

Superfund and Natural Resource Damages Litigation Committee Newsletter

Vol. 3, No. 1

March 2006

MESSAGE FROM THE CO-CHAIRS

**Nancy B. Berenson
Ira M. Gottlieb**

Co-Chairs, Superfund and Natural Resource Damages Litigation Committee

As a committee we continue to follow significant developments in Superfund and NRD litigation. We now practice in the post-*Aviall* world. Federal district courts in several jurisdictions have handed down decisions permitting direct private party claims under CERCLA Section 107(a), while other courts have gone in the opposite direction. U.S. EPA and several state agencies have modified their model Consent Decrees, or similar settlement documents, to indicate that they are memorializing administratively approved settlements so as to possibly facilitate private party contribution claims.

On the NRD front, federal trustees and tribes are pursuing NRD claims in the Pacific Northwest and elsewhere. New Jersey remains a hotbed of NRD activity, including the state's filing of lawsuits using private outside attorneys and the initiation of litigation concerning the Passaic River that raises questions concerning overlapping state and federal jurisdiction as well as other significant Superfund and NRD issues. Several states have expressed that they are watching with interest events in New Jersey and may become more active on NRD in the near future.

The committee's vice chair for *The Year in Review* has prepared a comprehensive report summarizing significant federal administrative and judicial developments concerning NRD and Superfund in 2005 that will appear in the near future in the Section on Environment, Energy and Resources' Year in Review. For those involved in NRD and Superfund litigation, this is a valuable resource.

We encourage all of the Superfund and Natural Resource Damage Litigation Committee members to become active participants in the committee and heartily welcome your ideas, input and involvement. If you are a member of the committee and would like to become more involved, or if you are not a member and would like to join, please contact either Nancy Berenson at nancy.berenson@arkemagroup.com or Ira Gottlieb at igottlieb@mccarter.com.

ABA Section of Environment, Energy, and Resources

**14th Section Fall Meeting
Oct. 4-8, 2006
San Diego, California**

PLAN TO ATTEND!

***For more information, see the Section
Web site at www.abanet.org/environ or
contact the Section at (312) 988-5724.***

Superfund and Natural Resource Damages Litigation Committee Newsletter
Vol. 3, No. 1, March 2006
Derrick Watson, Editor

In this issue:

Message from the Co-Chairs
Nancy B. Berenson and Ira M. Gottlieb..... 1

Vapor Intrusion: Breaking through the Roadblocks to Progress
Frederick T. Stanin, P.G., C.H.G., C.E.G. 2

DNAPL Sites—The Technical and Legal Challenges
Gary E. Hokkanen 12

Summary Chart: 2005 Post-Cooper Industries v. Aviall Decisions
John Epperson..... 16

Local Officials Now Allowed to Participate in Development and Selection of Superfund Remedy
Steven G. Jones and Deborah K. Espinosa 17

Summary Chart: 2006 Major Federal Release Reporting Requirements
Farella Braun + Martel LLP..... 23

© 2006. American Bar Association. All rights reserved. The views expressed herein have not been approved by the ABA House of Delegates or the Board of Governors and, accordingly should not be construed as representing the policy of the ABA.

This newsletter is a publication of the ABA Section of Environment, Energy, and Resources, and reports on the activities of the committee. All persons interested in joining the Section or one of its committees should contact the Section of Environment, Energy, and Resources, American Bar Association, 321 N. Clark St., Chicago, IL 60610.



**VAPOR INTRUSION:
BREAKING THROUGH THE
ROADBLOCKS TO PROGRESS**

Frederick T. Stanin, P.G., C.H.G., C.E.G.
Malcolm Pirnie, Inc.
Emeryville, California
fstanin@pirnie.com

Overview

“Vapor Intrusion” is a term describing the migration of vapors into a building from the subsurface originating from contaminated groundwater or soil above the water table. It has emerged at the forefront of today’s environmental regulatory community and is an increasingly common component of litigation, property transaction and property redevelopment issues at Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and other sites. Even though vapor intrusion has been a concern for many years with respect to radon and methane, the awareness of potential health risks from volatile organic compound (VOC) vapors that are toxic to humans (e.g., dry cleaning and industrial solvents) migrating into buildings is a more recent development. VOCs commonly associated with vapor intrusion include hazardous substances frequently found at CERCLA National Priorities List (NPL) and non-NPL sites such as trichloroethylene (TCE), tetrachloroethylene (PCE), vinyl chloride and carbon tetrachloride. These are VOCs listed in the top 50 of the 2005 CERCLA Priority List of Hazardous Substances, a list that represents the most commonly found hazardous substances at NPL facilities, which are determined to pose the most significant potential threat to human health.

Assessments of the past and potential future occurrence of vapor intrusion, both at developed and undeveloped sites, are already considered by many regulators as necessary to a complete characterization of a site and therefore required for substantial consistency with the National Contingency Plan (NCP), a prerequisite to success in recovery of response costs under CERCLA. This development is not only causing concern from the potentially exposed

public, but also from environmental site managers, scientists and engineers, regulators, property owners, developers, real estate professionals and attorneys. The sometimes sudden emergence of the vapor intrusion issue to the environmental assessment process for a contaminated property, especially where the “finish line” has either been crossed or is in sight, is causing disruption, delays or worse.

This article explores some of the more important and interesting aspects of vapor intrusion, particularly with respect to regulatory and legal issues and property redevelopment. Public awareness issues are also addressed with points of view added from various activist groups, including the Center for Public Environmental Oversight—likely the most active such group addressing vapor intrusion issues today—and the Brownfields Internet Forum. Finally, a prudent strategy for managing vapor intrusion is outlined.

Where Vapor Intrusion Is a Potential Issue

Vapor intrusion is a potential concern anywhere soil or groundwater, contaminated by VOCs that are toxic to human health, is near existing buildings or where buildings will be constructed. The most common scenarios are:

- Areas of your property where VOCs have been released into the underlying soil.
- Areas of your property where VOCs are in groundwater beneath your property, either as a result of releases on your property, or migration from another property in groundwater.
- Other properties to where releases on your property have migrated in groundwater.
- Other properties to where VOCs in groundwater have yet to migrate from your property, but have been determined to likely become impacted in the future unless mitigated.

Why Vapor Intrusion Is a Potential Roadblock

The vapor intrusion issue can appear suddenly, creating a roadblock to progress. Described below are four

potential scenarios applicable to CERCLA and non-CERCLA sites.

The Emergence of the Vapor Intrusion Issue During the RI/FS Stage

This is a scenario where environmental investigations have been underway for some time, perhaps even a decade or more, milestones have been achieved with regulatory approvals (*e.g.*, an approved remedial investigation (RI)), but during the subsequent feasibility study (FS)/remedy selection process, a vapor intrusion assessment suddenly becomes required because the potential impacts to building occupants from breathing contaminated air were never assessed. The result might be additional requirements for site characterization, a reopening of the RI, and a revision of the FS.

The CERCLA Five-Year Review

This scenario describes a CERCLA site where a final remedy is operating, but during a performance review (*e.g.*, CERCLA Five-Year Review), it is determined that the vapor intrusion pathway requires assessment. Again, additional site characterization and reopening the RI could result, followed by a revised FS, remedy selection and approval process. CERCLA requires that Records of Decision (RODs) be reviewed every five years to evaluate performance and the protectiveness of the remedy. These reviews open the gates to new information—consideration of new site data, new toxicological information, changes in performance of the remedy and/or changes in the applicable laws—which may lead to a vapor intrusion assessment.

The Middlefield-Ellis-Whisman (MEW) Superfund site in Mountain View, California, was one of the first sites in the United States where the U.S. Environmental Protection Agency (U.S. EPA) ordered such a vapor intrusion assessment as part of a Five-Year Review (Mountain View is located in “Silicon Valley”, the region just south of San Francisco that is noted for its concentration of high-technology industries). For many years, a plume of TCE and other VOCs in groundwater had been investigated, followed by the

approval of a remedy and the issuance of a ROD in 1989. Evaluation of the recently conducted vapor intrusion assessment continues today with intense public and regulatory scrutiny bringing into question the protectiveness of the remedy.

The Site with a No Further Action Letter: Can/Will Closed Sites Be Reopened?

This scenario describes a site which has been “closed” by a regulatory agency via a “No Further Action” letter or other similar instrument, but where vapor intrusion was never assessed and, for what ever reason, has been brought to the attention of regulators or the public, and the site is “re-opened.” The No Further Action determination may only apply to exposure pathways addressed in previous work and not to the vapor intrusion pathway.

Ken Kamlet, the director of legal affairs for the Newman Development Group LLC, a commercial property developer near Binghamton, New York, expressed concern regarding the possibility of site re-openings particularly in the context of property redevelopment: “There is a potential negative impact where volunteer developers do everything they are supposed to do, finish remediation and receive liability releases... and then two, five, or 10 years later DEC or DOH comes back saying vapor intrusion is a bigger concern, and now you need to jump through new hoops, at additional expense” (Environmental Due Diligence Guide, p. 91, Dec. 16, 2004).

Based on a recent state policy statement, previously “closed” sites are now subject to being revisited and potentially re-opened. In New York State, for example, all sites with remedial decisions made prior to Jan. 1, 2003 will be prioritized for reassessment. The New York State Department of Environmental Conservation (DEC) issued a draft Policy Program ominously entitled *Evaluating the Potential for Vapor Intrusion at Past, Current and Future Sites*, dated March 8, 2005. This policy statement “describe[s] the approach to be used by the Division of Environmental Remediation (DER) for weighing the need to investigate the vapor intrusion pathway at sites where remedial decisions have already been made and prioritizing those sites for subsequent action.”

The reaction to this draft Policy Program was predictably swift, critical and full of apprehension. The Environmental Law Section of the New York State Bar Association submitted comments coincident with the issuance of the draft Policy Program, including the statement that “[c]onsidering the uncertainty relating to the standards applicable to vapor intrusion impacts, vapor intrusion should first be evaluated at sites that are currently within the investigation/remedial design phase of a cleanup” and “[t]he implementation of the vapor intrusion policy on legacy sites should occur only after accepted evaluative tools, standards, and mitigation strategies have been developed at sites currently under investigation.”

The New York Bar also questioned the legality of re-opening sites: “[v]oluntary cleanups under the Brownfield Cleanup Program and Voluntary Cleanup Program cannot be re-opened unless, among other things, there is a showing that the original environmental remedy is no longer protective of public health or the environment.” The negative consequences of re-opening sites were anticipated: “[p]ost-closure re-investigation by the Department for vapor intrusion can be counter-productive to the investigation, cleanup and redevelopment of contaminated sites under the Brownfield Cleanup Program if there is uncertainty regarding applicable requirements.”

Thus, site closure has failed to join death and taxes as certainties in our lives. It will be interesting to follow how such policy migrates to other states and how such a policy withstands legal challenges.

Property Transaction/Property Redevelopment (Including Brownfields)

This scenario describes a property where the vapor intrusion pathway was never addressed, but a lending institution, developer and/or prospective purchaser is requiring a vapor intrusion assessment. An interesting aspect of vapor intrusion assessments is that they are not only performed for sites with buildings, but also for sites where redevelopment is planned. Assessing the potential for vapor intrusion into buildings that have yet to be constructed or even designed is surprisingly possible, accepted and sometimes required. This is an

emerging aspect of environmental assessments for property transaction/redevelopment. Vapor intrusion assessments conducted before buildings are constructed offer an opportunity to consider more options for effectively managing the potential risks from future vapor intrusion.

