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Mr. Charles R. Hoppin, Chair
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

RE: Draft Low-Threat Underground Storage Tank Case Closure Policy

Dear Mr. Hoppin:

This letter is in regards to the State Water Resources Control Board's proposed adoption of the Draft Low-Threat Underground Storage Tank Case Closure Policy ("Policy"). Our office represents a number of interested parties and groups, including Mr. Larry Turner, in connection with the incredibly wide-ranging and detrimental effects the Policy would have if adopted as currently drafted.

We are very aware of the depleted condition of the California Underground Storage Tank Cleanup Fund ("UST Fund") and conceptually agree with the need for a policy that aids in the efficient closure of low-threat sites. However, the mere fact that the UST fund has declining revenues (for various reasons), does not justify the rushed adoption of a new one-size-fits-all closure policy that, in its current form, amounts to a wholesale abandonment of the SWRCB's commitment to environmental protection. Furthermore, and as will be discussed below, the Policy and its CEQA review contain legally actionable flaws that must be remedied before adoption.

I.
THE SUBSTITUTE ENVIRONMENTAL DOCUMENT VIOLATES CEQA

The SWRCB has prepared a Substitute Environmental Document ("SED") in place of the Environmental Impact Report that would ordinarily be required under CEQA for a project of this scope. The Draft SED fails to comply with CEQA's legal requirements for multiple reasons, including: A) the Policy is not actually part of a certified regulatory

program and therefore an EIR is actually required; B) the SED contains an inadequate Project Description; C) the SED uses an improper baseline for analysis; D) the SED contains a woefully inadequate assessment of the Policy's environmental impacts; E) the SED fails to recognize clear cumulative impacts; F) the SED fails to identify and analyze any alternatives to the Policy; and G) the SED findings conflict with the SWRCB's own past practices. Each of these deficiencies will be addressed below.

A. The Policy is not exempt from the requirement to prepare an EIR

CEQA authorizes the Secretary of Resources to certify that state regulatory programs meeting certain environmental standards need only comply with abbreviated CEQA requirements. (*CEQA Guidelines*, 15250-15253.) In the case of the SWRCB, the SED correctly notes that CEQA Guideline 15251(g) exempts, "the Water Quality Control (Basin)/208 Planning Program of the State Water Resources Control Board and the Regional Water Quality Control Boards," from chapters 3 and 4 of CEQA. However, the Policy, on its face, purports to be for much more than just water quality control; as it is also adopting cleanup standards for soil and soil gas, independent of water quality issues. In other words, the Policy goes beyond the scope of the exempted certified regulatory program.

The EIR preparation exemption for certain water quality control policies is not a free-pass for the SWRCB to avoid an EIR in all instances. The purpose of the EIR exemption is to avoid redundancy, and a program certified for partial CEQA exemption is still required to, "include environmental protection among its principal purposes," and to, "require that an activity not be approved or adopted as proposed if feasible alternatives or mitigation measures are available to substantially lessen any significant effects of the activity." (*CEQA Guidelines*, 15252.) Here, the principal purpose of the Policy is far from environmental protection, its real purpose is eliminating sites from cleanup consideration in order to save money for the UST Fund. Furthermore, the SED fails to analyze a single alternative. The Policy simply does not fit the partial CEQA exemption and an actual EIR needs to be prepared.

B. The SED contains an inadequate Project Description

Even if an SED were appropriate for analyzing the Policy under CEQA, the SED is still required to have an appropriate project description, alternatives, and mitigation measures. (*Public Resources Code*, 21080.5(d)(3)(A).) Here, the SED's description fails to comply with the requirements of CEQA Guideline 15124, which governs project descriptions.

The stated purpose of the Policy is to establish statewide case closure criteria for low-threat petroleum UST sites. The Policy is described as being consistent with, "existing statutes, regulations and State Water Board resolutions." The SED acknowledges that adoption of the Policy, "will cause changes in time of the case-closure activities," and, "could cause regulatory agencies to close cases with more petroleum left in place than with current practice," which, "would cause petroleum to remain in the subsurface subject to natural attenuation processes for a longer period of time." However, the draft SED only identifies and evaluates two types of actions that will result from the adoption of the proposed Policy: 1) destruction of monitoring wells and, 2) removal of waste drums and debris. The SED does not evaluate the impact of leaving more petroleum in place or the impact of the longer period to cleanup, thereby failing to adequately report, or analyze, the true scope of the Policy. This failure is then seriously compounded by the Policy's clear statement that its methodology and criteria should also be used in performing closure evaluations on above ground storage tanks and/or pipelines, neither of which is analyzed in any way within the SED.

