

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF DECEMBER 12-13, 2024

Prepared on November 14, 2024

ITEM NUMBER: 7

SUBJECT: Update on Implementation of the Voluntary Cleanup and Abatement Agreement to Address Per- And Polyfluoroalkyl Substances (PFAS) Contamination at the San Luis Obispo County Regional Airport

STAFF CONTACTS: Greg Bishop, 805-549-3132,
greg.bishop@waterboards.ca.gov
Dean Thomas, 805-549-3690,
dean.thomas@waterboards.ca.gov

KEY INFORMATION:

Location: San Luis Obispo County Regional Airport and nearby community

Type of Discharge: Soil, sediment, and groundwater pollution due to discharge of firefighting foam containing PFAS

ACTION: Information/Discussion

SUMMARY

On July 21, 2023, the Central Coast Water Board adopted [Resolution R3-2023-0046](#)¹ which ratified a three-year [Voluntary Cleanup and Abatement Agreement](#)² (VCAA) between the Central Coast Water Board Cleanup Team, San Luis Obispo County, and the California Department of Forestry and Fire Protection (CAL FIRE) to address PFAS contamination at the San Luis Obispo County Regional Airport (Airport) and nearby community. At the hearing, Board Members requested that staff provide regular updates on the implementation of the VCAA. Staff provided a brief update as part of the Executive Officer's Report for the December 2023 Board Meeting. This staff report includes the most recent status on the actions and deliverables required by Resolution R3-2023-0046 and the VCAA.

¹https://www.waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/2023/r3-2023-0046.pdf

² VCAA: <https://geotracker.waterboards.ca.gov/?surl=6ejg7>

In summary, San Luis Obispo County and CAL FIRE (collectively, the Airport Parties) agreed to, among other things:

- a) Immediately provide point-of-use (POU) treatment systems to locations where primary drinking water exceeds a PFAS Standard, as defined in the VCAA, for Airport-related PFAS;
- b) Evaluate the effectiveness of, plan for, and implement point-of-entry (POE) treatment for those locations where groundwater is impacted by Airport-related PFAS in excess of a PFAS Standard within 12 months of VCAA ratification;
- c) Evaluate and plan for long-term water supply solutions;
- d) Continue public outreach and develop a Public Participation Plan;
- e) Continue investigation activities and develop remediation feasibility studies and remedial action plans and, where feasible, implement remedial action plans; and
- f) Prepare and submit a human health risk assessment (HHRA).

Groundwater, supply well, and post-treatment system monitoring and testing are also included in the VCAA. The Airport Parties have made substantial progress and have generally complied with the requirements of the VCAA. A detailed schedule and status of VCAA milestones and deliverables is included in Attachment 1.

DISCUSSION

Background

PFAS are a large group of man-made substances that persist in the environment and, at unsafe levels, can affect human health. PFAS investigations in the Airport area began in 2019 in response to a March 20, 2019, State Water Resources Control Board (State Water Board) order requiring certain airports in California to investigate soil and groundwater for the presence of PFAS caused by fire-fighting rescue and preparedness operations that incorporated aqueous film-forming foam (AFFF) fire suppressants. AFFF are fluorinated foams that contain diverse mixtures of PFAS.

After initial investigations at the Airport found elevated levels of PFAS in soil and groundwater, the Central Coast Water Board issued orders requiring San Luis Obispo County to conduct additional investigations in both onsite and offsite areas, including sampling of private domestic wells for PFAS in a rural residential and commercial area south and west of the Airport. Results indicate that PFAS exceeded drinking water standards in many private domestic wells. To address PFAS contamination in soil and groundwater at the Airport and nearby community, the Central Coast Water Board Cleanup Team and the Airport Parties finalized the VCAA. On July 21, 2023, the Central Coast Water Board adopted Resolution R3-2023-0046 which ratified the VCAA, in lieu of consideration of adopting a draft cleanup and abatement order.

