Federal Facility Cleanup Dialogue

Department of Energy and Department of Defense Sites

October 20, 2010

Meeting Summary Report

Facilitator Notes:

This summary is designed to assist in identifying themes and appropriate next steps. Thus, it is primarily organized by topic, not chronologically. Note that there is some overlap between themes. Presentations by government officials are included in more detail and with attribution to provide context. The majority of the document summarizes successes, challenges, and ideas for improvements identified by those other than federal officials.

Introduction

The Federal Facility Cleanup Dialogue regarding Department of Energy and Department of Defense sites was held on October 20, 2010, in Washington, D.C. The purpose of the meeting was to discuss the federal facility cleanup program progress and challenges and to identify potential next steps for addressing the challenges of federal facility site cleanups. More detail regarding the purpose of the meeting can be found in Attachment A. Participants in attendance included federal agency officials from the US Environmental Protection Agency (EPA), US Department of Energy (DOE), and US Department of Defense DOD (including Air Force, Army, and Navy officials); state, tribal, and local government representatives; and national and local community members from across the country that are actively engaged in and/or concerned about the cleanup program. An updated participant and observer contact list can be found in Attachment B. The agenda and ground rules for the meeting can be found in Attachment C. Presentation materials were prepared by three participants: Michael Houlemard, Jr., Lirio Marquez-D'Acunti, and Michael Glaab. These materials can be found in Attachment D.

This summary is organized as follows:

I. Opening comments by:
   - A. Kristi Parker Celico, facilitator, Rocky Mountain Collaborative Solutions
   - B. Mathy Stanislaus, Assistant Administrator of U.S. EPA's Office of Solid Waste and Emergency Response
   - C. Cynthia Giles, Assistant Administrator of U.S. EPA's Office of Enforcement and Compliance Assurance
   - D. Mildred McClain, Executive Director of the Harambee House/Citizens for Environmental Justice
   - E. Bill Levitan, Director of U.S. DOE's Office of Compliance within the Office of Legacy Management
   - F. Dorothy Robyn, U.S. DOD Deputy Under Secretary for Installations and Environment.

II. Substantive themes that emerged throughout the day including lunch discussions
   - A. Advisory Boards
   - B. Cleanup Complexity
   - C. Community Involvement
   - D. Environmental Justice
   - E. Long-term Stewardship
   - F. Resource/Budget Issues
   - G. State and Local Government Involvement
   - H. Tribal Issues

III. Discussion of suggestions for a path forward

IV. Closing comments by:
   - A. Lenny Siegel, Executive Director, Center for Public Environmental Oversight
   - B. Mathy Stanislaus, Assistant Administrator of U.S. EPA's Office of Solid Waste and Emergency Response

I. Opening Comments

A. Kristi Parker Celico, Facilitator, Rocky Mountain Collaborative Solutions. Kristi Parker Celico provided context for the meeting by looking back at two previous multi-stakeholder efforts to address concerns about federal facility cleanups: the Federal Facility Environmental Restoration Dialogue Committee (FFERDC)[1] during the 1990s, and the National Environmental Justice Advisory Council's (NEJAC)[2] Federal Facilities Working Group from the early 2000s. Both of these efforts produced consensus recommendations that resulted in significant changes for how cleanups are conducted. Kristi noted that a number of years have passed since FFERDC and NEJAC and that this is an opportunity to share cleanup successes and to identify new issues requiring attention and resolution.

B. Mathy Stanislaus, Assistant Administrator of U.S. EPA's Office of Solid Waste and Emergency Response. Mathy Stanislaus thanked everyone for attending and attributed the great turnout as an indication of participants' willingness to engage on the issues. Mr. Stanislaus noted the substantive contributions of the FFERDC and NEJAC reports as well as the strong relationships that were established in developing the reports and their recommendations. These reports provide a strong foundation for moving forward and addressing new issues and challenges. Mr. Stanislaus further noted that community engagement is one of his top priorities, and that this meeting is intended to reinvigorate engagement among all stakeholders. Mr. Stanislaus stated that his vision for the meeting was to:

- Have a blunt yet respectful conversation about challenges of federal facility cleanups;
- Clarify federal roles and responsibilities; and
- Develop a longer-term strategy for addressing key issues.

Mr. Stanislaus stated that the outcomes from this meeting will include development of a summary report and meetings with the federal partners to determine which issues can be addressed at local and national levels, respectively. He also anticipated ongoing conversations with stakeholders. Mr. Stanislaus concluded by thanking everyone for their passion and long-term commitment to this effort.

C. Cynthia Giles, Assistant Administrator of U.S. EPA's Office of Enforcement and Compliance Assurance (OECA). Cynthia Giles thanked everyone for attending and their commitment to the issues and expressed appreciation for the opportunity to listen and learn. Ms. Giles noted that she wears two hats with respect to this meeting: 1) as the Assistant Administrator of OECA, she ensures that federal facilities live up to their obligations and comply with federal statutes, and 2) as the Environmental Justice Program Manager, she seeks to ensure that communities are not overburdened with contamination issues. The objectives of OECA's work are to 1) protect public health and the environment; 2) build economic vitality; and 3) build trust between communities and government.

[1] The full FFERDC report can be found at http://www.epa.gov/fedfac/pdf/fferdc.pdf
[2] The full NEJAC report can be found at http://www.epa.gov/compliance/ej/resources/publications/nejac/ffwg-final-rpt-102504.pdf

D. Dr. Mildred McClain, Executive Director of the Harambee House/Citizens for Environmental Justice and representative of the Federal Facility Cleanup Dialogue Planning Committee. Dr. McClain expressed excitement about taking this next step to move toward resolution of cleanup issues. She noted that a lot of work has been done over the last 15 to 20 years, but there has been a lag due to changes in leadership and priorities. Dr. McClain expressed hope that this meeting is the first step in a long process of engagement. She stressed the need for mechanisms to track implementation of FFERDC and NEJAC recommendations. She also observed that there are real environmental justice and tribal issues and that thoughtful conversation is needed. She said that we need to rebuild trust to move forward on the key federal facility issues and that we need to engage neighbor-to-neighbor to promote long-term stewardship. Dr. McClain called for a plan to come out of this meeting that helps the group effectively move forward.

E. Bill Levitan, Director of U.S. DOE's Office of Compliance within the Office of Legacy Management. Bill Levitan noted that he was sitting in for Inez Triay, the Assistant Secretary of DOE's Office of Environmental Management, who was attending a commemoration at the Savannah River site. Mr. Levitan noted that DOE has 107 sites and has addressed all but 18 of the most challenging that are contaminated with chemicals and radioactive waste. DOE has 240 underground storage tanks storing 80-90 million gallons of radioactive waste. DOE has an active public involvement program that includes the following elements:

- Eight site-specific advisory boards (SSABs) that make recommendations to field managers. SSABs meet with and report to local communities.
- Inter-government interfaces with the State and Tribal Government Working Group, National Governors Association, National Association of Attorneys General, National Conference of State Legislatures, and Environmental Council of the States. DOE meets twice a year with these groups.
- Government-to-government consultations with tribal nations. DOE has cooperative agreements with eight tribes.
- DOE's community involvement fund is issuing $1 million in grants to community groups. Requests for proposals for these grants will be issued in December 2010.

DOE has accomplished a lot over the last 20 years including success at the Rocky Flats site. It recently issued a "Roadmap to Excellence,"[3] which is a pre-decisional draft developed internally. DOE is requesting comments and feedback. The roadmap discusses seven DOE goals: 1) Building treatment facilities; 2) Reducing life-cycle costs; 3) Completing disposition of 90 percent of the legacy transuranic waste by 2015; 4) Reducing the size of DOE's legacy footprint; 5) Improving safety; 6) Improving contractor management; and 7) Making DOE's Office of Environmental Management one of the best places to work in the federal government.