The failure of the SED's project description to accurately describe the Policy results in an inadequate analysis under CEQA and renders the SED actionable.

C. The SED uses an improper baseline for analysis

The SED declares that all of the known existing petroleum releases in California, "are considered part of the environmental baseline for purposes of environmental analysis." (SED, P. 16.) In supporting this baseline determination, the SED cites *Communities for a Better Environment v. South Coast Air Quality Mgmt. Dist.*, for the proposition that the appropriate baseline for determining significant environmental impact is **generally** existing physical conditions. (48 Cal.4th 310, 320.) The Policy, however, is

distinguishable from the facts in *Communities* because, instead of addressing a single user's particular discharge permit, the Policy is actually a relaxation of currently more-stringent closure criteria for UST sites. Accordingly, the baseline for the SED should account for future environmental benefits that would occur if the current closure criteria were simply left in place.

The SWRCB does not dispute that CEQA applies to the Policy's weakening of UST site closure criteria. In order for the SWRCB decisionmakers to fully understand the environmental consequences of the proposed Policy, which is the entire point of CEQA, the environmental analysis should consider both the existing environment **and** the prospective future environment if the Policy were not adopted. A proposed relaxation of environmental requirements is the rare scenario in which simply identifying existing conditions as the baseline is not appropriate. Furthermore, when a policy change results in an agency foregoing the environmental benefits of a previous policy, this change should be a treated as a significant effect. In this case, if the SWRCB is comfortable with leaving the petroleum behind as called for in the Policy as a way to protect the finances of the UST Fund, then it should identify the significant effect and make the required statement of overriding conditions. The SED baseline as drafted, however, is far from adequate under CEQA.

D. The SED contains an inadequate assessment of the Policy's environmental impacts

The Hydrology and Water Quality section of the SED is demonstrative of the analysis failures throughout many of the other categories of analyzed impacts. The SED states that the Policy, which exponentially increases allowable pollutant thresholds in groundwater "for a longer period of time" than under current policy, will have "**no impact**" on water quality. This nonsensical conclusion strains the credulity of the entire document while contravening the core mission of the SWRCB. Select sections of the SED's impact checklist are analyzed below.

1. Air Quality

The SED makes the claim that the Policy will actually benefit air quality by leaving the pollutants in place over hundreds of years. This claim, along with the totally unfounded findings of "no impact," make this section particularly vulnerable. By proposing to

allow residual concentrations of petroleum hydrocarbon-related volatile organic compounds (VOCs) in soil at levels above applicable air quality management criteria, the Policy undoubtedly conflicts with existing air quality requirements.

For example, both the South Coast Air Quality Management District (SCAQMD) and the Bay Area Air Quality Management District (BAAQMD) regulate the allowable level of VOCs in soil that can be exposed. By removing the requirement to remediate soil, a greater mass of petroleum hydrocarbons in soil will go untreated than without the Policy. Under the Policy, soil within the upper 10-feet on a property will be left untreated, with concentrations over 5,000 milligrams per kilogram (mg/kg) of volatile VOCs. Under current guidance, (e.g., CHHSLs or ESLs) soil concentrations of VOCs are typically reduced to less than 5 mg/kg (ESL for BTEX compounds). This conflict is not addressed or resolved in the Policy.

In addition, the methane emissions have the potential to increase production of ozone, a criteria pollutant with non-attainment in many areas of California. Nevertheless, the SED somehow concludes that the Policy would not contribute to non-attainment.

The SED also fails to evaluate the potential release of VOCs above current air quality standards. As the Policy does not require notice or site use restrictions, future site use will have the potential to release VOCs in violation of current air quality regulations. For example, BAAQMD Regulation 8, Rule 40, limits exposing more than 0.1 cubic yards per day of soil containing the Policy's proposed thresholds. Similarly, the SCAQMD Rule 1156 requires treatment if more than 1 cubic yard of soil containing greater than 50 ppm is excavated. The SED fails to identify or propose appropriate mitigation measures to address these potential significant air quality impacts for future site use.

