County of Santa Cruz

HEALTH SERVICES AGEN(

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ENVIRONMENTAL HEALTH

Public Comment
Low-Threat UST Case Closure Policy
Deadline: 03/19/12 by 12:00 PM

March 19, 2012

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Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Submitted via email to: commentletters@waterboards.ca.gov

Comment re: *Low-Threat Underground Storage Tank Closure Policy*

Dear Board Members:

Our agency appreciates the opportunity to comment on the *Draft Low-Threat Underground Storage Tank Case Closure Policy* (Draft Policy) dated January 31, 2012. To assist our review, we also read through technical reviews of the draft policy by the official scientific peer review group: Pedro J. Alverez, Rice University; Elizabeth A. Edwards, University of Toronto; Mark A. Widdowson and John C, Little, Virginia Polytechnic Institute and State University; and R.C. Spear, University of California, Berkeley. In addition, we read reviews from the following scientifically based reviewers: Office of Environmental Health Hazard Assessment; Technical Committee, Groundwater Resources Association of California; and Teri Copeland, Kurt Fehling, Jim Van de Water, and Steve Jones. Our agency concurs with the well intentioned efforts of the State Water Resources Control Board to create a low-threat UST case closure policy; however, we have serious concerns regarding the current revision of the Draft Policy, which we understand you are considering for adoption on April 17, 2012.

Scientific Validation

Our biggest concern at this time is that the draft policy has not been scientifically validated. We hope that the Board Members read through the various Draft Policy review comments cited above, because the reviewers clearly indicate the Draft Policy is critically flawed in many areas. It appears that in the various revisions to the Draft Policy, including the most recent, the authors have made some modifications in an attempt to repair these flaws and/or errors in response to some of the comments, yet they have chosen to ignore other comments. We are concerned that during this revision process, the authors of the Draft Policy lack appropriate transparency and accountability because they are not explaining their actions, or lack thereof, in a Response to Comments, or by other means. Without this accountability, it is unclear to us, why some review comments have apparently been ignored and whether the Draft Policy revisions that have occurred adequately address the significant concerns raised by the reviewers.

We also noticed that the official peer review group does not appear to have expertise in the technical aspects of the justifications for Direct Contact. For example, the Low-Threat UST Case Closure Policy peer reviewer Dr. Elizabeth A. Edwards, did not review assertions pertaining to Direct Contact

because they are "too far outside" her expertise to comment. We believe the scope of expertise of the official peer review group should be assessed to be sure it covers all of the important aspects of the Draft Policy.

Because of the many significant issues raised by the reviewers, it would be appropriate to the scientific process for the authors of the Draft Policy to prepare comprehensive responses to the comments, modify the Draft Policy accordingly, and reissue the Draft Policy for a second round of scientific review. This procedure would not be needed if the scientific review had only raised minor or a limited number of easily tracked concerns, but instead the reviewers raised a wide range of significant far-reaching concerns, so I believe our suggested approach is the only way to determine if the concerns raised by the scientific review have been adequately addressed and if the resultant Draft Policy is scientifically adequate.

A simple example of whether the Draft Policy adequately addresses concerns raised by the reviewers is regarding nuisance conditions, which some reviewers commented were not sufficiently accounted for with regard to case closure. It appears that in response the authors of the Draft Policy added a section requiring that nuisances as defined by Water Code section 13050 do not exist prior to case closure. However, among other requirements, this section defines that the nuisance must "Affect at the same time an entire community or neighborhood, or any considerable number of persons." This nuisance definition may exclude many scenarios for UST cases where the typical unacceptable nuisance condition is often limited to one or two properties near the release source area. It appears that site closure under the Draft Policy could be granted where gross contamination issues are present such as degradation of soil quality, odor and other nuisance and aesthetic conditions. If these gross contamination issues are present, the site would probably not meet the straight-face test for unrestricted land use. Where the Closure Policy would allow case closure to occur with on-site nuisance conditions using the specified definition of nuisance, this could severely limit future uses of the property and/or defer appropriate cleanup when needed for future development to others rather than the current Responsible Party. In our view, this approach to addressing the nuisance issue is inappropriate and appears to not address the legitimate concerns of the scientific reviewers.