F. Dorothy Robyn, U.S. DOD Under Secretary for Installations and Environment. Dorothy Robyn observed that the original FFERDC process was a bonding experience and the issues today are still very familiar. During the Clinton Administration there was a culture of defense downsizing and base closures; part of that plan was to streamline environmental cleanups when conducting base closure activities. The creation of

[3] The Roadmap to Excellence can be found at http://www.em.doe.gov/pdfs/Roadmap.pdf

Restoration Advisory Boards (RABs) was a big step toward this goal. Ms. Robyn also noted the availability of other resources, such as technical assistance grants for communities and American Indian and Alaskan Native consultation processes. Ms. Robyn stated that her goal for the meeting was to learn how DOD is doing regarding cleanups and how it can do better. She said that DOD is trying to shift to a culture of prevention to avoid creating legacy issues.

II. Substantive Themes

The following themes were identified based on the comments of individual participants, large group dialogue, and small facilitated roundtable discussions pertaining to the challenges associated with federal facility site cleanups and possible approaches for addressing the challenges.

A. Advisory Boards: Numerous participants discussed the effectiveness of advisory boards at their sites – whether RABs, SSABs, or Community Advisory Boards/Groups. Where advisory boards work well, they are representative of the broad range of community interests, have a good working relationship with the federal agency that operates the site, participate in site decisions, keep the community informed of the advisory board's activities, and provide opportunities for community members to participate in advisory board meetings. Where advisory boards do not work well, the boards are not representative of the broader community and may in fact serve as a mouthpiece for the agency (i.e., "yes" boards), do not make information accessible or share it in a timely manner, and do not serve as a communication link between the community and the agency. They tend to serve as a place where agencies brief members on activities they have already taken—as opposed to seeking their input in advance. Suggestions for improving advisory boards include:
   - Develop a mechanism to evaluate the effectiveness of advisory boards.
   - Convene a group to examine the current framework for advisory boards and suggest an ideal design that would include fundamental requirements for advisory boards but allow tailoring for community-specific needs.
   - Establish a national Ombuds office to address advisory board and community problems.
   - Create a National level advisory board on advisory boards.

B. Cleanup Complexity: A number of participants spoke about the complexity of cleanups. Some inquired about "how clean is clean," whether agencies are focusing on cleaning up the "right" hazards, and how much effort is going toward actual cleanup versus stabilization. In this context, some participants discussed the challenges associated with leaving hazardous materials on site and the use of institutional controls (addressed more fully in the discussion of long-term stewardship below). Others spoke about the long-term nature of cleanups and the need to deal with the "long tail," or extended period of monitoring cleanup effectiveness. Participants discussed the importance of keeping abreast of and sharing information about cleanup technology developments to address challenges for which long-term solutions do not yet exist, such as spent nuclear fuel. Participants also discussed natural resource damage assessments and the extended time horizon for returning sites – especially DOE sites – to baseline conditions. Policy ideas for addressing the issue of cleanup complexity include:

- EPA should elevate the importance of Five-Year Reviews. These reviews should require an assessment of new technologies and their applicability to address site cleanup challenges more effectively. Further, they should provide the opportunity to conduct long-term cost-benefit analyses to weigh the real costs of near-term remediation against long-term operations and management costs.
- Create a mechanism to track technology developments and share this information among agencies.

C. Community Involvement: Many participants discussed the importance of proactive public/community involvement throughout the site cleanup process and noted that advisory boards, while important, are merely one mechanism for community involvement. Some participants lamented that agencies at some sites had retreated to the "decide, announce, defend" method of decision making rather than providing for true community involvement in the decision process. Other community members spoke favorably about their degree of involvement with site-level agency cleanup staff. This discussion underscored the lack of consistency across agencies and sites regarding how community involvement is considered and implemented and the implications associated with uneven community involvement. Participants stressed the importance of community involvement in building trust between agencies and communities and the link between trust and effective site cleanups. Many observed that trust is an important indicator of cleanup success – where trust is present, the cleanup goes well; where it is absent; the cleanup does not. Suggestions for improving community involvement practices include:
   - Perform an objective third-party analysis of the implementation of FFERDC community involvement and capacity building recommendations. Current successes are often based on individual initiative rather than institutional processes.
   - Institutionalize effectiveness through a mentoring program. Staff who understand and practice effective community involvement can mentor others in their agency and help create expectation about norms/standards of practice for engaging with communities.
   - Establish agency Ombudsmen to address concerns about community involvement.
   - Develop consistent metrics across agencies/sites and communities about what constitutes public involvement and effective public involvement training programs.
   - Foster training programs for community members to be trained to work on site cleanups. This will bring jobs to the community, develop community capacity, and gives community members a sense of participation, contribution, and empowerment. Over time it may reduce the need for outside consultants.
   - Emphasize the importance of community involvement by allowing communities to receive and comment on draft documents at the same time as other agencies.
   - Improve information about the availability of grants or other resources available to communities.

D. Environmental Justice: Some participants stressed the importance of holistically integrating environmental justice concerns throughout the site cleanup process and noted that there is an Executive Order on Environmental Justice[4] that creates a framework for business between government and communities. Many of the issues and suggestions

[4] The Executive Order can be found at http://www.archives.gov/federal-register/executive-orders/pdf/12898.pdf

discussed in the section of community involvement are especially applicable to environmental justice communities. Agencies need to share information freely, engage in proactive community involvement, work to build trust through ongoing engagement with the community, and strive to build the capacity of environmental justice communities to participate in site decision and cleanup processes. These activities are important for empowering communities to participate.

In addition, participants reminded federal agencies about the public health consequences of hazards exposure and the need for urgent and sustained action to complete cleanups. Some asserted that long-term exposure in some communities has led to multi-generational health consequences. Environmental justice communities are looking for acknowledgment from these agencies about the harm they have caused communities.

Participants offered the following suggestions for addressing environmental justice issues:

- Commit resources to build the technical capacity of communities.
- Continue environmental justice training for agency leadership.
- Involve the Agency for Toxic Substances and Disease Registry (ATSDR) in discussions about public health impacts.

E. Long-Term Stewardship: A number of participants spoke about site cleanup and long-term stewardship issues. Many noted that while sites are being cleaned up, agencies and citizens alike did not anticipate the need for long-term stewardship (the use of institutional controls, and the need for ongoing operation and maintenance) in situations where contamination was left in place. These activities were not budgeted for, and some participants expressed concern that agency attention to long-term stewardship suffers in times of resource scarcity. They noted that among agencies there is a lack of serious evaluation of and funding for institutional controls and long-term stewardship measures, and that there needs to be renewed discussion of these issues. A tribal participant noted that long-term stewardship does not end with institutional controls. Any institutional controls that prohibit tribal use of tribal lands do not meet the goal of long-term stewardship. Suggestions for addressing long-term stewardship issues include:
    - Explicitly address funding for institutional controls in the Record of Decision.
    - Finalize the EPA 2003 Institutional Controls guidance and get federal agencies to follow it; this may require discussions between EPA and other federal agencies over authorities.
    - Engage General Services Administration and get them to write a new policy for institutional controls.
    - Commit funding from agencies to cover the costs of institutional controls, including title work, surveys, and state/local/community operation and maintenance costs.
    - Provide up-front involvement for local community involvement in determining future land use in remedy decisions as part of institutional controls discussion.

