

# INTERSTATE TECHNOLOGY & REGULATORY COUNCIL Quarterly Update

June 2003



## ITRC formalizes bond with ERIS

ITRC has become a program formally operating under, and integrated into, the Environmental Research Institute of the States. For four years previous to ITRC's formalizing its relationship with ERIS, the two organizations had a memorandum of understanding: ERIS provided ITRC with key staff support and a base of operations in Washington, D.C.

With growth of ITRC came the need for some liability and fiscal protection. The ITRC Board approached ERIS with a proposal to accomplish that, and on April 10, 2003 the ERIS Board accepted ITRC's proposal. ERIS is a 501(c)(3) corporation, which is an IRS designation for a nonprofit organization that can educate and conduct research. The corporate connection brings to ITRC fiscal and legal benefits—ERIS can accept donations and limit ITRC's liability. No big changes are expected in how ITRC has been doing business. The role of ITRC Board will change to advising the ERIS Board of Directors on ITRC needs and successes.

ERIS, the research arm of the Environmental Council of the States, is located in the same offices as ECOS and is staffed by ECOS employees. ERIS is served by a Board of Directors composed of four ECOS members selected by the ECOS Executive Committee and three additional members selected by the sitting ERIS Board. The current board members are

- R. Lewis Shaw, Deputy Commissioner, South Carolina Department of Health and Environmental Control—President, ERIS
- Chris Jones, Director, Ohio Environmental Protection Agency
- Ron Hammerschmidt, Director, Kansas Division of Environment
- Robert Huston, Chairman, Texas Commission on Environmental Quality
- Christina Parker, Arlington, Va.
- Mary Gade, Chicago, Ill.
- Christophe Tulou, Washington, D.C.

Jones is the current president of ECOS. Shaw, Hammerschmidt, and Gade are all former presidents of ECOS. Parker is the former deputy director of ECOS. Tulou is the former secretary of the Delaware Department of Natural Resources and Environmental Control. More about ERIS and ECOS is available on the ECOS Web site at [www.ecos.org](http://www.ecos.org).

## Tomlinson returns to California

Rick Tomlinson, who has been the program director of ITRC since 1999, has elected to return to his home state of California to be closer to his family. Rick started with ITRC when he was with the Western Governors' Association and brought the program to Washington, D.C. Under his leadership, ITRC has doubled its funding, grown to 15 teams, produced 22 ITRC documents, and instituted classroom and Internet training.

Rick will be leaving Washington but not ITRC. He will work with ITRC staff until at least the end of the year to coordinate classroom training and help transition a new program director. In the meantime, Tim Titus of the ECOS staff will serve as the interim program director. Tim can be reached at (202) 624-3686, [ttitus@sso.org](mailto:ttitus@sso.org).

## ITRC partners with tri-services at spring meeting in Charlotte

ITRC's 2003 spring team meetings were integrated with the 5th Environmental Technology Symposium & Workshop, sponsored by the Tri-Service Environmental Centers, USAEC, NFESC, AFCEE, and ITRC. Gathering more than 400 representatives from all ITRC federal partners, states, private industry, and the public, the symposium in Charlotte, N.C. offered an excellent opportunity for all sectors to collaborate and network and provided regulatory guidance as well as a training forum for discussing environmental technology strategies, innovations, demonstrations, and products.

ITRC was successful in reaching out to our federal partners during this symposium by conducting six



Photos taken by Doug Bradford (La.), DNAPL Team member

trainings: Small Arms, Natural Attenuation, Systematic Approaches to ISB, Diffusion Samplers, Advanced Permeable Reactive Barriers, and In Situ Chemical Oxidation. In addition, more than 35 ITRC members presented technical papers throughout the four-day event. More than 65 new members of ITRC participated in a training session on ITRC principles and practices conducted by several state points of contact, team leaders, and program advisors.

