

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking To Integrate and  
Refine Procurement Policies and Consider Long-  
Term Procurement Plans.

R. 12-03-014  
(Filed March 22, 2012)

**COMMENTS OF SIERRA CLUB CALIFORNIA AND UNION OF CONCERNED  
SCIENTISTS ON THE REVISED SCENARIOS FOR USE IN RULEMAKING 12-03-014**

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October 5, 2012

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Pursuant to the September 25, 2012 “Revised Assigned Commissioner’s Ruling Setting Forth Standardized Planning Scenarios For Comment,” Sierra Club California and Union of Concerned Scientists (“UCS”) respectfully submit these comments on the “Revised Scenarios for use in Rulemaking 12-03-014” provided as Attachment A to the September 25, 2012 Ruling.

**I. Taking Stock – Analysis Shows Continued Capacity Surplus in the System.**

Before moving to the next stage in this proceeding, Sierra Club and UCS encourage the Commission to acknowledge that the load and resources analysis of net system balances over the next 10 years in every realistic scenario (i.e., excluding the “Replicating TPP” and “Stress Case” scenarios) shows that the system has more than enough capacity to meet demand and provide a planning reserve margin. In all prior LTPP proceedings, this would have been the end of the analysis and the Commission would have determined that there was no need for additional procurement. Notwithstanding the new focus on renewable integration, Sierra Club and UCS believe this should still be the conclusion here.

As this proceeding moves to the next step in the analysis to consider operational flexibility needs, the Commission should not simply move the goal posts to provide additional chances for IOUs to procure natural gas-fired electrical generation resources. Instead, the

decisions that flow from the next stage should focus on how we can effectively use the demonstrated over-abundance of existing capacity to integrate renewable resources. The conclusion should be that we have more than enough pieces to provide reliable electric service – we just need to find the best way to fit those pieces together. As Sierra Club and others have highlighted in previous comments, should the next stage of analysis demonstrate a system *operational* need, the Commission, IOUs, and CAISO should explore *operational* solutions rather than simply adding more *capacity* to a system that already has surplus capacity. Using existing resources in a more sensible way promises to be cheaper for utility customers and more consistent with State policies than procuring new fossil-fueled resources.

Specific operational tools that have been suggested by various commenters include:

- Improving solar and wind forecasting data and tools to minimize operational flexibility needs;
- Using demand response resources for grid integration of renewables;<sup>1</sup>
- Exploring opportunities to import ancillary services from other systems including other balancing authorities, Publicly- and Municipally-Owned Utilities;<sup>2</sup>
- Improving data on the flexibility capacities of existing resources and using such information to guide the dispatch of resources to allow for regulation flexibility; and
- Upgrading software on existing resources to improve their flexibility (e.g., GE’s OpFlex technology).

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<sup>1</sup> See D. 12-04-04, p. 77 (April 19, 2012) (“[W]e also expect that DR will likely be called upon to meet new needs beyond its historic role as an emergency resource and peak shaving tool. DR is ideally suited to support grid integration of renewable generation, much of which will be intermittent or variable.”)

<sup>2</sup> See Pacific Northwest National Laboratory, “Analysis Methodology for Balancing Authority Cooperation in High Penetration of Variable Generation” (Feb. 2010)

Before approving any additional capacity, the Commission must direct the IOUs and CAISO to explain why these operational solutions will be inadequate. To the extent operational fixes are insufficient, the analysis should next explore solutions that would obviate the need for new natural gas generation capacity such as the addition of storage, and investments in addressing the demand-side of the need equation such as flexible demand response and energy efficiency. As the loading order dictates, only once cost-effective demand-side options have been exhausted should procurement of new capacity be considered, and then such procurement should give preference to renewable resources. *See* Cal. Pub. Util. Code § 454.5(b)(9)(C) (requiring procurement plans to demonstrate that “the electrical corporation shall first meet its unmet resource needs through all available energy efficiency and demand reduction resources that are cost effective, reliable, and feasible”).