Vapor intrusion assessments for a future property development scenario is a missing element of current (2002) U.S. EPA guidance, but is addressed by some state guidance, particularly in California (2004). There is not much of a track record of corresponding agency decisions and public reaction, making the nature and extent of future property development restrictions as a result of a vapor intrusion assessment perhaps difficult to predict. ASTM International has formed a new vapor intrusion task group (E50.02.06) to develop a standard to assess vapor intrusion as it relates to property transactions (www.astm.org/cgi-bin/SoftCart.exe/SNEWS/JANUARY_2006/vapor_jan06.html?L+mystore+uwyx4262+1138105091). It will be interesting to follow the application of this standard, if developed.

The developing nature of the vapor intrusion issue does little to achieve the level of certainty that property owners seek—an end to their environmental liabilities by complying with existing regulatory cleanup requirements prior to property transfer. The National Brownfields Association, in their report *Bringing Corporate Brownfield Properties to Market*, December 2004, proposes four major concepts to promote responsible redevelopment of contaminated properties and the expansion of the Brownfields market: (1) improving regulatory certainty, (2) managing corporate liability, (3) incentives and (4) education and outreach. The fluidity of the vapor intrusion issue quite obviously makes these goals more difficult to achieve.

Public advocacy groups are weighing in on this issue as well. “Vapor intrusion hazards should be identified and addressed before new construction occurs. . . . Regulatory agencies should. . . ensure maximum cleanup before construction, alter building design to minimize risk, and require the installation of reliable mitigation before the fact. . . A pro-active strategy

toward property reuse at contaminated sites is not only good health policy, but it should cut down on the litigation that typically occurs once the news about vapor intrusion rises to the surface” (*A Community View of Vapor Intrusion*, Center for Public Environmental Oversight, Apr. 2005). And, in an evaluation of the NASA Research Park, a planned development in Mountain View, California, to be located directly above a regional plume of TCE in groundwater near the MEW Superfund Site previously mentioned, “[t]he developer must also propose alternative mitigation measures and develop contingency plans that state how it will respond to changing conditions” (*The MEW Superfund Study Area Final Report on Technical Assistance Grant (TAG) #1-97982101, Silicon Valley Toxics Coalition*, Nov. 2005).

The Roadblocks Are Real: Notable Vapor Intrusion Sites

Here are some sites where the vapor intrusion issues described in the scenarios above have already had a notable impact.

[MEW and Moffett Field Superfund Sites, and the nearby GTE site, San Francisco Bay Area, California.](#)

The city of Mountain View approved an award-winning planned community of more than 500 townhouses and single-family residences during the Silicon Valley “dot-com” boom of the 1990’s. Later, the U.S. EPA made these homes a test case for its new (2002) vapor intrusion guidance document. TCE was found in some of the very expensive newly-built homes. The assessment and corresponding debates continue today (*Vapor Intrusion: The New Frontier of Toxic Cleanup*, Lenny Siegel, Daily Environment Report, Vol. 2004, No. 181, Sept. 20, 2004, <http://cpeo.org/pubs/NewFrontier.html>).

[IBM Superfund Site, Endicott, New York.](#) Superfund money is being used to investigate over 100 properties. So far, over \$2 million has been spent testing indoor air, in addition to the more than \$35 million that IBM has spent addressing contamination affecting about 480 properties near its former microelectronics plant (*Air Sampling to Expand in Endicott Area—Superfund*

Money Expected to Pay for Pollution Testing, Binghamton Press & Sun-Bulletin, Dec. 11, 2005). Endicott is also the focal point for recent public criticism of the exposure guidelines for TCE in indoor air as determined by the State of New York Department of Health (DOH) (*Toughen TCE limits, report says*, Binghamton Press & Sun Bulletin, Feb. 2, 2006).

Hopewell Precision Superfund Site, East Fishkill, New York. U.S. EPA will be testing indoor air for toxic vapors in dozens of additional homes as part of an expanded effort to address contamination as a result of groundwater contamination caused by past activities of Hopewell Precision in the 1970s (*EPA to Test More Homes for Toxic Vapors—Effort Boosted at Superfund Site*, Poughkeepsie Journal, Dec. 3, 2005).

Former Redfield Site, Denver, Colorado. One of the largest vapor intrusion assessments ever conducted found VOCs in the indoor air of many residential sites (over 700 homes tested) originating from a large plume of VOCs dissolved in groundwater. A class action lawsuit was filed by 2,000 residents of the Denver neighborhood (*Antolovich v. Brown Group Retail, Inc.*, Colo. Dist. Ct. No. 00-CV-1021). On June 17, 2004, a Denver district judge denied the plaintiffs' request for a new trial for environmental impacts on the neighborhood near the Redfield site. The ruling upheld a Colorado state court jury verdict on Dec. 8, 2003, of no damages for loss of property values and no punitive damages. The jury entered a verdict against Brown Retail (current owner of the property determined to be the source of the groundwater contamination) of approximately \$1 million for non-economic damages only (www.redfieldsite.org/pdfs/lawsuit_update_6-22-04.pdf).

Regulatory Guidance and Jurisdiction

Federal Guidance

The U.S. EPA Office of Solid Waste and Emergency Response (OSWER) issued draft guidance for subsurface vapor intrusion in November 2002 (www.epa.gov/epaoswer/hazwaste/ca/eis/vapor.htm) replacing the December 2001 draft Resource

Conservation and Recovery Act (RCRA) guidance. The OSWER draft guidance, currently being evaluated for revision, is recommended for RCRA Corrective Action, CERCLA (NPL and Superfund Alternative Sites) and Brownfields sites. To supplement the draft guidance, the U.S. EPA is currently evaluating empirical methods that provide increased reliability in data quality at a reasonable cost and which address bias caused by certain non-environmental conditions (*EPA Evaluates Approaches for Assessment of Vapor Intrusion*, Technology News and Trends, U.S. EPA, Nov. 2005). This evaluation is relying on, in part, an assessment of vapor intrusion at 15 homes and one commercial business near the Raymark Industries Superfund Site in Stratford, Connecticut.

The intent of the OSWER draft guidance is to provide a methodology to *screen out sites that do not require further assessment*, not for complete site-specific evaluation and quantification of risk. It relies on generic values for certain parameters (especially the attenuation factor) to predict concentrations of VOCs in indoor air, and, if that predicted value is above a certain threshold, the building is identified as a candidate for indoor air sampling and further assessment.

This draft guidance, like most any guidance, has been criticized (to U.S. EPA's credit, technical committees are evaluating site data from across the country, and OSWER and the Office of Research and Development (ORD) have sponsored several public workshops as part of preparations to revise the OSWER draft guidance). It does not allow for a site-specific analysis that could be used as an exit strategy. Specifically, it does not allow the most-often used mathematical tool, the Johnson and Ettinger Model (JEM), to be used in its fullest capacity to predict indoor air concentrations to serve as the basis for a site-specific risk assessment. Thus, the OSWER draft guidance is a screening tool that ultimately relies on monitoring, not modeling. Also, the applicability of the OSWER draft guidance is primarily for residential, not commercial/industrial scenarios or future property redevelopment sites (*e.g.*, Brownfields).

State Guidance

Several states have issued guidance for subsurface vapor intrusion assessments, resulting in a variety of approaches and level of detail. Results of a recent survey indicate the variance among states. In the fall of 2004, the Interstate Technology & Regulatory Council's (ITRC) Vapor Intrusion Team conducted an on-line survey of state, federal and tribal agencies regarding vapor intrusion regulations, policy and guidance. Ultimately, 54 regulators from 41 states, Canada and one EPA region responded to the survey, results of which are posted on the ITRC Web site (www.itrcweb.org/vaporintrusion/ITRC_VI_Survey_8-17-05/ITRC_1_VI_Survey_Index.htm).

States with the most comprehensive recent guidance documents for vapor intrusion assessments are listed below.

- California (www.dtsc.ca.gov/AssessingRisk/upload/HERD_POL_Eval_Subsurface_Vapor_Intrusion_interim_final.pdf).
- Colorado (www.cdph.state.co.us/hm/indoorair.pdf).
- New Jersey (www.nj.gov/dep/srp/guidance/vaporintrusion/vig.htm).
- New York (www.health.state.ny.us/nysdoh/gas/svi_guidance/).

Notable is the draft guidance issued by the state of California in December 2004. It far exceeds the scope of the U.S. EPA OSWER draft guidance in its potential applicability. Most importantly, it recommends the assessment of risk on a cumulative basis, and it allows the use of modeling (*i.e.*, the JEM with toxicological data) to simulate vapor intrusion and quantitatively estimate the potential risk to occupants of buildings of various size and design (*i.e.*, residential, commercial, industrial). Thus, this draft guidance is applicable to properties with no buildings to sample—it fills the missing element of the draft OSWER guidance by allowing vapor intrusion assessments for future property development scenarios to serve as the basis for property planning strategies and risk management. A notable caveat is that any required mitigation measures for future building construction as a result of such a vapor intrusion assessment may require some sort of operation and maintenance, possibly including

one-time initial indoor air sampling of all newly constructed buildings to determine if mitigation systems are functional and protective.

OSHA vs Risk-Based (U.S. EPA) Standards for Concentrations of VOCs in Indoor Air

Perhaps the most significant jurisdictional issue discussed to date regarding vapor intrusion has been the potential applicability of Occupational Safety and Health Administration (OSHA) standards—can indoor air quality affected by subsurface vapor intrusion be regulated by OSHA standards? If one is familiar with the great magnitude of difference between an OSHA Permissible Exposure Limit (PEL) for TCE in air and a risk-based threshold concentration representative of a one-in-a-million incremental risk of getting cancer from TCE in air, then one might hope for the OSHA PEL (a much higher value) depending on which side of the table one sits. There are instances under CERCLA and other laws where action levels other than OSHA PELs (*e.g.*, the one-in-a-million incremental cancer risk value) are used as a threshold for unacceptable risk to human health. However, some points of view argue OSHA has exclusive jurisdiction over indoor air quality in the workplace, any workplace.

Regulatory agencies are not likely to implement OSHA PELs for subsurface vapor intrusion assessments for several reasons. First, OSHA PELs are designed to be protective of OSHA-trained, healthy male receptors (able to handle chemicals and protect themselves). Thus, they are not protective of the vast majority of humans. Second, OSHA standards are usually not considered as Applicable or Relevant and Appropriate Requirements (ARARs) under CERCLA. Third, OSHA standards are applicable only if the chemical of concern is being used in the indoor workspace. Putting a container filled with TCE in the building is not an advisable strategy for this third example!

Breaking Through the Roadblocks: Prudent Strategy Recommendations

The following are five prudent steps to address vapor intrusion issues.

1. Assume an Assessment Will Be Required

Assume that vapor intrusion issues will eventually require evaluation. If something is going to have to get done, then plan on doing it. Avoiding the issue is not a strategy. The public is becoming more aware of this issue: “By now... many communities are developing a relatively sophisticated understanding of the problem” (*A Community View of Vapor Intrusion*. Center for Public Environmental Oversight, Apr. 2005).

2. Perform Assessment Early

Perform a vapor intrusion assessment as early in the process as possible so that all risk management options are available for consideration. This is particularly true for redevelopment projects. If the assessment is performed proactively, then redevelopment plans can incorporate risk management options from the beginning. Future liabilities may be minimized. The public may also want assessments before approvals for development by local agencies: “The potential for vapor intrusion should be fully evaluated before development is approved” (*Brownfields and Vapor Intrusion*. Center for Public Environmental Oversight, Aug. 2005). The early assessment approach is also important for sites with occupied buildings. Residents have a right to know about potential risks from environmental contamination. Responding to this issue in a timely manner may bolster a defense in a future litigation.