PROGRESS TO IMPLEMENT THE VCAA

Document Submittals

As of November 7, 2024, the Airport Parties submitted the following documents to the Central Coast Water Board in accord with the VCAA schedule:

- *Public Participation Plan*, September 4, 2023³ and November 3, 2023;⁴
- *Domestic Water Use / PFAS Treatment System Sampling Workplan*⁵, September 4, 2023
- *PFAS Site Conceptual Model*,⁶ October 19, 2023
- *POE PFAS Treatment Evaluation Workplan*,⁷ October 19, 2023
- *PFAS Groundwater Monitoring and Sampling Plan*,⁸ October 19, 2023
- *Quarterly Status Report No. 1*,⁹ November 3, 2023*
- *Phase II Water Supply, Replacement Water/Treatment Alternatives Evaluation Workplan*,¹⁰ November 17, 2023
- *Remedial Investigation Workplan*,¹¹ November 18, 2023
- *Public Health Department Response to Request for a Health Survey for Airport Related PFAS Impacts*,¹² November 28, 2023
- *Revised Remedial Investigation Workplan*,¹³ February 5, 2024
- *Groundwater Monitoring and Sampling Report*,¹⁴ March 4, 2024
- *Revised Remedial Investigation Workplan*,¹⁵ March 21, 2024
- *Quarterly Status Report No. 2 - Fourth Quarter 2023*,¹⁶ March 29, 2024*
- *Point of Entry PFAS Treatment Evaluation Report*,¹⁷ April 10, 2024
- *Feasibility Study/Remedial Action Plan Workplan*,¹⁸ April 16, 2024
- *Remedial Investigation Progress Report No. 1*,¹⁹ July 12, 2024
- *Quarterly Status Report No. 3 - First Quarter 2024*,²⁰ August 16, 2024*

³ September 4, 2023, Public Participation Plan: <https://geotracker.waterboards.ca.gov/?surl=toggy>

⁴ November 3, 2023, Public Participation Plan: <https://geotracker.waterboards.ca.gov/?surl=krh40>

⁵ Domestic Water Use / PFAS Treatment System Sampling Workplan: https://documents.geotracker.waterboards.ca.gov/esl/uploads/geo_report/3823718070/T10000012768.PDF

⁶ Site Conceptual Model: <https://geotracker.waterboards.ca.gov/?surl=syovt>

⁷ POE PFAS Treatment Evaluation Workplan: <https://geotracker.waterboards.ca.gov/?surl=50z1r>

⁸ PFAS Groundwater Monitoring Sampling Plan: <https://geotracker.waterboards.ca.gov/?surl=xi358>

⁹ Quarterly Status Report No. 1: <https://geotracker.waterboards.ca.gov/?surl=jwia9>

¹⁰ Phase II Water Supply, Replacement Water/Treatment Alternatives Evaluation Workplan: <https://geotracker.waterboards.ca.gov/?surl=96mq8>

¹¹ Remedial Investigation Workplan: <https://geotracker.waterboards.ca.gov/?surl=18t62>

¹² Response to Health Survey Request: <https://geotracker.waterboards.ca.gov/?surl=tl2xl>

¹³ Revised Remedial Investigation Workplan: <https://geotracker.waterboards.ca.gov/?surl=pptr4>

¹⁴ Groundwater Monitoring Report: <https://geotracker.waterboards.ca.gov/?surl=evfys>

¹⁵ Revised Remedial Action Workplan: <https://geotracker.waterboards.ca.gov/?surl=qepbd>

¹⁶ Quarterly Status Report No. 2: <https://geotracker.waterboards.ca.gov/?surl=1eg14>

¹⁷ POE PFAS Treatment Evaluation Report: <https://geotracker.waterboards.ca.gov/?surl=94c65>

¹⁸ Feasibility Study/Remedial Action Workplan: <https://geotracker.waterboards.ca.gov/?surl=4hcul>

¹⁹ Remedial Investigation Progress Report: <https://geotracker.waterboards.ca.gov/?surl=6uowo>

²⁰ Quarterly Status Report No. 3: <https://geotracker.waterboards.ca.gov/?surl=bllra>

- *Remedial Investigation Progress Report No. 2*,²¹ September 16, 2024
- *Groundwater Monitoring and Sampling Report*,²² October 18, 2024

*Quarterly Status Reports do not have due dates specified in the VCAA. Submittals for the last two quarterly status reports are delayed relative to the reporting period (Attachment 1) and the last quarterly status report was submitted for the period ending March 2024 (first quarter 2024). The Airport Parties have not yet submitted quarterly status reports for the second or third quarters of 2024.

