

Alameda County Environmental Health

Required Information to Review Case for Low-Threat Closure Per Resolution 2012-0016

On May 1, 2012, the State Water Resources Control Board adopted Resolution 2012-0016, which established a state-wide policy (Policy) for the closure of leaking petroleum underground storage tank sites. The Policy applies to petroleum UST sites subject to Chapter 6.7 of the Health and Safety Code. The Policy establishes both general and media-specific criteria. If both the general and applicable media-specific criteria are satisfied, then the leaking UST case is generally considered to present a low threat to human health, safety, and the environment. The Policy recognizes, however, that even if all of the specified criteria in the Policy are met, there may be unique attributes of the case or site-specific conditions that increase the risk associated with the residual petroleum constituents. In these cases, the regulatory agency overseeing corrective action at the site must identify the conditions that make case closure under the Policy inappropriate.

In order for the site to be accurately and completely evaluated for the above conditions, we request that you review each of the general and specific criteria established in the Policy and provide at a minimum, the information requested in the table below. The information must be provided within the format of a technical report that is prepared, signed, and stamped by a California Professional Geologist or Engineer. The thoroughness of the technical report will facilitate timely review and ultimately case closure.

General Criteria a: The unauthorized release is located within the service area of a public water system.
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Required Information: Please identify the local provider for the public water system and confirm that the property has a hook-up and uses the public water system. Identify any other sources of water for the property such as wells, cisterns, or other water capture systems.
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General Criteria b: The unauthorized release consists only of petroleum.

Required Information: Please describe the site history, types of products or chemicals used at the site, and history of any types of releases other than petroleum. Present the sampling results for all chemicals other than petroleum such as volatile organic compounds, metals, semi-volatile organic compounds, PCBs, phenol, 1,4-dioxane, dibenzofurans, or dioxins.
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General Criteria c: The unauthorized (“primary”) release from the UST system has been stopped.

Required Information: Please describe the history of releases and the actions that were taken to stop each release. Please evaluate and account for changing contaminant concentrations over the full time period of site investigations.

General Criteria d: Free product has been removed to the maximum extent practicable.

Required Information: Please describe the investigation and monitoring activities that have been undertaken to assess whether free product is present. Present data including tables and figures showing any observations and measurements of free product. Describe the corrective actions that were taken to remove free product, dates of the removal actions, and volume removed. If free product remains at the site, present an evaluation of whether free product removal is practicable. If free product removal is not practicable, fully describe the conditions that prevent free product removal.

General Criteria e: A conceptual site model has been developed.
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Required Information: Please present your complete conceptual site model (CSM) that includes a site history, receptor survey, description of releases, geologic and hydrogeologic assessment, identified stratigraphic and manmade migration pathways, identified controls on contaminant migration, delineation of the lateral and vertical extent of contamination in all affected media, assessment of vapor intrusion pathways, groundwater monitoring and evaluation of plume stability, and description of the type and effectiveness of corrective actions. The CSM must be complete and thorough enough to evaluate whether site characterization is complete and identify any remaining data gaps.

General Criteria f: Secondary source removal has been addressed. The secondary source is the petroleum-impacted soil, free product, or groundwater that acts as a long-term source releasing contamination to the surrounding area. Unless site conditions prevent secondary source removal (e.g. physical or infrastructural constraints exist whose removal or relocation would be technically or economically infeasible), petroleum-release sites are required to undergo secondary source removal to the extent practicable.

Required Information: Please present the history of corrective actions for the site including the types of cleanup actions taken, dates of the actions, mass removed, figures depicting the location of the removal action, and confirmation sampling results which demonstrate the effectiveness of secondary source removal, as well as a brief narrative description of the actions and areas of success or infeasibility of actions. For any in-situ corrective actions, long-term monitoring data must be presented that demonstrate that concentrations have not rebounded following the cessation of corrective action.

General Criteria g: Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.15.

Required Information: Please present sufficient data to assess whether MTBE is or was present in soil and groundwater at the site.

General Criteria h: Nuisance as defined by Water Code section 13050 does not exist at the site.

Required Information: Please present sufficient data to support your evaluation of whether a nuisance condition currently exists or potentially could exist in the future. This evaluation should describe whether any site contamination is present in locations that have the potential to pose nuisance conditions during common or reasonably expected site activities. This data should be incorporated into the CSM. These locations would include but not necessarily be limited to surface soils, near surface soils, utility corridors, and basements or other subsurface structures. The types of data presented should include descriptions of the type and vertical and lateral extent of shallow soil or lateral extent of surface soil contamination, depths to contamination, analytical results for surface soil, shallow soil, and groundwater samples, discussion of any odors or visual evidence of contamination, preferential pathway and utility conduit surveys, review of potential points for exposure (such as groundwater seeps into basements), current use of the site, expected future use of site, and description of surface water runoff from the property to storm drains or other sites.