## **II. Technical Comments on Revised Scenarios.**

### **A. Selection of Priority Scenarios for Modeling.**

Sierra Club and UCS generally agree with the proposed ranking of the scenarios for modeling in the next step. The first tier priority scenarios for modeling should include the Base Case, High DG + High DSM and Early SONGs Retirement. With the caveats noted below (e.g., on CHP, PV and retirement assumptions), these three scenarios reasonably bracket a conservative range of realistic predictions of what the system will look like in the future.

Sierra Club and UCS do not agree that the Replicating TPP scenario should be included in any modeling. ED Staff’s Revised Scenario write-up suggests that this scenario “seeks to facilitate the exchange of information between CPUC and [CAISO] with the ultimate goal of more effectively coordinating generation and transmission resource planning.” Revised Scenarios for Use in Rulemaking 12-03-014, at 15 (Sept. 2012). Sierra Club and UCS assume

that by this description, ED is acknowledging that this scenario is for purposes of comparing CPUC planning results to CAISO results and that this scenario is not a reasonable basis for making decisions on procurement. As ED staff recognized at the workshop held in August, the assumption in this scenario that all EE and DR policies will be abandoned or ignored is absurd, and is not based on any realistic prediction that load will be “unmanaged” in the future. To the contrary, this was a simplifying assumption in CAISO’s TPP modeling made at the time because CAISO claimed that it lacked locational information on EE and DR resources. As staff further acknowledged, even that justification is no longer valid. While the comparison ED seems to be interested in making might be of academic interest, it is not valuable for purposes of this proceeding. CAISO’s simplifying TPP assumptions are simply not legitimate. The Commission should not waste resources modeling scenarios that have no basis in reality and that do not conform to the State’s legal requirements for the LTPP. To the extent a comparison between transmission and generation modeling results would be valuable, the expectation should be that CAISO will improve its assumptions not that the Commission will sink to the lowest common denominator.

Instead of modeling the Replicating TPP Scenario, the Commission should move up scenario #5 (“High DG + High DSM, 40% RPS by 2030”) into the first tier of scenarios to be modeled. Sierra Club and UCS believe the current assumption that renewables will be capped at 33% beginning in 2020 is overly conservative and promotes the erroneous assumption that the State need not invest in renewables beyond a 33% penetration level to meet 2050 emission reduction goals. Indeed, Sierra Club and UCS believe this new scenario #5 should be modified to assume the State will achieve 40% RPS by 2020 and 55% RPS by 2030. A minimum 55% RPS target for 2030, concurrent with demand-side assumptions of aggressive increases in

conservation, efficiency, demand response and local renewables as well as a realistic population forecast, is consistent with the current growth rate in renewables and future expectations for demand-side reductions such as State policies for zero-net energy buildings. These assumptions are also more consistent with California’s 2050 greenhouse gas targets, which will likely require the electricity generating capacity of the state to be almost entirely replaced with near zero-emission technology.<sup>3</sup>

**B. Recommended adjustments to scenarios.**

**1. Need Realistic Limit on Retirement Assumptions.**

The analysis assumes that exiting power plant capacity will be systematically retired based on the age of the facility without applying any reality check on whether this is truly likely to occur. In particular, it is not reasonable to apply this constant retirement assumption as the net system balance approaches the planning reserve margin, which some of the scenarios do for the extended planning period. Once the net system balance dips below the planning reserve margin, the economics around the shutdown of non-OTC sources will undoubtedly change as will the flexibility to shutdown such sources that may be deemed necessary for reliability. The scenarios should assume that once the net system load reaches 115 to 117 percent, additional retirements will slow down or cease. This will avoid unrealistic predictions that we will unnecessarily dig ourselves into net short holes.