Field Activities

Airport Parties have conducted the following field activities since the VCAA ratification:

- Conducted groundwater monitoring and treatment performance monitoring.
- Installed POU treatment systems.
- Tested new and existing POU treatment systems (at approximately 70 locations).
- Maintained POE treatment systems (e.g., filter media changes).
- Initiated a domestic water sampling plan.
- Tested the effectiveness of 12 existing POE treatment systems and upgraded them where necessary.
- Installed POE at eligible locations (37 total) where PFAS exceeds a drinking water standard, except where access has not been granted by the owner (4 locations). Two additional business locations, where groundwater is not used for drinking purposes, have not committed to a location for POE installation.
- Initiated a remedial investigation and submitted two status reports. The Airport Parties have completed 33 of 47 proposed soil borings, collected 27 of 53 proposed groundwater grab samples, and installed monitoring wells at 7 of 20 proposed locations. Airport Parties have completed proposed sampling of soil and first-encountered (perched) groundwater at known and potential source locations and plan to collect deeper groundwater samples after reviewing results of initial sampling.

Public Outreach and Community Engagement

The Airport Parties have implemented public outreach activities to engage the community. The Airport Parties hosted a community meeting to hear public comments on concepts for a draft public participation plan²³ on August 28, 2023. The County considered community feedback to inform a Public Participation Plan that was submitted to the Central Coast Water Board on September 4, 2023. Central Coast Water Board staff provided feedback on the plan on October 18, 2023, and requested submittal of a revised public participation plan. The County submitted a revised Public

²¹ Remedial Investigation Progress Report: <https://geotracker.waterboards.ca.gov/?surl=c75a6>

²² Groundwater Monitoring Report: <https://geotracker.waterboards.ca.gov/?surl=tm2r0>

²³ Handout of public participation plan ideas for August 28, 2023, public meeting: <https://geotracker.waterboards.ca.gov/?surl=udpkk>

Participation Plan on November 3, 2023. As part of the Public Participation Plan, the Airport Parties agreed to include the formation of a Community Advisory Group (CAG).

The Central Coast Water Board received public input nominating specific community members to represent the community on the CAG and parties agreed that this approach was acceptable. The Airport Parties have hosted CAG meetings, generally on a monthly basis, on October 3, 2023, November 7, 2023, February 13, 2024, March 5, 2024, April 9, 2024, May 21, 2024, August 13, 2024, September 10, 2024, and October 22, 2024.

The Central Coast Water Board Chair, Executive Officer, Site Cleanup Program Manager and assigned technical staff have participated in CAG meetings. At the request of the CAG, the County of San Luis Obispo Public Health Director attended the October 22, 2024, CAG meeting to discuss topics including conducting a health survey and the HHRA. The CAG requested that the Airport Parties host a community meeting to discuss the status of POE treatment, the ongoing remedial investigation, HHRA, remedial action plan, and feasibility study for a public water system. A community meeting is planned tentatively for December 2, 2024.

Airport Parties' Compliance with VCAA

A detailed status of VCAA milestones and deliverables is included in Attachment 1. The Airport Parties have made substantial progress and have generally complied with the requirements of the VCAA.

Citing difficulties in gaining timely access at several locations and describing that the Airport Parties had made substantial POE installation progress, the Airport Parties requested an extension until August 31, 2024, to complete POE installations. Recognizing achieved progress, and that POU systems were providing filtered drinking water for the impacted community, the Central Coast Water Board granted the extension for installing POE systems to August 31, 2024.²⁴ This reflects a minor deviation from the VCAA schedule for the installation of POE systems by July 21, 2024.