The threshold concentrations identified for closure in the Policy will also allow for soil with concentrations above objectionable odor thresholds to remain in place. This odor would affect people at hundreds, if not thousands, of the currently open sites, and those sites that would be closed in the future pursuant to the Policy; yet the SED somehow asserts no odor impact.

The Policy also has the potential to expose sensitive receptors to unacceptable levels of pollutants. The criteria for setting soil gas cleanup criteria in the Policy is predicated on assumptions regarding levels of oxygen in the soil. As noted in the peer review, the placement of a building over a vapor plume will affect the natural attenuation of the organic vapors, potentially stopping the degradation and resulting in exposures to carcinogenic compounds at levels 1,000 times greater than current thresholds for protection of human health. Without monitoring and/or mitigation measures to evaluate post-covering conditions at former UST sites, there is a significant potential for impacts.

The level of deficiency of the Air Quality section of the SED is beyond legally actionable, it is an affront to the citizens whom are supposed to be protected by the SWRCB and it should be completely re-evaluated.

2. Greenhouse Gas Emissions

The SED analysis fails to consider the impacts of the unabated release of greenhouse gases from the *in situ* degradation resulting from, "more petroleum left in place." The Policy is predicated on the concept that these residual petroleum hydrocarbons will undergo natural attenuation, yet the SED does not assess the impact. During *in situ* biodegradation of residual petroleum hydrocarbons, the metabolic products are either carbon dioxide through aerobic biodegradation or methane through the anaerobic degradation pathway. These pollutant gases will migrate and be released to the atmosphere unabated if the Policy is adopted, contributing to greenhouse gas emissions.

3. Biological Resources

The assumptions contained in this section of the SED are completely unsupported. For example, the SED assumes that, "remedial activities at cleanup sites would have already disturbed any potential habitat areas." Given the admittedly wide array of sites and habitats throughout the state, the consistent occurrence of this self-serving assumption seems particularly unlikely.

The effect on biological resources is missed by the SED. The petroleum mass that will remain in soil and groundwater if the Policy is adopted can result in damage to soil

invertebrates and to plants, through direct plant uptake, because the Policy will allow levels of materials toxic to environmental receptors. For example, the Policy sets a cleanup threshold for PAHs in soil at 160,000 mg/kg for commercial soil at 5 to 10 feet below ground surface. The ecological risk soil quality concentration for protection of soil invertebrates identified by the USEPA is 18 mg/kg (USEPA, 2007; OSWER Directive 9285.7-78). In addition, the Canadian Ministry of the Environment (CMOE), a source relied on in the development of the ESLs for petroleum hydrocarbons, identifies a 20 mg/kg threshold for PAHs for protection of plants. Again, this conflict of guidance remains unresolved.

The CMOE has also established soil quality criteria for the protection of soil invertebrates and plants for the petroleum related VOCs. The soil quality criteria for protection of soil invertebrates and plants include: benzene at 31 mg/kg; and ethyl benzene at 110 mg/kg. The SWRCB-proposed Policy, however, only developed soil screening levels for human contact and would allow 810 mg/kg of benzene and 9,400 mg/kg of ethyl benzene. Therefore, without mitigation measures, there is a potential for residual petroleum hydrocarbons to have a significant impact on biological resources.

In addition, the proposed Policy does not set screening levels for other constituents (e.g., toluene, ethyl benzene, MTBE, TBA etc.) that would also have the potential to pose a threat to soil invertebrates and plants. Due to the inadequacy of the section of the SED, a decisionmaker could never be appropriately informed about the environmental effects of the Policy on biological resources.

4. Hydrology and Water Quality

As stated above, the SED fails to identify <u>any</u> impacts to hydrology or water quality. The "no impact" finding is made despite the fact that groundwater contamination will admittedly be permitted to exist for a significantly longer time under the Policy. Also, the proposed Policy will certainly "deplete groundwater supplies" by allowing portions of groundwater basins designated for water supply to be degraded with residual contaminants. While the proposed Policy acknowledges that residuals are anticipated to reach numerical water quality goals within a reasonable time, during the interim,

which the SWRCB acknowledges could be hundreds of years (SWRCB Order 98-12 UST), there will be a net loss of groundwater supply.

Mitigation measures are necessary to mitigate the water quality impacts resulting from the Policy. Where appropriate, responsible parties should be required to provide for equivalent alternative water supplies and to reimburse affected users for increased water treatment cost and increased costs associated with well modifications.

