

PUBLIC UTILITIES COMMISSION

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May 27, 2020

Jonathan Bishop
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1001 I Street
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Subject: Extension of Once-Through Cooling Policy Compliance Deadlines

Mr. Bishop:

We write today to address questions raised by members of the California State Water Resources Control Board (SWRCB) at its April 21, 2020 workshop, including questions regarding extended operation of the Redondo Beach generating station. We express our continued agreement with – and support for – the analysis of system reliability needs that informed both the California Public Utilities Commission’s (CPUC) short-term procurement decision in the Integrated Resource Plan (IRP) proceeding¹ and the Statewide Advisory Committee on Cooling Water Intake Structures’ (SACCWIS) January 23, 2020 report to the SWRCB, which includes a one year extension of Redondo Beach Units 5, 6, and 8.² This analysis has not changed since the SACCWIS convened in January, and the SACCWIS recommendation³ is still appropriate.

In the context of the Once-Through Cooling (OTC) Policy considerations that are currently before the SWRCB, the term “system reliability” refers to ensuring that there is sufficient electrical capacity available to meet electricity demand in the California Independent System Operator’s (CAISO) Balancing Authority Area (BAA). The CAISO BAA includes retail customers of the state’s three largest investor-owned utilities,⁴ numerous community choice aggregators and electric service providers (also known as “direct access” providers) that operate within these territories, and several municipal utilities. The CAISO, the CPUC, and the California Energy Commission (CEC) work closely to develop statewide forecasts, direct and approve procurement, monitor market operation, and align programs and processes to ensure system reliability on an ongoing basis.

¹ D.19-11-016, available at <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M319/K825/319825388.PDF>.

² State Advisory Committee on Cooling Water Intake Structures, “Final Recommended Compliance Date Extensions for Alamitos, Huntington Beach, Ormond Beach, and Redondo Beach Generating Stations,” January 23, 2020, available at https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/saccwis/docs/final_report.pdf.

³ In the January 23, 2020 SACCWIS Report, the SACCWIS recommended three-year OTC Policy compliance date extensions for Alamitos Units 3,4, and 5; Huntington Beach Unit 2; and Ormond Beach Units 1 and 2 and a one-year extension for Redondo Beach Units 5, 6, and 8.

⁴ These investor-owned utilities are Pacific Gas and Electric Company, San Diego Gas & Electric, and Southern California Edison.

As noted in the January 23, 2020 SACCWIS report, several factors arose in the past couple years that have caused the CPUC in particular to reevaluate system reliability within the Resource Adequacy program and to take action through the IRP proceeding. These include:

shifts in peak electric demand to later in the year and later in the day, which reduces the ability of solar generation to meet peak capacity requirements; changes in the method for calculating the qualifying capacity of wind and solar resources resulting in lower qualifying capacity for these resources than previously determined; uncertainty regarding the level of imports on which California can depend in the future as other states also shift towards using more renewable energy resources; and some unanticipated non-OTC generator retirements.⁵

The CPUC IRP proceeding raised these same concerns and others, including uncertainty regarding future generation by existing in-state and out-of-state hydroelectric resources⁶ and the fact that some resources counted in the IRP capacity baseline for reliability purposes are still under development and may experience delays in commercial operation.⁷ The CPUC also noted the possibility of delays in new procurement to meet short-term needs, as a result of “time needed to run solicitations, especially for some [load serving entities] who may be running solicitations for the first time; whether and where selected resources are within the CAISO interconnection queue; and the type of resources selected, which in turn impacts permitting and construction schedules.”⁸