Media-Specific Criteria 1. Groundwater: If groundwater with a designated beneficial use is affected by an unauthorized release, to satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites listed in the Policy. A plume that is "stable or decreasing" is a contaminant mass that has expanded to its maximum extent: the distance from the release where attenuation exceeds migration.

Required Information: In general, the Low-Threat Groundwater Classes are classified on stable or decreasing plumes, status of free product removal, distance to the nearest groundwater or surface water receptor from the plume boundary, and other factors that may be required to demonstrate a low-threat. Sufficient data must be presented to demonstrate that site characterization activities have defined the horizontal and vertical extent of the plume and that the plume is stable. Plume stability must be demonstrated using a valid technical analysis that considers the accuracy of data from the wells, well placement within the plume, changes in areal extent of the plume, and valid concentration trends within the plume. Factors such as seasonal variability, water level changes, sampling methods, well construction, and other factors that can affect data quality must be considered. Plotting of decreasing concentrations using data from a single well is not likely to be sufficient. A recent well survey that uses all available well from both the Department of Water Resources and local agencies (Zone 7 Water Agency or Alameda County Public Works as appropriate) is required. Water supply wells located within 2,000 feet of the site are to be presented on a site figure with a table identifying each well along with the well construction details. Following completion of a complete CSM and consideration of the above factors, please present your evaluation of whether your site fits within one of the five classes in the Policy.

Media-Specific Criteria 2. Petroleum Vapor Intrusion to Indoor Air: The low-threat vapor-intrusion criteria in the Policy apply to release sites and impacted or potentially impacted adjacent parcels when: (1) existing buildings are occupied or may be reasonably expected to be occupied in the future, or (2) buildings for human occupancy are reasonably expected to be constructed in the near future.

Required Information: Sufficient data must be presented to demonstrate that site characterization is complete and that the data demonstrate that the site-specific conditions satisfy all the assumptions, characteristics, and screening criteria of scenarios 1 through 3 or all of the characteristics and screening criteria of scenario 4 of the Policy. Input to the scenarios include any evidence of LNAPL, soil data and where applicable, soil gas data to demonstrate that a continuous bioattenuation zone is or is not present, concentrations of benzene in groundwater, and direct measurements of soil gas concentrations. Results from preferential pathway and utility conduit surveys are to be presented and evaluated to determine whether a continuous bioattenuation zone is present. Please present site data using figures, tables, and text in a complete CSM that evaluates site data relative to the conditions defined by the vapor intrusion scenarios in the Policy. Such factors as data representativeness, quality, spatial distribution relative to current or potential receptors and sources, and temporal variability must be considered in the evaluation. Following completion of a comprehensive CSM and consideration of the above factors, please present your evaluation of whether your site fits within one of the vapor intrusion scenarios in the Policy or site-specific risk assessment for the vapor intrusion pathway demonstrates that human health is protected.

Although satisfaction of media-specific criteria is not required for active commercial fueling facilities except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk, the above evaluation is required to assess whether nearby facilities potentially may be impacted by petroleum vapor intrusion.

Media-Specific Criteria 3. Direct Contact and Outdoor Air Exposure. Release sites where human exposure may occur satisfy the media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if they meet any of the following:

- a. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs). The concentration limits for 0 to 5 feet bgs protect from ingestion of soil, dermal contact with soil, inhalation of volatile soil emissions and inhalation of particulate emissions, and the 5 to 10 feet bgs concentration limits protect from inhalation of volatile soil emissions. Both the 0 to 5 feet bgs concentration limits and the 5 to 10 feet bgs concentration limits for the appropriate site classification (Residential or Commercial/Industrial) shall be satisfied. In addition, if exposure to construction workers or utility trench workers are reasonably anticipated, the concentration limits for Utility Worker shall also be satisfied; or
- b. Maximum concentrations of petroleum constituents in soil are less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health; or
- c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.

Required Information: Sufficient data must be presented to demonstrate that site characterization is complete for the prescribed depth ranges of 0 to 5 feet and 5 to 10 feet bgs in order to assess potential direct contact and outdoor air exposure. Please present figures and tables showing the soil data for each of the prescribed depth ranges with a comparison to the screening levels for each exposure scenario. Analytical data for all chemicals of concern including total petroleum hydrocarbons are to be presented in order to assess whether unique conditions not considered in the Policy may exist at the site. For all data, such factors as data representativeness, quality, spatial distribution relative to current or potential receptors and sources, and temporal variability must be considered in the evaluation. In addition, please describe the current and expected future land use, redevelopment, or construction for the site.