Date of Hearing: April 27, 2022

ASSEMBLY COMMITTEE ON UTILITIES AND ENERGY
Eduardo Garcia, Chair
AB 2140 (Muratsuchi) – As Amended April 18, 2022

SUBJECT: Once-through cooling policy: powerplants

SUMMARY: Prohibits the State Water Resources Control Board (State Water Board) from granting an operator of a powerplant any extension of time to comply with the once-through cooling (OTC) policy if both an advisory committee of the Water Board (the Statewide Advisory Committee on Cooling Water Intake Structures (SACCWIS)) determines that an extension is not necessary to ensure statewide electricity reliability and if the city or county that has jurisdiction over the powerplant site formally adopts a resolution objecting to the extension. Additionally directs the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and the California Independent System Operator (CAISO) to identify and procure alternative energy sources to replace the powerplants closed as a result of the OTC policy.

EXISTING LAW:

1) Requires that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. (Section 316(b), federal Clean Water Act)

2) Establishes the State Water Board within the California Environmental Protection Agency with specified duties relating to, among other things, administering water rights and the California Safe Drinking Water Act. (Water Code §§ 174-189.5)

3) Establishes the policy on the use of coastal and estuarine waters for power plant cooling under Water Board Resolution No. 2010-0020. Establishes uniform, technology-based standards to implement federal Clean Water Act section 316 (b), which requires that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. (California Code of Regulations, Title 23, Division 3, Chapter 22, Sec. 2922)

4) Establishes and vests the CPUC with regulatory authority over public utilities, including electrical corporations. (Article XII of the California Constitution)

5) Requires the CPUC to ensure that facilities needed to maintain the reliability of the electrical supply remain available and operational. (Public Utilities Code § 362)

6) Requires the CPUC to direct each electrical corporation to file annual renewable energy procurement plans, to meet statewide targets as specified. (Public Utilities Code § 399.13)

7) Establishes the CAISO as a nonprofit public benefit corporation and requires the CAISO to ensure efficient use and reliable operation of the electrical transmission grid consistent

with achieving planning and operating reserve criteria no less stringent than those established by the Western Electricity Coordinating Council and the North American Electric Reliability Corporation. (Public Utilities Code § 345.5)

8) Provides it 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. (Public Utilities Code § 454.53)

FISCAL EFFECT: Unknown. This bill is keyed fiscal and will be referred to the Committee on Appropriations for its review.

BACKGROUND:

OTC – Technologies at steam turbine power plants that rely on open seawater intakes to cool the turbine by pumping seawater and then discharging the water back to the ocean after only one cycle of cooling are known as OTC. This technology, which became widely used in the 1950s, has detrimental effects on marine life. Marine animals, seaweeds, and billions of eggs and larvae of fish and invertebrates are taken in with the seawater and killed as they are subjected to thermal, physical, and/or chemical stresses. Larger organisms may also be pinned against seawater intake screens, causing injury or death. These impacts contribute to the decline of fisheries and the degradation of marine habitats near power plants using OTC.

California's OTC Policy – California is phasing out the use of OTC technology at coastal power plants that use marine water for cooling. The federal Clean Water Act requires the U.S. Environmental Protection Agency (US EPA) to ensure that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impacts. While states have enforced this requirement on a case-by-case basis since 1972, California developed a clearer, more prescriptive rule.

In March 2008, the State Water Board published a scoping document titled *Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling* to implement the US EPA's aforementioned policy, and subsequently adopted, in 2010, a regulatory policy to phase out the use of OTC. It included many grid reliability recommendations made by CAISO, as well as a joint implementation proposal developed by the CEC, CPUC, and CAISO. The OTC Policy requires power plants that are not in compliance to make mitigation payments annually based on their annual intake volume of water until they come into compliance.

The OTC phase out regulation affected 19 California power plants that had the ability to withdraw more than 15 billion gallons per day from the state's coastal and estuarine waters using OTC systems. Of those, 16 power plants totaling about 18,000 megawatts (MW) were in the CAISO balancing authority area, and 3 (about 2,600 MW) were in the Los Angeles Department of Water & Power balancing area. The use of OTC has been phased out at 10 power plants

representing 10,400 MW. The retirement of OTC power plants with 6,300 MW of capacity is expected by 2020, and the remaining 3,800 MW are expected to retire by 2029. To ensure grid reliability, final compliance dates were negotiated with each of the operating plants.

In September 2020, the State Water Board amended the OTC policy as a result of the August 2020 blackouts that raised concern about system-wide grid reliability. The amendments included changes to the compliance dates for 4 powerplants that were scheduled to comply with the OTC Policy by December 31, 2020. This included a one-year extension for compliance for the Redondo Beach power plant to December 31, 2021, which is in the author's district.

