RESOLUTION R2-2024-00XX

Resolution to Identify and Consider Regulatory Mechanisms to Extend Compliance Schedules for Nutrient Effluent Limitations

Whereas:

1. San Francisco Bay has long been recognized as a nutrient-enriched estuary with higher nutrient (i.e., nitrogen and phosphorus) concentrations than most estuaries in the world. Too much nitrogen and phosphorous can result in excessive phytoplankton growth, which can be associated with harmful algal blooms and low dissolved oxygen concentrations. In San Francisco Bay, nitrogen has more influence on phytoplankton growth than phosphorous. During the dry season, municipal wastewater dischargers account for approximately 86 percent of the total nitrogen load to San Francisco Bay.

2. The Board initiated a Nutrient Management Strategy in 2012 and convened a Steering Committee in 2014, with the participation of U.S. EPA, dischargers, scientists, and non-governmental organizations. The Steering Committee oversees a Nutrient Science Program that includes monitoring, modeling, and special studies to better understand and respond to adverse effects of nutrients on San Francisco Bay.

3. In 2014, the Board issued the first Nutrients Watershed Permit (NPDES Permit CA0038873, Order R2-2014-0014) to provide a consistent approach to regulating municipal wastewater treatment with respect to nutrients. The permit required dischargers to (1) contribute $880,000 per year to the Nutrient Science Program; (2) monitor effluent to characterize nutrient discharge concentrations and loads; and (3) evaluate opportunities to reduce nutrient discharges through treatment plant optimization and upgrades.

4. In 2019, the Board reissued the second Nutrients Watershed Permit (Order R2-2019-0017). The reissued permit required dischargers to (1) contribute $2.2 million per year to continue and enhance the Nutrients Science Program; (2) continue to monitor effluent to characterize nutrient discharge concentrations and loads; and (3) evaluate opportunities to reduce nutrient discharges by recycling treated wastewater and using wetlands systems and other nature-based or multi-benefit systems.

5. In July and August 2022, San Francisco Bay experienced a significant harmful algal bloom that resulted in nuisance odors and massive fish kills. While the causes of the harmful algal bloom remain unknown, the high levels of nutrients in San Francisco Bay enabled its extensive propagation.

6. On [date], 2024, the Board reissued the third Nutrients Watershed Permit (Order R2-2024-xxxx). This permit requires dischargers to reduce dry season total inorganic nitrogen loads to San Francisco Bay by 40 percent regionwide compared to 2022 loads. The permit also continues to require dischargers to (1) contribute $2.2 million per year for the Nutrient Science Program, and (2) continue to monitor effluent to characterize nutrient discharge concentrations and loads.

7. The permit contains 10-year compliance schedules for dischargers to comply with final effluent limitations for nitrogen. State Water Resources Control Board (State Water Board) Resolution 2008-0025, *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits* (Compliance Schedule Policy), authorizes maximum compliance schedules of up to 10 years from the date of adoption, revision, or new interpretation of the applicable water quality objective, unless a Total Maximum Daily Load (TMDL) is established that provides for a longer schedule. The Compliance Schedule Policy allows compliance schedules "to implement a new, revised, or newly interpreted water quality objective or criterion in a water quality standard that results in a permit limitation more stringent than the limitation previously imposed where the Water Board … has demonstrated that the discharger needs additional time to implement actions to comply with the limitation." The permit imposed more stringent final nitrogen effluent limitations and the dischargers demonstrated additional time is needed to comply with them.

8. Dischargers implementing multi-benefit solutions, such as nature-based treatment or water recycling, or needing to pilot innovative technologies before full-scale implementation may find compliance with the 10-year timeline to be difficult. Multi-benefit projects will likely take longer to complete than conventional projects due to the additional challenges associated with interagency agreements, multi-agency permitting, and land acquisition.

    a. Recycled water projects require agreements between wastewater dischargers and water supply agencies.

    b. Nature-based solutions require obtaining permits from multiple agencies. Where a discharger does not already own the project site, the land must be acquired.

    c. Innovative technologies could reduce energy use, chemical use, emissions, and costs. Piloting innovative technologies before implementation could be necessary but would take time.

9. Dischargers under the permit contemplating alternative strategies for nutrient removal may only consider traditional gray infrastructure upgrades to ensure compliance if compliance must be achieved within 10 years. However, the Board discourages this, and instead encourages dischargers to pursue strategies that provide multiple benefits to the communities they serve and the environment.

