January 4, 2010

Members of the State Water Resources Board
1001 I Street
P.O. Box 100
Sacramento, CA 95812-0100

Re: Resolution 2009-0042 - UST Cleanup Program Task Force, Minority Opinion

Dear Water Board Members:

Thank you for the opportunity to participate in the Underground Storage Tank Program Task Force. The Task Force members have all invested a great deal of time and resources in preparing this report and many points of view were well represented. As regulators who served on the task force we offer the comments below as a dissenting opinion to the UST Cleanup Program Task Force Report. The regulators who served on the Task Force are concerned that the Task Force membership was dominated by responsible parties (RPs), and consultants who work for RPs. Regulators comprised approximately ten percent to the Task Force. This imbalanced representation resulted in proposals that primarily reflect the views of the RPs and their consultants. Dialogue within the task force was not neutral and minority views received very little consideration. The group focused on closing cases over the protection of groundwater resources and human health. The following issues represent some, but not all of our concerns with the Report.

Default site closure criteria are proposed which assume uniform hydrogeologic conditions. For example it is assumed that a safe distance from a source of contamination to a water protection well is 1,000 feet. This and any other default closure criteria assumptions should be peer reviewed to demonstrate that the criteria are protective in all cases. Protection of groundwater resources requires the consideration of site specific conditions and the application of scientific and engineering principles.

Groundwater basins are a complex system of surface recharge areas, multiple aquifers, and discharge areas, all in hydraulic communication with each other and each requiring the full measure of protection mandated by State law. With the State's water dependency based on an unstable supply of imported water, it is even more important to protect local aquifer systems, many of which are currently being developed to provide more of the State's water supply. The State's continued growth and uncertain water supply make the ability to project future land and water use uncertain. We are concerned with the assumption that aquifers will not be used for centuries and consequently, contaminated conditions will be allowed to persist.

Closing cases based on an arbitrary age of a case should not be considered. To protect the resource and human health, cases should be closed when the site meets the required cleanup criteria. Low risk closures should be considered based on site specific conditions, including off-site impacts and planned changes in land-use. It is important to protect groundwater aquifers so that current and future groundwater needs are protected.

The recommendations and findings provided in the report should be based on peer reviewed scientific principles. We are concerned with many of the recommendations of the report including the ones cited above. Implementing sweeping change based on anecdotal evidence could put human health and environmental quality at unnecessary risk. Prior to making sweeping changes to the UST cleanup approach we recommend that the Board direct a peer review process where evidence and experience is considered in a scientific manner. To do otherwise is to develop a scientifically indefensible environmental policy for California that compromises groundwater resources and human health.

We agree with the goals of Task Force to revise and improve the UST Cleanup process. Going forward we support a similar process that involves balanced representation of all stake holder groups and utilizes independent experts.

Brian Newman
Ken Williams
Gerald O'Regan

UST Cleanup Program Task Force Members
January 13, 2010

Task Force Member Name	Affiliation	Email	Phone
Dave Arrieta	Western States Petroleum Association	dnarrieta@aol.com	916-606-0568
Ravi Arulanantham	AMEC Geomatrix, Inc	ravi.arulanantham@amec.com	510-663-4130
Gary D Barker	Horizon Environmental Inc.	gbarker@horizonenvironmental.net	916-939-2170
Mike Bonkowski	Bonkowski and Associates	mike@bonkowski.com	510-450-0770 ext 16
Damon Brown	Stantec Consulting Corporation	damon.brown@stantec.com	916-384-0718
Ron Chinn	Closure Solutions, Inc.	rchinn@closuresolutions.com	925-429-5555
George Cook	Santa Clara Valley Water District	gcook@valleywater.org	408-265-2607 ext 2964
Rose Coughlin	Focused Resources	racough@pacbell.net	818-261-1507
Cheryl Dizon	Zone 7 Water Agency	cdizon@zone7water.com	925-454-5000
Ken Frank	Chevron Corporation	kenfrank@chevron.com	925-543-1754
Jennifer Hartman King	Downey I Brand	jhking@downeybrand.com	916-520-5371
Craig Johns	PSSEP/CMTA	cjohns@calrestrats.com	916-498-3326
Ray Kablanow	Geological Technics Inc	rayk@gtienv.com	209-522-4119
Christa G. Marting	ETIC Engineering, Inc.	cmarting@eticeng.com	925-602-4710 ext 13
Louis Mosconi	ConocoPhillips	moscols@conocophillips.com	714-428-7621
Brian Newman	Regional Board - 5	bnewman@waterboards.ca.gov	916-464-4834
Peter Niemiec	The Law Office of Peter Niemiec	peter@peterniemiec.com	310-546-7147
Gerald O'Regan	Santa Clara County Depart of Enviro Health	gerald.o'regan@deh.sccgov.org	408-918-1974
Reed Reinhart	Rinehart Oil	rrinehart@rinehartoil.com	707-462-8811
John Ryan	George Figone Exemption Trust	dijoryan@mac.com	408-203-5178
Robert W. Schultz	AMEC Geomatrix, Inc	robert.schultz@amec.com	510-663-4100
Curt Stanley	Shell Global Solutions	curtis.stanley@shell.com	281-380-7402
Howard Whitney	Remediation Testing and Design	rtdinc@aol.com	831-458-1612
Shay Wideman	Valero Energy	shay.wideman@valero.com	210-345-4663
Ken Williams	Regional Board - 8	kwilliams@waterboards.ca.gov	951-782-4496
Dawn Zemo	Zemo & Associates	dazemo@zemoassociates.com	775-831-6179
Dick Zipp	RJZ Assoc	close_sites_now@yahoo.com	916-434-6482

ITEM 9 of SWRCB RESOLUTION NO. 2009-0042DFA and DWQ shall, by Jul

January 13, 2010

Mr. Charles Hoppin
Chair, State Water Resources Con
1001 I Street
Sacramento, CA 95814

Re: Resolution 2009-0042 - UST Cleanup Program Task Force Report

Dear Mr. Hoppin and Members of the Board:

As required under State Water Resources Control Board (SWRCB) Resolution No. 2009-0042, approved on May 19, 2009, a Task Force was created to "make recommendations to improve the Underground Storage Tank (UST) Cleanup regulatory program, including additional approaches to risk-based cleanup." We the members of the Task Force (as listed in Attachment A), including members from the regulatory, consulting, and regulated communities, have met regularly since June 2009. We have worked very diligently to develop recommendations that we believe will result in appropriate and meaningful improvement to the UST Cleanup Program.

The Task Force recognizes that the protection of the environment is the responsibility of every Californian, and that it is in the best interests of the people of the State that contaminant releases be prevented and cleaned up to the extent practicable. Nevertheless, this Task Force also recognizes that the technical and economic resources available for environmental restoration are limited, and that the highest priority for these resources must be allocated to the protection of human health and environmental receptors. The Task Force believes that pursuing a threat-based policy for environmental cleanups best ensures that those cases with the potential of impacting human health and/or environmental receptors are fully afforded the technical and economic resources necessary to abate the risk.

We are encouraged by the steps the SWRCB has taken to improve the UST Cleanup Program and appreciate your response to our prior recommendations, as evidenced by the adoption of Resolution 2009-81 on November 17, 2009. We are pleased to present our final report, knowing that you will give our recommendations careful consideration. The report contains recommendations to the SWRCB that will expedite closure of sites that pose no significant risk to human health and environmental receptors, modernize California's approach to petroleum releases, improve cleanup program operations and culture, and make the best use of the limited technical and economic resources we have available.

