

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA



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Order Instituting Rulemaking to Develop an  
Electricity Integrated Resource Planning  
Framework and to Coordinate and Refine  
Long-Term Procurement Planning  
Requirements.

Rulemaking 16-02-007  
(Filed February 11, 2016)

**COMMENTS OF THE  
CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES  
ON THE INTEGRATED RESOURCE PLANS**

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For: CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES

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The Center for Energy Efficiency and Renewable Technologies (CEERT) respectfully submits these Comments on the Integrated Resource Plans (IRPs), filed and served on August 1, 2018. These Comments are timely filed and served pursuant to the Commission's Rules of Practice and Procedure; the Amended Scoping Memo and Ruling of Assigned Commissioner and Administrative Law Judge (ALJ), dated May 14, 2018 (Amended Scoping Memo); and ALJ Fitch's E-mail Ruling, dated August 23, 2018 (August 23 ALJ Ruling).

**I.  
OVERVIEW**

On August 1, 2018, approximately 44 load-serving entities (LSEs) filed their IRPs in this proceeding.

The August 23 ALJ Ruling requested that parties file their comments according to a general outline which CEERT has done so below. In summary:

- Both the Pacific Gas & Electric (PG&E) IRP and the System Plan fail to prevent a greenhouse gas (GHG) increase due to Diablo Canyon Power Plant's (Diablo Canyon's) retirement. As such, the Commission should initiate explicit procurement of GHG-free replacement power.

- The Southern California Edison (SCE) Preferred Portfolio should be approved, regardless of other Load-Serving Entity (LSE) plans, and the Pathway System Plan should be considered in the Reference System Plan development in the next IRP cycle.
- All LSE projected GHG emissions from the Clean Net Short (CNS) Methodology are artificially low due to discrepancies in the RESOLVE model.
- There should be careful consideration by the Commission and then clarification on how new contracts with existing hydro resources can be utilized to meet GHG targets.
- In future LSE IRPs, there should be a specific requirement that LSE's must report whether planned procurement is with new or existing resources.
- LSE IRPs are the ideal place to connect the IRP to local resource adequacy (RA) requirements.
- SCE's reliability threshold mechanism should be considered for all service territories, but with inclusion of all preferred resources.

## **II. CEERT'S COMMENTS ON INDIVIDUAL LSE PLANS**

### **A. CEERT Comments on PG&E's IRP**

While PG&E's IRP appears to be consistent with the GHG targets as assigned by the Commission and California Air Resources Board (CARB), PG&E'S IRP fails to replace Diablo Canyon with GHG-free energy as intended by the Decision Approving Retirement of Diablo Canyon Nuclear Power Plant (Decision (D.) 18-01-022) and newly passed Senate Bill (SB) 1090 (Monning). D.18-01-022 states that “[i]t is the intent of the Commission to avoid any increase in greenhouse gas emissions resulting from the closure of Diablo Canyon.”<sup>1</sup> This means that resources must be procured *that would not otherwise have been procured* in order to prevent

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<sup>1</sup> D. 18-01-022, at pp. 21-22.

GHG increase due to the Diablo Canyon closure. PG&E's IRP states for the Conforming Portfolio that "PG&E plans to add resources as a result of mandates already authorized by the Commission."<sup>2</sup> PG&E's IRP fails to indicate what procurement it will make *specifically because of the Diablo Canyon closure-related GHG targets*. Without this procurement, PG&E's projected GHG emissions will be higher than if Diablo Canyon were to remain open.

The Reference System Plan and other LSE Plans cannot be utilized as a justification for PG&E to not meet the directives in D.18-01-022. The Commission Staff has already determined that the RESOLVE model underestimated GHG emissions, which directly impacts the amount of GHG-free energy included in the RSP and the CNS calculator.<sup>3</sup> The RESOLVE Data and Methodology were found to account for approximately 4.8 MMT GHG in the underestimation.<sup>4</sup> If Diablo Canyon were replaced with system power, it would increase California GHG emissions by approximately 7.6 million metric tons (MMTs). Thus, if Diablo Canyon is the marginal resource being replaced, less than half is effectively being replaced when using the RESOLVE model. Additionally, other LSEs meeting their GHG targets is not sufficient to prove there was not a GHG emissions increase due to Diablo Canyon closing, as existing mandates may account for a large portion of their GHG reductions.

An explicit procurement by PG&E of GHG-free replacement power before Diablo Canyon retires is the only sure way to ensure there is in fact no GHG-emission increase from the closure of Diablo Canyon.

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<sup>2</sup> PG&E IRP, at p. 45.