The SED does not consider the potential impacts from migration of polluted groundwater to areas beyond the extents anticipated under the Policy. In fact, plume containment variation is never even discussed. Such migration could result in significant impacts and mitigation measures must be incorporated into the Policy to address this potential.

Finally, groundwater has the potential to interact with streams and shallow water bodies. The potential impacts from migration of contaminated groundwater to surface water could pose a potentially significant adverse impact to surface water quality. The SED needs to evaluate this threat and incorporate mitigation measures to address this potentially significant environmental impact.

As drafted, this section of the SED simply does not pass the "straight face" test. As water quality is the primary goal of the SWRCB, a genuine analysis of the issue should be performed.

5. Land Use and Planning

The SED makes the bold blanket statement that the Policy would not conflict with a single land use plan, policy, general plan, local coastal program, habitat conservation plan, or zoning ordinance adopted to avoid or mitigate an environmental effect within the entire state of California. Given the incredible number and wide scope of these documents throughout the state, it is unclear how such a finding can be made with absolutely no citations or supporting evidence.

6. Public Services

Continuing the trend, the SED finds no impact on public services. Completely left out of the analysis is the impact on utilities from contaminated groundwater during the

potentially hundreds of years that it will take for the concentrations to supposedly naturally attenuate to safe levels. In direct contrast, the SWRCB concluded in its Functional Equivalent CEQA document for the passage of its Resolution 96-049 that, "Polluted ground water may pose the potential for adverse health impacts to workers at public facilities and utilities who must penetrate the subsurface for maintenance activities." To address this potentially significant impact, the adoption of Resolution 96-049 included mitigation measures. Here, not only are there no mitigation measures proffered, there is an unsupported claim of no impact.

In addition, the SED fails to evaluate the effect of residual petroleum hydrocarbons on existing and future water supply piping. Petroleum hydrocarbons have the potential to permeate plastic pipes or steel pipes with synthetic sealants and affect potable water quality. Accordingly, leaving this petroleum in the ground for multiple generations is an impact that needs to be identified and mitigated.

7. Hazards and Hazardous Materials

The SED fails to identify or analyze the potentially significant impact of reasonably foreseeable accidents involving the release of hazardous materials resulting from closing sites with, "more petroleum left in place than with current practices." As noted by other comments (e.g., San Mateo County), the Policy lacks any requirements for notification of proposed changes in future land uses at sites closed with residual contamination in place. Future development has the potential to result in exposing and releasing carcinogenic chemicals at levels known to pose a significant threat to human health (e.g., 160,000 mg/kg of carcinogenic PAHs). Such releases are reasonably foreseeable due to the lack of notification requirements or required land use controls to limit future site activities. The SED needs to evaluate this threat and incorporate mitigation measures to address this potentially significant impact to human health and the environment.

E. The SED fails to identify and analyze any cumulative impacts

In implementing a certified regulatory program, an agency must still adhere to the basic policies and substantive requirements of CEQA. (*Sierra Club v. State Board of Forestry* (1994) 7 Cal. 4th 1215, 1236-1237.) This includes the requirement to meaningfully assess

cumulative impacts. (*Environmental Protection Information Center, Inc. v. Johnson*, 170 Cal. App. 3d 604, 624-625.) The required meaningful assessment of cumulative impacts has not occurred here.

In *Friends of the Old Trees v. Department of Forestry & Fire Protection*, the Court of Appeal held that, under its certified regulatory program, the Department of Forestry & Fire Protection abused its discretion by failing to analyze the cumulative impacts to water supplies associated with approving a proposed timber harvest. (52 Cal. App. 4th 1383.) In *Friends*, there was evidence in the record that the proposed harvest could affect the water supply and the court found that the agency erred by failing to conduct further study. Here, the cumulative impacts of the Policy are nothing short of obvious. The Policy itself acknowledges the incredible volume of affected UST sites and the fact that at each one of these sites, petroleum hydrocarbons will be left in place instead of removed. The SED language itself mandates a finding of significant cumulative impact.

F. The SED fails to identify and analyze any alternatives to the Policy

Despite the clear issues identified above, the SED brazenly contains the following sentence:

> "The State Water Board has determined that no fair argument exists that the Project could result in any foreseeable significant adverse environmental impacts and, therefore, this draft SED does not identify and analyze any alternatives to this project."