Through this event, ITRC also had the opportunity to strengthen its understanding of environmental programs in the tri-services. During a plenary session, Ken Taylor and Brian Griffin, ITRC co-chairs, and Secretary William G. Ross, Jr. of North Carolina shared the floor with Col. James M. DePaz, Commander, U.S. Army Environmental Center; Capt. Richard O. Gamble, II, Naval Facilities Engineering Service Center; and Col. Per A. Korslund, HQ Air Force Center for Environmental Excellence. In this session ITRC learned about the priorities of these organizations in addition to examples of benefits they have received through partnering with ITRC. Specifically, the military representatives highlighted ITRC involvement in areas such as direct-push wells, diffusion samplers, remedial process optimization, enhanced bioremediation, and small arms ranges.

## State Engagement Team

### State POCs bring state priorities to the ITRC process

State POCs play an important role in setting the strategic direction for ITRC. During the month of June, POCs prioritized proposals submitted to the ITRC Five-Year Program Plan (FYPP). This year POCs will focus on ranking newly developed proposals and those proposals in last year's FYPP that were not funded in 2003. The results of the prioritization process will be provided to ITRC management to assist in determining ITRC teams for 2004–2008. Information on the ITRC FYPP process is available at [www.itrcweb.org](http://www.itrcweb.org) by clicking on "FYPP."

### State POC midyear meeting

The ITRC State Engagement Team will hold its midyear meeting in Denver on July 8–10. State POCs play a key leadership role in implementing ITRC tools across the states. This meeting will focus on the primary initiative of "bringing ITRC benefits home" and assisting our POCs with strategies for success. We are working to match ITRC tools and resources to contaminated sites within our member states. State POCs will discuss opportunities and strategies to ensure ITRC guidance documents and training courses are available to assist in the decision-making process when innovative technologies and approaches are

considered at sites in their states. While in Denver, POCs will also meet USEPA Region 8 officials to share information on the ITRC network.

### State Engagement Coordinator search committee formed

Paul Hadley (Calif.) is wrapping up his term as ITRC State Engagement Coordinator at the end of 2003. A committee of POCs led by Naji Akladiss (Maine) is recruiting candidates for the next State Engagement Coordinator. The position is for a three-year term and is restricted to employees of state environmental agencies. The State Engagement Coordinator is responsible for the overall coordination of POCs (designated by each member state) in the State Engagement Program. This program ensures state priorities are addressed by ITRC and focuses on state outreach to ensure ITRC states benefit from their participation through training courses and the concurrence process. If you are interested in this position, please contact Naji Akladiss at (207) 287-7709, [naji.n.akladiss@state.me.us](mailto:naji.n.akladiss@state.me.us).

### Welcome new POC!

We want to welcome Pasupathy (Ram) Ramanan, who replaces Dee Ann Staats as the POC for West Virginia. Thanks to Dee Ann for her service to ITRC.

If you would like more information on ITRC State Engagement activities, please refer to the ITRC Web site at [www.itrcweb.org](http://www.itrcweb.org) or contact Paul Hadley, ITRC State Engagement Coordinator, [phadley@dtsc.ca.gov](mailto:phadley@dtsc.ca.gov), (916) 324-3823 or ITRC Program Advisors Mary Yelken, [myelken@earthlink.net](mailto:myelken@earthlink.net), (402) 325-9615 or Gary Garrett, [garrett@sseb.org](mailto:garrett@sseb.org), (770) 242-7712. Your POC is your ITRC resource in your state. POC contact information is available at [www.itrcweb.org](http://www.itrcweb.org) by clicking on "Contacts."

## Technical Team Updates

### Alternative Landfill Technologies (ALT)

During 2002, the ALT Team collected and analyzed the results of alternative landfill cap case studies from around the United States. The ALT Team, which published its findings in its first product—*Technology Overview Using Case Studies of Alternative Landfill Technologies and Associated Regulatory Topics*—concluded that alternative landfill cover designs have contributed substantially to the waste management industry and can be as protective and economically feasible as traditional capping technologies. However, experience in the industry is limited, and a valid guidance describing the regulatory flexibilities, critical design parameters, construction considerations, monitoring, and postclosure care is necessary. The follow-up guidance from this ITRC team will encourage the proper application of this innovative technique and foster aware-

ness of these new cover designs among the regulatory and consulting communities.

