

Members of EPA's three Technical Support Project (TSP) forums—the Engineering, Federal Facilities, and Ground Water Forums—helped to sponsor or present several training and panel sessions at this year's National Association of Remedial Project Managers (NARPM) conference in Portland, OR (See Acknowledgements, page 4). The presentations and handouts from these sessions are available for download at [www.epanarpm.org/2008](http://www.epanarpm.org/2008). Members of the forums hosted additional technical presentations and discussed current and future forum activities, such as preparing technical issue papers and addressing technical issues affecting the regional offices. This newsletter highlights these presentations and activities.



## Ground Water Forum

The Ground Water Forum sponsored the following technical presentations and case studies for their business sessions. (For more information on these topics, you can view the presentations online at [www.epa.gov/tio/tsp/meetings.htm](http://www.epa.gov/tio/tsp/meetings.htm).)

### *Monitoring a Phosphate Plume at Ashumet Pond, Cape Cod, MA*

Denis LeBlanc (USGS) described ongoing efforts to prevent a phosphate-containing ground-water plume from discharging to a downgradient recreational pond. USGS installed a geochemical barrier atop pond sediments in the area where the discharge is occurring. Multiport samplers, diffusion chambers, and seepage meters are used to monitor the 2-foot thick zero valent iron barrier, and all methods show phosphate removal. MODFLOW was used to estimate flux to the pond for calculating phosphate load. Other methods, including temperature surveys, will be used to try to measure flux directly.

### *Thermal Methods for Detecting Groundwater Discharge*

Brewster Conant (University of Waterloo) summarized temperature-based methods including infrared cameras, electric conductivity and temperature probes, and streambed temperature mapping, for locating discharges of ground water to surface water. These methods are relatively inexpensive compared with conventional measurements of discharge (e.g., seepage meters and mini-piezometers) and have good spatial and temporal resolu-

tion. Temperature mapping also provides reasonable estimates of flux.

### *Evaluation of Ground Water/Surface Water Interactions, IMC Site, Spartanburg, SC*

Judy Canova (South Carolina DHEC) described an investigation to find possible discharges of contaminated ground water to local streams. Based on indicator parameters (e.g. pH, temperature, conductivity) measured in regularly spaced sediment pore water samples, targeted samples were collected and analyzed for total and dissolved metals. Surface water samples (targeting low pH areas) were analyzed, and elevated levels of metals, TNT, and fluoride/nitrate were detected. The results indicate that the streams are impacted on the side of the stream adjacent to the site, but not in the center. The concentrations measured in pore water were 2 to 5 times higher than those measured in surface water.

### *Former "Gasco" Manufactured Gas Plant (MGP) Site: Investigative Methods to Assess DNAPL and Dissolved-Phase Transport to the Willamette River*

Dana Bayuk (Oregon DEQ) summarized a multi-technique approach used to: 1) track the movement of ground-water plumes from a former MGP and into transition zone water (TZW) and surface water; 2) understand how contamination may be related to direct disposal of MGP waste in the river; and 3) assess TZW and surface water concentration trends and tidal fluctuations. The data were used to upgrade the shoreline ground-water monitoring network, evaluate distribution of DNAPL, estimate contaminant mass flux to

# HIGHLIGHTS

## Table of Contents

- |                                   |   |
|-----------------------------------|---|
| <b>1</b> Ground Water Forum       | <b>3</b> SERDP & ESTCP Environmental Research Program |
| <b>2</b> New Co-Chairs            | <b>4</b> Next Meeting                                 |
| <b>2</b> Federal Facilities Forum | <b>4</b> Acknowledgements                             |
| <b>3</b> Engineering Forum        | <b>5</b> TSP Regional Contacts                        |

## New Co-Chairs

*Congratulations to Stephen Tzhone (Region 6) who was elected at NARPM to replace Jim Kiefer (Region 8) as co-chair of the Federal Facilities Forum.*

*Congratulations also to Ginny Lombardo (Region 1) and Hilary Thornton (Region 3) who were recently elected as co-chairs of the Federal Facilities Forum and Engineering Forum, respectively. They replace two-term co-chair Mike Overbay (Region 6) and co-chair Jon Bornholm (Region 4).*

the river, and support source control measures. The recommended upland source control measure combines a vertical barrier with hydraulic control near the shoreline and DNAPL removal in the uplands.

