
Los Angeles Regional Water Quality Control Board

Scope of Work

Expert Panel

CAROUSEL TRACT ENVIRONMENTAL REMEDIATION

**FORMER KAST PROPERTY TANK FARM LOCATED SOUTHEAST OF THE
INTERSECTION OF MARBELLA AVENUE AND EAST 244TH STREET, CARSON,
CALIFORNIA (SCP NO. 1230, SITE ID NO. 2040330, FILE NO. 11-043)**

December 20, 2012

Scope of Expert Panel's Tasks

A panel of experts, academics, and professionals in environmental remediation, science and policy (Expert Panel), working under the auspices of the University of California Los Angeles, will provide a recommendation to the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) regarding remedial actions and cleanup goals for the former Kast Site that is subject to Cleanup and Abatement Order No. R4-2011-0046 and other related orders (Cleanup Order) issued by the Regional Board.

The Expert Panel will provide its recommendation for the Regional Board to consider in determining whether remedial actions and cleanup goals proposed by the responsible parties named in the Cleanup Order are consistent with applicable legal authorities, including State Water Resources Control Board (State Water Board) Resolution No. 92-49 ("Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304) (Resolution 92-49), including the interests of the people of the state. Under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), the Regional Board is the principal state agency with primary responsibility for the control of water quality. The Porter-Cologne Act authorizes the Regional Board to order responsible parties to investigate and cleanup discharges of waste and to require cleanup or abatement actions that protect the

waters of the state and protect human health and the environment. The Regional Board's expertise and legal jurisdiction extends to ordering and overseeing investigation and cleanup of sites that pose a threat to waters of the state or nuisance.

The Regional Board is not a public health agency; it does not have jurisdiction or expertise to conduct or act upon epidemiological studies, disease frequencies, or other information regarding health impacts that might be associated with exposure to the residual oil at the site. The Regional Board will only consider recommendations from the Expert Panel related to the Regional Board's area of jurisdiction, i.e., the evaluation of remedial technologies and determination of cleanup levels.

Background

The Carousel neighborhood is a 50-acre residential site in Carson, California. In the late 1960s, 285 single family homes were built on the site after the site was sold by Shell Oil to a developer. Prior to the sale of the site and the subsequent residential development, the site was a crude oil tank farm that was owned and operated from the 1920s by Shell Oil. When the property was developed into a residential tract by the developer, residual oil was left in the soil. Today, that residual oil has been found in the soil underlying the houses, yards, and streets of the Carousel neighborhood.

The residual oil was discovered nearly four years ago during the cleanup of an industrial site that abuts the Carousel tract. This residual oil is considered "waste" as defined in the California Water Code, therefore, the Regional Board is the lead state agency that provides regulatory oversight of the environmental investigation and cleanup of the site. Beginning in 2008, the Regional Board issued orders directing Shell Oil to begin investigation of the site. In 2011, the Regional Board issued the Cleanup and Abatement Order pursuant to California Water Code Section 13304 requiring Shell Oil to completely define the lateral and vertical extent of the waste, conduct risk assessments, propose cleanup goals for the site, and evaluate and propose remedial actions, including abatement actions, to be protective of water quality, human health and the environment. Since that time, Shell Oil's investigation shows that the waste underlying the Carousel tract consists of petroleum hydrocarbon compounds that are located at various depths below the ground surface. To date, indoor air testing of residences in the Carousel Tract shows no intrusion from vapors in the soil into the residences. Hydrocarbon vapors and methane are present below the surface. Shell Oil is conducting pilot tests of several remediation technologies, including oxidation, bioventing and excavation.

Key Issues

To comply with the Cleanup Order, Shell Oil must propose to the Regional Board a Remedial Action Plan that describes the remedial technology and includes proposed cleanup goals. The Regional Board will review Shell Oil's proposed Remedial Action Plan to determine whether the Remedial Action Plan, including the proposed cleanup goals, is consistent with State Water Board Resolution 92-49. The Expert Panel will review site information and make recommendations to the Regional Board regarding the proposed remedial technologies and proposed cleanup goals that the Regional Board will consider in evaluating Shell Oil's proposed Remedial Action Plan and cleanup goals.

Selection of Remedial Technologies: Although there are on-going pilot tests of bioventing, in-situ oxidation, and excavation, the nature of the waste and the presence of private residences are factors that must be considered in selecting the appropriate remedial technology that Shell Oil will propose in the Remedial Action Plan. The Expert Panel will review remedial technologies in light of site data and will provide a recommendation to the Regional Board on technology selection, including institutional controls, to reduce exposure or threat of exposure to the waste.

Risk Assessment and Cleanup Goals: The Expert Panel will review available human health risk assessment and toxicological science to the extent relevant to recommendations regarding the proposed cleanup goals for the site.

Cleanup Goal Considerations: State Water Board Resolution 92-49 governs the Regional Board in requiring responsible parties to remediate the site to levels that will result in meeting all water quality standards and are "consistent with maximum benefit to the people of the state." The level selected must be the lowest level that is economically and technically feasible and that takes into account many factors, including the potential for impacts on water quality, human health, and the environment. State Water Board Resolution 92-49 defines the terms technological and economic feasibility. The Expert Panel will provide recommendations to the Regional Board regarding the proposed cleanup goals taking into account the factors required to be considered under State Water Board Resolution 92-49, including evaluation of technological and economic feasibility and what remedial actions are consistent with the maximum benefit to the people of the state.

Independent Panel/ No Ex Parte Communications: In order for the Expert Panel to remain independent and not unduly influenced by parties involved in ongoing litigation, the Expert Panel will not engage in ex-parte communications with any interested party or its consultants, and (except as provided in the next paragraph) all communications with any interested party or its consultants regarding the Expert Panel's investigation, analysis and recommendations shall be made in public presentations or in writings made available to all parties. The Regional Board and Shell Oil will make available to the Expert Panel their public records regarding the site.

If the Expert Panel determines that, in order to carry out the scope of work described herein, its research should include the use of focus groups, in-person interviews or the like, those meetings must not violate the ex parte communications provision, above, and will take place only after the format for such meetings is agreed upon by UCLA, the Regional Board and Shell Oil.

Deliverables: The Expert Panel will develop a final report with recommendations to the Regional Board regarding the proposed Remedial Action Plan, including proposed cleanup goals. The Expert Panel will submit to the Regional Board a brief monthly statement documenting activities and progress, quarterly progress reports for the first year, a final report, and will also make a presentation to the public and the Regional Board. The Expert Panel or its chair will also provide an information item to the Regional Board at a scheduled meeting soon after the project is initiated.

Budget: At the request of the Regional Board, Shell Oil is voluntarily providing funding for the Expert Panel as specified in the accompanying spreadsheet. However, the Expert Panel will be independent of Shell Oil, and Shell Oil will take into consideration, but not be bound by, the recommendations of the Expert Panel and the statements, conclusions and recommendations of the Expert Panel shall not be attributed to Shell Oil.

Regional Board Authority

The Expert Panel will provide recommendations to the Regional Board. The Regional Board is an independent state agency that has the primary responsibility under the Porter-Cologne Act to oversee the investigation and cleanup of the Site. In making its determinations

regarding the site investigation and cleanup, the Regional Board will take into consideration, but is expressly not bound by, the recommendations of the Expert Panel.