During the second quarter of 2003, the team evaluated the results of a survey sent to the 44 ITRC states. The team has clearly identified that federal requirements do not prohibit the use of alternative capping on solid, municipal, or hazardous waste landfills; however, the operator must obtain an exemption from the standard requirements. The team's experience is that states are either unaware of the exemption or disallow exemptions from conventional capping technologies. The team survey shows that 71% of RCRA-authorized states have adopted the same flexibilities the federal government offers in RCRA, resolving much of the question regarding flexibilities among states.

Through further questioning of surveyed states, the team found differences in how states evaluate performance, leading to different landfill design parameters. The results are contained in the following table.

Percent of States Surveyed Using Various Design Criteria		
Performance Monitoring	Hazardous Waste Landfill	Solid Waste Landfill
Flux through the cover	100%	75%
Total leachate collection	67%	75%
Liner leakage rate	67%	87%
Groundwater monitoring	33%	37%

These results form an important part of the technical and regulatory guidance document the team is currently drafting. The ALT Team also plans to produce documents on bioreactors and alternative methods of postclosure care.

If you'd like to receive a copy of the ALT Team's technology overview document, contact Elaine Specht at [elaine\\_specht@wpi.org](mailto:elaine_specht@wpi.org), (540) 557-6071, or download a copy from the ITRC Web site at [www.itrcweb.org](http://www.itrcweb.org). For more information on this team, please contact ALT Team Leader Charles Johnson (Colo.) at [charles.johnson@state.co.us](mailto:charles.johnson@state.co.us), (303) 692-3348.

## Brownfields

At the Charlotte meeting, the Brownfields Team heard many interesting presentations on brownfields. Jim Mack from the New Jersey Institute of Technology gave a presentation on the relationship between transportation and brownfields redevelopment. Verle Hansen, a postdoctoral candidate working with USEPA's National Risk Management Research Laboratory, gave a presentation on his research on sustainability in brownfields redevelopment.

The team continues to move forward on a document on indoor air impacts on brownfield sites. The goal is to devel-

op materials that will enable brownfields professionals to understand the issue of vapor intrusion, methods for estimating risks, and approaches that federal and state governments are taking to regulate indoor air vapor exposure. The team will meet in Philadelphia this summer to finalize the document and discuss any outstanding issues.

The Brownfields Team continues to work with the U.S./German Bilateral Working Group on the Site-Specific Management Approach and Redevelopment Tools (SMART) guidance. Last year the Brownfields Team was asked to nominate brownfield sites as candidates for the working group to use in developing case studies for the SMART guidance. Sites were selected, and a series of workshops was held with project sponsors and experts in the field. The next scheduled workshop, focusing on risk management, will be held in conjunction with Brownfields 2003, the annual conference hosted by USEPA addressing brownfield issues and technologies.

Team members are coordinating with other teams to prepare an ITRC-led session during Brownfields 2003, to be held in Portland, Ore. in October. The session will provide other ITRC teams with the opportunity to present their work to the brownfields community.

The team would like to extend a welcome to its new program advisor, Marc Del Piero. Marc resides near Monterey, Calif. and promises us an exciting meeting there in the fall. We also extend a special thanks to Roger Argus of TetraTech for helping us out with administrative support over the past year. Roger's support enabled us to have meetings, calls, minutes, and generally keep on top of things. And thanks to Denise Calore who has proved to be an invaluable source of information to the team. Christine Costopoulos (N.Y.) leads the Brownfields Team and can be reached at (518) 402-9711, [cjcostop@gw.dec.state.ny.us](mailto:cjcostop@gw.dec.state.ny.us).