### *Use of Stable Isotopes at the Palermo Well Field, Tumwater, Washington*

Bernie Zavala (Region 10) showed how the use of compound-specific isotopes analysis (CSIA) was used to better understand the conceptual site model and to identify the source of VOCs that was impacting the Palermo Well Field. The carbon 13 to carbon 12 ratio ( $^{13}\text{C}/^{12}\text{C}$ ) of the TCE was shown to be the same as the TCE at a nearby Department of Transportation laboratory. Thus, degradation of PCE used at a nearby drycleaner was not the source of TCE.

### *Application of Stable Isotopes to Site Characterization*

Dimitri Vlassopoulos (S.S. Papadopoulos & Associates Inc.) explained how CSIA is used as one of multiple lines of evidence to understand sources, degradation, and mixing of contaminants. He showed how the  $^{13}\text{C}/^{12}\text{C}$  ratio was used to help differentiate three sources of chlorinated solvents in commingled plumes at a site in Washington. The isotopic ratio for oxygen also was measured to trace the ground-water flow paths and refine the ground-water transport model.

and approval—include: 1) *Assessment and Delineation of DNAPL at Hazardous Waste Sites*; 2) *Site Characterization for Monitored Natural Attenuation*; and 3) *Evaluating Ground-Water/Surface Water Transition Zones in Ecological Risk Assessments*.

One document reviewed by the forum for the Office of Research and Development, *A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems*, was recently published and is available at <http://www.epa.gov/ada/download/reports/600R08003/600R08003-FM.pdf>. Internet training on evaluating capture zones will be held via the CLU-IN website ([www.cluin.org](http://www.cluin.org)) on September 11 and October 8.

To help tailor their plans for future issue papers, training, and outreach, the forum members identified—and then ranked in importance—the many technical issues in their regions. The top five issues were: 1) ensuring adequate site characterization; 2) need for thorough five-year reviews; 3) how and when to perform remedy rescues; 4) integrity of monitoring wells; and 5) need for a common database for site information. The forum will discuss how these issues currently are being addressed and decide if additional products are needed.

## Federal Facilities Forum

The Federal Facilities Forum discussed many of the “big decisions ahead” faced jointly by the forum and the Federal Facilities Restoration and Reuse Office (FFRRO). The forum provided decision-making input to FFRRO Director John Reeder on major issues such as: 1) suitability of adding more federal facilities or lands to the National Priorities List (NPL); 2) criteria to determine the need for EPA regional involvement in assessment or remediation at non-NPL federal facilities; 3) potential methods for building state capacity to effectively address federal facility cleanups; and 4) clarification of EPA’s role in assessing and remediating sites with munitions. FFRRO will explore these issues with other partners such as the Federal Facilities Leadership Council, the National Governors Association, and the Association of State and Territorial Solid Waste Management Officials. FFRRO recently drafted a strategic planning paper outlining the future of EPA’s federal facilities program; comments will be solicited from EPA regions and subsequently

*Dana Bayuk (Oregon Department of Environmental Quality) presents a case study on ground water/surface water interactions in the Willamette River.*



## Issue Papers and Outreach

The Ground Water Forum discussed progress on the many documents that members have been involved in preparing or reviewing. Some of the documents nearing completion—pending incorporation of review comments

from the U.S. Department of Defense (DoD) and the U.S. Department of Energy.

FFRRO and the forum also discussed the four recurring topics recently identified in the group's "regional roundup" of technical and policy issues: 1) continued need for consensus on a model for developing future federal facility agreements; 2) Headquarters' encouragement of strategies for green remediation at federal facilities, and regional involvement in potential pilot projects or a certification program; 3) selected aspects of new DoD policies and technical rule-making concerning formerly utilized defense sites; and 4) DoD site assessment, prioritization, responses, and related applicability or interpretation under its Military Munitions Response Program (MMRP). Members described experiences with each of these issues at selected sites. Information about these experiences will be shared with other RPMs and regional management, as needed, and used by FFRRO in follow-up discussion with other federal or state agencies.

Doug Maddox (FFRRO) summarized recent developments concerning MMRP sites and EPA efforts to restart the interagency Munitions Response Committee, or a similar workgroup. Army concurrence on the "Munitions and Explosives of Concern Hazard Assessment Guidance" is anticipated soon. FFRRO plans to distribute its updated handbook for munitions response actions later this summer for comment, and will offer training in additional regions later in 2008-2009. FFRRO currently is forming an internal munitions workgroup to address new and ongoing issues.