The Task Force strongly believes that the most important of the recommended actions the SWRCB can take are those that would implement risk-based decision making (RBDM) for cleanup of petroleum releases. We have recommended that Article 11 of the UST Regulations be revised to facilitate the implementation of RBDM. This approach is expected to result in determinations that no further corrective action is necessary at a large number of currently open Leaking Underground Fuel Tank (LUFT) cases. These currently open cases pose no significant risk to human health, or environmental receptors, and their closure will enable the Fund to direct more resources to sites where additional corrective action is truly needed.

The Task Force believes that our recommendations support the SWRCB's primary purpose of protecting the waters of the State. We believe that our recommendations are consistent with that purpose. The Task Force recognizes that, in order to protect the beneficial uses of groundwater, water quality objectives (WQOs) must be met. SWRCB precedents establish that it is not necessary to meet WQOs at the time of closure, but only within a reasonable time frame. The Task Force agrees and interprets this to mean that WQOs must be met before the resource is reasonably expected to be used. Over the past 20 years, abundant data have been collected supporting the conclusion that plumes from petroleum UST releases tend to impact only the shallowest groundwater, generally do not migrate far from the source area, and have concentrations that typically decrease with time due to biodegradation. This indicates that unless a supply well is located in extreme close proximity to a release site, it is highly likely that receptors are adequately protected and that WQOs will be met before the resource is used.

Unlike petroleum hydrocarbons, the fuel-blending component methyl tert-butyl ether (MTBE) has the potential of forming longer plumes; however, because MTBE was eliminated from gasoline in 2004, future releases of MTBE are not expected to occur. In addition, MTBE is biodegradable, although at a slower rate than other gasoline constituents, thereby reducing long-term risk from legacy releases. The Task Force recognizes that legacy MTBE plumes may continue to represent an environmental threat, and that these cases should be evaluated and addressed so that human health and environmental receptors are not impacted.

In consideration of these factors, the Task Force believes that the SWRCB should establish low-risk closure criteria that would adequately protect human health and environmental receptors, while allowing contaminants in soil and groundwater to remain in place and naturally attenuate. Because these criteria would attain WQOs before the resource is needed, the Task Force further believes that this "low-risk" policy would not violate Resolutions 68-16, 88-63, or 92-49, and would be fully consistent with the maximum benefit to the people of the State.

To assist the SWRCB in appreciating the dramatic beneficial impact that a shift to appropriate risk-based closure criteria would likely have on the Program, the Task Force directs your attention to the *California Independent UST Case Closure Study: A Quantification of Cases Potentially Closable Under Low-Risk Criteria*, prepared by Ronald Chinn, P.E. The Task Force is in general concurrence with the methodology and criteria of the study. While the Task Force did not independently validate the case reviews presented in the study, the Task Force believes that this report illustrates how implementation of a threat-based approach to environmental case closure, based on existing guidelines and precedents, could have a substantial impact on the UST Cleanup Program and the UST Cleanup Fund. The Task Force has attached the study to this report in Attachment B.

In addition, the Task Force believes that specific actions should be taken by the SWRCB to improve the administration, operation, and culture of the UST Cleanup Program. In particular, our recommendations concern streamlining the appeals process, removing financial disincentives to site closure, establishing new UST Cleanup Program operational guidelines, developing case-progress and performance metrics, and enhancing the training and education of agency personnel, responsible parties (RPs), and consultants.

Many Task Force members share a concern that is applicable to the recommendations we are making to you. We are concerned that new Regulations and Resolutions adopted by the

SWRCB may not be implemented by Local Implementing Agencies (LIAs) because Statute allows local agencies to adopt more stringent cleanup levels than those set by the SWRCB. The Task Force was unable to reach consensus on a recommendation regarding this issue.

The Task Force considered Environmental Justice (EJ) issues in developing the attached recommendations. Although no formal analysis of the past distribution of LUFT funding/ regulatory attention toward economically disadvantaged areas *vs.* affluent areas was conducted, the Task Force agreed that most UST releases are insignificant, direct-exposure sources. The Task Force recommendations to improve the UST Cleanup Program will reduce EJ disparity (if any) by making a fundamental shift to employ RBDM to guide corrective action strategies. These recommendations benefit EJ in several ways, including:

- promoting consistency in program administration;
- reducing the amount of unnecessary remedial activities;
- increasing redevelopment potential by closing cases; and
- reducing local environmental impacts associated with corrective actions.

Lastly, we note that our recommendations fall into two categories: actions that the SWRCB can complete relatively quickly, for immediate beneficial impact on the Cleanup Program, and actions that will take a longer time to implement (e.g., the Article 11 revisions). It is our hope that the SWRCB will consider both shorter- and longer-term recommendations from this Task Force for immediate action, and that longer-term activities will not supersede implementation of shorter-term activities, or vice versa.

We appreciate the opportunity to have served on the Task Force and to have contributed to the improvement of the UST Cleanup Regulatory Program. The Task Force members are available to assist in the implementation of these recommendations. We request that the SWRCB hold an informational hearing in early summer 2010 to report on the implementation of our recommendations. Please contact the individual(s) named in each of the recommendations if you have questions or require additional information.

Respectfully submitted,

The UST Cleanup Program Task Force

TASK FORCE RECOMMENDATIONS: SUMMARY STATEMENTS

Final January 13, 2010

The UST Cleanup Program Task Force makes the following recommendations, here stated in summary form, to the SWRCB. The complete recommendations, presented in detail, are attached.

READY FOR IMMEDIATE IMPLEMENTATION AND IMPACT:

CLOSE LOW-THREAT SITES: Use all available means to achieve the immediate closure of sites that have certain characteristics that, based on existing SWRCB precedent and closure decisions made by best-practice implementing agencies, indicate that the sites do not pose a significant risk to human health or groundwater quality and can be closed consistent with applicable water-quality policies.

HALT USE OF SCREENING LEVELS AS CLOSURE CRITERIA: Direct Regional Water Quality Control Boards (RWQCBs), Local Oversight Program Agencies (LOPs), and LIAs to halt the practice of using screening levels and taste and odor criteria as final cleanup levels for petroleum hydrocarbons.

STREAMLINE APPEALS AND DISPUTE RESOLUTION PROCESSES: In order to speed appropriate case closures, reduce the time it takes to process an appeal, and improve dispute resolution processes: (1) Delegate authority to the Executive Director to issue closure letters in response to direct petitions from responsible parties, (2) Ensure that closure petitions are presented to SWRCB for decision no later than 120 days after the petitions are filed, and (3) Establish an ombudsman program as an informal mechanism to resolve disputes about implementation of corrective action requirements for sites short of closure.

REQUIRING A LONGER TIME FRAME FOR DEVELOPMENT AND IMPLEMENTATION:

REVISE ARTICLE 11: Revise Article 11 to provide for a scientifically sound, consistent, and focused corrective action process that adequately protects water quality and human health in a manner that makes most efficient use of the resources of the Cleanup Fund and other responsible parties.

REMOVE FINANCIAL DISINCENTIVES TO SITE CLOSURE: Remove financial incentives to keep cases open and incentivize efficient and cost-effective closure of LUFT sites.

IMPROVE TECHNICAL ABILITIES, TRANSPARENCY, AND COMMUNICATION AMONG ALL UST PROGRAM STAKEHOLDERS: Effect a cultural change in the State's LUFT program by

(1) providing increased training, education, and expert assistance;
(2) establishing new operational standards and guidelines; and
(3) creating new performance evaluation and case-progress metrics.

UST Cleanup Program Task Force Recommendation
January 2010

CLOSE LOW-THREAT SITES

Use all available means to achieve the immediate closure of sites that have certain characteristics that, based on existing State Board precedent and closure decisions made by best-practice implementing agencies, indicate that the sites do not pose a significant risk to human health or groundwater quality and can be closed consistent with applicable water quality policies.