3. Collect and Assess Data Prudently, Consistent with Appropriate Standard of Care

Collect data for a vapor intrusion assessment (*e.g.*, subsurface soil gas or groundwater sampling) based on a conceptual site model—the understanding of contaminant type, source, migration pathways, distribution and potentially impacted receptors. A conceptual site model is a requirement of the CERCLA process, is developed early in the site assessment phase and is continually modified as new data are collected. A conceptual site model is required before U.S. EPA can sign its own protectiveness statement. Additionally, the adequacy of a site conceptual model

as the basis for data collection will be important for cost recovery litigation relying on consistency with the NCP.

Also consider the importance of characterizing the source of a potential vapor intrusion problem, regardless of the nature of the source itself. An example is an aquifer that is contaminated with VOCs but is not a current or a potential source of drinking water and has no other beneficial uses. The conventional point of view is groundwater characterization need not be conducted with a very high standard. However, VOCs in the groundwater might be a significant source for vapors migrating upward into overlying buildings. Therefore, a high standard of care would be necessary for groundwater characterization. A lack of prudence in this scenario might be the basis for damage claims or result in a reinitiation of the investigation at significant additional cost.

There is also the issue of sampling indoor air. As previously discussed, assessing impacts to indoor air can be based on modeling, indoor air sampling or both. To sample or not to sample indoor air, and if needed, when to sample, requires careful assessment because it not only presents technical challenges but public relations challenges as well.

Regulatory guidance commonly prescribes a tiered approach to vapor intrusion assessments, where indoor air sampling may be performed as a last resort, if at all. One reason for this approach is the technical challenge. VOC levels in indoor air are notoriously variable with time and location, even within very short amounts of time and over short distances, as indicated by continuous indoor air sampling studies. Thus, obtaining an air sample that adequately represents what occupants are breathing presents a major challenge (see a recent U.S. EPA document reviewing recent research on vapor intrusion: *Review of Recent Research on Vapor Intrusion*, Fred D. Tillman and James W. Weaver, U.S. EPA, EPA/60/R-15/106, Sept. 2005). Another reason for the last resort approach is that to effectively mitigate indoor air contamination, the source(s) must be identified. Indoor air problems not caused by subsurface vapor intrusion

cannot be solved by a sub-structure vapor collection system.

There is disagreement with the last resort approach to sampling indoor air. As recently expressed, “[i]ndoor air sampling is often desired by communities before a site can be considered safe. Near MEW (Superfund Site), residents who lacked confidence in the model [used to simulate vapor intrusion] insisted upon direct indoor air sampling” (*The MEW Superfund Study Area Final Report on Technical Assistance Grant (TAG) #1-97982101, Silicon Valley Toxics Coalition*, Nov. 2005). And, “[w]hile models are an important tool, communities generally question findings of acceptable risk based solely on models. They want their air sampled” (*A Community View of Vapor Intrusion*, Center for Public Environmental Oversight, Apr. 2005).

That brings up the subject of modeling. Computer models for environmental investigations are controversial because predicted outcomes can have a wide range (thus the requirement for a sensitivity analysis). Modeling of vapor intrusion into a building is no exception. However, modeling is already an integral part of vapor intrusion assessments—screening levels for contaminants in soil gas and indoor air used by regulators for generic vapor intrusion assessments are based on modeling. And, there are now guidelines for input parameters and acceptable variation of results for vapor intrusion modeling (see *Identification of Critical Parameters for the Johnson and Ettinger (1991) Vapor Intrusion Model*, Paul C. Johnson, API Bulletin 17, May 2002. <http://api-ep.api.org/filelibrary/Bulletin17.pdf>). The debate on the reliance of modeling vs. indoor air sampling is largely one of public perception and acceptance. However, for scenarios where there are no buildings but a vapor intrusion assessment is required for future property redevelopment (*i.e.*, Brownfields), indoor air sampling is not possible before important decisions are made with regard to land use and building design. These assessments will likely rely on modeling results. This is the frontier issue of vapor intrusion assessments.

Even if indoor air is sampled, public skepticism of results should be anticipated. If a threat from vapor

intrusion is perceived by the potentially affected public, then subsequent sample results are likely to be viewed with skepticism if VOC concentrations in indoor air samples are found to be below adverse risk screening levels. Therefore, it will be important that the indoor air data are collected according to accepted protocols under the right conditions with proper quality assurance/quality control measures. As recently reported from the community of Tallevast, Florida, “[c]ontradicting residents’ fears that their health is endangered from a 131-acre plume of toxic pollution under their community, state and local health experts report no evidence of poisonous indoor vapors in Tallevast. . . The health experts’ report states that the levels of contaminants picked up in the indoor air tests, performed more than a year ago, are too low to be the likely cause of illness. . . But some environmental experts question whether investigators did enough tests under the right conditions to reach that conclusion” (*Tests: Vapor Levels Too Low-Skeptics Question the Methodology Used in the Study*, Bradenton Herald, Aug. 29, 2005).

4. Consider Appropriate Options for Risk Reduction

Here are four options for risk management where vapor intrusion may be a threat to indoor air quality.

Remove the Contaminant Sources

Remediation technologies for soil and/or groundwater are designed to incorporate the removal of (or at least reduction to desired levels) the subsurface sources of contamination. In theory, this is the most effective and permanent option for mitigating vapor intrusion. However, the required extent of VOC removal for adequate risk management may be so large as to make source removal technically impracticable.

Regardless, public pressure to clean up subsurface contamination is known: (1) “In most cases, the long-term solution to vapor intrusion is cleanup” (*A Community View of Vapor Intrusion*, Center for Public Environmental Oversight, April 2005); (2) The Northeast Mountain View Advisory Council confirmed the wording of a resolution it passed at its April 20,

2005 meeting which makes two key points regarding vapor intrusion at the GTE site in Mountain View, California—engineering controls are a short-term solution that should be supplemented with accelerated remediation, and where new homes are proposed for property where vapor intrusion is likely, remediation should be conducted before construction (message from Lenny Siegel to the Brownfields Internet Forum, July 20, 2005); (3) “Groundwater and remaining contaminated soil should be cleaned up as quickly as feasible” (*The MEW Superfund Study Area Final Report on Technical Assistance Grant (TAG) #1-97982101, Silicon Valley Toxics Coalition*, Nov. 2005).

Block the Entry Paths of VOC’s Into Buildings

Subsurface physical barriers (*e.g.*, vapor barriers), depressurization systems (“radon-type” systems), air-flow (advection) barriers, air bio-barriers and sealants are designed to physically block the entry of subsurface vapors into a building. These measures can be quite effective in the short-term. The main question is their long-term efficacy. They are relatively inexpensive measures, but operation and maintenance and periodic monitoring requirements, as well as repair and replacement can result in a significant incremental cost. Also, the possible stigma attached to a property with such measures installed to protect building occupants is a consideration: “people don’t like the fans, and they wonder if blowing the contamination outside adequately reduces risk... (and) residents wonder what will happen in the long run. They ask: Will an earthquake, natural settling, or the installation of new pipes or wires open a new pathway?” (*A Community View of Vapor Intrusion*, Center for Public Environmental Oversight, Apr. 2005).

Minimize the Driving Forces of the Building

Building pressurization either by heating, ventilating and air conditioning (HVAC) system modification or building design are aimed to counteract the building’s “stack effect”—the building’s role in drawing vapors from the subsurface to its interior. Adding air to a building can dilute VOC concentrations as well as make the building’s pressure greater than the

subsurface pressure. However, pressurization works well only in air-tight buildings. Air addition also may be uncomfortable to occupants (*e.g.*, too cold) and can be expensive if needed for an extended time. Building design features such as high air exchange rates (*e.g.*, ventilation), sub-floor open crawl spaces (including first-floor parking areas) and other creative solutions can be used to mitigate vapor intrusion risks.

Implement Alternative Solutions to Minimize Exposure

Solutions such as treating contaminated indoor air with a filtration system are certainly ways to minimize or eliminate exposure. But more creative measures exist, especially for a property redevelopment scenario. There are planning and institutional solutions such as alternative land use and access restrictions to manage risks from vapor intrusion. Obviously, if the vapor intrusion issue is addressed late in the redevelopment process, original development plans may need revision, possibly prolonging or ending the project. And, developers and owners generally do not want titles tainted by references to environmental problems.

Regardless, such a potential roadblock could become an opportunity. The use of open space, positioning buildings away from areas of subsurface contamination, incorporating effective building design—many creative solutions exist for vapor intrusion risk management. An exhibit in 2005 at the New York City Museum of Modern Art on landscape and urban design at Brownfields sites provided many innovative solutions implemented in North America and Europe. The public may be receptive to such solutions: “There may be ways to significantly reduce risk simply by changing the footprint of the proposed development” (*Brownfields and Vapor Intrusion*, Center for Public Environmental Oversight, Aug. 2005).

A future challenge is the implementability and enforceability of institutional controls that will be a common component of final remedies at sites where contamination will be “left in place” (not remediated to pristine conditions) and vapor intrusion will be a future risk. Institutional controls are non-engineered solutions to risk management—generally notification instruments

such as deed restrictions implemented by land use covenants or other such mechanisms that can restrict development, either by controlling location and/or type of development or land use.

Reliable institutional controls and appropriate financial assurance mechanisms for responsible parties to fulfill their obligations are key components to the acceptance of more cost-effective, risk-based remedies. A guidance document to consult for institutional controls at federal RCRA and CERCLA sites is *Institutional Controls: A Site Manager's Guide to Identifying, Evaluating, and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups*, U.S. EPA OSWER 9355.0-74FS-P. EPA 540-F-00-005, Sept. 2000. Also, a recent ABA publication on institutional controls was advertised in a prior issue of this newsletter. In addition, new legislation is being introduced in some states based on the Uniform Environmental Covenants Act (UECA), a model law aimed to overcome legal barriers of institutional controls, establish their legal validity, and enhance their enforceability and reliability (www.environmentalcovenants.org/ueca/DesktopDefault.aspx). Another development is possible outsourcing of institutional control oversight to the private sector. It remains to be seen if institutional controls become more reliable, enforceable and accepted.

5. Proactively Implement Public Participation

Implement a public awareness and participation program from the very beginning. Listen and respond to community concerns, especially occupants of buildings. As recently remarked, “[p]otential residents should be notified at the point of marketing of possible risks. . . . The affected (and potentially affected public) can be a constructive partner in vapor intrusion investigations and responses” (*A Community View of Vapor Intrusion*. Center for Public Environmental Oversight, Apr. 2005). Public relations implemented early, with concern and honesty, can develop trust and cooperation, and result in lessened liability, if not total success. In litigation, a good neighbor policy may play well to a judge and a jury.

Community activists have been part of the public process at CERCLA sites. The MEW Superfund site

in Mountain View, California, was one of the earliest examples of intense public scrutiny—local activists formed the Silicon Valley Toxics Coalition (SVTC) in 1982 shortly after contamination was discovered (*The MEW Superfund Study Area Final Report on Technical Assistance Grant (TAG) #1-97982101, Silicon Valley Toxics Coalition*, Nov. 2005). The SVTC remains very active today, particularly with respect to vapor intrusion issues at the MEW Superfund site beginning in 2002, and has developed the only Superfund TAG that is focused on vapor intrusion issues.

Politicians are sometimes the instrument of public participation. As a recent example, Joan Hickey Pulse, the mayor of Endicott, New York, plans to draft a law requiring landlords to notify tenants who live within an area where vapor intrusion may be a risk. Ms. Pulse indicated that she plans to work with an attorney to draft a proposed ordinance in early 2006, and if a law is adopted, landlords and realtors would be required to inform occupants, homebuyers and future tenants looking to move into the area of the Endicott Plume (*Pulse: Tell Renters about TCE Pollution-Law Would Mandate Notification of Tenants Within Endicott Plume*, Binghamton Press Connects, Dec. 13, 2005).