F. Resource/Budget Issues: A number of participants spoke about the importance of budget issues and wondered how agencies will be able to meet their cleanup goals and monitor the use of institutional controls in a climate of limited resources, especially as Stimulus funds decline. Others spoke about the need to put cleanup programs on equal footing with other government obligations. While there weren't specific suggestions for

obtaining greater resources for cleanups, participants inquired whether budget formulation could be done in a more transparent and collaborative manner by involving communities.

G. State and Local Government Involvement: State and local government agency representatives stressed the need for greater involvement in site cleanup decisions. Local government representatives stressed the importance of involving local governments in site decisions to foster productive reuse and economic development of cleaned parcels and safe and appropriate use of parcels in proximity to contaminated facilities. One challenge that local governments face is they often lack staff capacity to review site documents; they need advocates for small governments to augment small workforces. Further, local government representatives noted that infighting between/among multiple federal agencies about site cleanup responsibility delays the cleanup process. Inter-federal agency coordination and cooperation is an area that needs improvement, and it will help build community trust in government actions.

   State government participants observed that strong state involvement and oversight has resulted in successful clean ups (e.g., Rocky Flats). States are independent regulators—they are one step removed and can be objective through the process. One challenge that states face is federal resistance to treat state laws and regulations as Applicable or Relevant and Appropriate Requirements in site cleanups. Another challenge is that states want to help with redevelopment, but communities do not understand what agencies can and cannot do and states are caught in the middle.

H. Tribal Issues: Tribal participants spoke about the importance of tribal government-to-government engagement with federal agencies. Tribal perspectives are based on their connection to the land and tribal traditions. One participant spoke of the need for federal agencies to comply with treaty rights. Congress and the Office of Management and Budget are not aware of the nuances of treaty rights and how to implement them—this impedes true government-to-government consultation. There are challenges as people are not aware of trust responsibilities. Another participant discussed the need to work with communities, especially tribal communities, to develop appropriate definitions of health. There needs to be an acknowledgment that tribal subsistence practices and the use of natural foods and medicines make tribes especially vulnerable to environmental contamination.

   Suggestions for how federal agencies can work more effectively with tribes, include:
   - Developing a Memorandum of Understanding (MOU) where roles are identified and can be carried through changes in administration.
   - Even though regulations are enforced from Washington, DC, everything happens at a local level—there needs a process to work together and communicate effectively.
   - People who approach tribes need cultural sensitivity training and it may prove helpful to have a local person implement regulations—perhaps have a local liaison that is knowledgeable about the national policies but in tune with local issues.

III. Suggestions for a Path Forward:

Mathy Stanislaus began this discussion by stating that federal agencies need to determine who owns each issue and how they will need to engage in the process. One participant responded by asserting that there are things that federal agencies can do now to help communities. For example, EPA should get funding for technical assistance, and agencies can help repair non-functioning or dysfunctional advisory boards and ensure greater consistency across advisory boards. In terms of longer term efforts, long-term stewardship appears ripe for a continuing dialogue. There needs to be a shift in focus from getting remedies in place to protecting people—there is no national policy. DOD and DOE issues appear similar and could benefit from cross-discussion. Other participants concurred that long-term stewardship is an issue worthy of greater discussion.

Many participants suggested that any ongoing dialogue should discuss power-sharing, trust, resources, and the roles of communities, tribes and other stakeholders. It should involve the sharing of lessons learned and build the capacity of young leaders to participate in the process. Further, it should result in empowering communities to be their own agents of change. One participant summarized the desire for ongoing dialogue by stating that site cleanups involve complex technical problems, but that solving these problems requires a diversity of thought.

IV. Closing Remarks:

A. Lenny Siegel, Executive Director, Center for Public Environmental Oversight. Mr. Siegel asserted that the time is ripe now to forge forward with national dialogues. He acknowledged there are trust issues but that it is important for stakeholders to work together. It is equally important for federal agencies to work with communities and not to continue to tell communities what they (the federal agencies) cannot do. There needs to be diversity of thought and people who can argue respectfully. He stated that broadening the discussion will promote transparency and help solve conflicts with and among federal partners.

B. Mathy Stanislaus, Assistant Administrator of U.S. EPA's Office of Solid Waste and Emergency Response. Mathy Stanislaus closed the meeting by thanking everyone for their participation, honesty, and putting issues on the table. He reiterated his commitment to improve community involvement in the decision-making process. He noted that there will be challenges as this process moves forward and that communities have expectations for results. There are some institutional processes for addressing some issues, such as the recommendation to have an Ombudsman for site-specific issues or non-functioning advisory boards. Other issues, such as a national policy on long-term stewardship, will require further discussion. (As a side note, he informed participants that in November 2010 EPA will release a document on Institutional Controls.) Federal agencies will need to determine what subset of issues they can focus on and fix immediately to help struggling communities.

In terms of next steps, Mr. Stanislaus indicated that participants will receive a meeting summary and that he commits to meeting with federal partners to discuss and plan how they can move forward effectively.

Attachment A

Federal Facility Cleanup Dialogue

October 20-21, 2010

Washington Plaza Hotel,
10 Thomas Circle NW
Washington, DC 20005-4106

The Federal Facility Cleanup Dialogue (Dialogue) will serve as a forum for Federal agencies; tribal, state, and local governments; communities, environmental groups and academia to discuss the Federal facilities cleanup program progress. The objectives of the Dialogue include fostering effective communication among stakeholders, discussing and prioritizing challenges of federal cleanups, and establishing potential next steps for addressing the future challenges of federal facility site cleanups.

The Dialogue is a two-day event that will be held on October 20-21, 2010, at the Washington Plaza Hotel in Washington, DC. Due to the difference in the nature of challenges faced at Department of Energy (DOE) and Department of Defense (DOD) sites, compared with those at Department of Interior (DOI) and Department of Agriculture (USDA) sites, we have decided to hold two meetings to more fully address these challenges. The October 20th meeting will focus on issues relevant to DOE and DOD sites, while October 21st will focus on issues pertaining to DOI and USDA sites.

The desired outcome of the Dialogue is that Federal agencies, tribal, state, and local governments and communities develop a common understanding of program successes and future challenges, and identify how to work towards resolution of these challenges.

DOD and DOE Dialogue Participants October 20, 2010					
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10	Carter	Tony		tony.carter@hq.doe.gov	Department of Energy
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AGENDA
FEDERAL FACILITY CLEANUP DIALOGUE
DOE AND DOD FEDERAL FACILITIES
October 20, 2010[1]

Tuesday, October 19, 2010

6:00 p.m. to 8:00 p.m. — Registration and Reception, Diplomat Room, Second Floor, Washington Plaza Hotel, 10 Thomas Circle, N.W. , Washington, D.C.

Wednesday, October 20, 2010

8:15 a.m. — Registration and Continental Breakfast Available for Participants and Observers. Outside the National Hall, Washington Plaza Hotel

9:00 a.m. — Opening of Meeting and Introductions of all Participants and Observers. Kristi Parker Celico and Steve Garon, Facilitators

9:15 a.m. — Opening Comments

- Mathy Stanislaus, Assistant Administrator, EPA Office of Solid Waste and Emergency Response
- Cynthia Giles, Assistant Administrator, EPA Office of Enforcement and Compliance Assurance
- Mildred McClain, Citizens for Environmental Justice, Planning Committee Representative

9:30 a.m. — Review Purpose of the Day, Agenda, and Ground Rules. See Attachment A at the back of this agenda regarding proposed purpose and ground rules.