The Federal Facilities Forum reviewed its current activities. Members will begin working directly with the Cold Regions Research and Engineering Laboratory to revise and finalize the forum's draft *Explosives at Contaminated Sites* issue paper later this year. The group also is pursuing development of an issue paper that provides tools for assisting with post-ROD compliance at federal facility sites, as well as a three-day training course on federal facility remediation.

In case study presentations, Jerry Cross (Region 8) showed a video demonstrating the use of helicopter-mounted magnetometer equipment to conduct a wide-area assessment at a portion of Hill Air Force Base in Utah. Christine Williams (Region 1) summa-

rized Region 1's process for responding to the Navy's failure to provide EPA with sampling reports at Brunswick Naval Air Station. Rather than entering a CERCLA dispute process, Region 1 took enforcement steps. Headquarters is developing a guidance on stipulated penalties that would serve as standard operating procedures for this and similar scenarios.

## Engineering Forum

The Engineering Forum welcomed several new members and ratified their recently developed Strategic Plan. The plan highlights the mission and goals of the forum, which include: 1) developing and reviewing issue papers and guidance documents on engineering-related topics; 2) promoting regional consistency in the interpretation of guidance; 3) and providing technical outreach and training. The Strategic Plan can be viewed at [www.epa.gov/tio/tsp](http://www.epa.gov/tio/tsp).

Some of the engineering documents nearing completion include:

- *Ex-Situ Treatment of Oxygenated Hydrocarbons & Perchlorates in Groundwater*: (Scheduled for publication in November 2008);
- *Technology Alternatives for the Remediation of Soil and Sediment Contaminated with PCBs* (Scheduled for publication in January 2009);
- *Indoor Air Vapor Intrusion Mitigation Approaches* (Scheduled for publication in August); and
- *Technology Performance Review: Selecting and Using Solidification/Stabilization Treatment for Site Remediation* (Will be reviewed by the Engineering Forum).

In April, the forum published the *Online Hazardous Waste Cleanup Technical Resources* issue paper, which lists and explains some online technical resources that can assist with hazardous waste cleanups in the Superfund, RCRA, and Brownfields programs. It is available for download at [www.epa.gov/tio/tsp/issue.htmEF#](http://www.epa.gov/tio/tsp/issue.htmEF#)

Given the success of the green remediation training at the NARPM conference, the Engineering Forum decided to get more involved in outreach on this topic. They hope to offer two or three training webinars on CLU-IN ([www.cluin.org](http://www.cluin.org)) centered around the case studies presented during the training. In addition, they will plan green sessions

## SERDP & ESTCP Environmental Research Program

*The Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP) are DoD programs seeking solutions to environmental issues affecting the Armed Services. Andrea Leeson (SERDP and ESTCP) and Hans Stroo (HydroGeoLogic, Inc.) reported the current and planned activities of these programs. SERDP is targeting their environmental restoration research, development, and outreach in areas of chlorinated solvents, munitions constituents, sediments, risk assessment, site characterization and monitoring, as well as performance assessment and optimization. ESTCP is demonstrating and validating technologies at DoD facilities on the broad topics of cleanup, unexploded ordnance, pollution prevention, and compliance. More information on specific technologies and research topics can be found at [www.estcp.org](http://www.estcp.org) and [www.serdp.org](http://www.serdp.org).*

## Next TSP Meeting

The next meeting of the TSP will be held in conjunction with a meeting of the U.S. Geological Survey's (USGS) Toxic Substances Hydrology Program. USGS will provide two full days of technical presentations on research regarding subsurface point-source contamination. In addition, the forums will plan up to two additional days of business and technical sessions. The meeting will be held in January or February 2009. As more information on logistics and an agenda becomes available, it will be posted at [www.epa.gov/tio/tsp/meetings.htm](http://www.epa.gov/tio/tsp/meetings.htm). If you are interested in attending the meeting, please contact your regional forum representative listed at the end of this newsletter.



## States Participate in TSP

Ten state representatives participated on TSP-sponsored panels and forum business sessions at NARPM. These included participants from California, Kansas, Maryland, Michigan, and South Carolina. Travel assistance was provided by the EPA/University of Massachusetts-Amherst State Travel Support Cooperative Agreement.

on the topics of wind, solar, and biodiesel power for the 2009 NARPM conference.

The forum also is beginning the first in a series of "lessons learned" documents dealing with remedial technologies. The topic of the first document will be in situ chemical oxidation (ISCO) and will include the lessons learned provided by RPMs who have implemented ISCO at their sites.

