

**REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

**EXECUTIVE OFFICER SUMMARY REPORT
FEBRUARY 8, 2023**

ITEM 3

SUBJECT

San Diego Region Per- and Polyfluoroalkyl Substances Investigations Update (*Brian McDaniel and Joe Whearty*)

STAFF RECOMMENDATION

Informational item only; no recommendation.

KEY ISSUES

Per- and polyfluoroalkyl substances (PFAS) are a group of over 5,000 synthetic fluorinated substances, produced since the 1940s, used for municipal, commercial, industrial, and emergency fire response purposes. PFAS chemicals are persistent in the environment and highly mobile in water. Within the broader PFAS classification, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) are the most widespread in the environment and are detected in human blood samples. A fact sheet from the Centers for Disease Control and Prevention indicates that health impacts to humans from low levels of PFAS exposure is uncertain; however, animal studies indicate PFAS may affect reproductive and immune systems and thyroid function.

The State Water Resources Control Board (State Water Board) issued a series of investigative orders (PFAS Orders), starting in 2019, requiring the assessment of PFAS at airports, landfills, chrome plating facilities, wastewater treatment plants, and fuel storage terminals and refineries. The PFAS Orders are part of a statewide effort to evaluate PFAS-related groundwater and surface water impacts from non-military facilities with historical PFAS use. San Diego Water Board staff review the PFAS assessments to verify compliance with the PFAS Orders issued within the San Diego Region and determine the need for additional investigations.

The Department of Defense (DoD) established a nationwide PFAS task force in 2019 to investigate PFAS at military installations using the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) remedial process. The DoD completed a Preliminary Assessment for all nine military installations within the San Diego Region. The DoD is currently working to complete Site Inspections at locations identified as areas of interest in the Preliminary Assessments.

Currently, there are no established federal or California primary drinking water standards (maximum contaminant levels or MCLs) for PFAS. However, the U.S. Environmental Protection Agency (EPA) issued interim drinking water health advisories¹

¹ <https://www.epa.gov/sdwa/drinking-water-health-advisories-pfoa-and-pfos>

for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) in 2016, and recently updated these advisories in June 2022. The State Water Board's Division of Drinking Water (DDW) also established notification and response levels² for PFOA, PFOS, perfluorobutane sulfonic acid (PFBS), and perfluorohexane sulfonic acid (PFHxS) between February 2020 and October 2022. The notification levels represent the concentration level of a contaminant in drinking water that does not pose a significant health risk but warrants notification. The response levels represent recommended chemical concentration levels at which water systems consider taking a water source out of service or provide treatment. DDW also requested that the Office of Environmental Health and Hazard Assessment (OEHHA) develop Public Health Goals (PHGs) for several PFAS chemicals. OEHHA released draft PHGs for PFOA and PFOS in June 2022. These PHGs represent concentrations of drinking water contaminants that pose no significant health risks, based on current risk assessment principles, practices, and methods.

The State Water Board and the Regional Water Boards are evaluating the data collected during the PFAS investigations at non-military and military sites to make informed decisions with regards to implementing appropriate regulatory action, in anticipation of emerging regulatory standards for PFAS.

PRACTICAL VISION

The informational item is consistent with the Monitor and Assess chapter of the *San Diego Water Board Practical Vision*.³ Monitoring and assessment programs produce information that supports efforts to protect and restore the health of San Diego Region waters, communicate the condition of those waters, and provide meaningful information to evaluate the success of those efforts. Through the Practical Vision, the Board and its staff exercise its leadership and stewardship values both locally and statewide. This item also demonstrates the San Diego Water Board values of communication and transparency by reporting in an open meeting our accomplishments, priorities, and goals.

DISCUSSION

The purpose of this item is to provide an update to the San Diego Water Board members and the public on the status of the work conducted under the State Water Board's PFAS Orders and the DoD PFAS task force. San Diego Water Board staff in the Site Restoration Unit and the Site Restoration, Military Facilities Unit, will provide program summaries and status updates on PFAS investigations at non-military and military sites in the San Diego Region. Staff will also provide case studies for investigations at the San Diego International Airport and Naval Base San Diego.