On October 19, 2021, the State Water Board amended the OTC policy under Resolution No. 2021-0048 to extend the compliance date for Redondo Beach Generating Station Units 5, 6, and 8 to December 31, 2023, to further address statewide grid reliability concerns.

COMMENTS:

1) *Author's Statement.* According to the author, "The OTC compliance deadline has been in place for as many years, and the plants had been scheduled to shut down by the end of this past year. I remain concerned about this latest extended deadline as it will increase the public health and environmental impacts associated with the operation of the largest stationary source of pollution in this densely populated part of the state. I too am concerned about grid reliability, but those concerns ought to be met with new renewable energy and storage procurement and not with a polluting fossil fuel plant that harms our communities. AB 2140 ensures that the Water Board does not grant an operator of a power plant any further extension to comply with the OTC policy if the city the power plant is located in, formally adopts a resolution objecting to any further extension. This bill also requires the Public Utilities Commission, the State Energy Resources Development Commission, and the California Independent Systems Operator to work together to identify and procure alternative energy sources to replace the power plants."

2) *Maintaining Reliability.* The State Water Board has twice delayed the deadline to phase out OTC at specified powerplants because of grid reliability. As the state has been investing in and planning to meet the 2045 100% clean energy mandate, significant events have arisen to complicate management of the energy system. Intense wildfire seasons can depress solar generation or even compromise electricity imports when transmission lines are in a fire's path; the COVID-19 pandemic stunted renewable energy deployment; and, the subsequent supply chain shortages continue to delay materials and supplies, ultimately impacting the timing of when planned renewable energy projects come on line. Furthermore, the state energy agencies are now planning for extreme heat events, requiring adjustments to forecasting and procurement modeling. Because of these challenges, the CPUC still factors the MW input of the OTC power plants into its planning. Care must be given to recognize and respond to these challenges before these plants can be decommissioned.

That said, the CPUC has moved quickly to address reliability in the mid-term (2023-2026) by issuing recent procurement decisions calling for 3,300 MW by 2023 and then an additional 11,500 MW by 2026.[1] The first procurement order recommended that the State Water Board consider revising the OTC Policy to extend the compliance dates for several units by a few years; Redondo Beach Units 5, 6, and 8 were recommended to be extended for two years to support system-wide grid reliability concerns. The second procurement order arose in response to those planned OTC retirements in 2024-2026,[2] and sought firm resources to help offset the loss of the OTC. The CPUC continues to actively monitor the procurement ordered, reporting that 2,650 MW of incremental capacity has come online as of January 2022.

As a point of comparison, the Redondo Beach Units have a capacity of approximately 848 MW, and since their extension, have been operating as peaker plants running at around 5% of their operating capacity.[3] In other words, the new CPUC procurement already online should be sufficient to cover the plant's closure. However, capacity alone does not capture the full scope of the issue, as system reliability is just one aspect of the overall reliability that energy agencies must safeguard. The other aspects of reliability—local and flexible reliability—must also be taken into account. Local reliability ensures that resources are sited in certain load pockets where supply is needed due to insufficient transmission to serve the entire load (e.g., SF Bay Area, LA Basin, San Diego, etc.). Flexible reliability ensures enough resources that can ramp up or down on short notice to meet variations in load and intermittent energy production. All three aspects of reliability – system, local, and flexible – must be maintained; this is why the size of the procurement ordered by the CPUC is not, on its own, an adequate guide for whether some of these OTC plants are still needed. While the CPUC notes that most energy resources are scheduled to come online as planned, and thus the current retirement schedule for OTC is unlikely to change, perturbations from the pandemic—equipment shortages, supply chain constraints, workforce shortfalls—could quickly delay resource delivery dates. This bill may limit state agency response should unexpected delays occur that necessitate another review of the OTC retirements.

3) *State vs. Local.* The Statewide Advisory Committee on Cooling Water Intake Structures (SACCWIS), includes representatives from the State Water Board, CEC, CPUC, and CAISO, among others. SACCWIS advises the State Water Board on the OTC Policy to ensure that policy plans and schedules are realistic and will not cause disruption to the state's electrical power supply. SACCWIS's March 2022 Report concludes that "*Currently, the SACCWIS does not recommend any changes to the compliance schedules in the OTC Policy for associated generating facilities*," with the potential exception of

[1] D. 19-11-016 and D.21-06-035.
[2] Alongside the Diablo Canyon nuclear powerplant
[3] Pg 6. SACCWIS "Final Recommended Compliance Date Extensions for Alamitos, Huntington Beach, Ormond Beach, and Redondo Beach Generating Stations," January 23, 2020.

the Scattergood plant in the LA basin.[4] This bill prohibits the State Water Board from granting an operator of a powerplant an extension of time to comply with the OTC policy if SACCWIS determines that the extension is not necessary to ensure statewide electricity reliability. While such a mandate seems in keeping with the structure of the current process—whereby the State Water Board is unlikely to make a decision on the OTC Policy without first hearing the advice of SACCWIS—it is highly unusual to strip regulatory decisionmaking authority from a state agency and grant it to a convened body; a body not even authorized in statute.