As part of the business session discussions, Socorro Rodriguez (Director of the Portland Operations Office) summarized the function and operation of the Region 10 satellite

offices, such as the one in Portland, OR, which provide community-based environmental protection. The office comprises staff from all of the major regulatory programs, such as air, water, Superfund, and brownfields.

*The Engineering Forum would like to thank Kelly Madalinski for his many years of support from EPA headquarters and wish him the best in his new pursuits this year.*

## Acknowledgements

The following members and friends of the TSP forums played a significant part in planning and delivering a number of training and panel sessions during the 2008 NARPM conference. The TSP greatly appreciates their contributions.

### Engineering Forum

*Permeable Reactive Zones:* Suzanne Davis (CalEPA), Gary Miller (Region 6), Dave Reisman (NERL-Cincinnati)

*Green Remediation: Opening the Door to Field Use:* Suzanne Davis (CalEPA), Mike Gill (Region 9 STL), Ellie Hale (Region 10), Kira Lynch (Region 10), Stephanie Vaughn (Region 2)

### Federal Facilities Forum

*Federal Facility Remediation Short Course:* Martha Brock (Region 4), Jerry Cross (Region 8), Ginny Lombardo (Region 1), Scott Marquess (Region 7), Monica McEaddy (FFRRO), Paul Mushovic (Region 8), Rich Muza (Region 9), Brian Nishitani (Region 3)

*Multi-Increment Sampling/Decision Unit Sampling:* Harry Craig (Region 10)

*Advanced UXO-Wide Assessment:* Harry Craig (Region 10), Jerry Cross (Region 8)

### Ground Water Forum

*Ground Water/Surface Water Interaction:* René Fuentes (Region 10), Jonathon Williams (Region 10), Dick Willey (Region 10)

*Optimizing Five-Year Reviews:* Kevin Willis (Region 2)

*A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems training:* Kathy Davies (Region 3)

*Monitored Natural Attenuation and In Situ Bioremediation for Organic Contaminants training session:* Kathy Davies (Region 3), Luanne Vanderpool (Region 5), Bernie Zavala (Region 10), Linda Fiedler (OSRTI), Matt Charsky (OSRTI), John Wilson (GWERD-Ada)

*Well Performance Problems Due to Biofouling:* Dick Willey (Region 1)

*DNAPL Source Zone Treatment:* Kathy Davies (Region 3)

*Multi-Increment Sampling/Decision Unit Sampling:* René Fuentes (Region 10)

*Nanotechnology: Practical Considerations for Use in Ground-Water Remediation:* Glenn Bruck (Region 9)

## Technical Support Project Regional Contacts

	GROUND WATER FORUM	FEDERAL FACILITIES FORUM	ENGINEERING FORUM
REGION 1	Bill Brandon Richard Willey	Carol Keating Ginny Lombardo* Christine Williams	Jim Brown Ray Cody
REGION 2	Robert Alvey Amanda Gallagher Richard Krauser Michael Scorca Kevin Willis	Paul Ingrisano*	Stephanie Vaughn
REGION 3	Kathy Davies Joel Hennessy	Steve Hirsh Frank Vavra	Kevin Bilash Fred MacMillan Donna McCartney Andrew Palestini Hilary Thornton*
REGION 4	Ben Bentkowski Dave Jenkins Bill O'Steen Kay Wischkaemper*	Jim Barksdale	Jon Bornholm Leo Romanowski Julie Santiago-Ocasio
REGION 5	Gwen Massenburg Dave Petrovski Luanne Vanderpool*	Karen Mason-Smith	Nate Nemani Bernard Schorle David Seely
REGION 6	Dave Abshire Greg Lyssy Vince Malott	Richard Mayer Stephen Tzhone*	Terry Burton Raji Josiam Gary Miller*
REGION 7	Dave Drake Lisa Gotto Jeff Johnson Bill Pedicino Brian Zurbuchen	Scott Marquess	Don Bahnke Michael B. Davis
REGION 8	Helen Dawson Kendra Morrison	Jerry Cross Jim Kiefer	Sandra Bourgeois Bill Rothenmeyer
REGION 9	Kathy Baylor Glenn Bruck Rich Freitas Herb Levine	Rich Muza	Harold Ball Michael Gill* Ray Saracino
REGION 10	Curt Black René Fuentes Marcia Knadle Howard Orlean Jonathan Williams Bernie Zavala	Harry Craig	Ellie Hale Kira Lynch

\* Denotes Forum Co-Chair