The import of this sentence is momentous, and is one that the SWRCB should strongly consider before adopting what would certainly be a flawed SED if the sentence were still included. To suggest that a policy that so alters the environmental landscape, and is such a deviation from past policy (for which significant findings were made), has **not one** significant adverse environmental impact, is simply not plausible. The fact is, important, less impactful, alternatives to the Policy do exist. These alternatives would still substantially achieve the efficiency and cost-saving goals of the Policy, while lessening some of the environmental impacts. Even these less impactful alternatives, however, will require some form of mitigation, which is also totally missing from the SED at this time.

G. The findings in the SED directly conflict with the SWRCB's own previous findings

In considering the adoption of a modification to SWRCB Resolution 92-49 in 1996, the SWRCB prepared a CEQA functional equivalent document (FED). The modifications to Resolution 92-49 were focused on a change in groundwater cleanup policy (soil and soil gas were not addressed) with the creation of "containment zones." The containment zone amendment to Resolution 92-49 acknowledged that, "some pollutants will remain within the containment zone for some period of time." Such a conclusion is similar to the Policy, which the SED acknowledges will cause petroleum to remain, "for a longer period of time."

Based on its analysis in 1996, the SWRCB concluded that leaving groundwater contaminants "for some period of time posed" potentially significant environmental effects and required adoption of mitigation measures to lessen or avoid the identified impacts. These mitigation measures included the following: providing alternative water supplies; and reimbursement of increased water treatment costs to affected users. In addition, to address leaving pollutants at levels above water quality objectives, the 1996 amendment required implementation of management plans to assess, cleanup, abate, manage, monitor and mitigate any significant adverse impacts to human health.

Adopting the Policy as-is would be circumventing the very mitigation measures the SWRCB agreed were necessary in 1996 when leaving residual concentrations of groundwater pollution that would require "some period of time" to meet water quality objectives. There is no justification for this change in course and the SWRCB's own past practices demonstrate the flaws in the current SED.

II.
THE POLICY VIOLATES MULTIPLE HEALTH AND SAFETY STANDARDS FOR POLLUTANTS

The SWRCB represents that the Policy, "is consistent with existing statutes, regulations, precedential decisions, policies and resolutions, and is intended to provide clear direction to responsible parties, their service providers, and regulatory agencies." This statement is inaccurate. In actuality, the Policy violates clear standards set for pollutants

by a variety of agencies. In fact, the Policy is internally inconsistent with the SWRCB's own regulations.

With the Policy, the SWRCB is prescribing, for the first time, statewide prescriptive numerical cleanup levels for chemicals in soil, soil gas, and groundwater in the absence of any site-specific analyses, such as oxygen levels in soil vapor. These levels, however, do not find support in any of the currently existing state guidelines or policies, nor are they supported by truly peer-reviewed scientific documents.

A. The Policy conflicts with Section 13050 of the Porter-Cologne Water Quality Control Act

Criteria (h) of the Policy requires that for a Low-Threat Closure to occur, a "nuisance" under Water Code Section 13050 must not exist at the subject site. The Policy, however, then goes on to adopt quantitative chemical criteria in Table 1 that, if present at a site, would *de facto* constitute a nuisance. This conflict suggests that the proposed numerical thresholds are wholly inappropriate if the Policy is to have any utility at all.

As defined in Section 13050 of the Porter-Cologne Water Quality Control Act, nuisance includes, "an obstruction to the free use of property." The proposed levels of soil and groundwater contamination that would be permitted via Table 1 in the Policy will obstruct free use of property by limiting excavations, potentially allowing construction of residential structures on sites that were closed under commercial use, and preventing dewatering of subsurface structures, as levels of contaminants would not meet surface water discharge criteria without treatment. This hardly constitutes "free use of the property."

Furthermore, the soil concentrations for the petroleum hydrocarbons that will be allowed to remain in place following closure under the Policy will exceed published "nuisance thresholds." For example, the Policy proposes to leave in soil naphthalene concentrations up to 3,100 milligrams per kilogram. Yet, nuisance threshold for naphthalene identified in the ESLs is 1,000 mg/kg. The Policy completely fails to address this internal contradiction.

B. The Policy conflicts with existing guidelines concerning soil remediation

Under existing cleanup programs, responsible parties are required to address soil contamination that poses a threat to groundwater. The ESLs provide soil screening levels for regulated chemicals that are protective of groundwater. While the ESLs are not statewide guidance, the North Coast and Central Coast Regional Boards, among others, use the ESLs to evaluate site conditions. In fact, the technical justification document relied on by the SWRCB cites to the ESLs for many of its input parameters.

