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

Order Instituting Rulemaking to Establish  
Policies, Processes, and Rules to Ensure Reliable  
Electric Service in California in the Event of an  
Extreme Weather Event in 2021.

Rulemaking 20-11-003  
(Filed November 19, 2020)

**COMMENTS OF THE UNION OF CONCERNED SCIENTISTS  
ON THE REVISED SUMMER 2022 STACK ANALYSIS**

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## **COMMENTS OF THE UNION OF CONCERNED SCIENTISTS ON THE REVISED SUMMER 2022 STACK ANALYSIS**

Pursuant to the September 30, 2021 Administrative Law Judge’s Email Ruling, the Union of Concerned Scientists (“UCS”) respectfully submits these comments on the Revised 2022 Summer Stack Analysis (“Summer Stack Analysis”) conducted by the California Energy Commission (“CEC”).<sup>1</sup>

### **INTRODUCTION AND SUMMARY**

UCS thanks the California Public Utilities Commission (“CPUC” or “Commission”) for the opportunity to comment on the CEC’s Summer Stack Analysis, which has been updated since the first draft was released in August.<sup>2</sup>

In accordance with UCS’s opening testimony,<sup>3</sup> UCS continues to believe that a stack analysis is not the appropriate tool for identifying resource shortfalls and procurement needs for summer 2022. Instead, the Commission should rely on the CEC’s probabilistic Midterm Reliability (“MTR”) analysis<sup>4</sup> to assess grid conditions in summer 2022. The Commission should conduct an assessment of planned procurement and, using the results of the MTR analysis, determine if California’s grid will meet grid reliability standards or if additional resources are required.

### **THE SUMMER STACK ANALYSIS SHOULD NOT BE USED AS THE BASIS FOR ADDITIONAL PROCUREMENT REQUIREMENTS**

In the Revised 2022 Summer Stack Analysis, the CEC made updates to their input assumptions that generally reduced projected resource shortfalls by approximately one gigawatt (“GW”). However, the Summer Stack Analysis still includes some controversial assumptions,

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<sup>1</sup> CEC, *2022 Summer Stack Analysis* (September 8, 2021).

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=239635&DocumentContentId=73053>

<sup>2</sup> CEC, *Preliminary 2022 Summer Stack Analysis* (August 11, 2021).

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=239251&DocumentContentId=72701>

<sup>3</sup> UCS, *Prepared Opening Testimony of Mark Specht on Behalf of the Union of Concerned Scientists* (September 1, 2021). (“UCS Opening Testimony”)

<sup>4</sup> CEC, *Midterm Reliability Modeling* (September 23, 2021). (“CEC MTR Analysis”)

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=239944&DocumentContentId=73391>

calling into question the validity and usefulness of the results. For example, the analysis limits imports to historical levels based on resource adequacy contracting (plus firm liquidated damage contracts), and it assumes that no economic imports will be available at all.<sup>5</sup>

Regardless of the integrity of the assumptions used in the Summer Stack Analysis, this analysis should not be used as the basis for additional procurement requirements. UCS continues to believe that this type of analysis, a deterministic resource “stack analysis,” is too simplistic to assess grid reliability needs in summer 2022.

As discussed in UCS’s opening testimony, a deterministic stack analysis provides a “snapshot” of possible grid conditions, but such an analysis does not provide any information about the probability of those grid conditions occurring.<sup>6</sup> Given that the main purpose of system reliability planning is to reduce the probability of a resource shortfall down to an acceptable level,<sup>7</sup> a *deterministic* stack analysis inherently provides little information about the *probability* of a resource shortfall occurring.<sup>8</sup> Instead, the CPUC should use a probabilistic analysis to assess summer 2022 grid conditions and determine what need exists (if any) for additional resource procurement.

### **THE CEC’S MTR ANALYSIS PROVIDES A MORE COMPREHENSIVE ASSESSMENT OF SUMMER 2022 GRID CONDITIONS**

To assess grid conditions in future summers more comprehensively, the CEC conducted their MTR analysis, which utilized probabilistic modeling tools to determine if California’s grid will meet the loss of load expectation (“LOLE”) industry standard of 0.1 days per year with unserved energy.<sup>9</sup> The MTR analysis studied a range of scenarios with varying levels of new resource procurement, and these scenarios were generally divided into two categories:<sup>10</sup>

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<sup>5</sup> UCS Opening Testimony, p. 6:9-20.

<sup>6</sup> UCS Opening Testimony, p. 3:17-25.

<sup>7</sup> The “acceptable level” that has emerged as the industry standard is the 0.1 days per year LOLE standard.