Taken together, the factors we identify above reduce projections of capacity that will be available to meet demand during the peak hours of 4 PM to 9 PM and suggest system reliability contingencies as early as 2020,⁹ even under average demand scenarios. For example, the analysis CAISO submitted into the CPUC IRP proceeding shows that when considering just the qualifying capacity of available resources, the resource adequacy deficiency in 2021 during the gross peak demand hour may be as high as 2,300 MW. However, the operational deficiency between 4 PM and 9 PM may be as high as 4,400 MW because solar generation would be greatly reduced during those evening hours.¹⁰ This analysis also assumes that all other resources – such as wind, hydro, and imports – are producing at average historical capability and that there are no transmission or generation outages that exceed the planning reserve margin. The CAISO analysis did not consider the impact of drought, climate change, increased competition for imports, risk of higher load than 1-in-2-year forecast load, or risk to transmission due to wildfires. It is unclear whether the ongoing COVID-19 pandemic will significantly disrupt supply chains and construction timelines, and it is also unclear how demand patterns may shift, particularly if 2021 is a dry, hot year with higher-than-average air conditioning loads and lower-than-average hydroelectric capacity. We continue to monitor and analyze the effects of the pandemic but note that at the very least, it exacerbates uncertainty.

⁵ January 23, 2020 SACCWIS Report at 8.

⁶ D.19-11-016 at 21 and 24.

⁷ Ibid. at 19.

⁸ Ibid. at 19.

⁹ For example, see Ibid. at Finding of Fact 7.

¹⁰ See CAISO comments at: <http://www.aiso.com/Documents/Aug12-2019-ReplyComments-PotentialReliabilityIssues-IRP-R16-02-007.pdf>.

We would also like to provide additional context regarding the operation of the OTC generators. These generators are older resources with high heat rates, which means they require more energy input per unit output than more efficient resources. Consequently, they have higher marginal costs than more efficient resources. Given that the CAISO markets generally dispatch a resource when demand drives energy prices above that resource's marginal cost, the OTC generators are dispatched less frequently than other generators, which is reflected in the OTC generators' relatively low capacity factors.¹¹

Low capacity factors do not indicate that these generators are unnecessary. The OTC generators are dispatched the few times a year when demand is extremely high and there are limited other options for the CAISO to maintain grid reliability. CPUC staff analysis indicates that in prior peak demand periods, the OTC generators tended to operate at similar times or simultaneously. It is incorrect to assert – as some commenters at the SWRCB's recent meetings have – that one existing OTC generator can simply “ramp up” to replace another OTC generator that retires. It is not a question of how much electricity one of the OTC generators can produce over the course of the year but instead is a question of how much electricity can be produced simultaneously in the small number of peak hours.

Ensuring system reliability is not a megawatt-by-megawatt procedure. Even with rigorous forecasting and monitoring of system conditions, it is impossible to exactly predict demand ahead of real time, and it is therefore also impossible to calculate a potential capacity shortfall with absolute certainty. In its November IRP decision, the CPUC concluded that:

if we do not ask for OTC compliance deadline extensions for these plants now, they will definitely not be available if we need them starting in 2021. However, it is also possible that we may not need them. Extension requests are an insurance policy against the possibility that we may have power shortages in this timeframe.¹²

Although we cannot confirm that each megawatt of each OTC resource under the SWRCB's consideration will be needed for dispatch to meet system reliability needs in 2021, we can definitively state that the capacity of each individual resource – and the combined capacity of these resources – is within the band of uncertainty that our estimates of 2021 system needs have identified up to this point.

We recognize that since 2010, the OTC Policy has substantially reduced marine water consumption by electric generators in California and has thereby reduced entrainment and impingement mortality of marine life. We commend this success and reinforce our intention to realize full compliance with the OTC Policy over the next few years. However, we also recognize the threat of system capacity shortfalls in the short-term and are committed to maintaining the reliability of California's electric system as we simultaneously meet the State's nation-leading environmental and other policy goals.

¹¹ For example, see “2019 Report of the Statewide Advisory Committee on Cooling Water Intake Structures,” March 8, 2019, Table 3, available at https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/saccwis/docs/sac2019fnl.pdf.

¹² D.19-11-016 at 19.

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We look forward to continued discussion of these issues in the coming months, and we remain available to answer any questions you may have.

Sincerely,

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