## Constructed Wetlands

Constructed treatment wetlands, which have been used for years as a technique to control storm water runoff, are often considered the best management practice for storm water. Today, a more comprehensive suite of chemical and site situations are being addressed through advanced designs for constructed wetlands.

During the ITRC spring meeting, the Constructed Wetlands Team completed the final draft of *Technical and Regulatory Guidance for Constructed Treatment Wetlands*, which is now in peer review. Concurrently, a team of instructors is developing Internet-based training to teach students, through the use of the document, how to establish the suitability of using constructed treatment wetlands in a variety of applications. Decision trees will address wastewaters from industrial sources, including agricultural and municipal treatment systems, acid mine drainage, remedial waste-

waters, and landfill leachate. Well-practiced instructors will ensure students get the best information and educational experience ITRC can offer. The dry run for POCs will be held in late summer, and public sessions are scheduled for October 7 and November 20.

The team has expanded into the investigation of mitigation wetlands, which replace habitat lost when a natural wetland is destroyed. The team held its first meeting in June to refine the scope and establish a work plan and schedule for the remainder of 2003 and 2004. The next *Quarterly Update* will include a clear description of the product this team expects to complete in 2004. For more information on constructed treatment wetlands or mitigation wetlands, contact Team Leaders Bob Mueller (N.J.) or Dib Goswami (Wash.). Reach Bob at (609) 984-3910, bob.mueller@dep.state.nj.us and Dib at (509) 736-3015, dgos461@ecy.wa.gov.

## Contaminated Sediments

The Contaminated Sediments Team is preparing an overview document on the investigation, remediation, and risk assessment of sediments. In June the team met in collaboration with the ALT and the Mitigation Wetlands teams in Monterey, Calif., where the team visited a nearby contaminated sediments remediation project. This is a new and exciting area for ITRC, and many other agencies and organizations are also working on contaminated sediments guidance and technology documents. Contaminated sediments exist in great quantities worldwide, and their very nature (underwater sediments) makes for very challenging and expensive remediation. This topic is a great opportunity for ITRC to tackle a challenge of worldwide significance. Richard DeWan (N.J.) and Brad Helland (Wash.) are Sediments Team co-leaders. Reach Rich at (609) 984-4426, richard.dewan@dep.state.nj.us. Brad can be reached at (425) 649-7138, bhel461@ecy.wa.gov.

## Dense Nonaqueous Phase Liquids (DNAPLs)

The DNAPLs Team is proud to announce the publication of DNAPLs-3, *Technical and Regulatory Guidance for Surfactant/Cosolvent Flushing of DNAPL Source Zones*, which is available in hard copy and for immediate download from the ITRC Web site through the "Guidance Documents" button. The first public offering of the Internet-based training associated with this document was held on June 19, and additional offerings are planned for September and October (click "Internet-Based Training" on the Web site). The DNAPL characterization overview document is expected to be ready for publishing in August. Ana Vargas (Ariz.) has been the lead on the surfactant document and training; Michael Smith (Vt.) has been the lead on the characterization document.

Team Leader Eric Hausamann (N.Y.) has taken the lead to publish a technical/regulatory guidance document on per-

formance assessment. The team had planned to begin this effort next year, but funding from the Army Environmental Center enabled the team to meet this year and accelerate its efforts. The first meeting for this purpose was held in Albany, N.Y., and the team is off to a great start.

The team recently met in Seattle in conjunction with USEPA's Technical Support Project forums on groundwater and engineering. This is the second consecutive year of this collaboration between the DNAPL Team and the USEPA TSP forums, and both groups benefit from this partnership. The team has a lot of exciting paths to consider for the future, including efforts on a DNAPLs treatment-train document. Eric Hausamann (N.Y.) leads the DNAPLs Team and can be reached at (518) 402-9759, eghausam@gw.dec.state.ny.us.

## Diffusion Samplers (DS)

A primary goal for this year is to prepare an ITRC technical and regulatory guidance document for diffusion samplers, which is currently in its final draft phase. As part of this effort, the DS Team conducted an Internet-based survey of state regulators to identify any regulatory roadblocks to the use of diffusion samplers. The response was good, and interpretation of the results is under way.