**2. The “Low Incremental CHP” Assumptions Used in the Base Case Scenario Are Not Reasonable.**

Sierra Club and UCS recommend that all scenarios currently using the low CHP assumption be revised to use the more realistic mid-case CHP assumption.<sup>4</sup> The low incremental

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<sup>3</sup> See, e.g., Cal. Council on Sci. and Tech., “California’s Energy Future – The View to 2050,” p. 35 (May 2011).

<sup>4</sup> Hedman, Bruce, Ken Darrow, Eric Wong, Anne Hampson. ICF International, Inc., “Combined Heat and Power: 2011-2030 Market Assessment” (CEC-200-2012-002), p. 4 (June 2002).

CHP assumption that there will be almost no net change in CHP resources is inconsistent with state CHP policy goals, the assumptions used in prior LTPP proceedings, as well as settlement agreements approved by this Commission. The AB32 Scoping Plan set a policy goal of 4,000 MW of new CHP resources by 2020, and the Governor's Clean Energy Jobs Plan includes a goal of 6,500 MW of new CHP by 2030.<sup>5</sup> While it is reasonable to consider contingencies for falling short of goals, assuming that there will be *no progress at all* toward meeting these policies is unrealistic, especially given the Commission-adopted Settlement Agreement on CHP with the IOUs,<sup>6</sup> and resolution of the CHP feed-in tariff at FERC.

**3. Using the Mid-Level Incremental PV Assumption in the Base Case is Overly Conservative.**

The California Solar Initiative and New Solar Homes Partnership have the respective goals of installing 1,940 MW and 360 MW of solar in IOU service territories by the end of 2016. Even with close to five years remaining in these programs, the CSI is already approaching full subscription in some IOU service territories.<sup>7</sup> The mid-case incremental (“behind-the-meter”) PV value used in the Base Case assumes the addition of a mere 1,300 MW beyond these programs (3,500 MW total). Due to continued cost declines and policy support, the Solar Energy Industry Association projects that distributed generation in California will reach 5,300 MW by 2016 alone.<sup>8</sup> This analysis recognizes that as costs continue to decline, financial incentives will become increasingly less determinative of the decision to install small-scale PV. The mid-case scenario erroneously projects that solar growth will be reduced significantly absent financial incentives and that no small PV will be added after 2020. The so-called “high” incremental

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<sup>5</sup> See Cal. Air Resources Board, “Climate Change Scoping Plan: A Framework for Change,” pp. 43-44 (Dec. 2008); Gov. Brown, “Clean Energy Jobs Plan,” p. 6 (available at [http://gov.ca.gov/docs/Clean\\_Energy\\_Plan.pdf](http://gov.ca.gov/docs/Clean_Energy_Plan.pdf)).

<sup>6</sup> CPUC, “CHP Program Settlement Agreement Term Sheet,” p. 5 (Oct. 8, 2010) (available at <http://docs.cpuc.ca.gov/PUBLISHED/GRAPHICS/124875.PDF>)

<sup>7</sup> See, Go Solar California Program Goals (available at [www.californiasolarstatistics.ca.gov/reports/agency\\_goals/](http://www.californiasolarstatistics.ca.gov/reports/agency_goals/)).

<sup>8</sup> Solar Energy Indus. Ass'n, “California DG and Utility Solar Capacity” (May 2012) (previously submitted to record as Attachment A to Sierra Club's Comments on Standardized Planning Assumptions)..

small PV assumption approved in the June 27, 2012 ACR on Standardized Planning Assumptions, which assumes the addition of 3,300 MW of small PV (5,500 MW total), is actually closer to a realistic projection for incremental PV and therefore should be used for the Base Case scenario. This assumption more accurately reflects the multiple developments that will continue to increase PV additions – from net metering expansion to improved interconnection policies – while still being conservative when compared to the Governor’s 12,000 MW distributed generation goal and the 15,000 MW of small PV potential that has been identified for this Commission.<sup>9</sup>

#### **4. The “Environmental” Scenario Must Incorporate High DG Assumptions and the Best Available Biological Information.**

The proposed “environmental” scenario suffers from two fundamental flaws. First, it incorporates base case assumptions. This improperly suggests that an “environmental” scenario need not prioritize distributed generation and energy efficiency. The most environmentally sound path to a renewable energy future is to maximize renewable DG. Notably, the High DG scenario *was* the environmental scenario in last LTPP. To label another scenario that more heavily relies on utility-scale renewables as “environmental” is misleading and functions to pit two complementary environmental goals against one another.<sup>10</sup> Accordingly, the “environmental” scenario should incorporate the assumptions of the High DG scenario rather than the Base Case as currently proposed.