Summary

The emergence of vapor intrusion as an issue requiring assessment at many sites, both CERCLA and non-CERCLA, has resulted in one of today's most significant developments on the environmental policy, regulatory, technical, real estate and litigation landscape. One of the main challenges is the rapidly developing nature of both policy and technology, which require strategies that encompass these moving and evolving targets. Putting everyone on a steep learning curve, this developing issue requires a high level of scrutiny in terms of how vapor intrusion as a potential health threat is assessed, regulated and incorporated into decision-making.

The effect of the vapor intrusion issue is beginning to be felt. Impacts on property values and marketability might well be affected by perception as well as changes to original property development plans, both

in design and land use. The public is becoming increasingly aware, not only residents of impacted homes, but their elected officials and grass roots advocacy groups. There is a renewed pressure to take care of the potential of vapor intrusion by “cleaning up” sites rather than protection through engineered and institutional controls. The reexamination of approved remedies and even the reopening of “closed” sites have been identified as real possibilities. Litigation involving vapor intrusion is sure to steadily increase.

Indoor air quality at a property may be found to be impacted by VOCs, but the main technical challenges are to identify the source(s)—subsurface vapor intrusion, outdoor sources or indoor sources—so that effective remedies can be implemented and the real health effects from exposure determined. Risk-based target concentrations for VOCs in indoor air are so low for some compounds that achieving acceptable data quality is crucial and difficult. And what about contaminated properties not yet developed? Assessing the potential for vapor intrusion into buildings that have yet to be built presents a different set of challenges.

Fortunately, there are prudent and effective actions that can be taken for the management of potential risk from vapor intrusion. The earlier they are anticipated, evaluated, communicated and implemented, the more likely the roadblocks to progress can be broken through.

Frederick T. Stanin is a senior project manager, geologist and hydrogeologist at Malcolm Pirnie with over 26 years of professional experience. His areas of experience include site investigation, fate and transport of contaminants, evaluation and implementation of remedial alternatives, and strategic environmental management. Mr. Stanin also has extensive experience providing technical consulting services to litigation projects. Recently, Mr. Stanin has managed projects involving soil vapor intrusion assessments including those for large Brownfields properties, and he leads an ad hoc vapor intrusion knowledge group within Malcolm Pirnie. He has also recently given public presentations on many aspects of vapor intrusion at the 2006 Annual Conference on Environmental

Law in Keystone, Colorado, the 2005 Groundwater Resources Association of California Symposium on Subsurface Vapor Intrusion to Indoor Air in San Jose, California, and the 2005 U.S. Air Force Environmental Training Symposium in Louisville, Kentucky. Malcolm Pirnie has provided services since 1895 in the areas of environmental engineering, science, and consulting to over 3,000 clients, and is a national leader in environmental consulting with staff of over 1,600 employees nationwide.

DNAPL SITES—THE TECHNICAL AND LEGAL CHALLENGES

Gary E. Hokkanen
President, Hokkanen Environmental, LLC

A major technical and legal challenge at Superfund sites is the presence of DNAPLs or Dense Non-Aqueous Phase Liquids. DNAPLs are separate phase organic liquids that are only slightly soluble in water. Chlorinated solvents (TCE, PCE), PCBs, creosote and coal tar contamination, for example, may all result in DNAPLs. DNAPLs are heavier than water and can migrate downward and act as long-term sources for dissolved groundwater plumes. Major challenges include the difficulty in the identification of the presence of DNAPLs, determining their extent in the subsurface and cost-effective remediation of DNAPL source zones. These technical challenges likewise create difficulties for attorneys involved with litigation of DNAPL sites. Inadequate characterization and ineffective remediation affects liability, cost allocation, insurance and settlement issues associated with these sites.

Introduction to DNAPL Sites

The Environmental Protection Agency (EPA) has estimated that there are 15,000 to 25,000 sites in the United States where DNAPLs are present. The State Coalition for Remediation of Drycleaners estimated that up to 75 percent of the 36,000 active dry cleaners have had releases of PCE or other solvents. DNAPLs

are likely present at a high percentage of these sites. Estimated annual remedial operation and maintenance (O&M) costs for all DNAPL sites range from \$2.7 to \$4.5 billion, based on the use of groundwater pump-and-treat systems. Although the total present worth cost to clean up these sites is not known, estimates range from \$50 billion to \$100 billion. The majority of these sites have not been cleaned up and present a major challenge for the future (U.S. EPA, 2003; EPA/600/R-03/143).

DNAPLs can, under certain conditions, form a separate phase in the subsurface. If only a small amount is released, all of the material may dissolve and a separate phase DNAPL will not be present. However, if more organic liquid is released than can readily be dissolved in groundwater, a DNAPL will likely be present. Once released in the subsurface, their movement is governed primarily by gravity, capillary effects and geologic conditions. This means that DNAPLs will generally sink downward until they encounter a low permeability layer, such as clay. Through this migration process, DNAPLs can move away from the release area and up gradient or side gradient from the groundwater flow direction. They also often collect in geologic low spots on top of low permeability layers. These areas, typically called DNAPL source zones, will slowly dissolve in groundwater and act as long-term sources for dissolved plumes. Although DNAPLs have relatively low solubilities, the resulting dissolved groundwater concentrations generally exceed drinking water standards. Therefore, in order to clean up the resulting dissolved plume, the DNAPL source zone needs to be removed or controlled. To date, remediation technologies have had limited success in removing DNAPL source zones or reducing dissolved concentration levels to meet drinking water standards. Even at properly characterized sites, this often results in uncertainty in the long-term cost of clean up.

A further complication is that DNAPL source zones are often difficult to identify and adequately characterize. The presence of DNAPLs at a site will typically significantly escalate remediation costs. Not properly identifying the presence of DNAPLs or not adequately determining the characteristics of the DNAPL source zone can result in a remediation

approach that not only may not work, but also will result in underestimating the actual remediation cost.

The difficulties in investigating and remediating DNAPL sites are problematic in the context of litigation. As further discussed below, determining liability, allocation of cost, an appropriate insurance settlement or a settlement with other PRPs can be difficult when an adequate understanding of the overall remediation cost at a site is a prerequisite to each of these actions.

Investigation of DNAPL Sites

The basis for developing an appropriate, cost-effective remediation plan is an adequate characterization of a site. Identifying and adequately characterizing the DNAPL source zones is difficult. A poor characterization can lead to an inadequate remedial design and an underestimation of remediation costs.

Determining the presence of DNAPLs is a difficult process, primarily because they usually cannot be directly observed; rather, their presence is inferred through indirect means. For example, soil borings will not always identify DNAPLs. This is because DNAPL source zones are often thin, small or discontinuous. In addition, standard monitoring wells are designed to efficiently collect groundwater samples, but are not always appropriate for directly detecting DNAPL. The DNAPL may also be at residual saturation and not mobile and able to enter a well.

Standard groundwater monitoring wells are often not designed and constructed to easily let mobile DNAPL enter the well screen. For example, monitoring wells are often constructed with the well screen above the bottom of the adjacent sand pack. In this case, the volume of DNAPL that enters the sand pack may not be sufficient to fill the space below the bottom of the monitoring well and rise up high enough to enter the well screen. Also, if the formation material surrounding the sand pack is relatively permeable, the DNAPL may migrate out of the sand pack back into the formation before it can enter the well screen. Therefore, if DNAPL is not detected in wells at a site, it does not mean that DNAPL is not present.

Since direct detection is difficult, indirect means often need to be employed. DNAPL can be indirectly identified at a site by several methods. These include a thorough understanding of site history, high dissolved groundwater concentrations and persistent groundwater concentrations. For instance, extensive past usage of chlorinated solvents may be suggestive of the presence of DNAPL. The presence of DNAPL can also be inferred from groundwater data. This is usually done by comparing the concentrations detected in groundwater samples with the effective aqueous solubility of the chemical(s) in the DNAPL (*e.g.*, perchloroethylene). A commonly used rule of thumb for the presence of a DNAPL is one percent of the effective aqueous solubility (U.S. EPA, 1992; Publication 9355.4-07FS). The persistence of high concentrations can also lead to an inference of a DNAPL source zone. Stable high concentrations at a particular monitoring location can indicate a continuing source of contaminants. Also, persistent high concentrations in pump out wells can indicate that there is a large continuing source, such as a DNAPL source zone.

If the remedial investigation determines that DNAPLs are present, the next challenge is to determine their amount, extent and mobility. Again, all of these are important from a remediation standpoint and can be difficult to determine. The exact amount of DNAPL cannot be determined at most sites, but the area where they are present can be determined with adequate precision to develop a remediation approach. This will usually involve collecting tightly spaced data in the suspected source zone area. It is also important to know if the DNAPL present at a site is still moving. In general, the mobility of DNAPL is due to its properties, the amount released at a site and the geologic conditions. Mobility can have a huge impact on both the development of an appropriate remediation approach and the success of remediation.

Remediation of DNAPL Sites

Remediation of DNAPL sites is one of the largest technical challenges in the environmental field. At sites where DNAPL source zones are present, there are two main problems to resolve: the dissolved groundwater plume and the DNAPL source zone.

Techniques exist to adequately remediate the dissolved plume; however, remediating the DNAPL source zone remains a continuing challenge.

The current general remediation approaches for DNAPL source zones include complete source zone removal, partial source zone removal or source zone containment. Eliminating, reducing or controlling the size of the source zone is necessary to eventually control or reduce the size and concentration of the dissolved groundwater plume.

Source zone removal has not been practically achieved at a DNAPL site. Therefore, most remediation approaches focus on either partial removal or containment. The goal of partial removal is either a reduction in concentrations in the dissolved plume or a lower mass flux of dissolved contaminants (mass of contaminant over a unit of time). Since regulatory standards are primarily based on concentration, partial source zone removal attempts to achieve reduced down gradient concentrations. Unfortunately, partial source zone removal may not result in a significant reduction in dissolved concentrations; however, it will reduce the time the source zone persists. To date, partial source zone removal has not been shown to reduce dissolved concentration levels sufficient to meet drinking water standards.

Source zone containment is often utilized at DNAPL sites. This can be accomplished by placing a physical barrier, such as a slurry wall, around the source zone. The first benefit of containment is separation of the source from the down gradient plume, thereby cutting off the source of additional dissolved mass to the plume. Secondly, containment can be effective in achieving risk management objectives. However, the long-term viability of containment and associated future costs are generally not well understood. For example, containment failure and associated costs is a possibility that needs to be considered in calculating the 30-year present value costs.

The consequences of not identifying the presence of a DNAPL source zone or an inadequate characterization are serious. These can include an inadequate assessment of risk, improperly designed remedial approach, the potential for cross-contamination of

aquifers through drilling through source zones, and expanding the size of the source zone and the dissolved groundwater plume. When DNAPL is not identified, a remedial approach based on reducing the size and concentration of the dissolved plume will likely prove to be ineffective. For example, pump and treat systems will be ineffective in remediating a dissolved plume since the DNAPL source zone will continue to dissolve and add mass to the plume for a long period of time. Another potential problem with an inadequate remedial investigation is the potential for making the overall problem worse. This can happen by drilling through DNAPL source zones and allowing the DNAPL to migrate through confining layers into deeper uncontaminated aquifers. In addition, an improperly designed remediation can result in spreading of the DNAPL source zone or expanding the size of the dissolved plume. Finally, an ineffective remediation at a DNAPL site will lead to not only an initial underestimation of costs, but likely will result in an increase in the overall cost when the remediation system needs to be modified or completely redone in the future.