The DS Team published its spreadsheet model for examining the costs of implementing and converting to diffusion sampler technology. This interactive model enables comparison of the costs of diffusion sampling with other methods. The model, instructions on its use, and an example are available for download from the Diffusion Sampler Information Center (DSIC) at <http://ds.itrcweb.org>.

Over a dozen documents related to presentations at the DS Team meeting are available for download at the DSIC. The Diffusion Sampler Resource CD, containing nearly 70 articles and presentations on various diffusion samplers, as well as the ITRC training video and the AFCEE/Parsons field sampling video, continues to generate an enthusiastic response. One user wrote:

[W]e found the CD you sent incredibly useful (ITRC Diffusion Sampler Resource CD, Version 2.1, 11/02). I in particular found the CD detailed enough to fully educate the audience on the key aspects associated with PDB sampling; however, it was also simple and interesting enough to keep a captive audience.

We soon plan to hold an internal seminar to present the CD and educate our field staff. I believe this type of information sharing is critical to consultants and regulators and to their mutual understanding of rapidly advancing innovative technologies. So, thank you for your efforts. They are helpful, and appreciated.

Copies of the CD can be requested through the DSIC. Articles and information related to diffusion samplers are being solicited for the next update of this resource.

As the DS Team works through its technical/regulatory guidance document, it is broadening its focus to other passive samplers, especially those that can deliver samples for target compounds other than the volatile organic compounds collected by passive diffusion bags (PDBs). The next team meeting is planned for South Lake Tahoe, Calif., August 19–21.

As a final note, Ron Hoeppel, an actively involved member of our team over several years, will be retiring this summer. We wish him the best and wish to acknowledge that his valuable contributions will be sorely missed. DS Team Leader George Nicholas (N.J.) can be reached at (609) 984-6565, [george.nicholas@dep.state.nj.us](mailto:george.nicholas@dep.state.nj.us).

## **In Situ Bioremediation (ISB)**

The ISB Team continues to work cooperatively with the DNAPLs Team to apply the ISB Team's most recent document, *A Systematic Approach to In Situ Bioremediation in Groundwater* (ISB-8), to treat DNAPL-chlorinated ethenes. The systematic approach includes use of both ISB as a direct treatment of DNAPLs and ISB treatment following DNAPL source treatment such as thermal, chemical flushing, physical source removal, or in situ chemical oxidation. These examples will show how the systematic approach can be applied to any contaminant of concern. The ISB Team also continues to promote the use and implementation of its ISB-8 document by team members presenting at meetings and conferences and following up on inquiries concerning ISB implementation. The team is making progress in identifying states where ISB projects are proposed to increase awareness and use of ISB-8. The team has successfully presented another Internet training course with two more scheduled for this year on August 21 and October 21. Questions should be directed to ISB Team Leader Bart Faris (N.M.), (505) 841-9466, [bart\\_faris@nmenv.state.nm.us](mailto:bart_faris@nmenv.state.nm.us).

## **In Situ Chemical Oxidation (ISCO)**

The In Situ Chemical Oxidation Team plans to develop an updated version of the original technical/regulatory guidance document, ISCO-1. New oxidants have become commonly used since ISCO-1 was written in June 2001, and the team plans to include a discussion of these new oxidants and additional case studies in ISCO-2. Coleaders are Tom Stafford (La.), (225) 765-0462, [t\\_stafford@deq.state.la.us](mailto:t_stafford@deq.state.la.us), and Pat Quinn (Mo.), 573-751-0944, [nrquinp@mail.dnr.state.mo.us](mailto:nrquinp@mail.dnr.state.mo.us). Along with Tom Stafford, Team Member Wilson Clayton of Aquifer Solutions, Inc., lead instructor for the ITRC Internet-based ISCO training, will present an Internet-based training session on September 16.