Santa Cruz County Specific Comments

It is important to note that in Santa Cruz County groundwater makes up the majority of the water supply. From the Capitola/Soquel area south to Watsonville and in the Scotts Valley and San Lorenzo Valley areas the vast majority of water supply is from groundwater. Of the larger water agencies within the County, only the City of Santa Cruz Water agency relies primarily on surface water.

Due to the potential for unknown water wells in our County, we are concerned that the draft policy will allow case closure for sites with contamination plumes exceeding groundwater MCLs up to 1,000 feet in length. A large and unknown number of wells were installed in Santa Cruz County prior to implementation of state well standards, local well ordinances, and well permitting requirements. Unfortunately, we are not able to identify the location of many of these wells. Our experience is that these older wells also are often not identified during sensitive receptor surveys. To make matters worse, these early wells are much less likely to have appropriate sanitary seals than wells installed since state and local requirements were promulgated. It seems these older wells have more often than not been improperly abandoned and forgotten. If located within the area of an impacted groundwater contamination plume, which can be up to 1,000 feet long and receive case closure under the Closure Policy, an unknown well could easily act as a conduit for the impacted water to flow to deeper groundwater zones. In instances where these older unidentified wells are located within a plume of impacted water and are still in use, users could be exposed to Chemicals of Concern.

This Draft Policy approach for closing cases and leaving chemically impacted plumes in place for extended periods of time is problematic for Santa Cruz County in particular due to (1) local basin recharge programs and (2) new-well construction options for individuals.

(1) Basin Recharge Programs: All of the groundwater basins in Santa Cruz County are in a state of overdraft. As a result, the Water Resources Division of Santa Cruz County Environmental Health Services (WRD), as well as local city and water agencies, have implemented programs to encourage property owners and developers to capture and infiltrate stormwater at individual sites. These programs are meant to support Low Impact Development, to help manage stormwater runoff, and to recharge the aquifers within the region. The programs are being implemented in coordination with stormwater management programs promulgated by the Central Coast Regional Water Quality Control Board.

The WRD and local city and water agencies believe that infiltration of stormwater at individual sites is an effective method across much of the county for recharging the deeper aquifers being tapped for water supply. This belief is founded in their scientifically based understanding of geologic and hydrogeologic conditions within the county. In particular, they believe the following: (1) confining units are not present across much of the county, so shallow groundwater is widely able to replenish deeper groundwater zones; (2) where confining units are present, they are typically leaky so that shallow groundwater is able to migrate to deeper groundwater zones, and (3) sloping geologic bedding, fractured bedrock, and other geologic conditions allow water infiltrated at the surface to reach and supplement recharge to deeper groundwater zones.

Leaving chemically impacted plumes in place could limit the ability to implement WRD stormwater management practices to replenish our overdrafted aquifers. Further, the important and growing efforts to infiltrate site stormwater into the shallow zone for replenishment of deeper groundwater zones could exacerbate the potential for any shallow groundwater contamination left in place to reach deeper water supply zones. In addition, based on County hydrogeologic conditions, the WRD is concerned that chemically impacted groundwater plumes left unabated and un-monitored in the shallow zone under the Draft Policy could eventually migrate to and chemically impact deeper zones.

(2) New Well Construction: Another consideration of concern to our agency is the impact the Draft Policy would have on the owners of adjacent properties within the area of the chemically impacted groundwater plume if they wish to construct a new well. In Santa Cruz County, except within the borders of one water district, individual property owners have the legal right to construct new water wells unless there is a specific cause for denial in accordance with local ordinances. County citizens typically apply for these new wells during times of drought. Under the proposed Draft Policy, it would be acceptable to leave chemically impacted groundwater plumes in place beneath properties other than the responsible party's property. Indirectly, the Draft Policy could restrict the rights of adjacent property owners to construct water wells that would otherwise be allowed by local permitting agencies. Although our agency has the authority to deny permit approval within our jurisdiction due to the presence of a contaminated plume, we question whether it would be logical to create a situation where we would need to deny a well permit due to the presence of a contaminated groundwater plume for which state and local agencies are not requiring further action. Local and state agencies may even retain liability to this adjacent property owner based on this scenario. From a fairness perspective, it may not be justifiable to close cases that leave chemically impacted groundwater plumes in place beneath the property of other owners with the knowledge that this might limit the rights of these other property owners.