There are a number of sites where DNAPL source zones have not been adequately characterized. For example, at a former creosote wood treatment site in the Midwest, a remedial investigation did not identify the presence of a DNAPL source zone. The feasibility study and remedial design were based on remediation of a dissolved plume and were approved by the state environmental agency. However, during the construction of the approved remediation system, a significant pool of creosote was discovered. The remediation approach needed to be modified to account for the presence of the DNAPL source zone. A number of chlorinated solvent sites in California's Silicon Valley have had similar difficulties identifying DNAPL source zones. In a number of cases, inadequate performance of remediation systems have led to additional data collection that has identified DNAPL source zones. The existing remediation systems have had to be modified or replaced.

Legal Challenges of DNAPL Sites

The technical difficulties of investigating and remediating DNAPL sites present challenges in the

litigation process. These challenges include determining liability at sites with multiple sources and multiple PRPs, cost allocation, cost recovery and environmental insurance coverage. These litigation issues are primarily impacted in two ways. First, a properly characterized DNAPL site is not only difficult to remediate, but there are inherent uncertainties in the long-term remedial costs. These uncertainties, although difficult to quantify, need to be considered in any allocation or settlement matter. Secondly, at a site where DNAPL is present but not detected or the DNAPL source zone is not properly characterized, the litigation challenges escalate. Correctly determining liability and allocating costs in this situation may not be possible. Also, since remediation costs will likely be underestimated, equitable settlements with PRPs or insurers may not be possible. Because of these issues, at sites where DNAPL may be present based on historical site usage, it is prudent to be conservative and thorough in the investigation and assessment process. For example, at sites with extensive chlorinated solvent usage, it is often first *assumed* that DNAPL is present and the remedial investigation is designed to test this assumption.

Attorneys involved in litigation of DNAPL sites need to be aware of their major technical challenges. The difficulties in investigating and remediating these sites and the inherent uncertainties in the long-term clean up costs need to be factored into the litigation process.

Gary Hokkanen, the founder of Hokkanen Environmental LLC, specializes in providing environmental expertise to attorneys in the areas of Groundwater Contamination and Wood Treatment Sites. Mr. Hokkanen's practice encompasses litigation matters as well as review and oversight of site investigation and remediation. His graduate work at the renowned groundwater program at the University of Waterloo has led to a professional career focused on applying his expertise in contaminant hydrogeology to complex groundwater problems. Mr. Hokkanen has developed a second area of expertise in wood treatment sites, having worked on these sites since the early 1980s. He can be reached at ghokkanen@hokkenv.com.

**SUMMARY CHART:
2005 POST-COOPER INDUSTRIES V. AVIALL DECISIONS**

John Epperson

Cases Permitting Claims Under Section 107(a)

- *Consolidated Edison Co. of New York, Inc. v. UGI Utilities, Inc.*, 423 F.3d 90 (2d Cir. Sept. 9, 2005).
- *Vine Street LLC v. Keeling* (“Vine Street II”), 362 F. Supp. 2d 754 (E.D. Tex. Mar. 24, 2005).
- *Metropolitan Water Reclamation District of Greater Chicago v. Lake River Corp., et al.*, 365 F. Supp. 2d 913 (N.D. Ill. Apr. 12, 2005).
- *Adobe Lumber, Inc. v. Harold Taecker and Geraldine Taecker*, 2005 U.S. Dist. LEXIS 15374 (E.D. Cal. May 24, 2005).
- *James Kotrous individually and d/b/a The Mattress Factory v. Goss-Jewett Company, et al.*, 2005 U.S. Dist. LEXIS 18013 (E.D. Cal. June 16, 2005).
- *Viacom, Inc. v. United States*, 404 F. Supp. 2d 3 (D.D.C. July 19, 2005).
- *Ferguson v. Arcata Redwood Co., LLC*, 2005 U.S. Dist. LEXIS 18015 (N.D. Cal., Aug. 4, 2005).
- *Valenti Aggio, et al. v. Estate of Aggio*, 2005 U.S. Dist. LEXIS 37428 (N.D. Cal. Sept. 19, 2005).

Cases Not Permitting Claims Under Section 107(a)

- *Elementis Chemicals, Inc. v. T H Agriculture and Nutrition, LLC*, 373 F. Supp. 2d 257 (S.D.N.Y. Jan. 31, 2005). Note that this decision was prior to the Second Circuit’s decision in *Consolidated Edison Co. of New York, Inc. v. UGI Utilities, Inc.*, which permitted an RP to pursue a claim under Section 107(a).
- *Mercury Mall Associates, Inc. v. Nick’s Market, Inc.*, 368 F. Supp. 2d 513 (E.D. Va. Feb. 28, 2005).
- *City of Waukesha v. Viacom International, Inc. et al.*, 362 F. Supp. 2d 1025 (E.D. Wis. Mar. 23, 2005).
- *Atlantic Research Corporation v. United States of America*, 2005 U.S. Dist. LEXIS 20484 (W.D. Ark. May 31, 2005).
- *Champion Laboratories, Inc. v. Metex Corp.*, 2005 WL 1606921 (D.N.J. July 8, 2005).
- *Cadlerock Properties Joint Venture, LP v. Schilberg*, 2005 WL 1683494 (D. Conn. July 19, 2005). Note that this decision was prior to the Second Circuit’s decision in *Consolidated Edison Co. of New York, Inc. v. UGI Utilities, Inc.*, which permitted an RP to pursue a claim under Section 107(a).
- *Boarhead Farm Agreement Group v. Advanced Environmental Technology Corp.*, 381 F. Supp. 2d 427 (E.D. Pa. July 20, 2005).
- *City of Rialto et al. v. United States Department of Defense et al.*, 2005 U.S. Dist. LEXIS 26941 (C.D. Cal. Aug. 16, 2005).
- *E. Goodson Constr. Co., Inc. v. International Paper Co.*, 2005 WL 2614927 (D.S.C., Oct 13, 2005).

John Epperson is with the firm Farella Braun + Martel LLP and can be reached at (415) 954-4400, or jepperson@fbm.com.

LOCAL OFFICIALS NOW ALLOWED TO PARTICIPATE IN DEVELOPMENT AND SELECTION OF SUPERFUND REMEDY

Steven G. Jones
Deborah K. Espinosa

In what has been described as “a win for municipalities,”¹ Judge Alan McDonald of the United States District Court for the Eastern District of Washington issued a ruling allowing the City of Moses Lake, Washington (City), to review all relevant data and to participate in the planning and selection of the remedy at the Moses Lake Wellfield Contamination Superfund Site (the “Moses Lake Site,” or the “Site”). Judge McDonald issued a preliminary injunction which barred the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) from publishing the Proposed Plan for the Moses Lake Site until the agencies had provided the City with all of the investigative data and studies produced relative to the Site, and the City had been given an opportunity to participate in the planning and selection of the Site remedy. The ruling, which is the first of its kind in the country, was based on the requirements stated in Section 120(f) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9620(f). *See City of Moses Lake v. United States et al.*, ___ F. Supp. 2d ___, 2005 WL 3724919 (E.D. Wash. Dec. 30, 2005).

In entering the injunction, Judge McDonald rejected the United States’ contention that CERCLA Section 113(h) barred the City’s citizen suit. As a result of *Moses Lake*, local officials finally have the means to require the Department of Defense (DOD) and the Department of Energy, for example, to include local governments in cleanup decisions that will permanently impact their communities.

Case Background

Judge McDonald’s decision arose out of a lawsuit filed in 2004 by the City to recover costs incurred in response to contamination of some of the City’s drinking water wells by trichloroethylene (TCE). The City sued the federal government and two of its

defense contractors, The Boeing Company (Boeing) and Lockheed Martin Corporation (Lockheed), alleging that TCE was dumped at the former Larson Air Force Base (LAFB) as a result of activities at the base from the mid-1940s until the base was closed in the mid-1960s. In 1966, the United States transferred most of the base property to the newly-created Port of Moses Lake. The City acquired the existing groundwater wells and incorporated those wells into its water utility, along with the base wastewater treatment transmission and treatment facilities.

TCE was discovered in three of the City’s wells in 1988. Due to the contamination of its drinking water supply, the City had to shut down those wells, eventually spending more than \$3.5 million remediating those wells and building a reservoir and interties to address the loss of production resulting from the contamination.

The Corps began investigating the contamination at LAFB in 1987, even before the discovery of TCE. The Corps’ investigation was mandated by the Defense Environmental Restoration Program (DERP), which requires DOD to investigate and remediate contamination at formerly used defense sites (FUDS), such as LAFB. *See* 10 U.S.C. § 2701 *et seq.* The DERP statute requires remediation at FUDS to be conducted consistent with CERCLA Section 120, which governs cleanups at federal facilities. 10 U.S.C. § 2701(a)(2).

In 1992, EPA placed the Moses Lake Site on the Superfund National Priorities List (NPL) and, in 1993, EPA named the City as a potentially responsible party (PRP), along with DOD, Boeing, Martin Marietta Technologies, Inc. (predecessor to Lockheed) and 19 other PRPs.

Investigations at the Moses Lake Site continued throughout the 1990s and, in 1999, EPA and the Corps executed an interagency agreement for the Site. Under that agreement, the Corps agreed to conduct the remedial investigation to determine the nature and extent of contamination and prepare a feasibility study to evaluate alternatives for remedial actions.

In 2004, when the agencies still had no permanent remedy selected for the Site, the City filed its cost recovery/contribution claim against the United States, Boeing, and Lockheed. At the same time, the City began repeatedly requesting that EPA and the Corps provide the City an opportunity to participate in remedy development and selection based on the rights accorded “relevant local officials” under CERCLA Section 120(f) (42 U.S.C. § 9620(f)). After these requests were rejected, the City sent a 60-day notice of intent to sue pursuant to 42 U.S.C. § 9659, alerting EPA and the Corps that the City intended to press its right under Section 120(f).

In late November 2005, the City learned that EPA was planning to issue its Proposed Plan outlining a cleanup remedy for the Site on Nov. 28, 2006. This date was the same day that the City’s 60-day notice would have expired. The City immediately sought leave to amend its existing complaint to assert a CERCLA citizen’s suit, alleging that the United States violated Section 120(f) by failing to provide the City with Site reports and data as they became available, as well as failing to afford the City an opportunity to participate in the planning and selection of the Site remedy. After the City threatened to seek a temporary restraining order to prohibit publication of the Proposed Plan, EPA agreed to postpone issuing the Proposed Plan until the City could seek a preliminary injunction based on Section 120(f).

The Rights of Local Officials Under CERCLA Section 120(f)

The City grounded its motion for a preliminary injunction in CERCLA Section 120(f), which governs cleanups undertaken at federal facilities. Section 120(f) requires EPA and, in this case, the Corps to afford local officials the opportunity to participate in the planning and selection of the remedy:

The Administrator and each department, agency, or instrumentality responsible for compliance with this section shall afford to relevant State and local officials the opportunity to participate in the planning and selection of the remedial action, including but not limited to the review of all

applicable data as it becomes available and the development of studies, reports, and action plans. In the case of State officials, the opportunity to participate shall be provided in accordance with section 9621 of this title.

42 U.S.C. § 9620. In its motion for preliminary injunction, the City argued that EPA’s and the Corps’ failure to include the City in the planning and selection of the remedy constituted a violation of a mandatory duty, enforceable under 42 U.S.C. § 9659.