Approved by Vote on November 17, 2009:

Task Force Contact Person(s):
Ravi Arulanantham
AMEC Geomatrix, Inc
510-663-4130
ravi.arulanantham@amec.com

TITLE: CLOSE LOW THREAT SITES

ISSUE

We have learned, from more than 20 years of experience, that dissolved-phase petroleum hydrocarbon plumes do not typically extend more than a few hundred feet due to natural attenuation in sedimentary deposits (clay, silt, sand, gravel, or mixtures thereof). We have also learned that petroleum hydrocarbons biodegrade naturally in both aerobic and anaerobic conditions. In 1996 the Lawrence Livermore report and other investigators pointed out that only 0.1% of the State's drinking-water supply wells were impacted by petroleum constituents (e.g., benzene). In the 13 years since, we have learned that the vast majority of the drinking-water wells are still not impacted by petroleum hydrocarbons. The table below shows that only 14 wells have been impacted by benzene in the past 10 years of monitoring (approximately 0.1% of 12,000 drinking-water supply wells). Therefore, the available empirical data confirm that the biodegradable petroleum hydrocarbons do not pose a significant risk to water supply wells, even though over 10 billion gallons of gasoline are dispensed from USTs in California each year. Data from the GAMA website also show that only 67 drinking water supply wells have been impacted by MTBE above 5 micrograms per liter (µg/L) in the past 10 years of monitoring (approximately 0.6% of the supply wells).

Impacted Drinking Water Supply Wells

(per SWRCB GAMA Website)

As of 11/3/2009

Chemical (MCL)	No. Wells impacted above MCL in past 3 years	No. Wells impacted above MCL in past 10 years
Benzene (1 ppb)	5 (0.04%)	14 (0.1%)
MTBE (5 ppb)	12 (0.1%)	67 (0.6%)
PCE (5 ppb)	135 (1.1%)	279 (2.3%)
Nitrate as NO_3 (45,000 ppb)	655 (5.5%)	1,323 (11.3%)

Note: Percentage assumes 12,000 drinking-water supply wells.
MCL: maximum contaminant level
ppb: part per billion
PCE: pentachloroethane

Regarding plume lengths, a 2004 study of benzene and MTBE plume lengths at 500 UST sites in the Los Angeles, CA area confirmed the results from previous plume studies. The 2004 study showed that 90% of the benzene plumes were less than 350 feet long and that the maximum length was 554 feet. For MTBE, 90% of the plumes were less than 550 feet long, and the maximum length was 1046 feet. Experience has shown that, for plume lengths to extend significantly farther, a large non-aqueous phase liquid (NAPL) source in extremely permeable

sediments is required. Most public wells are completed in deeper aquifers which provide additional protection (due to overlying aquitards) from the relatively shallow contamination posed by most UST petroleum releases.

Regarding vapor intrusion, we have learned that vapor intrusion risk from petroleum hydrocarbons, their constituents, or oxygenates appears to be a concern only when there is free product in close proximity to the building, and not from residual concentrations in soil or dissolved concentrations in groundwater.

RECOMMENDATION

The 1996 Lawrence Livermore Report, the San Francisco RWQCB interim guidance on low-risk fuel sites, as well as the 14 Orders the SWRCB has issued, all indicate that any case that meets the criteria set out below can be closed consistent with the requirements of the applicable laws, regulations, and applicable state policies for water quality control. Therefore, we recommend that the SWRCB use all available means to achieve the immediate closure of sites that meet all of the following criteria:

1. The site is not located in a managed groundwater recharge area, or impacted groundwater does not discharge to a surface water body.
2. The current and reasonably anticipated future land use (based on current or pending zoning, a current General Plan or pending amendments thereto, and/or currently pending development applications) is not residential.
3. The plume is not migrating and the closest water well (domestic, irrigation, or municipal) is more than 1000 feet from the site.
4. The maximum concentrations in groundwater are less than:
    a. 10 part per million (ppm) for total petroleum hydrocarbon gasoline range (TPHg) and for TPH diesel range (TPHd)
    b. 1 ppm for each of the individual petroleum constituents
    c. 0.5 ppm for each of the individual oxygenates
5. Benzene concentrations in soil are below 12 ppm to protect future construction workers.
6. The impacted groundwater is at a depth of 50 feet or less.
7. The release occurred more than 5 years ago.

Sites with these characteristics can be closed with a high degree of confidence that water wells will be protected, that human health risk is negligible, and that natural attenuation will restore the shallow groundwater to beneficial use before the resource is needed. The 50-foot depth criterion provides added protection and addresses the hypothetical case where a community drinking-water supply well might be installed within the plume relatively soon after site closure; 50 feet is the required minimum depth for the sanitary seal. These sites can be closed without a deed restriction because the site data will remain available to any interested persons on the State's online Geotracker database.

For those sites that currently do not fit within the above criteria, the evaluation process should follow the risk-based framework articulated in the previous SWRCB UST Closure Orders. In any action the SWRCB takes in response to this recommendation, the SWRCB should make it clear

that these criteria are not meant to be cleanup goals, and that there may be many instances in which sites that do not meet these criteria can be closed consistent with the requirements of the applicable laws, regulations, and applicable state policies for water quality control.

UST Cleanup Program Task Force Recommendation
January 2010

HALT USE OF SCREENING LEVELS AS CLOSURE CRITERIA

Direct Regional Boards, LOPs and LIAs to halt the practice of using screening levels and taste and odor criteria as final cleanup levels for petroleum hydrocarbons.

Approved by Vote on November 17, 2009:

Task Force Contact Person(s):
Dawn Zemo
Zemo & Associates
775-831-6179
dazemo@zemoassociates.com

TITLE: HALT USE OF SCREENING LEVELS AS CLOSURE CRITERIA

ISSUE

The Task Force has recommended to the SWRCB that Article 11 be revised to incorporate risk-based decision making and to enforce consistency in application. We understand that the Article 11 revision process could take two years (or more) to complete. In the meantime, RWQCBs, LOPs, and LIAs across the State have developed their own disparate numerical "screening levels" for petroleum constituents and TPH in groundwater, soil, and soil vapor that are being used as *de facto* cleanup levels.

Screening levels were developed to provide case managers and RPs with concentrations of constituents of concern (COCs) in soil and groundwater below which a site posed virtually no risk and required no further action, and the case could be closed expeditiously. In many cases, these screening levels are based on very conservative assumptions (e.g., hazard indices of 0.2 instead of 1.0; assumption of fresh product or the most toxic petroleum fraction to represent the entire TPH; assumption of no future biodegradation; use of unpromulgated taste and odor criteria; and taste and odor criteria for extractable TPH that are not technically appropriate unless silica gel cleanup is used). Many screening levels are ultimately based on drinking-water criteria (including *taste and odor* criteria for petroleum constituents and "TPH"), even for groundwater that is neither a current drinking-water source nor being considered as a viable near-term drinking-water source. For each constituent, the lowest value for any medium is used to calculate the screening level for all media to be protective. These stringent criteria may be reasonable for defining sites that have no obstacles to closure and which should be closed without further review; however, these criteria were never intended to define whether a site **cannot** be closed.

These screening levels are not subject to external peer review or to public comment. Although most of the documents clearly state that these screening levels are not cleanup levels, and do not represent policy, the practice across the State is that they are indeed being used routinely by RWQCB staff, LOPs, and LIAs as cleanup levels for closure. This practice is vigorously protested by the RPs, but usually to no avail. The use of screening levels or taste and odor criteria as final cleanup requirements is technically inappropriate, is contrary to SWRCB precedent set in the 14 UST case-closure orders, and is resulting both in expenditure of significant resources by the Fund and other RPs and delays in site closure.