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<sup>9</sup> See Energy + Env’tl Economics, “Technical Potential for Local Distributed Photovoltaics in California” (Mar. 2012) (available at [www.cpuc.ca.gov/NR/rdonlyres/8A822C08-A56C-4674-A5D2-099E48B41160/0/LDPVPotentialReportMarch2012.pdf](http://www.cpuc.ca.gov/NR/rdonlyres/8A822C08-A56C-4674-A5D2-099E48B41160/0/LDPVPotentialReportMarch2012.pdf))

<sup>10</sup> Conversely, a High DG scenario should also reflect environmental values. Unfortunately, the Commission has undercut the environmental potential of the High DG scenario by shifting utility-scale development under this scenario away from preferred locations. See Letter from Michael Peevy, PUC, Michel Florio, PUC and Robert Weisenmiller, CEC, to Steve Berberich, CAISO re: Revised Base Case and Alternative Planning Scenarios for CAISO 2012-2013 Transmission Planning Process, dated May 16, 2012 (limiting generation in Westlands under DG scenario). As an environmentally preferable location to site renewables, Westlands should have the same, if not more capacity in the High DG scenario as in other scenarios.



Second, the proposed “environmental” scenario fails to steer utility-scale projects from environmentally sensitive areas by relying on outdated and inaccurate biological data. For example, inputs for the putative environmental case in Southern California (the CPUC/Aspen criteria overlain by the October 2011 DRECP rough preliminary renewable study area polygons<sup>11</sup>) are outdated and do not employ the best available information.<sup>12</sup> If the Commission intends to describe potential environmentally preferable utility scale renewable generation from this area, a more up to date and accurate indicator of biological compatibility and project viability would be DRECP Alternative 1 – Disturbed Lands/Low Resource Conflict, or Alternative 2 – Geographically Balanced/Transmission Aligned.<sup>13</sup> These two alternative development focus areas were identified by the DRECP agencies as of late July 2012. While neither alternative has yet been fully vetted, either is a far superior measure of environmental acceptability than the coarse and outdated metrics currently reflected in the LTTP documents. Accordingly, the environmental scenario should be updated to reflect DRECP Alternative 1 or 2.

Indeed, the best available biological information should inform all of the scenarios. To the extent that the October 2011 rough preliminary renewable study area polygons are also used to inform the Renewable Portfolios, and hence each of the scenarios to be modeled, these should each be updated and replaced with either DRECP alternatives 1 or 2 issued in late July 2012.

#### **5. Scenarios With 1-in-5 Peak Load Assumptions Are Not Appropriate for Procurement Decisions.**

The Commission needs to be clear that scenarios relying on a 1-in-5 peak weather load assumption will not be used for procurement decisions. This has been the settled position of this

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<sup>11</sup> DRECP Preliminary Conservation Strategy, October 12, 2011

<sup>12</sup> The Portfolio Maps at <http://www.cpuc.ca.gov/NR/rdonlyres/D86401BA-AFB9-4C0E-ADA0-C0EE3D7A9DAB/0/PortfolioMaps.zip> are inaccurate and mischaracterize environmental rating. Many current projects are not shown, and projects that are no longer active are. As an example of mischaracterization, a project like Enexo McCoy is rated low environmental impact, when in fact the reverse is true, as it is sited directly on a major riparian resource.