The ESLs identify soil screening levels for benzene, ethyl benzene, naphthalene and polycyclic aromatic hydrocarbons (PAHs) for commercial use at 0.044 mg/kg, 3.3 mg/kg, 2.8 mg/kg and 0.130 mg/kg, respectively. In contrast, the Policy only evaluates the direct threat to human health from contact with the soil (i.e., dermal contact, ingestion, inhalation), resulting in values for Soil Screening Levels for benzene, ethyl benzene, naphthalene and PAHs at 810 mg/kg, 9,400 mg/kg, 3,100 mg/kg and 160,000 mg/kg respectively.

The technical justification for excluding protection of groundwater from the Soil Screening Levels is presumably based on the assumption that further leaching to groundwater will not be a problem, because natural attenuation will control the extent of impacts to groundwater. However, this latter conclusion is not presented within the Policy. The Policy does not reconcile how the subject plumes would be stable and/or decreasing if there are concentrations of chemicals in the soil that contribute to additional groundwater contamination. Further, adoption of the Policy would create situations where non-UST sites would be required to remediate the same constituents in soil to address the threat to groundwater. It is foreseeable that responsible parties would claim that the Policy creates a precedent for establishing that natural attenuation will address the impacts to groundwater from a myriad of constituents and thereby attempt to forego their cleanup responsibilities.

The Policy also would allow soil to contain concentrations above health-based protective levels at deeper than five feet below ground surface with no requirement for land use covenants. This is in conflict with the DTSC's sensitive land use policy and guidance contained in both the CHHSLs and Cal/EPA Supplemental Guidance for

Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities (CalEPA, 1996). Existing guidance identifies that a depth of 10-feet is used to "delineate 'deep' soils that are likely to remain isolated in the subsurface versus 'shallow' soils that may be exposed during future redevelopment activities." However, the proposed Policy inexplicably has selected five feet as the depth of soil for protection of human health, in conflict with the existing guidance. These soil policy conflicts render the Policy legally actionable.

C. The Policy conflicts with existing guidance concerning soil gas remediation

The Policy provides statewide soil gas screening levels to be used at UST sites (and an unknown number of sites of a similar nature). The Technical Justification document concludes that current risk-based screening levels (such as the California Human Health Screening Levels [CHHSLs]) for evaluating risk from vapor intrusion are "extremely conservative." The SWRCB opines that the conservatism is caused by, "not considering biodegradation in site screening." However, the SWRCB, in proposing to now consider "bioattenuation" of vapors in the subsurface, is going much further than just "clarifying" existing policy. In fact the SWRCB is establishing an untested and invalid approach to site screening.

The underlying assumptions used to support the Policy include no site use limitations on activities that would invalidate the use of bioattenuation factors (of which there are many feasible scenarios). As noted by Land Science Technologies in the first round of comments for the Policy, the conclusions presented by the SWRCB totally ignore the impact of a building on the surface of a property. In contrast to the "modeling" relied on by the SWRCB Policy authors to establish the efficacy of vadose-zone bioattenuation, field investigations by others have shown that aerobic biodegradation of the VOCs **only occurs in a narrow fringe beneath buildings where the VOCs and oxygen vapors are present**. The addition of building, pavement or other barriers (e.g., irrigated open space) following site closure is not addressed and therefore invalidate the conclusions reached regarding the true viability of bioattenuation.

The SWRCB-selected peer reviewers also conclude that the validity of the screening levels cannot be verified due to this oversight. Professors Widdowson and Little

conclude that the screening levels presented in the Technical Justification document are predicated on, "no barriers to the replenishment of oxygen from the atmosphere to soil." Given the frequent reuse characteristics of UST cleanup sites, which often involves particularly large building envelopes, this predicated scenario is actually quite unlikely.

D. The Policy conflicts with UST regulations, including the SWRCB's own policies

Currently, releases from USTs are regulated pursuant to Health and Safety Code 25296.10 and as promulgated, California Code of Regulations (CCR), Title 23, Chapter 16, Underground Tank Regulations (UST Regulations). Under current regulation, the regulatory agency determines whether the cleanup, "will adequately protect human health, safety and the environment." Under the Policy, if a site meets the specified criteria, then the regulatory agency does not make a determination on the adequacy of the cleanup, rather the determination is made *a priori*.