RECOMMENDATION

The Task Force recommends that the SWRCB **immediately** adopt a Resolution which clarifies that:

> Local "screening levels" are not to be used as final cleanup levels. If concentrations of COCs in groundwater, soil, or soil vapor at a site are above the screening levels, then the potential risk to human health or threat to beneficial use posed by the site should be evaluated to develop appropriate cleanup levels for the site that mitigate the risk or threat. Cleanup levels should be developed based on site-specific

conditions, consistent with SWRCB water-quality policies as applied to petroleum releases, as interpreted by the SWRCB.

Further, the use of taste and odor criteria as the basis for cleanup levels for biodegradable petroleum hydrocarbons in groundwater which is not currently used as a source of drinking water, and which is not being considered for use as a viable near-term source of drinking water, is not appropriate and is unnecessarily conservative to protect beneficial use.

In support of this recommendation, adequate staffing of risk assessment expertise should be provided at the SWRCB staff and/or RWQCB staff level.

DESIRED IMPACT

This resolution will provide SWRCB direction to RWQCBs, LOPs, and LIAs to stop the practice of using screening levels and taste and odor criteria as final cleanup levels for petroleum hydrocarbons, which should result in adequate protection of water quality and human health, less expenditure of resources, and faster site closures.

This resolution will assist with the consistent implementation of SWRCB policies across the State.

UST Cleanup Program Task Force Recommendation
January 2010

STREAMLINE APPEALS AND DISPUTE RESOLUTION PROCESSES:

In order to speed appropriate case closures, reduce the time it takes to process an appeal, and improve dispute resolution processes: (1) delegate authority to the Executive Director to issue closure letters in response to direct petitions from responsible parties ,(2) ensure that closure petitions are presented to the Board for decision no later than 120 days after the petitions are filed, and (3) establish an ombudsman program as an informal mechanism to resolve disputes about implementation of corrective action requirements for sites short of closure.

Approved by Vote on November 17, 2009:

Task Force Contact Person(s):
Peter Niemiec
The Law Office of Peter Niemiec
310-546-7147
peter@peterniemiec.com

Ronald Chinn
Closure Solutions, Inc.
925-429-5555
rchinn@closuresolutions.com

TITLE: STREAMLINE APPEALS AND DISPUTE RESOLUTION PROCESSES

ISSUE

Regulatory decision-making authority for the UST Cleanup Program is widely dispersed to RWQCBs, LOPs, and other local agencies. Due to this dispersed authority, actual decisions at sites can vary widely and, at times, substantially deviate from the intentions of SWRCB policy. As a result, cases stay open longer and cost more to close.

Currently, there are four methods that the SWRCB can use to require that its policies be applied to pending cases:

(1) the closure petition process under 23 Cal. Admin. Code §2814.6 *et seq.* (the "Petition Process"),

(2) closure by the SWRCB on the recommendation of the Fund manager of a site that has qualified for Fund reimbursement and has had an active Letter of Commitment (LOC) for five years or more ("Five-Year Review"),

(3) review of actions or failure to act by a Regional Board pursuant to Water Code § 13320 ("Water Code Petitions"), and

(4) issuance of closure letters using the SWRCB's authority under Health & Safety Code §25296.10(g).

These mechanisms have not afforded the SWRCB effective oversight and control of the cleanup program for a variety of reasons.

(1) In the case of the Petition Process, it has not been effective as an oversight mechanism because it is rarely used. While there are several reasons for it not being widely used, the primary one is that it takes too long. At Task Force meetings, staff have reported that, due to procedural, staffing, and resource constraints, it takes up to **two years** to complete a review under the Petition Process.

This is unacceptable.

This kind of delay strongly discourages any RP from utilizing the process, especially since the overall environmental cost continues to increase, because compliance with regulatory corrective-action directives such as further investigation, remediation, and groundwater monitoring must continue while the appeal is pending. The fact that the SWRCB can only "recommend" closure to a local agency not participating in the LOP discourages RPs from utilizing the Petition Process to close cases in those jurisdictions. Moreover, disputes with the implementing agency which arise short of closure, some of which have the potential to substantially increase the cost and timing of closure, are not reviewable under the Petition Process.

(2) In the case of the Five-Year Review, no cases have been closed using this process. Even if it were used more aggressively, it only applies to cases for which there has been an active LOC open for five years. It is estimated that only 3,500 of almost 10,000 open

cases are eligible for the Five-Year Review. Like the Petition Process, it cannot address issues short of ultimate closure.

(3) Water Code Petitions can, in theory, be used to challenge decisions short of closure. However, Water Code Petitions are subject to numerous limitations and burdens. They cannot be used to challenge decisions of agencies other than the Regional Boards. They must be brought within 30 days of any action or failure to act by the Regional Board – a fact which is not known to most RPs or their consultants. This procedural hurdle, together with other detailed requirements of this process, means that these petitions are difficult to pursue without legal counsel, thereby making them expensive. Finally, Water Code Petitions typically take 6 months to a year to be resolved. The Task Force is unaware of any instance of Water Code Petitions being used to resolve disputes over UST cleanups.

(4) The SWRCB had not ever invoked its authority to issue closure letters under Health & Safety Code §25296.10(g) before issuing its resolution at the November 17, 2009 meeting. This authority has the potential to be an important oversight tool because it appears to allow the SWRCB to close any open case, even those overseen by agencies not a part of the LOP, and because it appears to allow a more informal process than the existing Petition Process.

The Task Force makes three recommendations regarding actions that SWRCB can take to promote the uniform application of its policies concerning the cleanup and closure of UST cases:

RECOMMENDATIONS

Closure of Cases by the Executive Director:

The Task Force recommends that the SWRCB delegate its authority to issue closure letters under Health & Safety Code §25296.10(g) to the Executive Director, and establish a procedure whereby any RP may request that the Executive Director issue a closure letter for its UST case. The process should be kept as informal as possible. However, in recognition of potential due-process concerns, the Task Force also recommends that the process be structured so that the Executive Director makes a *proposed* decision on whether or not to issue the requested closure letter and notifies all interested parties, including the implementing agency and the property owner (if different from the RP) of the proposed decision. Any of these parties should have the right to request a hearing or object to the proposed decision, in which case the matter would be referred to the full Board for decision.

The process should be structured so that the Executive Director would issue the proposed decision no later than 75 days after a request is received and if no request for hearing or objection is made within 30 days after issuance of the proposed decision, the proposed decision would become final. The SWRCB should ensure that the Executive Director is provided with adequate financial, staffing, and other resource commitments to allow this process to operate within the suggested time frame. The availability of this

process should be well publicized, including, without limitation, prominent placement of information about the program on the UST Program and UST Cleanup Fund webpages.

Such a process has several potential advantages over the existing Petition Process. Unlike the Petition Process, there is nothing in Health & Safety Code §25296.10(g) to prevent the SWRCB from simply closing a case overseen by a local agency not participating in the LOP. By delegating its authority to the Executive Director, the time and effort necessary to present a case to the full Board is eliminated in cases where there is no objection, thereby enabling quicker decisions. The process can be further streamlined by keeping it as informal as possible, consistent with due-process requirements.

Petition Process:

The Task Force recommends that the SWRCB take all available steps so that closure petitions may be presented to the Board, if necessary, no later than 120 days after submission. To that end, the Task Force recommends that the Board immediately direct the Division of Water Quality (DWQ) to analyze their appeals process and submit a report to the Board within 60 days identifying impediments to rapid processing.

In Task Force meetings, the DWQ has already advised the Task Force that a significant impediment to rapid processing of closure petitions is the inability to get the record from the implementing agencies. The Task Force strongly recommends to the SWRCB that it make adequate financial, staffing, and other resource commitments to the DWQ to allow it to process closure petitions so that they may be resolved or presented to the SWRCB no later than 120 days after submission.