9:40 a.m. — Expectations and Desires from DOE and DOD

- Bill Levitan, Director, Office of Compliance within the Office of Environmental Management, Department of Energy
- Dorothy Robyn, Deputy Under Secretary for Installations and Environment, DOD

[1] Please note: The facilitators may adjust the times and content of this agenda based on the needs of the group.

10:00 a.m. Kick-off Comments

We have asked a diversity of participants to prepare comments to the following two questions to help launch the discussion:

- What's working best and should be shared with other sites?
  and/or
- What is the biggest clean-up problem and what policy approach could help address it?

Speakers should limit their comments to no more than three minutes.

- Michael Houlemard, Ford Ord Reuse Authority
- Willie Preacher, Shoshone-Bannock Tribe
- Lirio Marquez-D'Acunti, Vieques Advisory Board
- Pam Larson-Brown, local governments near Hanford
- Dan Miller, Colorado Attorney General's Office
- Jane Diamond, Region 9, EPA
- Marylia Kelly, Tri-Valley CARES

10:30 a.m. Break

10:45 a.m. Dialogue Discussion. Open discussion regarding what's working and what's not.

12:30 p.m. Working Lunch in the Hotel Lounge.
All meeting participants will be assigned seating to facilitate lunch discussions. Meeting observers may sign up to participate in lunch to the extent space allows. Sign-up is at the registration table. The cost is $18 in cash for all participants and observers.

- Why Collaborate? Tad McCall, past senior official at the Navy, Air Force, and EPA. Past Chair of the Federal Facility Environmental Restoration Dialogue Committee (FFERDC Dialogue).
- Facilitated round table discussions, based on discussions of the morning:
  - What are the top three challenges?
  - What are the best policy solutions to explore for these challenges?
  - Who should be involved in the exploration?

2:00 p.m. Brief Summary of Roundtable Discussions

2:15 p.m. Next Steps: Given what you have heard, suggestions for a path forward?

- What individual actions (agency or interest groups) can be taken to improve clean-ups?
- What collaborative actions can be taken to improve clean-ups?
- How should lessons learned be shared?

3:15 p.m. Closing Remarks:

- Lenny Siegel, Center for Environmental Oversight, Planning Committee Representative
- Mathy Stanislaus, OSWER

3:30 p.m. Adjourn

Attachment A:
Purpose of the Meeting and Meeting Ground Rules[2]

Purpose for the meeting is to:

Hold a forum for Federal agencies; tribal, state, and local governments; communities, environmental groups and academia to discuss Federal facility cleanup program progress, issues and lessons learned. The Dialogue will create the opportunity for all stakeholders to assess the status of the federal facilities program.

Desired Outcome:
Federal agencies, communities and other stakeholders will have an opportunity to share their individual experiences and perspectives of program successes and issues, and identify a range of ideas regarding how to work towards resolution of the remaining issues.

Objectives:

- Foster effective face-to-face communication among stakeholders
- Assess the progress of the Federal Facilities cleanup program
- Identify successes
- Identify and prioritize issues
- Establish next steps towards resolution of issues

Possible follow-up after the meeting:

- A draft meeting summary sent to all participants for comment
- A meeting between the federal agencies to discuss what they heard and next steps, if any.
- A mailing to all participants including the final meeting summary and a summary of the next steps agreed to at the federal agency meeting.

What these meetings will NOT be:

- An effort to reach consensus in a single day.
- A decision-making meeting. It is expected that the agencies will need to consider the advice they hear and determine next steps afterwards.

Meeting Ground Rules:

1. Share the meeting time
2. If raising problems, propose solutions.
3. Focus on problems that are common to many sites. Site-specific issues should be addressed off-line.
4. Avoid acronyms.
5. Avoid personal attacks
6. To the extent participants and observers choose to speak to the media after the meeting, please summarize only your own thoughts. Do not attempt to summarize what others said.

[2] Developed in collaboration with the Planning Committee.

Attachment D-1

Community Involvement and Outreach Program

ACCORD

Acknowledge
diverse views and voices

Communicate
regularly with stakeholders

Comprehensive
education and information

Opportunity
for active community participation

Responsive
to personal communication and inquiries

Dedicated
to inclusive community involvement and outreach

FORA ESCA Remediation Program

Vieques/Roosevelt Roads:

what has worked…
and what has not
in the cleanup dialogue

Lirio Márquez-D'Acunti
Vieques TRC/RAB member since 2001
Roosevelt Roads RAB member since 2005

The context


ATLANTIC OCEAN
CARIBBEAN SEA
Roosevelt Roads
Puerto Rico
Vieques
Isabela
Aguadilla
Arecibo
Dorado
San Juan
Manati
Bayamón
Carolina
San Sebastian
Utuado
Río Grande de Manatí
Lago Loíza
Fajardo
Ceiba
Río Grande de Añasco
Mayagüez
Caguas
Juncos
Adjuntas
Aibonito
Humacao
Cayey
Coamo
Vieques
Isla de Vieques (Puerto Rico)
San Germán
Yauco
Ponce
Yabucoa
Guayama
Playa de Ponce
Santa Isabel
Isla Caja de Muertos
Isla Desecheo (Puerto Rico)
Isla Mona (Puerto Rico)
Isla de Culebra (Puerto Rico)
Mona Passage
Pasaje de Vieques
International Airport of Puerto Rico
67°30′
67°00′
66°30′
66°00′
65°30′
19°00′
18°30′
18°00′
17°30′
0 20 40 Miles
0 20 40 Kilometers

The context

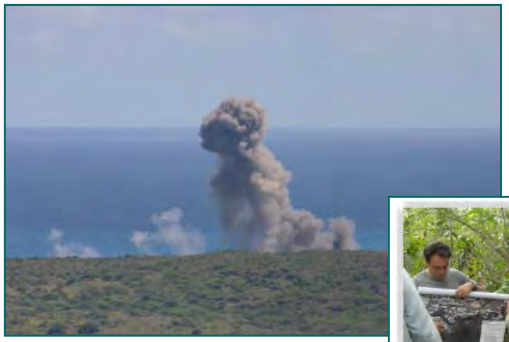
- These processes are quite different: Vieques was used for over 60 years as bombing and maneuvers range; Roosevelt Roads was a Navy base
- Vieques is a superfund site –cleanup governed by CERCLA
- Roosevelt Roads -RCRA and the Navy's intent to sell most of the property

What has worked - Vieques

- Navy and community representatives established working relationship of mutual respect
- The facilitator: bilingual, latina, understands the political context and idiosyncrasies
- Simultaneous translation of meetings
- Training and hiring of community residents to work on the cleanup

What has worked - Vieques

- Navy has at times incorporated community recommendations into their plans, prior to carrying out proposed activities –unfortunately, it has depended on good will, as they are not obligated by guidance to do so
- Graphic presentations, site visits, workshops, conference calls



What has worked - Vieques

- Stability – Same project manager, same facilitator, contractors' representatives, agency representatives and most of the community members for 10 years

What has not worked – Both RABs

- Community input/participation is pro-forma, not real because the way the process is designed, it doesn't allow real participation, rather it becomes a checklist of actions that can be complied with after decisions have been made or actions have been completed.
- Meetings are reporting sessions after the fact rather than discussions regarding future plans/actions because of above-mentioned situation

What has not worked – Both RABs

- Lack of interest/participation by some local government agencies or stakeholders
- Difficulty in recruiting new members because of perception of lack of real participation opportunities

What has not worked – Vieques

- TAPP required to report to Navy conversations, correspondence, meetings with community, and reviews of documents, creating a trust issue, whereby the community has not used this service
- Also, TAPP funds are very limited for the size of cleanup, another reason for community to wait until it's really necessary

What has not worked – R Roads

- Documents are only available after decisions have already been made and approved by agencies

Recommendation

- The legislation creating the RABs has not been revised since it's creation;
- Monetary values assigned to the TAPP are obsolete;

Procedural requirements should be revisited to incorporate the lessons learned during this one-and-a-half decade of RAB experience.