Section 120’s Adoption

Congress added Section 120 to CERCLA as part of the Superfund Amendment and Reauthorization Act of 1986 (SARA). Pub. Law No. 99-499, § 120, 100 Stat. 1613 (1986). Section 120 clarifies that CERCLA applies to federally-owned facilities, and creates a separate framework for remedial activities at federal facilities which EPA has included on the NPL. Under Section 120, the responsible federal agency (here, the Corps) investigates and remediates the site, in consultation with the EPA administrator. 42 U.S.C. § 9620(e)(1)–(3). This arrangement culminates in an interagency agreement between EPA and the investigating/remediating agency. 42 U.S.C. § 9620(e)(4).

The impetus for creating a separate framework for cleanups at high priority federal facilities was Congress’ concern that cleanup at federal facilities was not proceeding apace.² At the same time, Congress created DERP, a program that requires DOD to clean up current and former military sites, such as LAFB.³ The statute expressly requires such cleanup activities to be “carried out subject to, and in a manner consistent with, section 120 (relating to Federal facilities) of CERCLA (42 U.S.C. 9620).” 10 U.S.C. § 2701(a)(2). The result is that, unlike a cleanup where EPA is regulating a private party, when EPA is overseeing a cleanup undertaken by another federal agency, Congress created a special role for local officials in the development of a remedy at such sites.

The Jurisdictional Bar of Section 113(h) Does Not Apply to Section 120 Cleanups

CERCLA practitioners are no doubt wondering why Section 113(h) did not bar the City's contemporaneous challenge. Congress passed Section 113(h), the "timing of review" provision, to ensure that cleanup efforts are not delayed by litigation:

No Federal court shall have jurisdiction under Federal law other than under section 1332 of Title 28 (relating to diversity of citizenship jurisdiction) or under State law which is applicable or relevant and appropriate under section 9621 of this title (relating to cleanup standards) *to review any challenges to removal or remedial action selected under section 9604 of this title, or to review any order issued under section 9606(a) of this title*

42 U.S.C. § 9613(h) (emphasis added); *Hanford Downwinders Coalition, Inc. v. Dowdle*, 71 F.3d 1469, 1474 (9th Cir. 1995). The purpose of Section 113(h) is to "protect[] the execution of a CERCLA plan *during its pendency* from lawsuits that might interfere with the expeditious cleanup effort. This result furthers the policy underlying CERCLA by allowing a quick response to serious hazards." *McClellan Ecological Seepage Situation v. Perry*, 47 F.3d 325, 330 (9th Cir. 1995) (emphasis in original), *cert. denied*, 516 U.S. 807 (1995).

Section 113(h) does not bar challenges to *all* cleanups, however. In addition to express statutory exceptions, Section 113(h) limits its jurisdictional bar to challenges to cleanups conducted under Section 104 or pursuant to a Section 106 order. *See* 42 U.S.C. § 9613(h); *see also Hanford*, 47 F.3d at 1474 (noting that Section 113(h) applies "once an activity has been classified as a CERCLA § 9604 removal or remedial action").

Analyzing Section 113(h), the United States Court of Appeals for the Ninth Circuit held that Section 113(h) does not bar a contemporaneous challenge to a cleanup conducted under Section 120. *See Fort Ord Toxics Project, Inc. v. California Env'tl. Prot. Agency*, 189 F.3d 828 (9th Cir. 1999). Generally, that

Section subjects the United States to CERCLA liability, requires the United States to comply with CERCLA at federally-owned facilities, and mandates certain cleanup procedures at federal facilities. 42 U.S.C. § 9620. The Ninth Circuit is the only circuit to have considered the issue.

In *Fort Ord*, a non-profit group brought a citizen suit against the U.S. Department of the Army, seeking to enjoin the Army's cleanup at the former Fort Ord Military Reservation, a site listed on the NPL. The Army moved to dismiss the citizen suit, relying on Section 113(h). Plaintiffs opposed the motion, arguing that by its terms Section 113(h) applies only to cleanups conducted under the authority of Sections 104 and 106, not cleanups, like the one at the former Fort Ord, which are conducted under Section 120. *Fort Ord*, 189 F.3d at 832. The district court disagreed, granting the Army's motion to dismiss based on Section 113(h). *Fort Ord*, 189 F.2d at 830.

The Ninth Circuit reversed. Plaintiffs argued, as they did at the district court, that "section 113(h) applies only to cleanups conducted under the authority of § 104, not cleanups, like at Fort Ord, conducted under the authority of § 120." *Fort Ord*, 189 F.2d at 832. The Ninth Circuit agreed with this position, despite its concern that doing so "would lead to a rule that is intuitively unappealing." *Fort Ord*, 189 F.2d at 832. The court continued:

This argument is troubling because its acceptance would allow plaintiffs to sue to enjoin many cleanups on federal property even though plaintiffs could not enjoin a similar cleanup on private property. But this argument, unlike plaintiffs' other claims, appears to be the most reasonable interpretation of the statutory language.

Fort Ord, 189 F.2d at 832.

The Ninth Circuit rejected the Army's argument that Section 104 is the "overarching grant of authority to conduct cleanups on both private and federal property, and § 120 simply sets special standards for cleanup at federal facilities." *Fort Ord*, 189 F.2d at 833. Although not without some misgivings, the Ninth

Circuit flatly rejected the Army's contention, explaining: "The problem is that the Army's position does not seem to be supported by the statutory text." *Id.* Given the statute's language, the Ninth Circuit concluded that "its job was to effectuate Congressional intent as expressed in the statutory text," and reversed. *Fort Ord*, 189 F.2d at 834.

In concluding that Section 120 constitutes a separate grant of cleanup authority, such that the Section 113(h) jurisdictional bar does not apply, the Ninth Circuit reviewed the many statutory distinctions between cleanups conducted pursuant to Section 104 and those conducted pursuant to Section 120. *Fort Ord*, 189 F.3d at 833 (discussing 42 U.S.C. §§ 9617(a) and 9613(g)). In so doing, the court noted that its holding would not apply to a challenge to a removal action. *Fort Ord*, 189 F.2d at 834. The Ninth Circuit also noted that, in contrast to the rest of the EPA administrator's CERCLA authorities, the administrator is prohibited from delegating its Section 120 authority to non-EPA entities. *See* 189 F.3d at 833 (discussing Section 120(g)). The Ninth Circuit concluded that Section 113(h) does not bar contemporaneous challenges to a remedial action conducted under Section 120 cleanups. *Fort Ord*, 189 F.2d at 834.

In subsequent cases, including *Moses Lake*, the United States has attempted to distinguish *Fort Ord* by arguing that the challenged activity is a removal action, not a remedial action, and thus outside the scope of *Fort Ord*. *See e.g., Monterey Bay Unified Air Pollution Control Dist. for People of State of Cal.*, 176 F. Supp. 2d 979, 987–88 (N.D. Cal. 2001) (following *Fort Ord* and holding Army's cleanup activities are remedial activities under Section 120 and subject to a citizen suit); *Moses Lake*, 2005 WL 3724919, *9. In both instances, the United States was unsuccessful. *See Monterey Bay*, 176 F. Supp. 2d at 988 (holding "the prescribed burns at *Fort Ord* are part of a remedial response action and are, therefore [sic], subject to challenge under 42 U.S.C. § 9659"); *Moses Lake*, 2005 WL 3724919, * 9 ("the court is ultimately persuaded that the proposed plan is a 'remedial action'"); *but see Shea Homes Ltd. P'ship v. United States*, 397 F. Supp. 2d 1194, 1203 (N.D. Cal. 2005) (distinguishing *Fort Ord* because

the site was not on the NPL and EPA was not involved in the cleanup).

Just as it had in *Monterey Bay*, in *Moses Lake*, the United States contended that CERCLA Section 113(h)'s bar applied only to remedial actions at federal facilities, and its activities at the Moses Lake Site constituted a "removal" action. Relying on *Fort Ord*, the City of Moses Lake argued that its citizen's suit was not time-barred.

Judge McDonald rejected the United States' reliance on Section 113(h) in light of the Ninth Circuit's holding in *Fort Ord* that Section 113(h) would not bar challenges to Section 120 cleanups at current or former federal facilities. In so doing, he noted that another district court had made no distinction between current and former federal facilities in ruling on the application of Section 120. *See Shea Homes*, 379 F. Supp. 2d at 1202.

The judge stated that the "critical issue here is whether EPA's Draft Proposed Plan constitutes a 'removal' action or a 'remedial action.'" *Moses Lake*, 2005 WL 3724919, *5. If the cleanup constitutes a "removal" action, then the cleanup could only proceed under CERCLA Section 104, and any challenge to the remedy prior to completion would be barred by Section 113. On the other hand, if the cleanup was a "remedial" action, then Section 113 would not bar the injunction sought by the City.

In determining whether the Proposed Plan was a removal or remedial action, Judge McDonald noted the definitions of the two concepts. "Remedial actions" are defined as "those actions consistent with permanent remedy instead of or in addition to removal actions," while "removal actions" include "actions as may be necessary to prevent, minimize or mitigate damage to the public health or welfare." 42 U.S.C. §§ 9601(24), (23). Judge McDonald also relied on the Ninth Circuit's recent opinion in *United States v. W.R. Grace & Co.*, 429 F.3d 1224 (9th Cir. 2005), and a line of cases holding that "removal actions generally are immediate and interim responses, and remedial actions generally are permanent responses." *Moses Lake*, 2005 WL 3724919, *6–7 (citing cases).

The court noted that the Corps began investigating contamination at LAFB in 1987 and that the Corps and EPA had entered into an agreement providing that one of the bases for authority for the cleanup at the Moses Lake Site was Section 120. It also noted that the Proposed Plan was being developed in response to a “non urgent” threat which is not “time-sensitive.” *Moses Lake*, 2005 WL 3724919, *9. Based on these findings, the court held that the cleanup constituted a remedial action. This ruling rendered *Fort Ord* applicable; as a result, the City was not barred by Section 113(h) from seeking relief.

The court entered an injunction which required EPA and the Corps to deliver the Proposed Plan to the City for review, and then required the City to request of EPA and the Corps “what it **specifically** believes is further necessary to satisfy its § 120(f) rights (*i.e.*, what specific data it needs to review).” *Moses Lake*, 2005 WL 3724919, *11 (emphasis in original). The court stated that, while it hoped the parties would be able to work out a process for review and input from the City, it would be available to adjudicate further disputes that might arise over the City’s review of data and participation in the development and selection of the remedy at the Moses Lake Site. *Id.*

Implementation of the Preliminary Injunction

Following Judge McDonald’s issuance of the preliminary injunction, the United States provided the City with copies of two feasibility studies undertaken for the Site, a copy of the Proposed Plan,⁴ and copies of the majority of EPA’s administrative file regarding the Site.⁵ Subsequent to that production, the City and the United States met to outline a process and schedule for the City’s participation in the planning and selection of the remedy at the Moses Lake Site.

The City then submitted a plan to the court detailing its view of the process necessary to protect its oversight rights under Section 120(f). The City first addressed the nature of its participation before publication of the Proposed Plan. The City requested access to the same documents and data relating to the Site that EPA, the Corps and their consultants possess. The City requested an opportunity to become familiar with the

investigation and remediation selection process that had been undertaken thus far, including the opportunity to meet and confer with EPA and Corps personnel. Following that process, the City proposed it would provide a statement of its concurrence or non-concurrence with the Proposed Plan.

As to the City’s participation following publication of the Proposed Plan, the City proposed using CERCLA Section 121(f) as a model. Section 121(f) governs States’ participation in the planning and selection of the remedy (among other processes). Section 121(f) and EPA’s implementing regulations require that EPA and the relevant state enter into an agreement detailing the nature and extent of responsibilities and interaction between the two parties during a cleanup. The City requested that EPA enter into “a similar site-specific agreement” with the City regarding the Moses Lake Site.

