BAMX Comments on the CAISO 2011 Transmission Draft Study Plan

The Bay Area Municipal Transmission group (BAMx)[1] appreciates the opportunity to comment on the CAISO 2011 Transmission Draft Study Plan. The comments and questions below address the study plan posted on the ISO's website February 5, 2010 and discussed during the February 12th Stakeholder meeting.

Stakeholder Participation

In Section 1.2 of the study plan, the ISO states that it posts the Stakeholder comments on the ISO Website and typically provides responses either in the final transmission plan document or within 4 weeks after the comment period. BAMx would like to point out that in the 2010 planning cycle; the ISO did not provide any responses to comments on the draft study plan. Likewise, the ISO has not, so far, responded to the stakeholder comments filed on November 25, 2009 on posting of the ISO study results and on the presentations by the PTOs comprising their proposed solution. This lack of response of the ISO to stakeholder comments is not conducive to meaningful exchange of ideas between the ISO and the stakeholders, particularly when the stakeholders have no opportunity to provide any further input. Having a response after the projects are approved is not very helpful.

Development of Base Power Flow Cases

In Section 2.1.7 of the study plan, the ISO proposes that a 33% RPS scenario for renewable resources modeled in the planning base cases in this planning cycle. BAMx suggests that the ISO should prepare the base power flow cases consistent with past practices. These traditional base cases should include only those renewables that meet the standard applied in the past to the representation of new generation in the base cases. We understand from the ISO's comments made in the February 12th Stakeholder meeting that this will be the case for the SCE and SDG&E service areas. We believe that the ISO should adopt the same approach for the PG&E service area. The ISO should create additional scenarios comprising alternative methods of reaching the 33% renewables goal. The assumptions for these cases should be vetted with Stakeholders during the time that these "standard" new generation base cases are developed. During this stakeholder process the latest RETI recommendations with respect to an appropriate range of "net short" calculations can be considered along with other assumptions, which will drive the assumed location and characteristics of the renewables.

BAMx agrees that some scenarios should be based upon the renewable generation and associated transmission in the ISO queue that is in the multiple stages of interconnection process, and agrees that some 33% RPS scenarios should be run as proposed.

[1] BAMx consists of Alameda Municipal Power, City of Palo Alto Utilities, and City of Santa Clara, Silicon Valley Power.

Sequence of the Study Plan to Develop the Power Flow Cases

BAMx recognizes that to accomplish the above vetting of assumptions by stakeholders the CAISO will need to publish the final study plan comprising the traditional base cases and only discuss the envisioned stakeholder process that deals with the 33% RPS scenarios.

Data Availability

Table 2-9 of the Study plan includes a list of key protection systems modeled in the reliability study. BAMx appreciates the ISO's efforts in providing this data, which provides considerable insights to stakeholders. However, more detail is probably needed to allow Stakeholders to replicate the CAISO and PTO studies.

Proposed Power Flow Contingency Analysis

The ISO claims that it will perform power flow contingency analyses based on the ISO planning standards which are based on the reliability standards established by NERC and WECC, as well as "local reliability criteria." The "local reliability criteria" are neither listed under the CAISO planning standards nor under the CAISO tariff. They are merely defined in the tariff. BAMx requests the ISO to list them in an appendix to the final study plan, if not within the final study plan itself.

The ISO claims that the study would simulate all single contingencies in the area (include considering all combination of *N-1* and *G-1* contingencies), all double circuit tower line outages plus all combinations of any two elements (generator, line, transformer) out as well as ***combinations of any one element out followed by double circuit tower line outages***. Please explain further the reasons for these studies. The latter type of contingency (*N-2-1*) appears to be a new requirement. Would this be a level D criterion?

The ISO has provided Delta Energy Center and Otay Mesa power plant as examples of the Combined Cycle plants- the outages of their entire capacity are studied as *G-1* contingencies. Please list all the combined cycle generation whose whole plant should be considered a single *G-1* contingency.

Post Transient Analyses

The ISO indicates that for the SCE system, the voltage deviation of 7% for "*N-1*" contingencies is observed and 10% for "*N-2*" contingencies. Please explain why SCE's voltage deviation threshold of 7% is higher than the WECC criterion of 5% for "*N-1*" contingency and why this complies with WECC standards.

Power Factor Assumption

The ISO has included the power factors for SCE & SDGE as part of the reliability assessment study assumptions, however not for the PG&E area. Please explain the power factor assumptions for PG&E.

Economic Planning Study Results

The 2011 study plan directs the reader to section 2.3 of the 2010 final study plan. Upon reviewing this section, BAMx has the following questions/comments.

1. **Phase 1:** It is our impression that in the 2010 planning cycle, the ISO has conducted most of the analyses conceptualized in Phase 1, which includes
    a. Congestion Evaluation using production cost simulation to simulate 8,760 hours of system operation for each study year.
    b. Tabulate Grid congestion and rank by congestion costs (million dollars) and congestion duration (hours).
    c. The first five congestion issues are identified as high-priority studies.

    However, there was another step in Phase 1, where the ISO was supposed to associate those high-priority studies with stakeholder-proposed mitigation plans in their study requests. BAMx does not think that this task was performed. Is that accurate? Please indicate if it was performed or if the ISO plans to perform this step during the 2011 planning cycle.

2. **Phase 2:** The Phase 2 of the Economic Planning study, i.e., Congestion Mitigation involved the following two analyses:
    a. *Comparative Analysis:* For the five high-priority studies, the ISO would run production cost simulation to compute economic benefits of the mitigation plans. Then, cost-benefit analysis would compare the net Benefit of the mitigation plan and select the most economic alternative; and
    b. *Uncertainty Analysis:* With the most economic alternative identified, if the net benefit (benefit minus cost) is positive, the mitigation plan would be studied in uncertainty analysis, also known as sensitivity analysis. In the uncertainty analysis, some major study assumptions (e.g. load forecast, hydro condition and natural gas prices) are varied to test the robustness of the mitigation plan.

    It is our understanding that none of the above two analyses were conducted during the 2010 planning cycle. Are we correct? If so, does the ISO envision conducting either of these analyses, comparative or/and uncertainty, during the 2011 planning cycle? If so, what is the expected timeline? Does the ISO plan to provide the results for Phase 1 and Phase 2 studies simultaneously or sequentially?

Once Through Cooling Study

The ISO's section titled, "Once Through Cooling" (OTC) is purely a description of the issue and not a study plan. BAMx encourages the CAISO to plan a stakeholder process to develop a detailed OTC study plan. This should be accomplished after publication of the study plan for 2011. The study plan should describe the Stakeholder process to develop the OTC study scenarios.

In this context BAMx would like to reiterate our prior comments to the ISO on the 2020 Renewable Transmission Conceptual Plan. Care needs to be taken to differentiate between RPS stand-alone upgrades versus those driven by the OTC retirement.

BAMx appreciates the opportunity to comment on the CAISO 2011 Transmission Draft Study Plan and acknowledges the significant effort of the ISO staff to develop the plan.

If you have any questions concerning these comments, please contact Barry Flynn (888-634-7516 and brflynn@flynnrci.com) or Pushkar Wagle (888-634-3339 and pushkarwagle@flynnrci.com).