<sup>3</sup> "Comparison of GHG Emissions between CAISO 2017 and RESOLVE 2018," dated August 10, 2018. [http://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/ElectPowerProcurementGeneration/irp/2018/IRP\\_MAG\\_webinar\\_2018-08-10\\_GHG\\_Accounting\\_CAISO\\_RESOLVE.pdf](http://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/ElectPowerProcurementGeneration/irp/2018/IRP_MAG_webinar_2018-08-10_GHG_Accounting_CAISO_RESOLVE.pdf)

<sup>4</sup> *Id.*, at pp. 7, 11-12.

## **B. CEERT Comments on SCE's IRP.**

CEERT strongly supports SCE's vision for leveraging the electric sector for a decarbonized economy. Although SCE states that its preferred plan with a lower GHG target and higher levels of electrification is contingent on the Commission adopting the same standards for all LSEs, CEERT does not believe this is necessary for SCE to obtain approval.<sup>5</sup> SCE's plan is in line with newly passed and signed SB 100, which would give SCE a "head start" and not disadvantage SCE if its preferred plan was to be approved. CEERT is supportive of SCE utilizing the preferred portfolio regardless of other LSE plans and strongly recommends SCE's "Pathway System Plan" be considered in the next cycle of the IRP.<sup>6</sup>

CEERT echoes SCE's call for the California Independent System Operator (CAISO) and the Commission to undertake studies to plan for a reliable and safe decarbonized grid.<sup>7</sup> Several events this year make it increasingly clear that California needs a clear path forward for a reliable, safe, relatively low-cost grid. First, the lack of reliability of the Southern California gas pipeline and storage system have resulted in price spikes in the CAISO market that have rippled throughout the West.<sup>8</sup> In the summer assessment, CAISO reported that there was a 52% probability of stage 2 emergency.<sup>9</sup> While this has not occurred yet, it's clear that gas is not in fact the most reliable, resilient, or safe option for California's grid, particularly in the Los Angeles (LA) Basin. Second, the passage of SB 100 set a 100% GHG-free goal to be implemented in

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<sup>5</sup> SCE IRP, at p. 3.

<sup>6</sup> See SCE IRP, at pp. 11-21.

<sup>7</sup> SCE IRP, at p. 17.

<sup>8</sup> California Independent System Operator Market Performance and Planning Forum on August 29, 2018, at p. 16. <http://www.caiso.com/Documents/Presentation-MarketandPerformancePlanningForum-Aug292018.pdf>.

<sup>9</sup> California Independent System Operator 2018 Summer Loads and Assessment, at p. 5. <http://www.caiso.com/Documents/2018SummerLoadsandResourcesAssessment.pdf>.

California by 2045.<sup>10</sup> An evaluation of strategies to transition the grid to “low carbon reliability” will be essential in meeting this goal.

CEERT is strongly supportive of the proposed “reliability threshold mechanism” but believes the type or types of preferred resources procured should be dependent on the identified need. While storage is a valuable resource for “peaky needs,” hybrid resources or a portfolio of resources may be more appropriate for longer duration needs. CEERT is in agreement with the triggers proposed by SCE. CEERT also agrees that the IRP should consider the impact of reduced natural gas import and storage capacity in the LA Basin. While these considerations do not impact installed capacity, they do directly impact available capacity. Steps must be taken before Summer 2019 to reduce natural gas demand from the electric sector in order to avoid another threat of a Stage 2 emergency.

### III.

#### CEERT’S COMMENTS ON COMMON THEMES OR ISSUES ACROSS MULTIPLE LSE PLANS

##### **A. Any Discrepancy in the GHG Emissions in RESOLVE Will Result in Artificially Low GHG Counting in the CNS Calculator.**

In previous comments, CEERT and others have commented on the apparent under-modelling/under-counting of GHGs within the RESOLVE model in comparison to reported CAISO GHG emissions.<sup>11</sup> This under-modelling/under-counting has been recognized by the Energy Division and an analysis was undertaken confirming that there are differences in the

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<sup>10</sup> SB 100 adds Section 454.53 to the Public Utilities Code which, in part, states in subsection (a) that “[i]t is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.”

<sup>11</sup> See, e.g., CEERT Comments on Staff Proposal on GHG Emissions Accounting Methods and Updated Benchmarks, dated April 20, 2018, at pp. 2-3.

2018 modelling year which were due to “real life” differences, counting differences, and issues within the RESOLVE model itself.<sup>12</sup>

The differences within the RESOLVE model largely result from not including start-up fuel and emissions, and carry over, which in fact may be greater in the 2030 modelling year. These discrepancies directly carry over to the CNS calculator, due to the RESOLVE outputs being utilized to determine “grid emissions.” Thus, it should be at least acknowledged that all LSE plans under-count GHG emissions in their 2030 portfolio in comparison to if the model was corrected to include start-up emissions.