<sup>13</sup> Overview of DRECP Alternatives, Briefing Materials, July 25, 2012.

Commission since 2004<sup>14</sup> and the Scoping Memo includes no suggestion that this proceeding seeks to reassess this position. In the 2006 LTPP proceeding, the Commission reaffirmed the position announced in 2004, and rejected calls to use other forecasts for procurement decisions: “We find it prudent to review load forecast sensitivities, but for purposes of granting procurement authority, need determination should be based on the CEC’s base forecast under baseline (1-in-2) temperature conditions pursuant to D.04-12-048.”<sup>15</sup> There has been no argument that this settled position can or should be reconsidered.

The Commission should confirm that while the use of 1-in-5 peak weather load forecasts in the Replicating TPP and Stress Case scenarios may be of interest for purposes of comparison to CAISO modeling results, these scenarios will not be used for procurement planning approvals. As noted above, such exercises do not serve the immediate objectives of this proceeding and therefore should be provided a lower priority where time and resources for this proceeding are limited.

### **III. This Proceeding Must Support Other Ongoing Energy Planning Efforts.**

Many agencies have invested considerable resources and effort into adopting plans<sup>16</sup> and mapping out what the energy future of this State must look like if we are to achieve our economic, health and environmental goals.<sup>17</sup> They all see the need for significant increases in the percentage of our electricity that comes from renewable sources coupled with significant load

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<sup>14</sup> See D.04-12-048, p. 197 (Dec. 20, 2004) (finding in 2004 LTPP that “[e]xisting resource planning uses average weather (1-in-2) and then adds a reserve margin, which, in part, provides the cushion should hotter than average weather occur. This is the approach . . . [that] should be applied here.”).

<sup>15</sup> D.07-12-052, pp. 28-29 (Dec. 20, 2007).

<sup>16</sup> See, e.g., Cal. Air Resources Board, “Climate Change Scoping Plan: A Framework for Change,” (Dec. 2008) ; CPUC, “California Long Term Energy Efficiency Strategic Plan,” (Sept. 2008) ; Gov. Brown, “Clean Energy Jobs Plan.”

<sup>17</sup> See, e.g., Cal. Council on Sci. and Tech., “California’s Energy Future – Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets” (Sept. 2012); Air Resources Board, et al, “Vision for Clean Air: A Framework for Air Quality and Climate Planning” (Pub. Review Draft June 27, 2012); Cal. Council on Sci. and Tech., “California’s Energy Future – The View to 2050” (May 2011); and CPUC, et al., “California Clean Energy Future: Progress Report, Meeting California’s Energy and Environmental Goals in the Electric Power Sector in 2020 and Beyond.” (2010).

reductions and load shifting from energy efficiency, demand response and combined heat and power. This proceeding should be used to support those efforts, not ignore them, and certainly not to plan for a future that will actively defeat them.

Even if these goals and policies are not used as the assumptions for making procurement decisions, this proceeding should still be cognizant of these larger planning efforts and ensure that the decisions made here are not incompatible with the roadmap provided by these efforts. Not long ago, the Commission agreed that “[t]o meet . . . clean energy goals for California, the State agencies must redouble their efforts to coordinate energy planning and implementation. Key planning efforts to address uncertainties and market developments include . . . the CPUC’s Long Term Procurement Planning process . . . .”<sup>18</sup> Sierra Club and UCS see little sign that the Commission is treating this LTPP proceeding as a key tool to ensuring that clean energy goals (other than the 33% RPS) will be met. Sierra Club and UCS encourage the Commission to take steps to ensure that procurement planning will be consistent with the multiple goals that have been advanced by the Governor, other agencies and the Commission itself.

Thank you for your consideration of these comments.

Respectfully submitted,

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<sup>18</sup> See CPUC, et al. (2010). “California Clean Energy Future: An Overview on Meeting California’s Energy and Environmental Goals in the Electric Power Sector in 2020 and Beyond, (CEC-100-2010-002)” p. 9 (2010).

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