In its response, the United States asserted that the City’s proposal exceeded the scope of the court’s ruling, asserting that the City’s request for information/data went beyond the scope of the injunction. The United States agreed to meet with the City and consider the City’s comments to the Proposed Plan before publication. As to the City’s proposal to participate after publication of the Proposed Plan using Section 121(f) as a model, the United States rejected that proposal, but offered no alternative. The United States explained, “Given that there are myriad other parties at this Site whose input into the proposed plan, the record of decision, and the remedial actions at the site is crucial to the eventual success of those remedial actions, the United States disagrees that this discussion should take place only with the city and in the context of compliance with the court’s order regarding the proposed plan.” Finally, the United States argued that a protracted legal dispute over the issue could delay cleanup.

In his preliminary injunction order, Judge McDonald had noted that it may be necessary to adjudicate disputes between the parties regarding the implementation of the order in light of the fact that there are no regulations or case law that address the application of Section 120(f). *Moses Lake*, 2005 WL 3724919, *11. Based on the parties’ filings following

entry of the injunction, it appears that this prediction may prove true.

Implications of *Moses Lake* for Local Governments

The *Moses Lake* decision is significant because it enforces the right of local officials to participate in the planning and selection of a remedy at federal facilities and former defense facilities—a right that EPA and other federal agencies with cleanup responsibilities have ignored since Congress adopted the provision in 1986. Armed with the *Moses Lake* decision, and the Ninth Circuit’s interpretation that Section 120 cleanups are outside the scope of Section 113(h)’s jurisdictional bar, local governments finally have the means to require EPA, the Corps of Engineers and the Department of Energy, to name a few, to include local governments in the cleanup decisions that will permanently impact their constituents.

Notes:

1. “Ruling May Boost Local Oversight of Federal Facility Cleanups,” *Superfund Report via Inside EPA* (Jan. 16, 2006).
2. “There is no enforcement action available to the EPA in negotiating with violating federal agencies.” H.R. Rep. No. 99-253(V), *reprinted in* 1986 U.S.C.A.N. 3124, 3271 (statement of Rep. Moody). Part of the basis for this action was the fact that, “DOD has in fact been too slow in their response to” pollution at military bases. 131 Cong. Rec. S11998-01, 12012 (Sept. 26, 1985) (daily ed.) (statement of Sen. Wilson).
3. SARA, sec. 211 (codified at 10 U.S.C. § 2701(c)(1)(B)) provides that “The Secretary shall carry out (in accordance with the provisions of this chapter and CERCLA) all response actions with respect to releases of hazardous substances from each of the following: . . . (B) *Each facility or site which was under the jurisdiction of the Secretary and owned by, leased to, or otherwise possessed by the United States at the time of actions leading to contamination by hazardous substances.*” Pub. Law No. 99-499, § 211(1986) (Emphasis added).
4. The court’s preliminary injunction order specifically

prohibited the City from sharing the Proposed Plan, including sharing it with any of the other parties to the litigation.

5. The United States withheld some material based on assertions of the attorney-client, work product, enforcement confidential, business confidential and deliberative process privileges.

Steve Jones and Deborah Espinosa are with the Marten Law Group PLLC in Seattle and can be reached at (206) 292-2600, or at sjones@martenlaw.com and despinosa@martenlaw.com, respectively.

AMERICAN BAR ASSOCIATION SECTION OF ENVIRONMENT, ENERGY, AND RESOURCES

Calendar of Section Events

Environmental Sciences VI: Site Remediation Technologies

April 6, 2006
Teleconference

Eastern Water Resources Conference

May 11, 2006
Miami, Florida

6th Biotech Roundtable: Traits Tolerances and Traceability

June 27, 2006
St. Louis, Missouri

36th Annual Conference on Environmental Law

March 8-11, 2007
Keystone, Colorado

***For more information, see the
Section Web site at
www.abanet.org/environ or
contact the Section at 312/988-5724.***

2006 SUMMARY OF MAJOR FEDERAL RELEASE REPORTING REQUIREMENTS

Farella Braun + Martel LLP

Federal Statute	What	When to Report	To Whom to Report	Reportable Substances and Quantities	Maximum Liability for Failure to Report
<p>Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)</p> <p>Reporter: Person in charge of facility</p>	<p>Release of RQ of HS to environment in any 24-hour period</p> <p>42 U.S.C. § 9603(a) 40 C.F.R. § 302.6(a)</p>	<p>Report immediately after knowledge of release</p>	<p>National Response Center 800-424-8802</p>	<p>All substances listed as hazardous under RCRA, TSCA, CWA, and CAA, petroleum excluded</p> <p>40 C.F.R. § 302.4</p>	<p><u>Civil</u>: \$32,500 per day per violation; \$97,500 per day for subsequent violations 42 U.S.C. § 9609(a) & (b) 40 C.F.R. § 19.4</p> <p><u>Criminal</u>: fine (per Title 18 U.S.C.) and/or 3 years imprisonment (double fine and/or 5 years for subsequent violations) 42 U.S.C. § 9603(b) 40 C.F.R. § 302.7</p>
<p>Emergency Planning and Community Right-to-Know Act (EPCRA)</p> <p>Reporter: Owner/operator of facility that produces, uses, stores HCs</p>	<p>Release of RQ of HS under CERCLA or release of RQ of EHS from facility to offsite environment</p> <p>42 U.S.C. § 11004(a) 42 U.S.C. § 11002(a)</p>	<p>Report immediately after release; follow-up with written notice as soon as practicable</p>	<p>LEPC and SEPC; for release during transport call 911</p>	<p>40 C.F.R. § 355.40 App. A & B and CERCLA hazardous substances</p>	<p><u>Civil</u>: \$32,500 per day per violation; \$97,500 per day for subsequent violations 42 U.S.C. § 11045(b) 40 C.F.R. § 355.50 40 C.F.R. § 19.4</p> <p><u>Criminal</u>: \$25,000 and/or 2 years imprisonment (\$50,000 and/or 5 years for subsequent violations) for knowingly and willingly failing to provide notice 42 U.S.C. § 11045(b) 40 C.F.R. § 355.50</p>

Federal Statute	What	When to Report	To Whom to Report	Reportable Substances and Quantities	Maximum Liability for Failure to Report
Toxic Substance Control Act (TSCA) Reporter: Owner of PCB equipment or facility	PCB spill at more than 50 ppm that exceeds 10 pounds or directly contaminates surface water, sewer, drinking water, grazing land, vegetable gardens 40 C.F.R. § 761.125(a)	Report as soon as possible; and, in no case, more than 24 hours after discovery	EPA Regional Office of Prevention, Pesticides and Toxic Substances Branch National Response Center 800-424-8802	-	<u>Civil</u> : \$32,500 per day 15 U.S.C. § 2615(a) 40 C.F.R. § 19.4 <u>Criminal</u> : \$25,000 per day and/or 1 year for knowing violation 15 U.S.C. § 2615(b)
Resource Conservation and Recovery Act (RCRA) Reporter: HW or UW generator, T/S/D facility or UST owner/operator Note: Reporting obligation may only apply where release is from a hazardous waste management unit.	HW release that could threaten human health or offsite environment 40 C.F.R. § 262.34(d) 40 C.F.R. § 264.56(d) 40 C.F.R. § 265.56(d) 40 C.F.R. § 273.17(b) 40 C.F.R. § 273.37(b)	Report immediately after assessment of release	EPA Regional OSC or National Response Center 800-424-8802; and local authorities if evacuation advisable	Varies based on kg amount 40 C.F.R. § 262.34(d) 40 C.F.R. § 264.56(d) 40 C.F.R. § 265.56(d) 40 C.F.R. § 273.17(b) 40 C.F.R. § 273.37(b)	<u>Civil</u> : \$32,500 per day 42 U.S.C. § 6928(a) & (g) 40 C.F.R. § 19.4 <u>Criminal</u> : \$50,000 per day and/or 2 or 5 years (\$100,000 and/or 4 or 10 years for subsequent violations); <u>Knowing placement of a person in imminent danger of death or serious bodily injury</u> : by individual-\$250,000 and/or 15 years; by organization-\$1,000,000 42 U.S.C. §6928(d), (e) & (f)
RCRA (continued) Reporter: HW generator, T/S/D facility or UST owner/operator	HW release that creates imminent or actual emergency 40 C.F.R. § 264.56(a) 40 C.F.R. § 265.56(a)	Report immediately after determining response help needed	State or local agencies whose help is needed.	-	See above
Note: Reporting obligation may only apply when release is from a hazardous waste management unit.	Incident requiring implementation of contingency plan 40 C.F.R. § 264.56(j) 40 C.F.R. § 265.56(j)	Submit written report within 15 days of occurrence	EPA Regional Administrator 415-744-2000	-	See above

Federal Statute	What	When to Report	To Whom to Report	Reportable Substances and Quantities	Maximum Liability for Failure to Report
RCRA (continued) Reporter: HW generator, T/S/D facility or UST owner/operator	Permit noncompliance (permit holders only); Noncompliance that may endanger health or environment 40 C.F.R. § 270.30(l)	Report orally within 24 hours and in writing within 5 days. For anticipated noncompliance with permit schedule, report within 15 days of schedule date. For other noncompliance, report in routine report	EPA Regional Administrator 415-744-2000	-	<u>Civil</u> : \$32,500 per day 42 U.S.C. § 6928(a) & (g) 40 C.F.R. § 19.4 <u>Criminal</u> : \$50,000 per day and/or 2 or 5 years (\$100,000 and/or 4 or 10 years for subsequent violations); <u>Knowing placement of a person in imminent danger of death or serious bodily injury</u> : by individual-\$250,000 and/or 15 years; by organization-\$1,000,000 42 U.S.C. §6928(d), (e) & (f)
Note: Reporting obligation may only apply where release is from a hazardous waste management unit	Evidence in groundwater monitoring of contamination requiring corrective action under permit 40 C.F.R. § 264.98(g)	Notify in writing within 7 days of discovery	EPA Regional Administrator 415-744-2000	-	See above
RCRA (continued) Reporter: Owner/operator of facility that uses UST	HW release to environment from UST 40 C.F.R. § 264.196(d) 40 C.F.R. § 265.196(d)	Report within 24 hours of detection; follow-up within 30 days	EPA Regional Administrator 415-744-2000	-	See above
RCRA (continued) Reporter: UST owner/operator	Suspected release of regulated substance from UST 40 C.F.R. § 280.50 40 C.F.R. § 280.52	Report within 24 hours (or reasonable time specified by implementing agency); several later follow-ups	Implementing Agency	All CERCLA hazardous substances (but excluding hazardous waste regulated under subtitle III of RCRA) or any mixture of such substances and petroleum 42 U.S.C. § 6991(7) 40 C.F.R. § 280.12	<u>Civil</u> : \$11,000 per tank per day 42 U.S.C. § 6991e(d) 40 C.F.R. § 19.4

