BAMx Comments on CAISO 2012/2013 ISO Transmission Plan Renewable Portfolios

The Bay Area Municipal Transmission Group (BAMx)[1] appreciates the opportunity to comment on the CAISO 2012/2013 ISO Transmission Plan Renewable Portfolios (Renewable Portfolios). The comments and questions below address the presentations made by the CAISO, CPUC and CEC during the April 2nd Stakeholder meeting.

Our comments cover the following five major topics.

1. Importance of coordination between the State agencies and need for continuing stakeholder involvement;
2. Determination of the Renewable Portfolios to be studied;
3. Need to utilize the most updated and realistic projections in developing the Renewable Net Short estimate;
4. Need to expand on the POU-planned resources; and
5. Provide data on what the existing transmission system can accommodate.

1. Need for Meaningful Stakeholder Involvement and State Agency Coordination

Our ability to provide meaningful comments on the planning process is highly dependent upon the CAISO's facilitation of multiple interactions with stakeholders and timely response to each round of stakeholder comments. BAMx is encouraged with the CAISO/CPUC's efforts to have meaningful stakeholder input in the development of the 33% RPS portfolios, as we believe it to be the one of the most critical elements of the 2012/2013 transmission planning cycle. We applaud the CAISO and CPUC's efforts in the 2011-12 transmission planning cycle in implementing their May 13, 2010 MOU to ensure that the planning processes are better coordinated. We are glad that the CAISO and CPUC have expanded this cooperation this year to include the California Energy Commission (CEC) to utilize their expertise not only in the area of load forecasting and environmental impact, but also for several other underlying elements that affect the determination of the Renewable Net Short (RNS), a key component of the Renewable Portfolio development.

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

2. Determination of the Base Case Renewable Portfolio

BAMx believes that it is very prudent to study multiple scenarios under the 2012-2013 transmission planning cycle given the great uncertainty associated with renewable generation and transmission development by 2020/2022. So we endorse studying all four scenarios, as updated, in the 2012/2013 planning cycle.

Based upon current circumstances/conditions BAMx believes that both the CPUC *Cost-constrained* and the *High DG* scenarios are the best candidates to be the "Base Case" scenario for the CAISO 2012-2013 transmission plan. However, we expect the CAISO to study the remaining CPUC scenarios and to identify the transmission needed under each of these scenarios. We support a cost emphasis when determining which transmission network upgrades should be constructed, especially if they are paid for by all load/ ratepayers, which the current Tariff requires. However, the *High DG* scenario is the only scenario that addresses the State's 12,000 MW Distributed Generation (DG) goal, which is a key part of Governor Brown's vision of the future and which all the State's regulatory agencies are working hard to achieve.[2] Selecting the *High DG* scenario as the Base Case is clearly one of the candidates from the standpoint of consistency with the State's energy goals because it is closest to correlating with the State's DG goal.

Although we find the *Cost-constrained* scenario is less consistent with the State's energy goals as it currently represents only 2,050 MW of utility-side DG, we would not object to its use as the Base Case. Furthermore, the *Cost-constrained* scenario has been selected by the CPUC and therefore its selection would be consistent with our concern for cooperation amongst State agencies. Circumstances have changed dramatically in recent months: The current queue collectively represents an approximately 55,000 MW of proposed new generating capacity, far in excess of that needed to meet the estimated 11,000-13,000 MW of new renewable generation needed to meet the 33% RPS;[3] there are more contracts either signed or before the CPUC at this time than is needed to meet the State's goals, especially given the State goal of 12,000MW of DG; and the CAISO has "approved" more than enough transmission to meet the 33% goal by 2020. So clearly using the past commercial interest as a predictor of the future is inappropriate.

[2] See California Clean Energy Future presentation, "Overview and Metric Review" IEPR Committee, Joint Agency Workshop dated July 6, 2011.
[3] "Briefing on Renewable Integration in the ISO Generator Interconnection Queue," by Robert Emmert, Manager, Interconnection Resources at the Board of Governors Meeting General Session, October 27-28, 2011.