Ombudsman Process:

The Task Force recommends that the SWRCB establish an ombudsman program specifically designed to provide an informal mechanism to resolve disputes regarding implementation of corrective-action requirements for releases from USTs short of closure.

The key elements of such a program are as follows:

(a) that sufficient staff, with requisite experience relevant to site investigation and remediation, be assigned to the program to ensure that any matter presented to the ombudsman shall be resolved within 45 days;

(b) that the ombudsman be authorized to address any matter short of the ultimate closure decision, whether arising from a matter overseen by a RWQCB or a local agency,

(c) that the program be informal;

(d) that the ombudsman meet with the RP, the RP's consultant, and the regulator;

(e) that the ombudsman be required to make a written decision on the matter presented for resolution, which decision can either delete, modify, or affirm the requirement in question;

(f) that the ombudsman's decision be based on applicable statutes, regulations, and policies **as interpreted by the SWRCB**, with the purpose of achieving the goals of the relevant authorities as quickly and cost-effectively as possible;

(g) that any implementing agency which does not follow the recommendation must provide the RP, DWQ staff, and, if the case has been determined to be eligible for Fund reimbursement, Fund staff, with a detailed explanation of why the implementing agency is not following the ombudsman's decision;

(h) that invoking the ombudsman process is not a necessary part of exhausting administrative remedies nor does it preclude the RP from using existing formal petition proceedings to contest agency requirements (i.e., that it is purely voluntary on that part of the RP);

(i) that in no event shall the ombudsman's decision be part of any administrative record on appeal;

(j) that the persons serving in the ombudsman capacity be a part of the DWQ; and

(k) that the program be well publicized, including, without limitation, prominent placement of information about the program on the UST Program and UST Cleanup Fund webpage. The Board, through resolution or other appropriate means, should express its strong policy direction that the recommendations of the ombudsman be followed by the implementing agencies.

The Task Force is aware that there is an existing ombudsman program within the SWRCB and the RWQCBs. With respect to the SWRCB's ombudsman, representatives of the Task Force have contacted the office of that ombudsman and been advised that this office does not have the resources or expertise to function in the capacity of resolving disputes over what steps are necessary to respond to petroleum releases. With respect to the ombudsmen in the Regional Boards, it is the view of the Task Force that, since one of the important goals for this ombudsman program is to unify the way the relevant closure authorities are implemented, the persons serving as ombudsmen should be SWRCB (and preferably DWQ) employees.

The Task Force recognizes that the ombudsman's decision cannot be binding unless the program is created by regulation. However, the Task Force also recognizes that formalizing the program through regulation will also have the effect of increasing the procedural requirements for the program, thereby likely increasing the amount of time the process will take and its cost both to the SWRCB and to the regulated party. On the other hand, regulated parties are unlikely to use the program if there is a perception that the local agency can ignore the ombudsman's decision without consequence.

The Task Force believes that the best way to resolve these competing concerns is to keep the program informal but to include program elements that will encourage the implementing agencies to accept the ombudsman's decision. The Task Force's recommendation includes several elements to provide such encouragement.

DESIRED IMPACT

The Task Force hopes that, by accelerating the Petition Process and creating a streamlined process for the Executive Director to consider requests for closure, more cases can be closed sooner, consistent with statutory requirements and SWRCB policy. This will reduce demands on the Fund and will save money for RPs. This will also give the SWRCB the opportunity to exert greater oversight and control of the cleanup program.

In the case of the proposed ombudsman program, it is hoped that there will be several benefits to providing a mechanism for RPs to get an opinion from DWQ staff regarding implementation of corrective action short of closure. First, RPs may be able to avoid investigative, monitoring, or remedial requirements that are unnecessary to achieve closure requirements as interpreted by the SWRCB, thereby saving time and money, and decreasing the demands on the Fund. Second, it is hoped that the decisions of the ombudsman will provide feedback to the implementing agencies on best practices to move cases toward closure in a unified, efficient, and cost-effective manner, thus benefiting cases that do not invoke the ombudsman program.

Finally, it is hoped that implementation of these three recommendations will promote uniformity of decision making, thereby reducing the possibility that cleanup standards applied in low-income and minority communities will be less stringent than those applied in more affluent communities. It will also provide increased feedback to DWQ and the SWRCB to identify where implementation problems exist so that further efforts can be directed to addressing those specific program problems.

UST Cleanup Program Task Force Recommendation
January 2010

REVISE ARTICLE 11:

Revise Article 11 to provide for a scientifically sound, consistent and focused corrective action process that adequately protects water quality and human health in a manner that makes most efficient use of the resources of the Cleanup Fund and other responsible parties.

Approved by Vote on December 1, 2009:

Task Force Contact Person(s):
Dawn Zemo
Zemo & Associates
775-831-6179
dazemo@zemoassociates.com

Robert Schultz
AMEC Geomatrix, Inc.
510-663-4100
robert.schultz@amec.com.

TITLE: REVISE ARTICLE 11

ISSUE

The Corrective Action regulations, set forth in California Code of Regulations, Title 23, Division 3, Chapter 16, Article 11, provide the legal requirements for investigation and remediation of unauthorized releases of petroleum hydrocarbons from underground storage tanks. These regulations, however, do not provide sufficient guidance to responsible parties and regulatory agencies to promote cost-effective site characterization, remediation, and closure. This is evidenced by the inconsistent application of Article 11 within and among the various regulatory agencies tasked with applying these regulations, in addition to the significant backlog of sites that have become mired in the corrective-action stage rather than steered efficiently toward closure. The regulations also fail to incorporate the vast technical knowledge that has been gained since the late 1980s regarding the release of petroleum hydrocarbons from underground storage tank systems. This knowledge includes the fate and migration of petroleum hydrocarbons in the environment and the risks such releases pose to the waters of the State and to human health.

It is our opinion that the regulations must be revised to incorporate this knowledge and to prescribe a consistent Corrective Action process that results in adequate protection of human health and the environment in a manner that is cost-effective and makes most efficient use of the resources of the Tank Fund and other responsible parties.

RECOMMENDATION

The Task Force urges the SWRCB to direct its staff, in consultation with stakeholders, to prepare revised Article 11 regulations for adoption. To assist in this process, the Task Force has prepared language that could be incorporated into a Statement of Reasons covering topics considered to be fundamental, as well as a proposed Table of Contents which includes specific recommendations for the new Article 11 regulations. These proposals are enclosed for your consideration, and show the Task Force's intentions regarding topics to be covered in the revision rather than exact language to be adopted by staff.

DESIRED IMPACT

A revised Article 11 will provide for a scientifically sound, consistent, and focused Corrective-Action process that results in adequate protection of the waters of the State and of human health in a manner that is cost-effective and makes the most efficient use of the resources of the Tank Fund and other responsible parties. A revised Article 11 will provide a clear, streamlined process for site assessment, remediation, and closure that will be applied to all geographic and socioeconomic areas of the State.

Attachments: Topics for Statement of Reasons; Proposed Table of Contents (annotated)

TOPICS FOR THE STATEMENT OF REASONS FOR NEW ARTICLE 11

Proposed new Article 11 incorporates the technical knowledge that we have gained since the late 1980s regarding releases of petroleum fuels from UST systems. This knowledge includes the fate and migration of petroleum in the environment, the risk it poses to the waters of the State, and the risk it poses to human health. The need for up-to-date and consistent corrective action is evidenced by the status of site closures across the State, and by the effects on the Tank Fund.