**B. There Should Be Clarification in how New Contracts from Existing Hydro Can be Utilized for Meeting LSE and State Carbon Targets.**

Many LSEs, largely Community Choice Aggregators (CCAs), identify increased contracting with existing hydro resources in California or out-of-state as a way to meet or exceed their GHG targets.<sup>13</sup> While hydro resources, both in- and out-of-state, are important resources in providing GHG-free electricity and have the potential to be better utilized to support renewable integration, not all uses of hydro are necessarily physically possible or reliably provide real GHG-reductions from the California and Western electric grid.

There are several ways to reduce GHGs in the electric sector. The first is to build new GHG-free resources. The second is utilize GHG-free energy that would otherwise be curtailed or “spilled” in the case of hydro.<sup>14</sup> The last is to replace GHG intensive energy with lower GHG

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<sup>12</sup> “Comparison of GHG Emissions between CAISO 2017 and RESOLVE 2018,” dated August 10, 2018, at p. 6.

<sup>13</sup> Clean Power Alliance CNS Calculator, CleanPowerSF CNS Calculator, East Bay Community Energy CNS Calculator, Marin Clean Energy CNS Calculator, Monterey Bay Community Power CNS Calculator, Peninsula Clean Energy CNS Calculator, Pioneer Community Energy CNS Calculator, San Jose Clean Energy CNS Calculator, Sonoma Clean Power CNS Calculator

<sup>14</sup> “Spill” is water that must be released outside of the turbines due to operational constraints at the dam, such as fish regulations or in this case, reservoir water levels.

intensive energy. In the case of new hydro contracts with existing hydro resources, GHG reductions can only be achieved if the energy would otherwise be spilled.

The Commission must consider several factors when carefully determining whether new contracts with existing hydro are in fact physically possible and reliably provide the GHG-reductions intended by the CARB targets. The first factor is how the proposed energy and capacity compare to the average hydro energy delivery and contracted firm capacity by California LSEs. If the total contracted capacity and energy in 2030 is the same or below 2018 total contracted capacity, it is logical that all LSEs should get credit for their proposed hydro contracts.

If there are higher levels of hydro capacity and energy proposed in 2030, the second factor to consider is whether there is sufficient transmission capacity to import the proposed hydro capacity from out-of-state. The CAISO is currently studying the potential to increase coordination between California and the Pacific Northwest in order to reduce dependence on Aliso Canyon Storage Facility (Aliso Canyon), including the potential increase transfer capacities. The CAISO cites a 4,800 MW north to south transfer capacity rating on the California Oregon Intertie (COI) and a 3,220 MW rating on the Pacific DC Intertie (PDCI).<sup>15</sup> Recent historical usage of the interties can be determined through the CAISO Open Access Same-time Information System (OASIS) user interface.<sup>16</sup> If the new capacity proposed by LSEs plus recent usage nears or exceeds these capacities, a solution must be developed to determine a cap for hydro to count for both system capacity and GHG-free energy. In future iterations of the IRP, there may need to be updates to the CNS calculator in order to account for when incremental out-of-state hydro can be delivered.

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<sup>15</sup> CAISO 2018-2019 Transmission Planning Process Study Scope for Increased Capabilities for Transfers between the Pacific Northwest and California Informational Study, at p. 11.

<sup>16</sup> CAISO OASIS <http://oasis.caiso.com/mrioasis/logon.do>

The third factor to consider is whether any incremental hydro energy is in fact available in the Pacific Northwest. It is well known that available energy from hydro is dependent on the snowpack and level of rainfall in a given year. There is a 4,000 MW range within Bonneville Power Administration's (BPA's) planning assumptions.<sup>17</sup> This range can result in vastly different available energy and capacity for export, as Northwest hydro must first be used to meet Northwest load.<sup>18</sup> Without new generation built, the Federal System will in fact be deficient starting in 2021 should there be a critical water year.<sup>19</sup> While there is great value in enhanced coordination with the Pacific Northwest and strategically utilizing out-of-state hydro to meet flexibility needs and reduce both curtailment and gas burn in California, it would not be prudent to rely on uncertain capacity for long term carbon goals at this time.

Another factor to consider in conjunction with the previous factors is the shape of the hydro delivery and whether it is firm capacity. Typically, hydro is delivered through 16 or 8-hour blocks that are considered "on peak" or "off peak." If the hydro can be shaped to fill need that are otherwise met by GHG-emitting resources, such as in the evening ramp, it will have a different GHG-value than the traditional block schedules. If the contracts are energy-only, they will be considerably less valuable for GHG reductions as the interties are typically at capacity during the most GHG-intensive hours of the day. As such, it would be valuable to request more information about the timing of delivery of the proposed contracts and compare that to when incremental hydro is presumed to be available.