Due to the lack of cost assessment provisions in the CAISO's past and existing tariff that deal with generation interconnection procedures, there has not been any economic test applied to the Large Generation Interconnection Procedure (LGIP) related transmission projects that have been approved by the CAISO thus far. The CPUC needs an effective tool going forward in performing the economic assessment of the transmission projects that it would consider under its Certificate of Public Convenience and Need (CPCN) process.[4]

During the April 2nd stakeholder meeting, it was not very clear whether the CAISO plans to model all transmission projects needed to meet the 33% RPS goal under the 2011-12 transmission plan in this year's Base Case even if they do not have regulatory approvals as yet. We request the CAISO to model only those GIA-driven network upgrades (NU)[5] that are identified to be "needed" for the specific CPUC resource portfolio. The CAISO has already taken steps in this direction. For example, GIP-driven NUs such as, the *Llano-Kramer 500 kV*, *Kramer Inyokern 230 kV*, *Bishop-Inyokern 230 kV* lines were not found to be needed in any of the four resource portfolios, and therefore were not modeled in the 2010-11 transmission plan. Similarly, the CAISO has indicated that it does not plan to model the *Lugo-Pisgah 500kV* transmission project in the Base Cases for the 2012-13 planning cycle. We urge the CAISO to be consistent with this logic and reconsider modeling the remaining GIA-driven facilities such as, the *Coolwater-Lugo 230kV* and the *West of Devers Reconductoring* projects in in the Base Cases for the 2012-13 planning cycle. These NUs should only be added as needed to mitigate deficiencies that exist to deliver the renewables represented in each portfolio.

The CAISO, by progressing in this manner, would assist State siting authorities in their proceedings on the proposed new GIA-driven projects that have never received CAISO Board approval nor been subjected to any cost effectiveness criteria.

3. Further Revise Renewable Net Short (RNS)

We applaud the CEC's decision to serve as the focal point to develop a revised RNS amount. We believe it is the proper agency in the State to accept the role for establishing an RNS number for others to use in various studies, including important ones that determine future infrastructure needs.

---

[4] In particular, the CPUC's three-prong test determines the need for a given transmission project to meet the RPS mandate.

[5] These NUs are neither approved by the CAISO Board of Governors nor permitted by the CPUC. However, they are part of the 2011/2012 CAISO Transmission Plan Supporting Renewable Energy Goals. See Table 1 of CAISO 2011/12 Draft Transmission Plan dated January 31, 2012.

In Table 1, we have compared last year's RNS estimates for year 2020 with those proposed at this time. Table 1 shows that the most recent demand forecast (CEC's February 23, 2012 Revised Mid Forecast) is signficantly lower than the last year's projections. However, it indicates that the estimate of total amount of renewables needed in 2020 has actually gone up relative to the last year's estimate. This high RNS is primarily driven by low estimates of Incremental Uncommited Energy Efficiency (EE) and Incremental CHP in this year's analysis.

Table 1: A Comparison of Last Year vs. This Year's Proposed California Renewables Net Short Calculation (in GWh) in 2020.

<table>
<tr><th>Row</th><th>Category</th><th>Source (This Year)</th><th>2020 (Last Year)</th><th>2020 (Proposed This Year)</th></tr>
<tr><td>1</td><td>Total Retail Sales</td><td>February 23, 2012 Revised Mid Forecast 1.1c</td><td rowspan="2">287,400</td><td>291,935</td></tr>
<tr><td>2</td><td>Pumping Load</td><td>February 23, 2012 Revised Mid Forecast 1.1c</td><td>12,489</td></tr>
<tr><td>3</td><td>Incremental Uncommitted EE</td><td>Aug 2011 Mid Incremental Uncommitted EE (zero for BBEES)</td><td>17,000</td><td>11,572</td></tr>
<tr><td>4</td><td>Incremental Rooftop PV</td><td>Proposed Method to Calculate the Amount of New Renewable Generation Required to Comply with Policy Goals, pg. 19</td><td>0</td><td>3,200</td></tr>
<tr><td>5</td><td>Incremental CHP</td><td>Proposed Method to Calculate the Amount of New Renewable Generation Required to Comply with Policy Goals, pg. 21</td><td>7,600</td><td>0</td></tr>
<tr><td>6</td><td>Total for retail sales for RPS</td><td>(Row 1 - row 2 - row 3 - row 4 - row 5)</td><td>262,800</td><td>264,674</td></tr>
<tr><td>7</td><td>Total Renewables Needed</td><td>33% of retail sales for RPS</td><td>86,724</td><td>87,342</td></tr>
</table>