1. Petroleum hydrocarbons naturally biodegrade in soil, soil vapor, groundwater, and surface water under both aerobic and anaerobic conditions. The ether fuel oxygenates (e.g., MTBE) also biodegrade naturally, although at a slower rate than the petroleum hydrocarbons or the alcohol oxygenates (e.g., ethanol [ETOH]).
2. Soil-vapor intrusion appears to be a concern only when free-phase light non-aqueous-phase liquid (LNAPL) is present in close proximity to the building, and not from residual petroleum in the soil or the dissolved-phase groundwater plume.
3. Dissolved-phase petroleum hydrocarbon plumes naturally attenuate within a few hundred feet of the source area laterally and within tens of feet vertically. The presence of ETOH-blended gasoline may cause the dissolved benzene plume to be up to approximately 40% to 70% longer. Constituents that are less biodegradable (e.g., MTBE) also naturally attenuate, but the plume extent can be larger.
4. Releases of petroleum have similar environmental impacts in similar hydrogeologic settings, irrespective of the site location within the State. The environmental fate of releases into sedimentary deposits of clay, silt, sand, or gravel can be reliably predicted; however, the fate of releases into fractured rock cannot be predicted.
5. The volume of petroleum-impacted groundwater is usually very small and is usually limited to the shallowest groundwater.
6. The groundwater impacted by petroleum is typically not a current source of drinking water, and is frequently also impacted by anthropogenic sources such as septic tanks and sewer lines.
7. The risk posed to human health by petroleum is driven primarily by n-hexane, benzene, toluene, ethylbenzene, total xylenes, the alkylated benzenes, naphthalenes and, for diesel and heavier fuel-oil releases, the other polycyclic aromatic hydrocarbons (PAHs). These compounds (except for the high molecular weight PAHs) are naturally biodegraded relatively quickly in the environment.
8. As petroleum weathers in the subsurface, the residual petroleum becomes significantly less toxic to humans and significantly less soluble than a fresh release.

9. There is no evidence that the byproducts of petroleum biodegradation are more toxic to humans than the petroleum precursors; these byproducts also naturally attenuate in oxygenated groundwater and surface water.
10. Because it does not identify the actual components of the petroleum, and because the components within the residual petroleum change over time due to weathering, the use of bulk TPH; (as quantified by the United States Environmental Protection Agency [USEPA] Methods 8015 or 8260) as an analyte or a cleanup criterion has resulted in significant expenditures that are not correlated with a significant reduction in risk or the protection of significant volumes of groundwater.
11. Many states have adopted RBDM for their petroleum/LUFT/UST programs to appropriately target limited financial resources while protecting human health and the environment.
12. RBDM at petroleum release sites in California will save time and significantly reduce costs while adequately protecting human health, safety, and the environment.
13. RBDM will leave petroleum in soil and groundwater at sites, but at concentrations that are low risk. Because site data are publicly available on Geotracker, any proposed change in land use will evaluate whether the risk level from the residual petroleum will be changed by the change in land use. The beneficial use of groundwater that contains petroleum will be restored within the time frame of probable beneficial use due to continued natural attenuation. This condition is consistent with the intent of SWRCB Resolutions 68-16, 88-63, and 92-49.
14. Individual agencies across the State have implemented their own disparate "guidelines" for the assessment of petroleum release sites, including the issuance of "screening levels" for groundwater, soil, and soil vapor that are being used as *de facto* cleanup levels. This has resulted in an inconsistent application of Article 11. Prescriptive requirements appear to be necessary in the revised Article 11 to enforce consistency across the State and cost-effective Corrective Action.
15. The sunset date for the UST Cleanup Fund has been extended twice by the Legislature; however, it is doubtful whether all eligible claims will be funded prior to the new sunset date of January 1, 2016. Several thousand claims, including many that were filed in 1992, still have not been funded because all available funds have been spent on higher priority claims.
16. The average case age for funded claims in the UST Cleanup Fund is sixteen (16) years. This is an indication that, despite adequate public funding, cases are not being assessed, remediated, and closed in an efficient manner.
17. As of October 2009, the UST Cleanup Fund's "Five-Year Review" section has completed approximately 3,200 case reviews of about 10,000 individual sites. This independent, statewide case review has documented case management inconsistencies from region

to region, as well as inconsistent adherence to the existing Article 11 Corrective-Action Requirements. In approximately 50% of the cases reviewed, the Five-Year Review has recommended additional corrective action that was not already being performed; in another 25% of the cases, the sites were recommended for closure evaluation. In only the remaining 25% of the cases did the Five-Year Review concur with the corrective actions currently being performed.

PROPOSED TABLE OF CONTENTS FOR REVISED ARTICLE 11 (ANNOTATED FOR KEY ISSUES, NOT INTENDED TO BE COMPLETE)

1. Definitions (include these, among others)
    a. Source
    b. Pathway
    c. Receptor
    d. Define "Low-Risk" Criteria (including concentrations) for different classes of sites (all assume sedimentary depositional setting)
        i. Low-risk site is where: Staff should develop a system of tiered "low-risk" concentration thresholds for BTEX and MTBE in groundwater that is tiered based on the distance between the site and the closest drinking-water well. Results from multiple plume studies, all of which show that plumes from UST releases are naturally limited in lateral extent to less than 500 feet for benzene and about 1000 feet for MTBE, should be used to develop these concentrations and distances. Consideration should also be given to the current use and likely near-term use of the impacted groundwater versus the groundwater zone screened by the drinking-water well.
        ii. Low-risk site is where: (staff to determine other low-risk criteria)
        iii. Low risk site is where: soil and soil vapor concentrations are below Tier 1 levels or site-specific levels (e.g., 10-6 or 10-5)
        iv. Plume concentrations are stable or decreasing: stability requires a minimum of 4 events; statistical evaluation is not required
        v. Plume is not in an active managed groundwater recharge area (e.g., recharge should not create a water table mound at the site)
        vi. Product is not migrating
    e. Define *free produc*t as: product thickness of greater than 0.01 foot that will move toward a well or trench under the influence of gravity
    f. Define "remove free product to the extent practicable"; see Section 2655 for primary focus of product removal—to "abate migration."
    g. Define *biodegradation*: aerobic, anaerobic, include statement re. "Biodegradation is presumed to be occurring at petroleum release sites; biodegradation is most rapid in dissolved and vapor phases and is slowest in the source area where residual LNAPL is present."
    h. Discrete Constituents: BTEX, alkylbenzenes, naphthalenes, PAHs, n-hexane, MTBE, TBA, DIPE, ETBE, ETOH, EDB, EDC (see LUFT Manual)
    i. "TPH": total petroleum hydrocarbons measurement that captures the hydrocarbons that are not the discrete constituents. The LUFT program will use a fractionated TPH analysis: VPH (C5 to C8 aliphatics, etc., list fractions, see LUFT Manual) and EPH (list fractions, see LUFT Manual). VPH is to be used for gasoline releases and EPH is to be used for jet fuel,

diesel and fuel oil releases. Method 8015 or 8260 TPH is not to be used unless it is for site-specific screening purposes.