Specific Comments

1. We understand the intent of earlier versions of the Draft Policy was to provide case closure for sites under the unrestricted land use scenario; however, the intent of the current Draft Policy on this issue is unclear to us. In our view, it is appropriate to try to obtain closure under the unrestricted land use scenario whenever possible, and only consider a less stringent closure if it is impractical to clean up the site to unrestricted land use levels due to factors such as inaccessibility or very difficult geologic conditions. In our view it would be appropriate for the Draft Policy to clearly indicate its intent to provide case closure for the unrestricted land use scenario and to provide guidance for determining when this may not be possible and when other alternatives may be considered for case closure. This approach would require some modifications to the current Draft Policy. For example, in Appendixes 1 through 4, it would be necessary to consider potential future construction on the site and to screen for Residential Soil Gas Criteria. If for some reason it is not feasible to remediate a site to acceptable unrestricted land use concentrations, yet the site is safe under the current site configuration and use, it may still be acceptable to provide case closure, but only with an appropriate Land Use Covenant. In our view the Draft Policy should be revised to more clearly address these issues.

2. Providing case closure to sites with contamination plumes exceeding groundwater MCLs up to 1,000 feet in length is concerning with regard to adjacent landowners. Leaving groundwater plumes with significant chemical concentrations in place under properties not owned by the Responsible Party could impact innocent landowners under which the plume has migrated. For example, what would the ramifications be if an innocent landowner wanted to construct subsurface parking or a basement within the plume area? This owner may have significantly increased construction costs associated with dewatering impacted groundwater or due to special construction designs that may be needed. It does not seem appropriate to limit the options for these innocent land owners by allowing contamination to remain beneath their properties.

3. Reasoning for portions of the vapor intrusion policy is based on material and data not formally peer-reviewed. Example documents are Davis (2009), published in the LUSTline Bulletin and Wright (2011), published in a conference paper.

4. We understand that the Constituents required for analyses in soil were picked for significant risks associated with adversely affecting human health. We are concerned that this list of constituents does not adequately address potentially hazardous constituents found in waste oil USTs.

5. The Low-Threat UST Case Closure Policy concludes exposures to petroleum vapors associated with historical fuel system releases are comparatively insignificant relative to exposures from small surface spills and fugitive vapor releases that typically occur at active fueling facilities and, therefore, satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk. This assertion is based on the concept that the facility will always remain a fueling facility, which is often not the case. This approach is concerning to our agency because it defers site cleanup as the case would not be closed for unrestricted land use and, instead, a Land Use Covenant would be needed to address potential future risks. The current Draft Policy does not clearly address these future risks and the potential need for a Land Use Covenant. Further, this approach could potentially defer future site cleanup responsibility away from the current Responsible Party to a

subsequent party. We also are concerned that this approach could be inconsistent with other state guidance (DTSC/CalEPA, 1999, *Preliminary Endangerment Assessment Guidance Manual* and DTSC/CalEPA, 2011, *Final, Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)).* The DTSC/CalEPA guidance documents indicate it is important to investigate the soil vapor to indoor air exposure pathway and that this pathway is often the most significant pathway at VOC release site. They also indicate that the soil vapor to indoor air exposure pathway should not be considered as part of the occupational exposure scenario, where workers usually work under known exposure conditions voluntarily, are aware of the potential risk of exposure as regulated under OSHA, and have implicitly accepted exposure as an occupational hazard. OSHA requirements and authority do not address contamination when it does not originate from inside the facility. These documents indicate that when evaluating potential adverse effects to humans as a result of vapor intrusion, acceptable human exposure should be based upon risk, rather than upon comparison to OSHA standards as currently implied in the Draft Policy.

The significantly different screening criteria and approach of the Draft Policy from previous Federal and State guidance suggests to us that the Draft Policy should receive thorough scientific review prior to adoption. In our opinion, the Draft Policy must be validated through review and concurrence by the appropriate scientific experts, and this has not yet occurred. We believe it is appropriate to not rush the approval process and, instead, to take the necessary time to develop and issue a policy for low-threat closure that will be fully authoritative and defensible, as well as able to stand the test of time. We believe it is prudent to modify the Draft Policy as needed to develop consensus among the scientific experts. Then, the Draft Policy should be reissued for Public Comment followed by consideration for adoption as final policy.

Thank you for the chance to comment on the Draft Policy. We hope that our comments will be helpful for developing a defensible final low-threat closure policy. If you have any comments or questions regarding this letter, you may contact me at (831) 454-2022.

Sincerely,

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