Incremental Uncommitted EE: CPUC's Big Bold Energy Efficiency Initiatives (BBEES) for "mid" scenario has **2,238GWh** and 3,114GWh assumed in 2020 and 2022, respectively. We understand that the CEC has set the contribution of BBEES to zero in this updated RNS. There is no rationale provided for this assumption. CE Staff report on 2012-2022 demand forecast states the following in terms of BBEES assumption.[6]

> *"The BBEES impacts differed by progress toward the CPUC's goals. For the most recent LTPP, the CPUC adjusted the incremental uncommitted efficiency in their "most likely" LTPP case so that the low scenario savings for BBEES from the 2010 study were used rather than the mid scenario savings. Therefore, to be consistent with the CPUC change, the mid incremental uncommitted savings case developed here uses the previous BBEES low scenario savings."*

In other words, BBEES estimates were already lowered. So we do not see any rationale for reducing it from **2,238GWh** in 2020 to **zero**. BAMx belives that the incremental uncommited EE amount needs to be at least as high as **15.3TWh** in 2020 accounting for BBEES for the following reasons. First, the last year's CPUC assumed amounts were as high as 17TWh. Second, as per the CEC staff's most updated estimates[7], the uncommitted EE range was from 15.2TWh-19.9TWh with 17.1TWh as the mid-case. The CEC staff's estimates included an additional 1.9TWh to capture the CPUC directives that require IOUs to replace 50 percent of program savings that decay as efficiency measures wear out, starting in 2006.[8] In this report, the CEC staff stated the following.

> " *Since the 2009 IEPR forecast relied on adjusted utility- reported savings to develop projected impacts through 2020, this means that program impacts may be overstated in the forecast. In the case of codes and standards, the primary source of uncertainty comes from compliance rates, for which very little empirical data are available.*
>
> *Staff believes that it is appropriate to include some amount of incremental EE measures beyond those embedded in the IEPR demand forecast. Staff proposes that the number used in a renewable net short calculation should be the mid- case (17.1 TWh) incremental EE forecast.*"

Although we can understand some minor deviations based upon the fact that this is a three party collaborative effort, we fail to understand why the elements of the RNS calculations should

[6] P. 183 of Preliminary California Energy Demand Forecast 2012-2022, CEC-200-2011-011-SD, August 2011.
[7] See Table 1, in "Proposed Method to Calculate the Amount of New Renewable Generation Required to Comply with Policy Goals," CEC- 200- 2011- 001- SF, November 2011.
[8] Incremental Impacts of Energy Policy Initiatives Relative to the 2009 Integrated Energy Policy Report Adopted Demand Forecast at http://www.energy.ca.gov/2010publications/CEC- 200- 2010- 001/index.html.

depart so much from the CEC staff recommendations when they clearly have put a tremendous amount of effort into their assessment.

Third, in the absence of any breakdown of the proposed uncommitted EE estimate of 11.5TWh, we are concerned that it may not include any estimate for uncommitted EE for the POUs (with nearly 25% of State's retail sales consumption).

BAMx also urges the CAISO to ensure accurate modeling of the uncommitted EE amounts in their power flow cases. It is critical that the CAISO reduces load levels at appropriate network nodes to reflect the presumed uncommitted EE amounts in the RNS calculations. Otherwise, these high levels of loads in the CAISO's renewable portfolios would inacurately result in excessive need for transmission upgrades.