2. General Application of Article – Include statement re: RBDM will leave petroleum in soil and groundwater at sites, but at concentrations that are low risk. The beneficial use of groundwater that contains petroleum will be restored within the time frame of probable beneficial use due to continued natural attenuation. This condition is consistent with the intent of SWRCB Resolutions 68-16, 88-63, and 92-49.
3. What criteria require a site to enter the corrective action process?
    i. Release of significant volume of product is evidenced by inventory records or is observed to have occurred
4. Scope of Corrective Action
    a. Abate conditions of immediate danger to life and health
    b. Develop Conceptual Site Model (CSM)
    c. Site Assessment
    d. Risk Assessment
    e. Refine CSM and Identify "Risk" Status
    f. Identify media to be remediated and required cleanup concentrations
    g. Develop Remediation Plan (if needed)
    h. Implement remediation
    i. Verification monitoring
    j. Closure criteria
    k. Public Participation
5. Abate Conditions of Immediate Danger to Life and Health
    a. Additional detail to be filled in here
6. Develop Conceptual Site Model
    a. Preliminary CSM – (little to no concentration data yet available): basic info, site setting (review data for sites within 1 mile radius), distance to closest supply well, groundwater depth and use, distance to closest surface water, sources, pathways, receptors
    b. Determine relative risk profile
    c. Refine the CSM as investigation proceeds
7. Site Assessment
    a. Use CSM as a template
    b. Locations/media to be investigated and number of samples based on CSM
    c. Define lateral and vertical extent of Free Product and COCs
        i. Investigate extent based on discrete constituents; TPH data can be collected, but is not required for evaluation of extent and is secondary. Fractionated TPH will be used for risk assessment in areas near the source.
        ii. "Extent" will be defined by MCLs (or higher, based on site-specific conditions) for groundwater (discrete constituents), and Tier 1 levels for soil and soil vapor.

iii. Soil vapor sampling is not required when benzene is 1000 ppb or less in the groundwater and 5 feet of clean soil is present between the source and the bottom of the building (see LUFT Manual)
iv. Extent of mobile free product is defined by recovery testing at wells/trenches.

d. Expedited site assessments preferred
e. Install monitoring well network as applicable
    i. GW – monitor near source, lateral extent, and at one vertical extent; quarterly sampling for discrete constituents, not TPH; evaluate plume stability after 4 events
    ii. Soil vapor – routine monitoring for discrete constituents, not TPH
f. Investigation of a release shall be considered complete when it is unlikely that further analysis will result in a significant change to the CSM. A significant change to the CSM is defined as a change that results in a previously unrecognized threat to human health or safety and the environment or revision of the conceptual understanding of the fate and transport of fuel compounds in soil, soil vapor, or groundwater. No sampling shall be required by a Water Board or LOP unless the sampling is necessary to either: (1) evaluate the threat posed to human health or ecological receptors, (2) determine if soil, soil vapor, or groundwater contamination is stable, migrating, or attenuating, or (3) is necessary to provide data for remedial system design.

8. Risk Assessment
    a. Identify sensitive receptors, including water supply wells
    b. Identify complete exposure pathways
    c. Use 95% UCL concentration or maximum, whichever is lower, for exposure concentration
    d. Assess risk via Tier 1 comparison or use site-specific calculations ; assess risk posed by discrete constituents and fractionated TPH
    e. For risk calculations, do not assume impacted GW is drinking water unless it is currently the supply aquifer
    f. Time frame for probable use of impacted groundwater?
9. Refine CSM and Identify “Risk” Status
    a. If site is low-risk (meets criteria defined above), ask for closure
    b. If site is not low risk, proceed to 10
10. Identify Media to be Remediated and Develop Cleanup Levels
    a. Use results from risk assessment or hydro models to develop cleanup levels
11. Develop Remedial Action Plan (RAP), if necessary
    a. Objectives – reduce risk to human health and water quality to acceptable levels
    b. How much free product removal is necessary?
        i. Removal to protect health and safety

ii. Removal so that free product is no longer migrating
iii. "Extent practicable" is defined as: If free product is left in place, items i and ii must be satisfied.

c. Evaluate (how many?) technologies, including no action

12. Implement Remediation
    a. Install remedy
    b. Monitor remedy
    c. Assess progress and technological limitations
    d. Reach goals or find technical impracticability; evaluate an additional remedy if risk is still too high
13. Verification Monitoring
    a. How long is verification period? 4 quarters for groundwater, ?? for soil vapor
    b. Samples are required for constituents and medium that posed risk
14. Closure Criteria
    a. Site presents no significant human health risk under the current or reasonably foreseeable land use scenarios (possibly: 10-6 risk for single-family residential, or 10-5 risk for all others, etc.; remember that sources are relatively small and will continue to biodegrade)
    b. Site presents no significant risk to ecological receptors or to surface water
    c. Concentrations in plume are stable or decreasing
    d. No significant rebound after active remediation
    e. Free product is removed to the extent practicable
    f. Remaining contaminants in groundwater meet the "low-risk" criteria defined above
    g. Remaining contaminants in soil and groundwater will continue to naturally attenuate (presume natural attenuation at fuel release sites) and restore beneficial use of impacted groundwater within a reasonable time period, before the resource is needed.
    h. Assessment of the reasonable time period for achieving water-quality objectives at a LUFT site shall be performed on a site-specific basis, considering: (1) the hydrogeologic conditions of the site, and (2) projected changes to groundwater use beneath the site. The Water Boards shall compile and maintain up-to-date, on an annual basis, all likely and reasonably foreseeable future changes in groundwater use for each groundwater basin and sub-basin identified in DWR Bulletin 118, prior to review of a LUFT case by the Water Board or an LOP. The Water Board shall solicit input from the applicable groundwater management agencies and apply its own judgment to determine the potential and likelihood for future use of groundwater at various depths as a source of drinking water, and shall compile a complete list of likely future changes in groundwater use for each basin and subbasin for: (1) the subsequent 5 years, (2) the subsequent 10 years, and (3) the subsequent 30 years.

This list shall be maintained current on the Water Board's web site, and shall be the sole source of water use information considered by a Water Board and/or LOP when determining the reasonable time frame for achieving water-quality objectives for a LUFT case.

i. Prior to issuing the closure letter, all wells must be properly destroyed and a closure form filled out (to be uploaded to Geotracker); with map and table showing remaining concentrations in soil and groundwater at time of closure, assumptions regarding land use for risk assessment; recommendations for soil management plan (for use during property redevelopment); etc.

15. Appeals process
    a. Additional detail to be filled in here
16. Public Participation
    a. Required at RAP and Closure stages of project
    b. Notifications to parcels impacted by or adjacent to plume

UST Cleanup Program Task Force Recommendation
January 2010

REMOVE FINANCIAL DISINCENTIVES TO SITE CLOSURE:

Remove financial incentives to keep cases open and incentivize efficient and cost-effective closure of LUFT sites.

Approved by Vote on December 16, 2009:

Task Force Contact Person(s):
Robert Schultz
AMEC Geomatrix, Inc.
510-663-4100
robert.schultz@amec.com.

TITLE: REMOVE FINANCIAL DISINCENTIVES TO SITE CLOSURE

ISSUE

Under the current system, there is financial incentive for consultants and perceived financial incentive for regulatory agencies to keep LUFT cases open. In addition, the current UST Cleanup Fund Program provides no intrinsic financial incentive for RPs to efficiently close sites. The Task Force recognizes that this paradox is a fundamental impediment to rapid and cost-effective cleanup of LUFT sites.

EXAMPLES

- Consultants are paid only while cases remain open; their revenue stops when a site is closed (the pay-for-performance approach has not been widely used).
- If there is a perception at an agency that its funding is related to open cases, an agency may keep cases open unnecessarily.
- Currently, RPs are liable only for a deductible amounting to less than 1% for the first $1.5 MM of cleanup funding, and this amount is paid upon entry to the Fund with no additional costs over time.

RECOMMENDATION

Modify the existing program to incentivize RPs, their consultants, and regulatory agencies to encourage cooperation and rapid cleanup and case closure. Correct the paradox where inefficiency or inaction is incentivized. Restructure funding of regulatory oversight and reimbursement of LUFT cases to provide incentives for reduction in the time period to case closure and the per-site life-cycle costs, while protecting human health and the environment. It is important that the restructured program not penalize RPs, consultants, or agencies for the recalcitrance or inappropriate acts of the other party/parties. The Task Force recognizes that this recommendation may require legislation, and the Task Force supports that effort.