Section 2725 of the UST Regulations requires that the responsible party perform an assessment of the chemical characteristics of the released substances, "including their toxicity, persistence, and potential for migration in water, soil, and water." This Policy excludes such consideration. This is particularly problematic in that the Policy has failed to consider the evolving nature of toxicity criteria used in risk assessments. The Policy does not address the conflict that will arise when new toxicity criteria are issued by the California Office of Environmental Health Hazard Assessment (OEHHA).

Section 2727 of the UST Regulations requires a Verification Monitoring Phase, and states the responsible party, "shall evaluate the effectiveness of the site work." However, under the Policy, the responsible party becomes its own regulator.

In addition, the Policy creates new responsibilities for agencies that are currently included in the UST Regulations. Under the Policy, annually, or at the request of the responsible party (which could be more often), the "regulatory agency shall conduct a review to determine whether the site meets the criteria contained in this policy." However, there is no such requirement in the UST Regulations.

The Policy "relies on the regulatory agency's use of the conceptual site model." However, under the UST Regulations, there are no requirements to use a conceptual site model. Further, the Policy makes it the regulatory agency's "responsibility to identify the conditions that make closure under the policy inappropriate." This stands in conflict with Section 2725 that requires the responsible party to identify the conditions and risks associated posed by a site. In effect, this Policy is a promulgation of new law, which conflicts with existing law.

The Policy also requires that the regulators assess whether the "contaminant mass has expanded to its maximum extent." Yet, there is no requirement under the UST Regulations for such an analysis. Further, in seeking to "streamline" the process, the Policy adds these requirements in the absence of clear criteria of how the regulatory agencies should make such a determination.

Pursuant to SWRCB Resolution 88-63, "all surface and ground waters of the State are considered to be suitable, or potentially suitable, for municipal or domestic water supply and should be so designated by Regional Board." SWRCB Resolution 88-63 does not have an exclusion for those portions of a groundwater basin that are undergoing natural attenuation, potentially for decades, centuries, or longer. The effect of the Policy would be the creation of thousands of pockets of groundwater that, while setback from water supply wells, will not be available for domestic water supply. Accordingly, the Policy violates Resolution 88-63.

SWRCB Resolution 92-49 states that, "It is not the intent of the State or Regional Water Boards to allow dischargers, whose actions have caused, permitted, or threaten to cause or permit conditions of pollution, **to avoid responsibilities for cleanup**." The Policy, however, will result in the shifting of cleanup obligations by placing the onus on property owners. While Resolution 92-49 does offer a containment zone designation to dischargers instead of site closure, the Resolution requires the discharger to both monitor groundwater quality and provide mitigation for significant adverse environmental impacts. The Policy has neither of these absolutely crucial conditions. This lack of verification monitoring is a ripe area for amending the Policy such that it complies with 23 CCR 2722(a).

Finally, SWRCB Resolution 92-49 and Resolution 2009-0042 each state that contamination is required to be remedied within a "**reasonable time**." The Policy renders the "reasonable time" requirement meaningless by allowing timeframes that will span multiple generations for natural attenuation. This can hardly be considered "reasonable."

III.
THE POLICY FAILS TO CONSIDER THE EFFECT OF TERTIARY BUTYL ALCOHOL (TBA)

While the proposed Policy concludes that it is "well-documented" that "petroleum fuels naturally attenuate in the environment," the analysis failed to address the significant portion of sites with tertiary butyl alcohol (TBA) that are not likely to attenuate. The Technical Justification for Groundwater Media-Specific Criteria (SWRCB, 2011) characterized TBA as an intermediate by-product of the biodegradation of MTBE. However, the SWRCB's cited studies (Shih et al., 2004) identified that TBA was detected in 61.1% of the sites in Los Angeles County and the mean concentration was 30,100 micrograms per liter (ug/l). The current California Notification Level for TBA is 12 ug/l.

The technical analysis provided by the SWRCB does not support the underlying conclusion that natural attenuation will address the residual petroleum hydrocarbons. The Policy relies on the outcome of a single very recently published study of 48 service stations to conclude that TBA will naturally attenuate at the thousands of current open cases, i.e., Kamath, et al. However, even the limited study concluded that only, "68% of the TBA plumes were stable or decreasing in size." The SWRCB does not address how the other 32% of sites will be addressed by the proposed Policy, i.e., how water quality objectives for TBA will be achieved if there is no natural attenuation. Also of note, the Kamath et al. study concluded that 5% of the benzene plumes, and 10% of MTBE plumes were actually not stable or shrinking, i.e., multiple 100's of sites will not achieve water quality objectives.