Incremental CHP: The CEC staff's latest mid-range assumed CHP value is **7.2 TWh**.[9] The last year's renewable portfolios RNS was based on the CPUC LTPP value of **7.6TWh** of CHP, which was consistent with the CEC's mid-range assumption. However, CEC's latest RNS calculations provided to CPUC sets the incremental CHP value to **zero**. CEC Staff's lower bound of **0TWh** of incremental CHP represents the assumption that all new CHP generation will consist of wholesale CHP and will not affect the calculation of renewable net short. It appears especially inappropriate to apply this extreme assumption for the mid-case that was developed for the CPUC renewable portfolios. BAMx questions the reasonableness of this assumption. An October 2009 ICF Market Assessment Report PIER provided an inventory of existing CHP capacity, as well as estimates of technical and market potential for new CHP in California that took into account the AB 32 mandates and also an assumed CPUC CHP sponsored settlement agreement.[10] This report indicated that a sizable amount of existing CHP is on the customer-side of the meter. It also projected nearly 50%-90% installed CHP capacity to be on the demand side in the future.

We also note that the assumption of **0 MW** of incremental CHP by 2020/22 is not consistent with Governor Brown's goal for **6,500 MW** of new CHP development within 20 years. In its report[11], the CEC staff stated the following on the incremental CHP estimate.

[9] See pages 20-21, in "Proposed Method to Calculate the Amount of New Renewable Generation Required to Comply with Policy Goals," CEC- 200- 2011- 001- SF, November 2011.
[10] "Combined Heat and Power Market Assessment," October 2009, CEC-500-2009-094-D
[11] See footnote #8.

> " *With the pending approval of the settlement agreement by the CPUC, staff recommends using some of the outcomes presented for the All- In Case in the Market Assessment Report. Staff recommends using a 50/50 split assumption for the amount of CHP generation that is sold to the grid and what is consumed on site, consistent with the assumptions used in the CPUC Long- Term Procurement Proceeding, producing a CHP value of 7.2 TWh as a mid- range assumption for the renewable net short calculation. This value includes Governor Brown's goal for 6,500 MW of new CHP development within 20 years that is contained in the Clean Energy Jobs Plan.*"

We urge the CAISO to update the RNS by representing more realistic uncommitted incremental EE and CHP estimates that are more realistic as well as consistent with CEC's own most recent estimates.

We understand these portfolios are a joint effort and the net short comes from two CPUC Commissioners and the CEC Chairman but ultimately the CAISO decides what goes into their studies.

4. Update POU-planned Renewable Generation

We appreciate the CEC staff's efforts in capturing the POU-planned renewable generation and CPUC staff's diligence in modeling them in their 33% RPS calculator. There is only **466MW** of POU-planned renewable generation in the existing 33% RPS calculator. We belive that this amount does not include the most updated renewable projections of the POU that are planning for complinace with the 33% goal by 2020. We encourage the CEC Staff to continue to work with the POU's to obtain their latest plans.

Furthermore, we noticed that none of the DG modeled in the 33% RPS calculators and therefore in the resource portfolios include POU-planned DG. We encourage the CAISO to include this generation in their revised resource portfolios in 2012-13 TPP.

5. Provide Data on What the Existing Transmission System Can Accommodate

The CAISO should provide the data to stakeholders on how much renewables the existing transmission system can accommodate. The CPUC analysis was based upon interconnection studies that were available at the time. Many more interconnection studies have been completed since then. In other words, the CAISO should further update the transmission input assumptions modeled in the existing version of the CPUC calculator. We do not believe that the CAISO has covered all CREZ and non-CREZ areas in this update. Information from more recent interconnection studies (such as those for clusters 3 and 4) should be accounted for.

6. Additional Questions to CPUC

1. The last year's portfolios included **2,436 MW** of DG capacity in the Base Portfolio. This amount includes nearly 1,384 MW of DG that corresponds to the CPUC's approval of the Renewable Auction Mechanism (RAM) program. This year, the proposed Base portfolio contains a reduced level of DG at **2,050MW**. Please provide the reason for such reduction in assumed DG in the proposed portfolios (except for the High DG portfolio). Moreover, please identify the breakdown of DG amounts by its source.
2. The Out-of-State (OOS) renewable generation (energy) constituted nearly **24%** of overall RNS in the last year's Base portfolios. However, this year's proposed Base portfolio has less than **10%** of RNS "filled" by the OOS generation. Please explain why so little OOS generation is selected in this year's portfolios.

BAMx appreciates the opportunity to comment on the development of Renewable Portfolios under the CAISO 2012/2013 Transmission Plan and acknowledges the significant effort of CPUC, CEC and the CAISO staff to develop the portfolios.

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