Regarding the HHRA, the Central Coast Water Board's position is that the State Water Board's Cleanup and Abatement Policy (Resolution 92-49), cited in the VCAA and various other statements in the VCAA, means that testing for total PFAS (PFAS in excess of 42 target analytes that are quantified by the Airport Parties' laboratory) is required for investigation, remediation planning, for incorporating total PFAS results into a HHRA, and for water treatment system evaluation. After several staff comment letters on the remedial investigation work plan, associated revisions, and meetings between Central Coast Water Board staff and Airport Parties, the Airport Parties provided a plan to test for total PFAS as part of the remedial investigation, however there is still disagreement on how the information will be used in the HHRA. Specifically, the Airport Parties have stated that they disagree with the use of surrogate values in a risk assessment for PFAS without toxicological data and indicated that they intend to explain risk from total PFAS qualitatively, rather than develop quantitative risk-based

²⁴ Letter granting extension: <https://geotracker.waterboards.ca.gov/?surl=gh4z9>

thresholds. Central Coast Water Board staff disagree with this approach and recommend surrogate data be used in calculations to make better-informed risk-based decisions. However, this issue may not be relevant if there is no quantified evaluation of total PFAS risk, or for individual PFAS without toxicological data. In this case, the use of worst-case risk scenarios may be applied with the maximum feasible cleanup and abatement measures to be implemented for all potential exposure pathways by the Airport Parties.

STATUS OF ADDITIONAL ACTIONS IDENTIFIED IN RESOLUTION R3-2023-0046

As part of the adoption of Resolution R3-2023-0046, the Central Coast Water Board identified the following three additional action items outside the VCAA:

1. Formation of a Community Advisory Group

The Airport Parties agreed to include the formation of a CAG as part of the Public Participation Plan.

Status: This action is completed. The Airport Parties formed a CAG and hosted nine CAG meetings (as of October 2024), with additional CAG meetings planned for the first Tuesday of each month.

2. Reimbursement of Treatment Costs

The Central Coast Water Board requested that the Airport Parties consider reimbursement of costs to those who installed PFAS treatment systems after learning of the presence of PFAS in their wells as a result of the investigations conducted by the Airport Parties. The Airport Parties agreed to report back to the Central Coast Water Board concerning this request at a public meeting as soon as practicable.

Status: The County conveyed to CAG meeting attendees that they plan to provide reimbursement. Airport Parties informed the CAG members during the November 7, 2023, meeting that they intend to reimburse expenses related to water treatment systems (1) if the treatment was installed for PFAS and (2) if the treatment was installed before the July 21, 2023, VCAA ratification. The County indicated that they would conduct outreach to the community on this topic soon after the November 18, 2023, deadline for deliverables, per the VCAA, to the Central Coast Water Board.

During the October 22, 2024 CAG meeting, County officials stated that they will be sending reimbursement checks within two weeks. Community members also brought up during the September and October 2024 CAG meetings that POE filters cause an increase in electrical and pump maintenance costs resulting from the filter mechanism's added resistance to water flow. Airport Parties stated that they will consider reimbursing for added electrical and maintenance costs.

3. PFAS-Related Health Survey

The Central Coast Water Board recommended that the San Luis Obispo County Public Health Department consider conducting a health survey for those who may have been impacted by Airport related PFAS.

