes, generation redispatch, etc.)

Given the scant information made available in PG&E's presentation, it is impossible to formulate a worthwhile evaluation of the PG&E proposal. The only method of reaching a worthwhile evaluation is to compare the economic impact of PG&E's proposed solution to the economic impact of alternative solutions.

The cost of the *Greater Fresno Area Upgrade Project* is subject to significant variables. For example, the uncertainty in the location of Path 15 terminations of the two 230kV lines emanating from the new *Raisin City Junction Substation* could lead to a near doubling of the length of these two lines. As it stands, PG&E's estimate of 40 miles appears to be erroneously based upon a straight-line distance from the *Raisin City Junction Substation* to the *Gates* and *Panoche Substations*. Moreover, a straight-line distance from *Raisin City* to the *Los Banos Substation* would be over 70 miles.

We also note that the *Northern Fresno 115kV Area Reinforcement* and *Greater Fresno Area Upgrade Project* share overlapping elements, in particular, a new *North Fresno Substation*. The line drawings in the presentations for both PG&E proposals reveal the looping of the existing *Helms-Gregg 230kV* into the proposed *North Fresno Substation*, but in different configurations--single and double circuit. Neither of the PG&E presentation offers a text description of the modifications to the *Helms-Gregg DCTL*. Furthermore, it is not clear which of the proposals (if any) account for these significant modifications to these existing 230kV facilities.

Assuming that CAISO's evaluation of these proposals moves forward, we request that uncertainties that cloud costs estimates be clarified, and realistic estimates be developed and utilized.

Other Non-Transmission Alternatives

The CCA appreciates the CAISO's decision to directly address the issue of *Non Transmission Alternatives*. We find that Neil Millar's presentation offers well-reasoned reference points to facilitate a discussion with stakeholders.

First, the CCA recognizes that the CAISO already incorporates consideration of *Non Wires Alternatives (NWA)* in the transmission planning process. Contrary to a bullet point in Mr. Millar's presentation, we also believe that the ISO does have the authority to ensure that some non-wires alternatives are actually implemented. To make this point clear, throughout the CAISO September 26 *Preliminary Reliability Assessment Results* presentation, the CAISO has offered a number of examples of *potential mitigations* that are in fact *NWAs*--the examples include, operating solutions, congestion management, generation re-dispatch, SPS modifications, etc. Furthermore, there are numerous *NWA* solutions and mitigations that have been implemented by CAISO, and are in place today. These include, out of economic order re-dispatch of generation, remedial action/special protection schemes, re-rating of exiting facilities, under-voltage load shedding, etc., that are being used today.

We view Mr. Millar's presentation as a matter of facts statement on how the CAISO views Preferred/Demand Side Resources in the TPP. Mr. Millar's presentation describes the significant technical requirements that a non-transmission alternative should meet in order for it to be given consideration as a potential solution to an ISO identified need. The technical requirements include, *providing necessary location specificity, operating characteristics and certainty*. Mr. Millar's presentation goes on by explaining that the burden of meeting the technical requirements largely rests upon advocating stakeholder(s). Finally, an advocate for non-transmission alternatives is presented with a caveat... *the ISO has no ability or authority to ensure that any proposed non-wires alternative is actually implemented*. The CAISO, however, must accept that other market participants do have the ability to ensure that proposed non-wires alternatives are actually implemented. The CAISO should also acknowledge that in response to increasing electricity rates, consumers in growing numbers are providing for their energy needs, and, reducing their demand on the system; the market is providing means implement these preferred resources, in singular and aggregated levels of deployment. CCA notes that nearly all infrastructure alternatives, both wires and non-wires, are subject to regulatory permitting requirements so even the CAISO cannot "ensure" that any proposed wires alternative is implemented. The CAISO needs to change its mind-set; without which we are less than confident that preferred resources would be given meaningful consideration as alternatives to transmission.

1) Obstacles to integrating Preferred Resources into the TPP

Preferred resources (EE, DR, CHP, and DG) are demand side resources directly accessible to consumers that reduce load and correspondingly lower system needs. The CAISO TPP does little to accommodate and nothing to implement demand side

resources. Conversely, the transmission planning process accommodates supply side resources advocated for by market participants, and essentially passes the costs of implementing these resources on to consumers, the net effect resembling oligarchy in action. Examples of how market participants are proactively accommodated include the CAISO's extensive infrastructure planning processes and approved upgrades to interconnect remote generators, and active advocacy for flexible resources in the form of conventional generation. In comparison, a demand side resource is confined to planning assumptions and not been given anything remotely resembling prospective planning treatment offered to supply side resources.

Demand side resources should not be automatically discounted in mitigating identified reliability concerns. Analysis is needed to determine whether such resources are sufficiently reliable. Nor should ISO control be the deciding factor. A technology neutral comparative analysis should be performed as a means to inform the regulatory approval and procurement processes with jurisdiction.

In developing and implementing the *Energy Action Plan Loading Order*, the CPUC & CEC prioritize demand side resources as the preferred means to meet energy needs. It is our impression that CAISO largely agrees with the CEC & CPUC deference to meeting needs with preferred resources but traditional roles and methods have stifled cooperation on the issue. While we appreciate the CAISO's concerns about certainty, again, it is critical for CAISO to consider the extent to which "certainty" is provided for by its decision-making processes alone. As it stands, resources that CAISO approves are often required to subsequently move through regulatory processes administered by other agencies.

2) Recommendations regarding preferred resources

The CCA suggests that the CAISO reset its perspective regarding the consideration of preferred resources in the TPP. Preclusive treatment of preferred resources is not helpful or instructive--It amounts to partiality, before the facts are established. Reducing the range of competing feasible alternatives impacts consumers.

Removing impediments to the consideration of preferred resources would enhance the transmission planning process by broadening the range of alternatives to evaluate. In cases where preferred resources are determined to be the most cost effective solution, the analysis results will serve to garner commitment to the state's policy priorities in meeting energy needs.

The CCA propose a way forward. We believe that FERC Order No. 1000 provides a means to reconcile agency cooperation in the meeting energy needs with preferred resources. In compliance with FERC Order No. 1000, we note that the CAISO intends to provide a clearer path for the consideration of public policy requirements in its annual TPP. We believe that further progress on the issue of preferred resources hinges on a clear answer to this question: **Does the CAISO consider California's established EAP Loading Order a public policy requirement?**

Assuming that the CAISO finds that the Loading Order is a public policy requirement, identifying the most successful strategies employed in CAISO's RPS policy driven planning processes would be constructive in developing a Loading Order public policy initiative. We believe a Loading Order initiative would ultimately help to reconcile differences and move the state closer to realizing its long-standing energy priorities--an accomplishment that would be highly supported by stakeholders, including consumers.

Immediately, the CAISO TPP can provide better public service by providing a balanced analysis (e.g. *providing necessary location specificity, operating characteristics and certainty*) where and when preferred resources can efficiently meet identified needs. This would help to inform stakeholders, the market place, and the regulatory authorities that have jurisdiction over those preferred resources.

Respectfully Submitted,

California Consumers Alliance, October 15, 2012

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