Federal Statute	What	When to Report	To Whom to Report	Reportable Substances and Quantities	Maximum Liability for Failure to Report
<p>RCRA (continued)</p> <p>Reporter: UST owner/operator</p>	<p>Release to environment from spill or overflow of UST: (1) over 25 gallons of petroleum (or reasonable amount specified by implementing agency, or causes surface water sheen); (2) CERCLA RQ of HS; or (3) lesser amount, if cannot clean up release within 24 hours (or reasonable time established by implementing agency)</p> <p>40 C.F.R. 280.30(b) 40 C.F.R. § 280.53</p>	<p>Report within 24 hours (or reasonable time specified by implementing agency)</p>	<p>Implementing Agency</p>	<p>All CERCLA hazardous substances (excluding hazardous waste regulated under subtitle III of RCRA) or any mixture of such substances and petroleum</p> <p>42 U.S.C. § 6991(7) 40 C.F.R. § 280.12</p>	<p><u>Civil</u>: \$11,000 per tank per day</p> <p>42 U.S.C. § 6991e(d) 40 C.F.R. § 19.4</p>
<p>RCRA (continued)</p> <p>Reporter: UST owner/operator</p>	<p>Suspected release of regulated substance from UST: confirm within 7 days (or reasonable time period specified by implementing agency) of occurrence; investigation results from analysis of suspected release</p> <p>40 C.F.R. § 280.52 40 C.F.R. § 280.61 40 C.F.R. § 280.62</p>	<p>Report within 24 hours of discovery; submit written report within 20 days (or reasonable time specified by implementing agency) after release confirmation; several additional follow-ups required</p>	<p>Implementing Agency</p>	<p>All CERCLA hazardous substances (excluding hazardous waste regulated under subtitle III of RCRA) and petroleum</p> <p>42 U.S.C. § 6991(7) 40 C.F.R. § 280.12 40 C.F.R. § 280.50</p>	<p>See above</p>
<p>RCRA (continued)</p> <p>Reporter: HW, UW or used oil transporter (air, rail, highway or water)</p>	<p>Discharge of HW during transportation</p> <p>40 C.F.R. § 263.30 40 C.F.R. § 273.54(b) 40 C.F.R. § 279.43 49 C.F.R. § 171.16 49 C.F.R. § 171.15 (if certain safety-related conditions are met)</p>	<p>Report in writing within 30 days of discovery.</p> <p>If 49 C.F.R. § 171.15 conditions met, provide oral notice as soon as practical, but no later than 12 hours after the occurrence</p>	<p>Submit written report to: Director, Office of HM Regulations, Materials Transportation Bureau</p> <p>If 49 C.F.R. § 171.15 conditions met, call National Response Center 800-424-8802. If infectious substance involved, instead may give notice to Director, Centers for Disease Control and Prevention: 800-232-0124</p>		<p><u>Civil</u>: \$32,500 per day 42 U.S.C. § 6928(a) & (g) 40 C.F.R. § 19.4 <u>Criminal</u>: \$50,000 per day and/or 2 or 5 years (\$100,000 and/or 4 or 10 years for subsequent violations); <u>Knowing placement of a person in imminent danger of death or serious bodily injury</u>: by individual-\$250,000 and/or 15 years; by organization-\$1,000,000 42 U.S.C. §6928(d), (e) & (f)</p>

Federal Statute	What	When to Report	To Whom to Report	Reportable Substances and Quantities	<u>Maximum Liability for Failure to Report</u>
Natural Gas Pipeline Safety Act (NGPSA) Reporter: Gas Transporter 49 U.S.C. §60101 <u>et seq.</u>	Release of gas causing specified damages; certain safety-related conditions 49 C.F.R. § 191.3 49 C.F.R. § 191.5 49 C.F.R. § 191.15 49 C.F.R. § 191.23 49 C.F.R. § 191.25	Report by telephone at earliest practicable moment; submit written report as soon as practicable, and no more than 30 days after release; submit safety-related report within 5-10 days of discovery to Associate Administrator	National Response Center 800-424-8802 File 5-day safety report by fax: 202-366-7128	-	<u>Civil:</u> \$100,000 per day per violation (\$1,000,000 max.) 49 U.S.C. § 60122(a) 49 C.F.R. § 190.223(a) <u>Criminal:</u> knowing or willful violations \$25,000 and/or 5 years for each offense 49 U.S.C. § 60123(a) 49 C.F.R. § 190.229(a)
Outer Continental Shelf Lands Act (OCSLA) Reporter: Lessee	Spill of RQ of oil or liquid pollutants into or upon the navigable waters, adjoining shoreline, or into or upon the waters of contiguous zones. 33 U.S.C. § 1321(b)(5) 30 C.F.R. § 254.46(a)	Immediately notify National Response Center. If more than 1 barrel, report orally without delay followed by written report no more than 15 days after spill stops	National Response Center 800-424-8802 Regional Supervisor 30 C.F.R. § 254.46(a) & (b)	33 U.S.C. § 1321 30 C.F.R. § 254.46(b)	<u>Civil:</u> \$30,000 per day per violation 30 C.F.R. § 250.1403 <u>Criminal:</u> fine (per Title 18 U.S.C.) and/or 5 years 33 U.S.C. § 1321(b)(5)
Hazardous Materials Transportation Act (HMTA) Reporter: Person in physical possession of HM	HM releases during transportation (including loading, unloading and temporary storage), which create situation that, in carrier's judgment, should be reported to department (e.g., causes continuing danger to life at scene or creates specific conditions described in 49 C.F.R. § 171.15) 42 U.S.C. § 9656 40 C.F.R. § 263.30 49 C.F.R. § 171.16	Report at earliest practicable moment after occurrence, but no later than 12 hours after incident. Follow-up within 30 days of discovery Submit written report only for unintentional release of HM, discharge of any quantity of hazardous waste, structural damage to >1,000 gal cargo tank, or discovery of undeclared HM (with certain exceptions). 49 C.F.R. § 171.16.	National Response Center 800-424-8802. Submit written follow-up to Office of Information Systems Management, Department of Transportation	49 C.F.R. § 171.8 49 C.F.R. § 172.101 49 C.F.R. § 172.102 All CERCLA HS	<u>Civil:</u> \$50,000 per violation 49 U.S.C. § 5123** <u>Criminal:</u> fine (per Title 18 U.S.C.) and/or 5 years for knowing or willful violation. <u>Release of a HM that results in death or bodily injury to any person:</u> 10 years 49 U.S.C. § 5124

**Note that the corresponding regulation, 49 .C.F.R. § 107.329, does not conform to 49 U.S.C. § 5123 and provides that the maximum civil penalty is \$32,500 per violation.

Federal Statute	What	When to Report	To Whom to Report	Reportable Substances and Quantities	Maximum Liability for Failure to Report
Clean Air Act (CAA) Reporter: Owner/operator of a NESHAP affected source	Action taken by owner/operator during a startup, shutdown or malfunction that is not consistent with the affected source's startup, shutdown or malfunction plan 40 C.F.R. § 63.10(d)(5)(ii)	Report within two working days; follow up with letter within seven working days	EPA Administrator or state delegate		<u>Civil:</u> \$32,500 per day per violation 42 U.S.C. § 7413(b) 40 C.F.R. § 19.4 <u>Criminal:</u> fine (per Title 18 U.S.C.) and/or 5 years for knowing violation 42 U.S.C. § 7413(c) (doubled for subsequent violations)
CAA (continued) Reporter: Facility owner/operator	Deviation from permit requirements or knowing release of any hazardous air pollutant or EHS 42 U.S.C. § 7413 40 C.F.R. § 70.6(a)(3)(iii)(B) 40 C.F.R. § 71.6(a)(3)(iii)(B)	Report "promptly", as defined by the permitting authority for degree and type of deviation. 40 C.F.R. § 71.6(a)(3)(iii)(B) outlines the timing for reporting federal permit deviations.	Implementing Agency	-	<u>Civil:</u> \$32,500 per day per violation 42 U.S.C. § 7413(b) 40 C.F.R. § 19.4 <u>Criminal:</u> <u>Negligent violations:</u> fine (per Title 18 U.S.C.) and/or 1 year (double for subsequent violations); <u>Knowing violations:</u> by individual fine (per Title 18 U.S.C.) and/or 15 years; by organization \$1,000,000 (double for subsequent violations) 42 U.S.C. § 7413(c).
Clean Water Act (CWA) Reporter: Person in charge of facility or vessel	Discharge of RQ of HS or oil to surface water in any 24-hour period 33 U.S.C. § 1321(b)(5) 40 C.F.R. § 117.21 40 C.F.R. § 300.300	Report immediately after knowledge of discharge 33 C.F.R. § 153.203	National Response Center 800-424-8802	40 C.F.R. § 110.1 40 C.F.R. § 116.1 et seq. 40 C.F.R. § 117.1 et seq. 40 C.F.R. § 302.4 Harmful quantity of oil is anything that causes sheen.	<u>Criminal:</u> fine (per Title 18 U.S.C.) and/or 5 years 33 U.S.C. § 1321(b)(5)

Federal Statute	What	When to Report	To Whom to Report	Reportable Substances and Quantities	<u>Maximum Liability for Failure to Report</u>
<p>CWA (continued)</p> <p>Reporter: Permittee</p>	<p>Noncompliance with NPDES permit</p> <p>40 C.F.R. § 122.41(l)</p>	<p>If endangering health or environment, report orally within 24 hours, and in writing within 5 days of knowledge. For noncompliance with permit schedule, report within 14 days of schedule date. For other noncompliance, report within routine reports.</p>	<p>EPA Regional Administrator 415-744-2000</p>	<p>-</p>	<p><u>Administrative:</u> <u>Class I:</u> \$32,500 per violation; <u>Class II:</u> \$157,500 per violation 33 U.S.C. § 1319(g) 40 C.F.R. § 122.41(a) 40 C.F.R. § 19.4</p> <p><u>Civil:</u> \$32,500 per day, per violation 33 U.S.C. § 1319(d) 40 C.F.R. § 122.41(a) 40 C.F.R. § 19.4</p> <p><u>Criminal:</u> <u>Negligent violations:</u> \$25,000 per day and/or 1 year (\$50,000 per day and/or 2 years for subsequent violations); <u>Knowing violations:</u> \$5,000-\$50,000 and/or 3 years (\$100,000 and/or 6 years for subsequent violations); <u>Knowing endangerment of another:</u> by individual-\$250,000 and/or 15 years (\$500,000 and/or 30 years for subsequent violations); by organization-\$1,000,000 (\$2,000,000 for subsequent violations) 33 U.S.C. § 1319(c) 40 C.F.R. § 122.41(a)</p>
<p>CWA (continued)</p> <p>Reporter: Industrial Users</p>	<p>Discharge that could cause problems for POTW</p> <p>40 C.F.R. § 403.12(f)</p>	<p>Report immediately</p>	<p>POTW</p>	<p>-</p>	<p>See above</p>

ABBREVIATIONS

CAA	=	Clean Air Act
EHS	=	extremely hazardous substance
EPA	=	Environmental Protection Agency
HC	=	hazardous chemical
HM	=	hazardous material
HS	=	hazardous substance
HW	=	hazardous waste
LEPC	=	Local Emergency Planning Committee
NPDES	=	National Pollution Discharge Elimination System
OSC	=	On-scene Coordinator
PCB	=	polychlorinated biphenyl
POTW	=	publicly owned treatment works
RQ	=	reportable quantity
TSCA	=	Toxic Substance Control Act
SEPC	=	State Emergency Planning Commission
T/S/D	=	treatment/storage/disposal facility
UST	=	underground storage tank
UW	=	universal waste

NOTES

- (1) This summary does not constitute legal advice. ALWAYS consult a qualified attorney with respect to release reporting requirements.
- (2) This summary only lists reporting requirements for accidental releases. Some statutes have additional reporting requirements for operational releases.
- (3) Many terms used herein are expressly defined by statute and regulation. Although different statutes and regulations use the same terms, they often define them differently, and definitions can be quite complex. Therefore, definitions must be checked in each case.
- (4) Most of these reporting requirements have certain exceptions; these, too, should be checked in each case.
- (5) The monetary amounts are for maximum civil and criminal fines, unless otherwise noted.

For further information regarding these requirements, please contact Robert “Buzz” Hines, Environmental Group chair person at Farella Braun + Martel LLP, at (415) 954-4400 or rhines@fbm.com.