UST Cleanup Program Task Force Recommendation
January 2010

IMPROVE TECHNICAL ABILITIES, TRANSPARENCY AND COMMUNICATION AMONG ALL UST PROGRAM STAKEHOLDERS

Effect a cultural change in the State's LUFT program by providing increased training, education and expert assistance; establishing new operational standards and guidelines; and creating new performance evaluation and case-progress metrics.

Approved by Vote on December 16, 2009:

Task Force Contact Person(s):
Rose Coughlin
Focused Resources
818-261-1507
racough@pacbell.net

Howard Whitney
Remediation Testing and Design
831-458-1612
rtdinc@aol.com

Peter Niemiec
The Law Office of Peter Niemiec
310-546-7147
peter@peterniemiec.com

Louis Mosconi
ConocoPhillips
714-428-7621
moscols@conocophillips.com

TITLE: IMPROVE TECHNICAL ABILITIES, TRANSPARENCY, AND COMMUNICATION AMONG ALL UST CLEANUP PROGRAM STAKEHOLDERS

SUMMARY

Inconsistent technical abilities, transparency, and communication among all UST Cleanup Program Stakeholders prevents achievement of state-wide efficiency, consistency, and accountability. The Task Force hopes that, by implementing Program Evaluation and Reporting; Continued Training and Education; and Operational Guidelines, the SWRCB will improve the technical and professional performance of the UST Cleanup Program, ensure equitable outcomes statewide, and reduce corrective-action costs.

ISSUE

The Task Force finds that the SWRCB could improve the functioning of the UST Cleanup Program through a number of management initiatives. First, there are many factors that can lead to a disconnect between RPs, consultants, and regulatory agencies. These factors can result in loss of momentum in a LUFT cleanup project which, in turn, results in increased plume migration and increased costs of corrective action to the Cleanup Fund (CUF). However, the Task Force believes that insufficient training and expertise of the consultants and persons at the regulatory agencies overseeing the cleanups, as well as insufficient operating guidelines, substantially contribute to inconsistent approaches to LUFT cleanups which, in turn, increase the cost and financial burden to the CUF.

In addition, the Task Force finds that the SWRCB has only the most general data regarding how effectively the various implementing agencies manage the cleanup process. This lack of information is an impediment to the identification of best practices *vs.* those program elements or implementing agencies in need of improvement.

RECOMMENDATION

The SWRCB should take steps to improve the training and expertise of agency personnel, RPs, and consultants; clarify operational guidelines; and conduct a rigorous evaluation of the cleanup program. The SWRCB should implement the following recommendations, but should also consider additional steps, as necessary, to achieve these objectives.

Training/Expertise:

1. Implement continuing education and training, and encourage annual attendance, for agency personnel, RPs, and consultants.
2. Institute a technical mentor program for SWRCB, RWQCB, LOP, and LIA UST Cleanup Program oversight staff.
3. Enhance the ability of, and encourage staff members at implementing agencies to share Best Practices and Lessons Learned (perhaps through establishment of a wiki).
4. Develop a peer-review process to be implemented at significant project milestones. Cost to be reimbursable by the CUF.

Operational Guidelines:

1. Establish policies for implementing agencies to standardize regulator case loads, and specify a 60-day maximum response time on communication with RPs, especially pertaining to work plans.
2. UST Cleanup Program staff should update and revise a Cost Guideline document.
3. Mandate submission of combined work plan and project cost estimates to the oversight agencies and CUF for a combined review and approval of both scope and cost.
4. Emphasize goals instead of process; require early identification of clear and achievable goals, milestones, and cost-feasible expectations and time frames.
5. Require regular meetings between RPs and regulatory agencies (either in person or by conference call) to review and evaluate performance and the impediments to site closure.

Program Evaluation/Metrics:

1. Conduct a formal program evaluation (both process and outcome) of the UST cleanup program. This should include an evaluation of each of the implementing agencies against a set of key performance indicators, including time to closure, agency resources devoted to closure, and consistency with policies and guidelines. The design of the study should be undertaken with the assistance of professionals trained in program evaluation. The results of the evaluation should be made public.
2. Develop metrics for each implementing agency to use in evaluation of its staff.
3. Upgrade tracking and reporting of key performance indicators that can be used to evaluate implementing agencies, and make these indicators publicly available, preferably through Geotracker.
4. Develop metrics by which consultants can be evaluated, and make the results available to the public.
5. Establish a process for stakeholders to bring grievances for poor performance.

DESIRED IMPACT

The Task Force hopes that, by implementing Program Evaluation and Reporting; Continued Training and Education; and Operational Guidelines, the SWRCB will improve the technical and professional performance of the UST Cleanup Program, ensure equitable outcomes across the State, and reduce corrective-action costs.

ATTACHMENT A
TASK FORCE MEMBERS

UST Cleanup Program Task Force Members
January 13, 2010

Task Force Member Name	Affiliation	Email	Phone
Dave Arrieta	Western States Petroleum Association	dnarrieta@aol.com	916-606-0568
Ravi Arulanantham	AMEC Geomatrix, Inc	ravi.arulanantham@amec.com	510-663-4130
Gary D Barker	Horizon Environmental Inc.	gbarker@horizonenvironmental.net	916-939-2170
Mike Bonkowski	Bonkowski and Associates	mike@bonkowski.com	510-450-0770 ext 16
Damon Brown	Stantec Consulting Corporation	damon.brown@stantec.com	916-384-0718
Ron Chinn	Closure Solutions, Inc.	rchinn@closuresolutions.com	925-429-5555
George Cook	Santa Clara Valley Water District	gcook@valleywater.org	408-265-2607 ext 2964
Rose Coughlin	Focused Resources	racough@pacbell.net	818-261-1507
Cheryl Dizon	Zone 7 Water Agency	cdizon@zone7water.com	925-454-5000
Ken Frank	Chevron Corporation	kenfrank@chevron.com	925-543-1754
Jennifer Hartman King	Downey I Brand	jhking@downeybrand.com	916-520-5371
Craig Johns	PSSEP/CMTA	cjohns@calrestrats.com	916-498-3326
Ray Kablanow	Geological Technics Inc	rayk@gtienv.com	209-522-4119
Christa G. Marting	ETIC Engineering, Inc.	cmarting@eticeng.com	925-602-4710 ext 13
Louis Mosconi	ConocoPhillips	moscols@conocophillips.com	714-428-7621
Brian Newman	Regional Board - 5	bnewman@waterboards.ca.gov	916-464-4834
Peter Niemiec	The Law Office of Peter Niemiec	peter@peterniemiec.com	310-546-7147
Gerald O'Regan	Santa Clara County Depart of Enviro Health	gerald.o'regan@deh.sccgov.org	408-918-1974
Reed Reinhart	Rinehart Oil	rrinehart@rinehartoil.com	707-462-8811
John Ryan	George Figone Exemption Trust	dijoryan@mac.com	408-203-5178
Robert W. Schultz	AMEC Geomatrix, Inc	robert.schultz@amec.com	510-663-4100
Curt Stanley	Shell Global Solutions	curtis.stanley@shell.com	281-380-7402
Howard Whitney	Remediation Testing and Design	rtdinc@aol.com	831-458-1612
Shay Wideman	Valero Energy	shay.wideman@valero.com	210-345-4663
Ken Williams	Regional Board - 8	kwilliams@waterboards.ca.gov	951-782-4496
Dawn Zemo	Zemo & Associates	dazemo@zemoassociates.com	775-831-6179
Dick Zipp	RJZ Assoc	close_sites_now@yahoo.com	916-434-6482

ATTACHMENT B

CALIFORNIA INDEPENDENT UST CASE CLOSURE STUDY:

A QUANTIFICATION OF CASES POTENTIALLY CLOSABLE UNDER LOW-RISK CRITERIA