REFLECTIONS ON THE ENVIRONMENTAL REMEDIATION OF FEDERAL FACILITIES

by

Michael W. Glaab

November 2010

AVERAGING

Avoid compliance averaging of sampling data lest you create the false illusion of having achieved compliance with soil cleanup criteria.

In addition, promote the preferential and prompt removal and/or treatment of “hot spot” concentrations of contaminants. The remaining contaminated areas will contain lesser concentrations of contaminants and should therefore be more tractable than the “hot spots” which had been more expeditiously dealt with.

CLEANUP versus MAINTAINING IN PLACE AND MONITORING

Preferentially implement wherever practicable those cleanup options which will actively serve to truly environmentally remediate a contaminated site. Options that permit contaminants to remain in place over an extended time period are essentially passive and typically mandate the imposition of sometimes extensive and expensive monitoring and regulation of the contaminated sites. As a result long term institutional and/or engineering controls (LUCs) must be devised, implemented and enforced - sometimes almost in perpetuity. At such sites where contaminants are permitted to remain in place the neighboring communities continue to remain at risk of unintended exposure to those contaminants.

To minimize the possibility of unnecessarily exposing additional communities and regions to the contaminants at any particular site it is, generally considered, preferable to treat those contaminants onsite wherever practicable. Sometimes local circumstances, economies of scale and/or a lack of sufficient appropriate facilities may require that contaminants be removed and transported offsite - either for safe storage in a preferred location or for more expeditious treatment elsewhere.

In general, favor active measures which immediately reduce contamination. With passive measures such as monitored natural attenuation (MNA) and capping contaminants remain in place and the environment may slowly degrade those contaminants naturally. However, this is often not prudent especially if the contaminants can easily migrate off-site. Such passive measures as MNA and capping are undesirable if the mere presence of existing contaminants unduly inhibits previously existing site activities and/or if those contaminants prevent the use or improvement of facilities on the site.

CONTINGENCY RESPONSE

After a remedial action for a specific contaminated site has been selected it should then generally be helpful to identify and memorialize in the record of decision for that site at least one likely contingency response that could conceivably be implemented if the selected remedy fails. Provide sufficient preparatory information to enable those responding to a possible future failure to respond expeditiously and effectively. However, since new environmental remediation technologies are continually being developed and since existing technologies are also constantly being improved it is usually inadvisable to unequivocally commit to a specific technology. One can not predict with certainty just which technologies will prove to be the most cost-effective in the future. In addition, the potential efficacy of a particular environmental remediation technology selected for a contingency response may be adversely impacted by future unexpected activities at the vicinity of the site such as new facility construction, urban growth, materials storage, long term weather changes, tectonic activity, etc. Due to the uncertainty associated with predicting the potential cost of a possible future contingency response it is inappropriate, generally considered, to factor this extremely problematic potential cost into the expected cost of a remedial action.

COST DETERMINATION

The estimated proposed cost of remediating a site typically includes expenditures expected to be incurred for that site until the remedy is in place and finally complete. However, if the duration of the implementation of the remedial action (RA) is of an undeterminable length then a maximum time period of 30 years is often assumed. It must be noted that some remediation efforts can actually require much more time than 30 years and thus the initial cost calculations on which they are based are in fact inaccurate and biased. Indeed, for radiological contaminants the time of remediation may actually span decades, centuries or even millennia. The actual cost of long term stewardship can not be accurately determined if the time period utilized in the calculations is insufficient. Therefore, proposed cost estimates for RAs should more accurately reflect their real expected length of duration.

A thorough and accurate evaluation on the basis of cost of a potential remedial action should ideally also include probabilistic risk consideration of the additional potential costs posed by cleanup delays such as the possibility that the site's contaminants will inadvertently migrate off-site and inflict harm elsewhere. The length of duration of a remedial action is typically directly proportional to the probability of additional unintended exposure to contaminants occurring. The longer the time frame of remediation is the larger is the probability of additional unexpected cleanup costs being incurred.

Cost determination for slow remediation methods such as MNA will therefore tend to be more variable, more problematic and correspondingly less certain.

DATABASES

Record databases, digital and/or paper, which are sufficiently accessible to the appropriate environmental remediation partners, are vital to the effective implementation of land use controls whether they are primarily engineering controls or institutional controls. Accurate and complete databases which provide site specific details such as site geography, site contaminants, site use, site ownership, applicable Record of Decision and applicable LUCs are essential to the effective use of any land use master plan and of LUCs in general. If record depositories are properly maintained and sufficiently accessible to appropriate personnel then they can facilitate and simplify a wide variety of physical activities at a site. Such depositories can serve a useful legal purpose enabling and legitimizing LUCs - especially should land ownership change and legal deed restrictions need to be imposed upon deeds of land and/or mineralogical rights.

In addition, long-term records of the nature and also of the locations of both detected and suspected MEC sites should be maintained to assure that the "master plans" of all relevant facilities and/or communities properly and safely regulate their development activities. In addition, adequate long-term MEC records are essential to assuring that institutional and/or engineering controls will be properly implemented to:

- Permit safe construction activities.
- Restrict inappropriate and inadvertent access to MEC.
- Minimize the likelihood of offsite migration of MEC related contaminants.

MEC records should be integrated with the facility's own Geographic Information System (GIS) and also with its Installation Restoration Program (IRP) documents repository.

Ideally, one comprehensive database should be established, assuming that it hasn't already been done so, which would integrate all contaminated sites for which U.S. authorities are responsible for. Reasonable access to this database should be permitted to the relevant authorities of the various states, tribal nations, etc. This database should cite such site-specific data as contaminants, history, ownership, deed restrictions and geography. This database could be integrated with another cross-referencing database of currently available environmental remediation technologies to facilitate the assessment of possible environmental remediation technologies for any type of contaminated site.

It is advisable to provide the public with at least one information depository that is located in the immediate vicinity of a site. The effected facility itself may provide the public with limited access to its own secured information repository. If a restoration advisory board is in effect at a site then that board may provide its own repository, in paper or digital format. Although it is desirable to establish a website information repository it is nevertheless best to also assure members of the public, perhaps also of the RAB, with a non-digital means of perusing documents. Not everyone is sufficiently computer literate and/or has adequate internet access to afford him or her a reasonable opportunity to benefit from an internet depository. Consideration should also be given to the fostering of the regular issuance by the RAB of an informative briefing document or newsletter that can be used to keep both the members of the RAB and of the general public informed in a timely manner of events concerning the environmental remediation of the sites with which they are concerned. This newsletter or briefing document can serve as an information channel to RAB members and it can be displayed on a RAB website. It can also potentially benefit other RABs encountering similar circumstances.

DISCORD BETWEEN PRINCIPAL PARTNERS

Although it would be preferable if the principal environmental restoration partners always cooperated amicably and never disagreed it is unreasonable to always expect complete amity. Indeed, some disagreement can actually serve to assure objectivity and the avoidance of “group think” tendencies that tend to promote excessive conformity thus sacrificing objectivity and impairing problem solving. There is sometimes an inherent value to bringing disparate organizations with different goals together into a conflict resolution forum that is deliberately designed to promote their synergistic cooperation for the mutual benefit of all. However, it is vital that all parties involved in a conflict engage one another sincerely and constructively with the ultimate goal being the expeditious and effective environmental remediation of the relevant site. To the achievement of this purpose the provision of qualified and experienced facilitators and relevant conflict resolution training of conflict participants can be of value.