PFAS Investigations at Non-Military Sites

The State Water Board Department of Water Quality (DWQ) issued the following PFAS Orders to evaluate the occurrence of PFAS in various media related to emergency fire

² https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/pfas.html

³ https://www.waterboards.ca.gov/sandiego/water_issues/programs/practical_vision/

response purposes and uses, storage, disposal, and releases at municipal, commercial, and industrial facilities:

- *Water Code Section 13267 Order for the Determination of the Presence of Per- and Polyfluoroalkyl Substances, Order WQ 2019-0005-DWQ, issued on March 20, 2019.*
- *Water Code Section 13267 Order for the Determination of the Presence of Per- and Polyfluoroalkyl Substances, Order WQ 2019-0006-DWQ, issued on March 20, 2019.*
- *Water Code Sections 13267 and 13383 Order for the Determination of the Presence of Per- and Polyfluoroalkyl Substances at Chrome Plating Facilities, Order WQ 2019-0045-DWQ, issued on October 9, 2019.*
- *Water Code Sections 13267 and 13383 Order for the Determination of the Presence of Per- and Polyfluoroalkyl Substances at Publicly Owned Treatment Works, Order WQ 2020-0015-DWQ, issued on July 9, 2020.*
- *Water Code Sections 13267 and 13383 Order for the Determination of the Presence of Per- and Polyfluoroalkyl Substances at Bulk Fuel Storage Terminals and Refineries, Order WQ 2021-0006-DWQ, issued on March 12, 2021.*

These PFAS Orders require facility owners and operators to submit technical reports to evaluate the presence of PFAS at facilities where PFAS may have been used, or where materials suspected of containing PFAS have been disposed or treated. These investigations are part of a statewide effort to evaluate PFAS in various media (e.g., groundwater, soil, leachate, and wastewater influent and effluent) and to obtain a preliminary understanding of PFAS concentrations at and near the facilities subject to the PFAS Orders. The San Diego Region oversees 65 facilities subject to the PFAS Orders. Concentrations of PFAS constituents at the regulated facilities vary in terms of order of magnitude with the highest concentrations detected at airports and some of the lowest concentrations detected in waste streams at publicly owned treatment works (POTW).

PFAS investigations are currently at varying stages of compliance. Board staff compare the analytical results from the PFAS investigations (i.e., all but POTWs) to EPA Regional Screening Levels (RSLs), in the absence of MCLs or other regulatory standards, criteria, or thresholds. Several facilities subject to the PFAS Orders will require additional sampling and analysis, based on exceedance of RSLs, to (1) determine the nature and extent of contamination, and (2) to assess the potential risk to human health and the environment. The State Water Board is currently assessing the POTW data to determine next steps.

In addition to the DWQ PFAS Orders listed above, DDW issued General Order Requiring Monitoring for Per- and Polyfluoroalkyl Substances, under California Health and Safety Code Section 116378, Order DW 2022-0001-DDW, on October 31, 2022. Reports required under this order are pending.

PFAS Investigations at Military Installations

The DoD Defense Environmental Restoration Program is investigating PFAS at military installations using the CERCLA remedial process. The CERCLA remedial process begins by conducting a Preliminary Assessment and Site Inspection, during which site conditions and contaminants are identified. The DoD has submitted Preliminary Assessments to the San Diego Water Board for all nine military installations within the San Diego Region. The Preliminary Assessments identify several areas of interest requiring the DoD to conduct Site Inspections within those areas. The DoD will collect soil and groundwater quality data and compare the analytical results to EPA RSLs. The DoD will also collect drinking water data from its water supply wells to ensure the PFAS analytical results are below EPA interim drinking water health advisory levels.

The DoD has completed Site Inspections at Naval Base San Diego and Marine Corps Air Station Miramar. These Site Inspections identified PFAS concentrations in soil and groundwater above EPA RSLs. However, Naval Base San Diego and Marine Corps Air Station Miramar are located within non-beneficial use groundwater basins. The DoD anticipates completing all other Site Inspections in our region over the next couple of years.

The DoD also completed drinking water assessments at Marine Corps Camp Pendleton and the Warner Springs Training Center. The DoD detected PFAS above the EPA interim drinking water health advisory levels in several drinking water supply wells during these assessments. Drinking water systems at these installations are regulated by DDW. The DoD is implementing long-term drinking water solutions at these installations in response to the PFAS detections in its water supply wells. The solutions include, but are not limited to, terminating use of the wells, installing new wells, and blending imported water with groundwater to ensure PFAS levels remain below the EPA interim drinking water health advisory levels.

Remedial Investigation is the next pending phase in the CERCLA remedial process. Remedial Investigations involve more intensive sampling and analysis to determine the nature and extent of PFAS contamination and the threat to human health and the environment. The DoD will proceed with the Remedial Investigations, with regulatory guidance from the San Diego Water Board, once federal and state MCLs are established for PFAS.

LEGAL CONCERNS

None.

PUBLIC NOTICE

The agenda notice for today's meeting was posted on the San Diego Water Board's website and sent to subscribers to the email list for Board meetings. This satisfies the Bagley-Keene Open Meeting Act requirements to publish the meeting notice and agenda.

SUPPORTING DOCUMENTS

None.