Moreover, this bill prohibits the State Water Board from granting an operator of a powerplant an extension of time to comply with the OTC policy if the local city or county where the powerplant resides also formally adopts a resolution objecting to the extension. Both this and the SACCWIS requirement must be met in order for the prohibition of the extension to hold; however, both provisions remove the executive power of the State Water Board and instead grant it to a subsidiary committee and a local government.

4) *State agency procurement.* This bill additionally mandates the CPUC, CEC, and CAISO to collectively identify and procure alternative energy sources to replace powerplants that retire as a result of the OTC Policy. While this directive is in the spirit of the procurement orders the CPUC has issued to date in response to the OTC Policy, in practice it mandates state agencies to procure electricity. Aside from the Department of Water Resources which procures energy to meet State Water Project needs, few state agencies procure electricity. Rather, the CPUC directs load serving entities (LSEs)—electrical corporations, community choice aggregators, and electric service providers—to procure based on their orders. Mandating state agency procurement counter to current practice does not seem the intent of the author. *As a result, the author and committee may wish to amend this bill to strike the provision directing the energy entities to identify and procure resources.*

5) *Precedent setting.* This bill grants a portion of decisionmaking authority over natural gas powerplants to local governments. This reverses decades of precedence where state agencies have the siting authority for new natural gas powerplants[5] or the ability to call

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[4] Pg. 5, SACCWIS "2022 Report of the Statewide Advisory Committee on Cooling Water Intake Structures," March 14, 2022.

[5] The CEC has the exclusive authority to certify all thermal power plants (50 megawatts [MW] and greater) and related facilities proposed for construction in California. The Small Power Plant Exemption (SPPE) process allows applicants with facilities between 50 and 100 MW to obtain an exemption from CEC's jurisdiction and proceed with local permitting rather than requiring CEC certification. CEC can grant an exemption if it finds that the proposed facility would not create a substantial adverse impact on the environment or energy resources. Public Resources Code section 25519(c) designates CEC as the "lead agency", in accordance with the California Environmental Quality Act (CEQA), for all facilities seeking an SPPE. In granting an SPPE, the CEC is not the final approval necessary for construction and operation of a project. Instead, if the CEC grants an SPPE, the responsible local land use authorities and other agencies, such as the local air management district, will assume jurisdiction over the

for those plants' closure. State authority for powerplant siting, licensing, and closure largely occurred in response to a slowdown in powerplant approvals from local governments that felt pressured by constituents not wanting natural gas plants built in their neighborhoods. Recently, local concerns have been bubbling around renewable energy development projects, such as wind[6] and solar farm[7] siting, which is still authorized locally. This bill, in granting authority back to the locals to make decisions on statewide grid needs, might inadvertently support the practice of local denials to renewable development.

6) *Need for additional amendments. The committee may wish to consider additional amendments to add coauthors, modify the findings and declarations, and strike SACCWIS's consideration of only "statewide" reliability.*

7) *Previous Legislation*.

AB 2071 (Muratsuchi, 2020) reintroduction of AB 353 (Muratsuchi, 2019) Status: Died – Assembly Committee on Natural Resources.

AB 353 (Muratsuchi, 2019) would have prohibited the SWRCB from extending the OTC policy to powerplants situated on coastal wetlands or a nongovernmental entity has received a grant before January 1, 2020 in order to purchase part of the powerplant site. Status: Died – Senate Committee on Environmental Quality.

8) *Double Referral.* This bill was previously heard in the Assembly Committee on Natural Resources on April 25th, 2022, where it passed with a 7-3-1 vote.

REGISTERED SUPPORT / OPPOSITION:

Support

Beach Cities Health District
City of Hermosa Beach
City of Redondo Beach
Los Angeles Waterkeeper

Oppose

California State Association of Electrical Workers
California State Pipe Trades Council
Coalition of California Utility Employees

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project under their respective permitting processes, and conduct any other necessary environmental review as "responsible agencies" under CEQA.

[6] Terra-Gen in Humboldt and Fountain Wind Project in Shasta County

[7] Raceway 2.0 in Rosamond in Kern Co.; although that project was delayed due to property tax considerations and

Independent Energy Producers Association
International Brotherhood of Electrical Workers, Local 18
Western States Council Sheet Metal, Air, Rail and Transportation

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