Finally, it is important to consider whether any new hydro imported into California would result in "resource shuffling," or a backfilling of the imported hydro with carbon-intensive gas or

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<sup>17</sup> BPA 2017 White Book, at p. 22. <https://www.bpa.gov/p/Generation/White-Book/wb/2017-WBK-Loads-and-Resources-Summary-20171218.pdf>.

<sup>18</sup> Pacific Northwest Electric Power Planning and Conservation Act (Pacific Northwest Power Act), at p. 136. <https://www.nwcouncil.org/sites/default/files/poweract.pdf>.

<sup>19</sup> BPA 2017 White Book, at p. 25.

coal. Resource shuffling is a highly unlikely issue due to the “regional preference” requirement, which is defined in the Pacific Northwest Power Act.<sup>20</sup> Simply stated, public hydro cannot be sold outside the Pacific Northwest unless it is “surplus energy” that could not be otherwise sold in the Pacific Northwest. Due to this preference, CEERT recommends that hydro be considered for GHG reductions if any new contracts are in fact determined to be physically possible and can be shaped to meet the needs of the California grid. However, if it is found that hydro cannot be relied upon to the extent proposed for GHG-reductions, the Commission should determine a level of reasonableness for new hydro contracts to be counted and require that new GHG-free resources be utilized to fill any resulting needs.

**C. It is Unclear Whether the Sum of the LSE Plans Will Result in the Level of New Resource Procurement Identified in the Reference System Plan**

While the LSE plan narratives differentiate which 2030 portfolio resources are planned to be new or existing, it is unclear whether these resources have already been contracted for by the LSE or whether the LSE simply plans to contract with these resources. Further, it is unclear when comparing the CNS calculator to the LSE narratives if all of the declared new resources in the tab are “new builds” or “new contracts.” This should be clarified by the Commission in order for the Preferred System Plan to best reflect the planned procurement by LSEs. Requirements for disclosing new resources as opposed to new contracts with existing resources be clarified in the next round of the IRP.

**D. LSE Plans are the Ideal Place to Connect RA, particularly Local RA, to the IRP Process.**

It is a stated goal of the Commission to utilize the IRP process to break down silos between Commission proceedings and truly integrate LSE procurement.<sup>21</sup> There is no greater

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<sup>20</sup> Pacific Northwest Power Act, at p. 136. <https://www.nwcouncil.org/sites/default/files/poweract.pdf>.

<sup>21</sup> See Order Instituting Rulemaking (OIR) in R.16-02-007, dated February 19, 2016, at p. 15.

process integration need than between the RA and Long-Term Planning and Procurement (LTPP) processes. Long-term procurement directly impacts the residual short-term capacity needs of LSEs. Failure to account for State and LSE GHG goals in meeting RA requirements will greatly increase the chance of continued reliance on natural gas for reliability needs, resulting in a stagnation of GHG reductions.

SCE presented a laudable example of a proposal to integrate RA into its LSE Plan. The “Reliability Threshold Mechanism” provides a means to target preferred resources in specific locations to meet reliability needs and avoid excessive and costly backstop procurement through the CAISO.<sup>22</sup> This approach would be beneficial system-wide and CEERT recommends it be required for each distribution-utility, particularly if the central buyer approach is taken in the RA proceeding (R.17-09-020). Given the inability in this iteration of the RESOLVE system modelling to account for generation needed for local requirements, this approach would explicitly consider local needs and help prevent the incidental need for new gas plants.

While several LSEs referenced utilizing preferred resources to reduce load or to meet local capacity needs, CEERT recommends that all LSEs be required to include new preferred resource siting to meet local capacity requirement.<sup>23</sup>

#### **IV. REQUEST FOR EVIDENTIARY HEARINGS, IDENTIFYING SPECIFIC FACTUAL ISSUES TO BE ADDRESSED IN HEARINGS (IF APPLICABLE)**

CEERT offers no comment on this Section at this time.

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<sup>22</sup> See SCE IRP, at pp. 20-21.

<sup>23</sup> See, e.g., CleanPowerSF IRP, at p. 17; Pioneer Community Energy IRP, at p. 2; and EDF Industrial Power Services (CA), Inc. IRP, at pp. 1-3.

**V.  
CONCLUSION**

In conclusion, CEERT recommends the Commission proceed with a specific procurement for replacement of Diablo Canyon with GHG-free energy, consider the underestimation of GHG emissions in the CNS calculator, adopt SCE's reliability threshold mechanism, and closely consider the appropriate role for new contracts with existing resources in meeting LSE and State GHG targets.

Respectfully submitted,

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