<sup>8</sup> While the planning reserve margins (“PRMs”) used in the Summer Stack Analysis could theoretically be used as a proxy for achieving a specific LOLE standard, the Commission has not conducted any recent analysis that explicitly ties PRMs to LOLE metrics.

<sup>9</sup> CEC MTR analysis, slide 4.

<sup>10</sup> CEC MTR analysis, slide 30.

- 1) Scenarios with higher levels of procurement in line with the proposed preferred system plan (“PSP”).<sup>11</sup>
- 2) Scenarios with lower levels of procurement that merely meet the requirements of D.19-11-016 and D.21-06-035 (“two procurement decisions”).

The CEC’s MTR analysis demonstrates that, across all scenarios, the LOLE results fall well below the 0.1 LOLE standard in 2023-2026, indicating that grid reliability requirements will be satisfied. However, the results for 2022 are mixed: scenarios with higher levels of procurement show that reliability requirements will be met, while scenarios with lower levels of procurement indicate reliability requirements will not be met (since the LOLE results exceed the 0.1 LOLE standard).<sup>12</sup> The CEC analysis indicates that approximately an additional 1.0-1.4 GW of capacity would be required to meet the 0.1 LOLE standard in 2022 for scenarios with lower levels of procurement.<sup>13</sup>

### **THE COMMISSION SHOULD CAREFULLY EVALUATE PLANNED PROCUREMENT BEFORE REQUIRING ADDITIONAL PROCUREMENT FOR SUMMER 2022**

Based on the results of the CEC’s MTR analysis, UCS believes that the Commission should carefully evaluate planned procurement to determine if it aligns more closely with the CEC MTR analysis’ “high procurement” scenarios (in line with the proposed PSP) or the “low procurement” scenarios (that simply meet the requirements of the CPUC’s two procurement decisions). Such an assessment is necessary to ensure that the Commission accounts for all planned procurement emanating not only from the Integrated Resource Planning proceeding, but from this proceeding as well. Once this assessment has been completed, the Commission will be better able to determine if California’s grid will meet the 0.1 LOLE standard in summer 2022 and if any additional procurement is required to reach the 0.1 LOLE standard.

As part of the assessment of planned procurement, UCS reminds the Commission that recent CEC analyses (including the Summer Stack Analysis and the MTR analysis) have

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<sup>11</sup> CPUC, *Administrative Law Judge’s Ruling Seeking Comments on Proposed Preferred System Plan* (August 17, 2021), Rulemaking 20-05-003.

<https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M399/K450/399450008.PDF>

<sup>12</sup> CEC MTR analysis, slide 40.

<sup>13</sup> CEC MTR analysis, slide 62.

assumed that units 5, 6, and 8 of the Redondo Beach Generating Station (“Redondo Beach”) will shut down by the end of 2021, bringing 834 MW of capacity offline. However, the State Water Resources Control Board is scheduled to vote this month on a proposal that would extend Redondo Beach’s once-through cooling policy compliance date through the end of 2023. If the State Water Resources Control Board votes to approve the extension, the Commission should adjust its assessment of planned procurement accordingly.

Finally, in the event that the Commission identifies a need for additional resources to meet grid reliability requirements, UCS urges the Commission to prioritize investments in demand-side programs, energy storage, and increased contracting for imports.

### **THE CEC’S PROBABILISTIC MODELING SHOULD BE IMPROVED IN FUTURE ANALYSES**

While UCS supports the use of the CEC’s probabilistic MTR analysis to assess summer 2022 grid conditions, UCS also acknowledges that the CEC’s modeling should be improved in future analyses. For instance, in UCS comments submitted to the CEC on the MTR analysis, UCS suggested that the CEC’s modeling should be updated to preserve the correlation between critical variables, such as weather, load, and renewable generation.<sup>14</sup> UCS also recognizes that the CEC’s MTR analysis does not sufficiently incorporate climate change impacts and the increased likelihood of extreme weather events.<sup>15</sup> The CEC’s modeling methodology should be updated in future analyses to ensure its probabilistic model maintains the real-world relationships between important variables and incorporates the impacts of climate change. However, in the meantime, the Commission should rely on the CEC’s MTR analysis since it contains the best available information about summer 2022 grid conditions.

### **CONCLUSION**

UCS thanks the Commission for its consideration of these comments.

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<sup>14</sup> UCS, *Comments of the Union of Concerned Scientists on the Midterm Reliability Analysis* (September 7, 2021). <https://efiling.energy.ca.gov/GetDocument.aspx?tn=239609&DocumentContentId=73040>

<sup>15</sup> CEC MTR analysis, slides 5 and 12.

Respectfully submitted,

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