10. The permit requires dischargers that identify long-term multi-benefit solutions (e.g., water recycling or nature-based solutions) that cannot be completed by the end of the compliance schedules to identify such projects and their intent to pursue and implement them. The permit states that the Board will use available regulatory mechanisms to allow more time to comply as warranted.

11. The Board shares significant complementary regulatory, policy, and funding influence with multiple state and federal agencies over the region's water supply, wastewater treatment, and habit protection.

12. Available regulatory mechanisms to allow more time may include the following, for example:

    a. Finding that a new compliances schedule is justified under the Compliance Schedule Policy based on a new, revised, or newly interpreted biostimulatory substances water quality objective resulting in a more stringent effluent limitation;

    b. Working with the State Water Board to amend the Compliance Schedule Policy to allow longer compliance schedules;

    c. Amending the Basin Plan, for example by establishing a TMDL, to provide more time for implementation; or

    d. Issuing cease and desist orders as necessary.

13. Regulatory mechanisms based on a new interpretation of the water quality objective or developing a TMDL will require additional scientific study and analysis to better understand San Francisco Bay's interactions with nutrients and how these interactions can lead to harmful algal blooms. Receiving water monitoring will provide necessary data to further model San Francsico Bay nutrient loads, determine San Francsico Bay's likely responses, and inform the development and implementation of strategies to manage future nutrient loads. These studies will be developed through the Nutrient Management Strategy.

14. The next permit reissuance is scheduled for 2029. At that time, the Board will consider newly available information (e.g., observational data, improved load response modeling, and other scientific updates generated by the Nutrient Science Program) to reassess and refine the final effluent limitations and other permit requirements.

15. Prior to the next permit reissuance, the Board will need to consider available options to provide dischargers more time to comply with permit requirements and to implement strategies to pursue one or more of such options as warranted.

16. This resolution directs staff to (a) report on discharger efforts annually to reduce nutrient discharges and their progress toward complying with the permit's final effluent limitations; (b) continue participating in, and report the findings of, the Nutrient Science Program; (c) consider how new information could affect the Board's interpretation of the biostimulatory substances water quality objective; (d) report on the feasibility of amending the Compliance Schedule Policy for multi-benefit projects, evaluate other available regulatory mechanisms to provide more time as warranted, and report back to the Board ; and (e) work with other state and federal agencies to encourage and facilitate multi-benefit investments in multi-benefit projects and permit them.

17. This resolution is not subject to environmental review pursuant to the California Environmental Quality Act because it is not a "project" as defined by the Act. Since this resolution directs staff to provide reports and updates, consider new information, investigate the feasibility of amending the Compliance Schedule Policy, and

evaluate available regulatory mechanisms to provide more time, it has no potential to cause a direct physical change, or a reasonably foreseeable indirect physical change, in the environment or cause a reasonably foreseeable indirect physical change in the environment. (Pub. Res. Code § 21065; Cal. Code Regs., tit. 14, § 15378.)

18. The Board notified the dischargers and interested persons of its intent to consider this resolution. In a public meeting on July 10, 2024, the Board heard and considered all comments pertaining to this resolution.

Therefore, be it resolved:

1. The Board directs staff to regularly report the status of discharger actions and future commitments to reduce nutrient discharges, especially through multi-benefit solutions or innovative technologies, and progress toward complying with the permit's final effluent limitations, particularly the aggregate mass limit upon which the individual effluent limitations are based.

2. The Board directs staff to continue participating in the Nutrient Science Program and implementing the Nutrients Management Strategy, to regularly report the findings of these efforts, and to ensure that as much relevant new information is generated as possible to support potential regulatory options that could provide dischargers that pursue multi-benefit projects or innovative technologies more time to comply with the permit's final effluent limitations.

3. The Board directs staff to consider how new information could affect the Board's interpretation of the biostimulatory substances water quality objective.

4. The Board directs staff to (a) evaluate the feasibility of amending the Compliance Schedule Policy to provide more time for multi-benefit projects or innovative technologies; (b) compare the pros, cons, and timelines needed to pursue other available regulatory mechanisms to provide more time, as warranted, particularly for multi-benefit projects; and (c) report to the Board on its findings.

5. The Board directs staff to work with other state and federal agencies to encourage, facilitate, and permit multi-benefit investments by water, wastewater, and other agencies in multi-benefit projects that address nutrients in tandem with other critical water, wastewater, and habitat protection needs (e.g., water supply, sea level rise, and climate change).

I hereby certify that this resolution a full, true, and correct copy of the resolution adopted by the San Francisco Bay Regional Water Quality Control Board on July 10, 2024.

Eileen White, Executive Officer