Status: On November 28, 2023, the San Luis Obispo County Public Health Department provided a response to the request to generate a health survey for the community impacted by Airport related PFAS. The Public Health Department response conveyed that performing a health survey is not feasible and suggested that the priority actions are to continue to address future exposure to PFAS from water systems and to educate residents as to possible health effects of PFAS so that they can discuss with their health care providers the potential need to monitor for related symptoms and conditions. Additionally, the Public Health Department supports efforts to conduct an HHRA and recommends consultation with the Office of Environmental Health Hazard Assessment (OEHHA) on the advisability of proceeding with a community health survey in the future. The Public Health Department's complete response is available on GeoTracker.²⁵

At the request of the CAG, the San Luis Obispo County Public Health Director attended the October 22, 2024 CAG meeting to discuss topics including conducting a health survey and the HHRA. The Public Health Director explained that the Airport area impacted community is likely too small for conducting a health survey, describing that their research indicates that reviewed published surveys consist of approximately 5,000 impacted individuals along with 5,000 individuals serving as a control group, much larger than the Airport area impacted community. They indicated that the most important action for the community is to reduce exposure to PFAS, particularly from ingesting PFAS impacted water, which is the main route of exposure of concern. In addition, the Public Health Director stated that the upcoming HHRA will likely address many of the community's concerns.

During the October 22, 2024 CAG meeting, the topic of blood testing for PFAS was discussed. CAG members asked whether the Airport Parties would pay or reimburse community members for PFAS blood testing. A community member (in the area of highest PFAS detected in domestic wells) described that they had their blood tested for PFAS and the lab results reported that the blood sample contained elevated concentrations of PFAS, including primarily PFOS, PFOA, and PFHxS, which are consistent with the PFAS discharged from the Airport. The Airport Parties stated that they would consider the request to provide blood testing to community members.

²⁵ Public Health Department Response to Central Coast Water Board's Request to Consider Generating a Health Survey for those Impacted by Airport Related PFAS:
<https://geotracker.waterboards.ca.gov/?surl=mcgry>

Health Survey vs. HHRA

In Resolution R3-2023-0046, the Central Coast Water Board recommended that the Public Health Department consider a health survey. In the VCAA, Airport Parties agreed to conduct an HHRA evaluating the risk from Airport-Related PFAS (VCAA Section 4.4). The following paragraphs are intended to describe the differences between these types of health-related studies.

In general, a health survey is the systematic collection of data pertaining to health and disease in a human population within a given geographic area. As noted by the Public Health Department, Resolution R3-2023-0046 did not define “health survey” in the context of the Central Coast Water Board’s request. In their response, the Public Health Department described a health survey as “conducting a survey of community members for health conditions potentially related to PFAS exposure to determine whether those health conditions are present at a higher rate in the airport community than in a comparable population not exposed to PFAS from the airport in order to determine whether exposure to Airport Related PFAS is causing adverse health effects in the community.” The Central Coast Water Board would not typically be involved in a community health survey.

In contrast, an HHRA is an assessment, usually performed by toxicologists, that evaluates the probability (or risk) of adverse health and other environmental impacts posed, in this case, by PFAS to people and other organisms through various exposure pathways. Examples of the exposure pathways that are expected to be evaluated as part of the Airport HHRA include ingestion of PFAS impacted groundwater (for PFAS with and without a drinking water standard), dermal contact from bathing, showering with water vapor inhalation, irrigation of crops with those crops consumed by people or animals, livestock consuming PFAS-impacted water or food and those livestock products being consumed by people. During the October 22, 2024 CAG meeting, a community member requested that inhalation and other exposure routes associated with mist produced by nearby, upwind, farm irrigation sprinklers also be incorporated into the HHRA.

Section 4.4 of the VCAA requires that the Airport Parties submit an HHRA to the Central Coast Water Board by January 21, 2025. The VCAA requires that the HHRA evaluate risk for all PFAS (not just for target analytes and/or analytes with a drinking water standard or toxicological information), including total PFAS, and that it evaluates risk for all potential pathways of exposure. The final HHRA will be used to inform decisions about additional PFAS assessment, water treatment, cleanup, and/or abatement that may be required as part of the Airport PFAS case. Central Coast Water Board staff are coordinating with OEHHA and have requested that staff toxicologists provide technical assistance to the Central Coast Water Board and conduct a review of the HHRA when it is complete.