FUNDING

The financial cost of a potential remedial action alternative is typically deemed to be a crucial determinative factor when comparing and assessing different possible remedial action alternatives for any particular site. Therefore, the amount of funding available for environmental remediation and the anticipated cost of cleanup are vital factors in determining which remedial action alternative will finally be selected to cleanup a site. A vast amount of contaminated sites still remain to be remediated and therefore the projected total cost of remediating all of those sites may be assumed to be similarly vast.

If one considers only DoD sites one will note that various sources have recently disclosed that approximately 10,000 sites currently under the Pentagon’s supervision still require remediation and that more than 3,400 of these are superfund sites. Such sources have cited that there exist a total of 31,487 DoD cleanup sites of which 9,852 have not yet achieved their remediation goals. From a DoD mission critical perspective one must note that too often the mere presence of contaminants unfortunately inhibits the practical and effective use of numerous diverse military facilities. In addition, those contaminants also tend to limit the expansion of and/or modernization of those same military facilities thus indirectly interfering in their achievement of their respective mission goals. It has been alleged that during the previous administration the Pentagon had spent an average of about $2 billion per year, or less than 0.5 percent of its annual budget, on the environmental restoration of DoD sites. Will the current administration allocate additional funds for cleanup?

Unfortunately, there are many private and government owned sites at which contamination is so severe that the real practical value of those sites has been significantly reduced due to the presence of that contamination. Indeed, the presence of that contamination constitutes a real and palpable retardant to commercial and other activities at those sites. At many, commercially zoned, contaminated sites most if not all commercial activity has, for all intents and purposes, virtually ceased. Thus one may conclude that the presence of those contaminants is not merely aesthetically unappealing. The presence of those contaminants is not simply harmful to the environment. The almost ubiquitous and pervasive presence of contaminants is in fact an unequivocal retardant to commercial activity in general and therefore it inevitably tends to restrict economic growth.

In conclusion, in a time of financial distress some may understandably be inclined to prefer to reduce the total amount of funding made available for environmental remediation activities deeming such activities as less significant to the rebuilding of our nation's economy. However, if one more carefully scrutinizes the intrinsic nature of most cleanup activities one will realize that they are essentially infrastructure enhancement efforts.

Environmental remediation efforts typically involve personnel and equipment engaged in activities that can be described as being essentially civil engineering efforts that are literally "shovel ready" and intended to improve and/or render more available for practical use those lands which had previously been contaminated and thus made less useful and commercially viable. Indeed, infrastructure enhancement activities have throughout the millennia, in diverse cultures and civilizations, served effectively both as immediate stimulants of commercial activity and as a practical means of facilitating future economic growth.

Because infrastructure enhancement projects tend to be relatively more "shovel ready" they can usually be scaled to be more or less labor intensive to accommodate the current relative ratio of demand for labor to the supply of labor, as the times require. Infrastructure enhancement projects also tend to serve to strengthen the ability of a government to effectively administer the nation state by simultaneously increasing access to vital resources while strengthening the vital sinews of commercial economic growth : transportation, communication, and power generation (whether ordinary manpower, horse, oxen, water, wind, steam, coal, electrical, petrochemical internal combustion, nuclear fission, solar, geothermal, nuclear fusion).

GUIDING PRINCIPLES

The following is a paraphrasing of excerpts of a CERCLA (Comprehensive Environmental Response, Compensation and Liability Act of 1980) policy directive entitled "*Summary of Key Existing EPA CERCLA Policies for Groundwater Restoration*" to Superfund National Policy Managers in Regions I through X (June 26, 2009 transmittal from the Office of Solid Waste and Emergency Response). This guidance purportedly follows the "*fundamental tenet of the NCP*" to return usable groundwaters to their beneficial uses wherever practicable.

The key principles are:

- If groundwater which serves the community as a current or potential source of drinking water is contaminated above protective levels then restore that aquifer to its beneficial use (e.g., drinking water standards) whenever practicable.
- Prevent off-site migration of contaminants.
- Prevent additional contamination of an affected aquifer and/or other media.
- A technical impracticability waiver and other waivers may be considered.

  (What is currently technically impractical and cost prohibitive will probably eventually become practicable as environmental remediation technologies evolve.)
- Early actions should be preferentially considered and implemented - as soon as possible.

INSTITUTIONAL CONTROLS

Institutional controls (ICs) should not be relied upon as the only response to the presence of contaminants on a site, especially if the site's groundwater is contaminated. Nor should the mere existence of ICs be used as justification for not taking action under CERCLA for this can be construed as being essentially a postponement of real problem resolution to an undefined and uncertain future date.

INSURANCE – Performance Based Contracting

One advantage of using a performance based contract (PBC) rather than conventional contracting is that an insurance premium can apparently be included as a cost. That insurance provides for financial assurance in the event of unexpected site conditions that would result in a higher cost for remediation and/or project failure.

METRICS

Define a set of metrics to use when evaluating the effectiveness of environmental remediation personnel that lends more weight to the actual dissolution / treatment of contaminants at a site than it does to the mere physical removal of those contaminants to another location. When evaluating performance the least weight should be accorded to tasks resulting in the passive retention of contaminants in place, presumably with suitable engineering and/or institutional controls. Encourage real cleanup rather than passive “capping” or mere monitored natural attenuation of contaminants. Fairness dictates that compensating factors be used to accurately reflect the different degrees of task difficulty imposed upon personnel by such variables as available funding, the nature of the contaminants (for example, contrast contending with TCE which readily dissolves over a reasonable time interval into less harmful substances versus radioactive substances having a half-life of several centuries or millennia), obstructive resistance from vested special interests, community involvement, etc.

The performance assessments of career professional, environmental remediation, project managers should preferentially further their successful implementation of active environmental remediation measures that successfully dissolve, treat, disassociate, vaporize or in some other manner safely “breakdown” contaminants into their less harmful constituents.

MONITORED NATURAL ATTENUATION

Monitored natural attenuation (MNA) essentially involves passively waiting for contaminants to be degraded naturally — and usually slowly - by the environment. When MNA is utilized the effected area is monitored over an extended time period thus requiring extensive implementation of LUCs and expensive sampling. It would be preferable to implement remedial actions which directly act to redress contamination either by expeditiously removing contaminants and safely transporting them offsite to appropriate certified facilities or by safely decomposing the contaminants onsite into relatively harmless components.

There are additional uncertainties inherent in relying on such relatively passive and indirect measures as monitored natural attenuation. MNA essentially involves permitting the environment to naturally — and often slowly - decompose contaminants over time. This entails the tacit assumption that an exact enough perception of the environment can be established to first permit accurate quantification of relevant factors and that realistic mathematical models can subsequently be created for use in devising a cost-effective remedial action. In point of fact this tacit assumption is an uncertainty and therefore a risk. For example, due to the difficulty of exactly calculating the amount of time required for safe attenuation many determinative factors such as soil density and porosity; underground water flow rates, water flow vectors and etc. - which do not always lend themselves to easy determination or quantification - can potentially loom large in determining the effectiveness and the time duration of a remedial action.