In relying on the cited Kamath et al. study (identified as "in press"), the SWRCB ignored the conclusions of more appropriate and reliable sources such as the United States Environmental Protection Agency (USEPA). In evaluating monitored natural

attenuation ("MNA") of TBA in groundwater at gasoline spill sites, the USEPA concluded in 2007 that a, "**close examination of the data indicates that a default presumption that TBA is readily degraded in anaerobic groundwater is not justified.**" (EPA/600/R-07/100). Based on its studies, the USEPA advised "**there is a danger that the state agencies will consider contamination from TBA a good prospect for MNA.**" This is precisely what is occurring here. The SWRCB should heed the USEPA's caution and modify the proposed Policy to require the generation of data demonstrating that TBA is degrading and that groundwater conditions will remain conducive to degradation during the time it takes to achieve water quality objectives.

In ignoring the issues with TBA, the Policy relies on only three surrogate parameters, with MTBE as an indicator of "greatest plume lengths." As noted by the USEPA in its extensive review of TBA in groundwater throughout the United States (including Los Angeles and Orange County), there "was no correlation between concentrations of MTBE and TBA" (USEPA, 2007). Therefore, the reliance on MTBE as an indicator of TBA concentrations or plume length is neither protective of groundwater nor predictive for groundwater quality. The lack of correlation of MTBE and TBA concentrations further heightens the necessity of developing site data to support conclusions regarding the threat posed by TBA.

IV.
BROAD POLICY CONSIDERATIONS

The Policy raises a number of broader policy issues that should be carefully considered by the SWRCB. Just some of these policy considerations include the following:

1. Given the current state of the economy, it is difficult for independent service station owners to obtain financing to purchase their sites. Given the Policy's allowance for residual contamination to remain onsite for a much longer time, it may be impossible to obtain financing after the Policy.

2. The Policy may result in financial impacts on off-site property owners and utility companies resulting from leaving unmonitored and unmanaged contamination behind.

3. The Policy could conflict with local land use and/or zoning decision. For instance, workers may come into contact with contaminated soil and groundwater during construction at down-gradient properties located within the groundwater plume, thereby necessitating development and implementation of procedures for the management and/or disposal of the contaminated groundwater.

4. Property values both on-site and off-site may decline due to the presence of soil and groundwater contamination beneath a property. Also, there will be a "stigma" attached to the premises due to leaving behind higher levels and more volume of contamination than at sites cleaned up prior to the Policy.

V.
CONCLUSION

California needs a low-threat UST closure policy. Certain sites warrant efficient closure and the UST Fund is certainly not growing. This needed policy, however, should not sacrifice crucial environmental and safety standards for the disproportionate benefit of a distinct group of embedded interests.

In order to address the flaws of the Policy, as identified herein, it is recommended that the following occur:

1. Update the CEQA review for the Policy such that it is supported by actual evidence and complies with the applicable law.

2. Remove from the Policy points 1-5 under the Groundwater section of the Media-Specific Criteria. While these points may have a place in a guidance document, they should not be SWRCB policy, as they remain scientifically unsupported.

3. Re-assess the benzene and MTBE thresholds such that they comport with existing science and better protect humans and the environment.

4. Consider the effect of TBA, as noted herein.

5. If bioattentuation is going to play such a central role, as is currently proposed, there should be a requirement for the provision of actual data that a particular site has verified bioattentuation capabilities. This could be accomplished efficiently with a select number of vapor and groundwater monitoring wells and should be based on plume delineation and measurement of containment levels within, outside, and down gradient from, the plume.

6. Combine the creation/passage of the Policy with the re-writing of the LUFT manual, such that the two documents are complementary and consistent. The bifurcation of these two documents is inefficient and will lead to conflicts.

7. For UST sites not being actively or passively remediated, lessen the required reporting frequency of groundwater monitoring sampling events to an annual or biannual basis. This would save money while still providing the needed data.

Thank you for your attention and response to the important issues raised herein. We ask that the SWRCB's core mission remain at the forefront when considering adoption of any version of the Policy.

Very Truly Yours,

Riley F. Hurd III

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