Section 3.9 of the VCAA requires the Airport Parties to describe how they will communicate the human health risks of PFAS exposure, water treatment/water replacement plans and progress, investigation and cleanup efforts, and gather community input as part of the Public Participation Plan.

To the extent evaluation of total PFAS or any specific PFAS compound risk is not evaluated in the HHRA or is presented qualitatively rather than quantified, the Airport Parties will be required to implement cleanup and abatement measures to the maximum extent feasible, consistent with State Board Resolution 92-49, as referenced in the VCAA.

Human Right to Water

California Water Code section 106.3, subdivision (a), states that it is the policy of the State of California “that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitation purposes” (Human Right to Water Policy). On January 26, 2017, the Central Coast Water Board adopted [Resolution R3-2017- 0004](#)²⁶, which affirms the realization of the Human Right to Water Policy and the protection of human health as the Central Coast Water Board's top priorities.

The Site Cleanup Program is inherently aligned with the Water Board’s Human Right to Water Policy because it prioritizes cleanup cases which have the highest threat to public health and is focused on restoring the beneficial uses of groundwater with an emphasis on drinking water and the protection of public health. The water replacement provisions of the VCAA directly align with the Human Right to Water Policy.

Environmental Justice

The San Luis Obispo County Regional Airport and surrounding community is not designated as a Disadvantaged Community.

Environmental Justice principles call for the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in the development, adoption, implementation, and enforcement of all environmental laws, regulations, and policies that affect every community’s natural resources and the places people live, work, play, and learn. The Central Coast Water Board implements regulatory activities and water quality projects in a manner that ensures the fair treatment of all people, including Underrepresented Communities. Underrepresented Communities include but are not limited to Disadvantaged Communities (DACs), Severely Disadvantaged Communities (SDACs), Economically Distressed Areas (EDAs), Tribes, Environmentally Disadvantaged Communities (EnvDACs), and members of Fringe Communities. Furthermore, the Central Coast Water Board is committed to providing all stakeholders

²⁶ https://www.waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/2017/2017-0004_hrtw_fnl.pdf

the opportunity to participate in the public process and provide meaningful input to decisions that affect their communities.

Climate Change

The Central Coast faces the threat and the effects of climate change for the foreseeable and distant future. To proactively prepare and respond, the Central Coast Water Board has launched the Central Coast Water Board's Climate Action Initiative, which identifies how the Central Coast Water Board's work relates to climate change and prioritizes actions that improve water supply resiliency through water conservation and wastewater reuse and recycling; mitigate for and adapt to sea level rise and increased flooding; improve energy efficiency; and reduce greenhouse gas production. The Climate Action Initiative is consistent with the Governor's Executive Order B-30-15 and the State Water Board's Climate Change Resolution 2017-0012.

Carbon impacts and potential effects on climate change will be considered when the San Luis Obispo County Regional Airport PFAS case reaches a stage of remediation options being evaluated as one of many factors that are a part of a "cost" benefit analysis before approving the remediation plan.

CONCLUSION

Significant progress has been made since ratification of the VCAA in July 2023 to address PFAS contamination at the Airport and nearby community. The most significant milestone has been the installation or modification of 49 POE systems to filter PFAS from water at residences and businesses in the community, providing a level of relief from PFAS exposure. Several other important tasks are underway including (1) evaluation of the feasibility for a long-term water solution and (2) investigation work that will inform a HHRA and the feasibility of various remediation options.

The VCAA is a three-year agreement and ends on June 30, 2026. Central Coast Water Board staff will continue to work with the Airport Parties to prioritize safe drinking water and implement the VCAA, in coordination with the CAG. Staff will continue to provide regular updates to the Board through the Executive Officer's report. Records of the San Luis Obispo County Regional Airport case, including regulatory activities and environmental data are available on GeoTracker:

https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000012768

ATTACHMENT

1. San Luis Obispo County Regional Airport Voluntary Cleanup and Abatement Agreement – Schedule of Milestones and Deliverables, Status as of November 14, 2024