The duration of a remedial action for any particular contaminant at a site should ideally be the amount of time required to remediate that site to an acceptable, scientifically established and verifiable, objective standard. But a significant disadvantage to relying on monitored natural attenuation (MNA) to remediate a site is the possibility that the site’s contaminants will migrate prior to being degraded. Water soluble contaminants tend to be exceedingly poor candidates for the application of MNA to remediate a site precisely because there is a greater possibility that the site’s water soluble contaminants will migrate off-site prior to their having degraded sufficiently. Groundwater may migrate beyond the borders of a site and enter nearby aquifers, streams, rivers, lakes and reservoirs. Therefore time is a critical factor. Cleanup standards have to be sufficiently restrictive to be meaningful - and - the duration of MNA must be short enough to guarantee that the contaminants will decompose before they migrate elsewhere.

Not surprisingly, many RAB members have throughout the years frequently expressed a preference for the active removal of contaminants rather than for merely waiting for the contaminants to decay or attenuate naturally. Community members of RABs tend to be keenly aware of the importance of safeguarding the very groundwater sources that their communities depend upon.

NATURALLY OCCURRING "BACKGROUND" CONTAMINANTS

Active response measures which directly address environmental concerns by immediately treating and/or removing contaminants are usually preferable. However, sometimes a particular contaminant exists naturally at a site in sufficient amounts to be considered naturally occurring and ubiquitous. In such a situation it is understandable that that contaminants natural occurrence is taken into consideration when that site is evaluated. It should be calculated into the decision-making process. This is especially so if the cost of remediating this naturally occurring "background" contaminant to an acceptable level is deemed prohibitive. However, although this contaminant may be naturally occurring and ubiquitous it should not be automatically dismissed and ignored.

Our concern must not only be for our environment and for the health, safety and welfare of those communities neighboring a particular site. We are also obligated to consider the health, safety and welfare of all of those individuals who daily work and/or reside on a site — whether they are civilians, government employees, contractors, military personnel and/or their families. If a comprehensive active response to a naturally occurring and ubiquitous contaminant is not practicable then at least appropriate engineering and/or institutional controls, LUCs and a land management plan should be implemented to assure appropriate protective safeguards — especially in residential areas on that site.

OUTREACH

Issue an informative technical newsletter or informational document. This can constitute a useful communication channel within the RAB and between the community and the environmental remediation partners. Such a newsletter can provide the community members of a RAB with timely updates about newly drafted documents, field activities, upcoming events related to environmental issues at the site, and discussions at technical environmental "partnering" meetings. Notices about training sessions and new or revised relevant federal or state regulations can be included. Newsletters can be displayed on a dedicated website, distributed to all of the communities immediately adjacent to the site and they can be distributed to local elected representatives and to individuals who have expressed an interest in receiving this information. A newsletter can typically be issued to RAB members immediately prior to public RAB meetings to prime them with timely and current information for their upcoming meeting.

To assure accuracy of content and to minimize bias consider establishing a newsletter editorial review process that will provide for frank critical technical input from all of the principal environmental restoration partners. An editorial review committee comprising RAB community members and representatives of all of the environmental restoration partners can be established to assure the accuracy, objectivity and relevance of the contents of newsletter articles. To minimize unnecessary discord and confusion it is usually advisable to not officially release a newsletter to the general public until after the satisfactory completion of the review process. Once the review process has been completed newsletters may then be distributed to interested members of the general public. Consider distributing newsletters to the official governing bodies of all of the communities adjacent to your site / facility.

RESTORATION ADVISORY BOARD (RAB)

A RAB is essentially a public liaison / advisory organizational unit. It serves as one element of a protective array of institutional controls established for any given site.

RAB members typically reside in the communities immediately adjacent to and surrounding contaminated sites. Therefore, RAB members tend to be more acutely aware of the need to safeguard both their nearby drinking water sources and those other features of their environment which are also vulnerable to contamination. Therefore, RAB members are naturally predisposed to assume a “long term stewardship” role in the environmental remediation effort at a site / facility.

A RAB can function as an institutional control by virtue of its consisting primarily of locally selected representatives of the affected local community who are accustomed to serving with the sites principal environmental remediation partners. Accordingly, a RAB is uniquely predisposed to serve organizationally as the local community’s contribution to a site’s “first line of detection and response.”

A RAB can serve as a useful and relatively inexpensive “tripwire” should “cleanup” measures at a site experience extreme failure. It can also serve as the nucleus around which local personnel can initially be engaged, under the supervision of appropriate higher authorities, to facilitate the formation of an immediate emergency response while necessary, but momentarily unavailable, non-local assets are being mobilized and prepared for local insertion.

The more knowledgeable RAB members are about site specific conditions the more assistance they can potentially provide. In general, a RAB can embody within its personnel and its records, whether digital or paper, institutional memory of local conditions.

Care should be taken to avoid excessively restricting the right of RABs to deliberate about environmental remediation issues concerning the sites within their purview.

RESTORATION ADVISORY BOARD CONTINUANCE

The RAB associated with any particular site should, generally considered, be retained in existence for as long as contaminants remain in excess of acceptable standards at that site. RABs have an inherent interest in helping to assure a consistent and faithful long-term commitment to the maintenance of institutional controls at a site.

The implementation of institutional and/or engineering controls (ICs) at a site should not be deemed sufficient justification for the termination of a RAB. Indeed, a mere reliance upon institutional and/or engineering controls rather than the removal or treatment of contaminants mandates that a RAB be maintained precisely because a RAB can serve an important oversight role by helping to assure that the ICs will be implemented as initially intended.

RESTORATION ADVISORY BOARD MEMBERSHIP

All of the principal partners involved in the environmental remediation effort concerned with a particular site should be represented on a RAB. In addition, strive to include in the membership of a RAB at least one official or unofficial representative of all of the communities adjacent to the sites or facility in the RAB’s purview. Be flexible and objective when assessing what is a suitable community to be represented on the RAB. For example, consider including as members representatives of the following:

1. Adjacent residential communities.

2. Onsite residents. (Family members of base military personnel and/or of consultants residing on a base. As residents onsite they are especially inclined to have a keen interest in the safety, health and welfare of their fellow onsite residents and of themselves.)

3. Retirees. (Individuals formerly employed onsite are uniquely familiar with the site and potentially possess useful knowledge about site activities.)

4. Onsite Unions. (Similar to retirees union representatives have unique, potentially useful, site knowledge. They also have a vested interest in assuring the health, safety and welfare of themselves and of their fellow employees.)

5. Adjacent Commercial Enterprises severely impacted by the contamination.

6. Educational Institutions (Many academic institutions maintain recycling, environmental contamination and/or remediation research programs that can constitute an invaluable source of relevant knowledge and expertise.)

7. Environmental PACs and NGOs

Beware of potential conflict of interest situations involving vested special interests. Nevertheless, endeavor to fairly embrace and involve all local communities.

REUSE of CONTAMINATED SOIL

Contaminated soil can be – and has been inadvertently misplaced on site and off-site. Such unfortunate breaches of established protocols are a clear and definitive indicator of the usefulness and value of effective land use controls (LUCs) in general and specifically of appropriate LUCs that regulate the use of waste soil.

Implement land use master plans. Establish comprehensive land use databases, digital and/or paper, which are sufficiently accessible to the appropriate environmental remediation partners. Reasonable measures must be taken to protect our communities and those individuals employed at - or even residing at – contaminated sites from needless exposure to improperly disposed of contaminated soil.

SAMPLING PARAMETER LISTS

When sampling parameter lists are established potential contaminants can be inadvertently omitted to avoid excessive expenditures for several reasons:

1. Extremely sporadic detection of a particular contaminant.
2. An absence of previous detections of a particular chemical in a specific location.
3. An absence of confirmatory detections in adjacent samples.
4. An absence of follow-up detections in subsequent samples.
5. Etc.

With all due respect to the need to avoid such unnecessary expenditures as testing for non-existent contaminants in samples it is often imperative that the chemical sampling parameter list encompass all of those potential contaminants which can reasonably be expected to be present at a given site. Generally considered, when compiling a parameter list it is advisable to err on the side of caution – especially if there are significant aquifers and/or other water sources in the immediate vicinity of the site. This requirement becomes more acute in locations where vapor intrusion is a viable possibility. In any case, the more significant a potentially effected water source is to the local community the greater is the need for basic caution and circumspectness in compiling the elements of a sampling parameter list. In addition to the potential for harm to the environment we must be diligent in avoiding negligently permitting needless harm to be inflicted to the health, safety and welfare of the local community. Finally, the legal consequences of permitting such can be severe. Failure to include a particular chemical in a sampling parameter list, even though that chemical could have reasonably been deemed worthy of testing for, may legally be deemed indicative of negligence, nonfeasance or even malfeasance.

SAMPLING RATE / FREQUENCY

It is understood that the optimal, cost effective, sampling rate for a particular contaminant at any specific site can vary considerably. However, generally considered, it is desirable to sample frequently enough to avoid introducing a bias into the sampling data due to seasonal variations in weather. Ideally, sampling should usually be quarterly or at least semiannually to assure timely detection of seasonal variations. In addition, sampling annually risks not only imposing a seasonal weather bias on data but it also minimizes the possibility that unexpected variations will be detected in a sufficiently timely manner to permit corrective actions. Needless to say, a five year gap between samples may result in a very large delay before a potential deviating anomaly is detected. In any case, it seems logical to sample at least frequently enough to assure the inclusion of useful current data into the USEPA's five year reviews.

Typically sampling plans stipulate a formulation for eventually reducing the frequency of monitoring or even terminating monitoring entirely based on the frequency of detection and the detected concentrations of the relevant compounds. Presumably such plans should include checks and safeguards to assure that monitoring continues for a reasonable time period with suitable sampling rates. Nevertheless, RABs should always be informed, in advance, of all anticipated changes in monitoring plans including changes in sampling rate frequencies.

SENTINEL WELLS

Eventually sentinel wells may be deemed to be relatively useless and/or unnecessary. Consideration may then eventually be devoted to the termination of such sentinel wells to reduce expenditures for well maintenance and to minimize the possibility of contaminants being introduced into the groundwater via those wells: for example, lest the contaminants be drawn into the capture zone of the well. However, sentinel wells should not be discontinued prematurely - especially if there is significant potential for contaminant migration in the vicinity of those sentinel wells and/or if future intensive groundwater development and/or use is reasonably expected to occur in the immediate vicinity. Changes in groundwater usage in the area (i.e., the addition or subtraction of permitted groundwater withdrawal wells and/or changes in groundwater withdrawal volume) should be meticulously monitored and considered at the time of each sampling event as part of a long-term monitoring plan.

TECHNICAL ASSISTANCE

It is absolutely essential that the community members of RABs be assured reasonable access to the professional assistance of a qualified technical consultant capable of providing those community members with an unbiased and informed technical evaluation of all relevant technical documents concerning the sites in that RAB's purview.

TRANSPARENCY

To assure process transparency and public participation it is essential that a qualified representative of the RAB, such as an appropriately qualified technical consultant be permitted to attend technical meetings of the principal environmental remediation partners to keep the RAB and the public duly informed and to minimize "group think" conformity adversely biasing and impairing the "partnering" process.

Reasonable restrictions may be imposed on overt and direct participation in technical meeting deliberations by representatives of the RAB providing that the RAB's intrinsic right to knowledge of the contents of the proceedings is not unduly and adversely diminished. In accord with legal transparency requirements reasonable effort should be made to assure the RAB, and therefore the public which the RAB duly represents, reasonable sufficient access to the deliberations of technical "partnering" meetings.

TIME of CLEANUP

The duration of a remedial action for any particular contaminant at a site should ideally be the amount of time required to COMPLETELY remediate that site to an acceptable, scientifically established and verifiable, objective standard. The time of cleanup should, generally considered, determine the length of continuance of site monitoring, the graduated implementation of institutional and/or engineering controls at that site and also of the duration of the restoration advisory board (RAB) responsible for that site.

Unaccounted for factors such as unexpected and unobserved soil deposits, undetected ground fissures, soil subsidences, unrecorded waste deposits, tectonic activity and etc. can potentially so skew problematic factors that the calculations on which the assumptions of a site-specific model were based can become unrealistic thus making the model invalid. If the model on which a remedial action is based becomes invalid then the probability of that remedial action succeeding declines.

Hydrological water flow and contaminant concentration gradient maps, soil and water test sample data tables almost invariably inherently include some degree of error. Many risk calculations, mathematical analyses, computer modeling and technical appraisal calculations are problematic and subject to uncertainty. The longer is the time duration of a remediation action the greater is the possibility that an unanticipated or perhaps just inaccurately anticipated factor will arise that will reduce the effectiveness of that remediation action.

Accordingly, those remediation actions that require less time to be completed tend to also involve less risk due to the uncertainty posed by time. Therefore, remediation actions that involve either the immediate removal or the immediate decomposition and treatment of contaminants should be favored:

- Direct and relatively quick decomposition of contaminants onsite with suitable treatment technologies.
- Prompt excavation of contaminated soil which is then removed to another location where it is safely treated / decomposed.
- Prompt excavation of contaminated soil which is then safely removed to a proper off-site storage location.

The RAB associated with any particular site should, generally considered, be retained in existence for as long as contaminants remain at that site in excess of acceptable standards.

UNDETERMINED or IMPROPERLY PROMULGATED CLEANUP STANDARDS

Obviously the current absence of an established, scientifically determined and verified, objective standard for a particular contaminant does not logically indicate that there is no unacceptable risk for the presence of that contaminant. It merely indicates that the appropriate agencies have not yet determined what that risk standard should be. Unless the relevant local authority (state, territory, tribal nation, etc.) prefers otherwise, in accord with the legal prerogatives of that local entity, scientifically determined objective standards which have been properly promulgated in accordance with federal statute and the CFR should be deemed legally applicable and enforceable, especially if the properly promulgated federal standards are more restrictive than those of the local entity.

VAPOR INTRUSION

Special care and attention should be devoted to the accurate evaluation of the possibility of groundwater vapor intrusion as a potential pathway for contaminant migration – especially in water rich areas.

WATER SOLUBLE CONTAMINANTS

Water soluble contaminants should, generally considered, be preferentially treated promptly enough and to sufficient extent to avoid their offsite migration in concentrations exceeding appropriate, scientifically established and objectively verifiable, standards. In addition, water soluble contaminants inherently pose the following additional complicating concern: the possibility that the migration of a contaminant off-site will occur undetected and that its migration will be mistakenly misinterpreted as evidence of natural attenuation. This risk will tend to be larger for water soluble contaminants and it will probably be directly proportional to the ease with which those contaminants go into solution in water.

Water soluble contaminants will tend to be exceedingly poor candidates for the application of monitored natural attenuation (MNA) to remediate a site precisely because there is a greater possibility that the site's water soluble contaminants will migrate off-site prior to their having degraded sufficiently.

Many contaminated sites are located near sizeable water sources including sometimes large aquifers that provide water for whole regions. Since water soluble contaminants can conceivably eventually migrate out beyond the boundaries of contaminated sites it is both advisable and prudent to use remediation time frames which are of sufficiently short duration to prevent additional uneffected groundwater sources from being contaminated.

Special care and attention should be devoted to the accurate evaluation of the possibility of groundwater vapor intrusion as a potential pathway for contaminant migration – especially in water rich areas.

Respectfully,

Michael W. Glaab

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