## **MTBE-Contaminated Groundwater**

At the National Ground Water Association's invitation, the MTBE-Contaminated Groundwater Team participated in a Focus Conference on MTBE held June 5–6 in Baltimore. The team held a team meeting prior to hosting a regulatory roundtable. The team continues to refine the technical overview document planned for release this fall. The MTBE case study database is now in beta testing with submittals from member states in progress. Pending a full funding sponsor, the database will be made available online. The team is considering numerous invitations to participate in upcoming 2003 technical conferences focusing on domestic and international MTBE concerns. New York State Department of Environmental Conservation, the Long Island Groundwater Research Institute (a SUNY affiliate), USEPA, and the American Petroleum Institute have invited and funded the team to collaborate on developing classroom training tentatively scheduled for mid-December. Fred McGarry (N.H.), MTBE team founder, can be reached at (603) 271-4978, [fmcgarry@des.state.nh.us](mailto:fmcgarry@des.state.nh.us).

## **Permeable Reactive Barriers (PRBs)**

Formed in 1996, the Permeable Reactive Barriers Team is one of the oldest ITRC teams still active in seeking ways to widen the deployment of an innovative environmental technology. The PRBs Team has completed several documents on its own or in partnership with other groups and has provided training in both classroom and Internet formats.

During 2003 and 2004, along with the Department of Defense (specifically, the Naval Facilities Engineering Service Center), the team was planning to participate in PRB research as part of the ITRC Five-Year Program Plan; however, this research effort was not funded by ESTCP/SERDP. During 2003, the team has reevaluated what it and other groups have accomplished regarding PRBs and believes that additional PRB guidance is needed. At the spring meeting in Charlotte and in follow-up conference calls, the team identified nine possible areas for additional PRB guidance. These areas were distilled into plans for one technical and regulatory guidance document to address new developments in PRBs since the team's last guidance document and to provide detailed information on noniron-based treatment media. A draft outline has been developed, with the tentative title *Lessons Learned, New Directions*. For 2004, the team is proposing to collect the resources necessary and develop this document and to make the material or a link to the material available to the public on the ITRC Web site under the team's public page. Team Leader Matt Turner (N.J.) can be reached at (609) 984-1742, [matthew.turner@dep.state.nj.us](mailto:matthew.turner@dep.state.nj.us).

## Radionuclides (Rads)

The Radionuclides Team participated in the ERTEC 03 Conference in Columbia, S.C. in early June. Several team members made presentations, and team leads—Tom Schneider (Ohio) and Carl Spreng (Colo.)—were on a regulatory panel. A tour of the Savannah River Site was arranged for Rads Team members.

The team has prepared materials for Internet-based training entitled “Radiation Risk Assessment: Updates and Tools.” The course is being refined through reviews and practice sessions for debut in late summer.

Timelines have been developed for both the characterization and long-term stewardship subteams. Sections of the upcoming tech/reg document *Real-Time Characterization Technologies for Radioactive Waste* have been drafted and reviewed, and *Technology and Implementation Challenges for Long-Term Management of Radioactive Sites: State Regulators’ and Federal Perspectives* has been outlined. The team plans to discuss drafts of both documents at the fall meeting. Tom Schneider can be reached at (937) 285-6466, tom.schneider@epa.state.oh.us; and Carl Spreng can be reached at (303) 692-3358, carl.spreng@state.co.us.

## Remediation Process Optimization (RPO)

The Remediation Process Optimization Team has been hard at work clarifying and refining the acronym “RPO” as the team drafts its technical and regulatory guidance document. Although there are many variations on what RPO entails, the key elements include evaluating the original remedial action objectives and assessing the remediation system’s effectiveness and cost-efficiency toward reaching the goal of site closure.

At the ITRC spring meeting, members heard from government team members on the highlights of their optimization programs, as well as from industry members who are focused on innovative technologies that may be applied to optimization reviews. Other recent RPO activities included a half-day state training session sponsored by the New Jersey Department of Environmental Protection and ITRC on the benefits and techniques of conducting RPO. Team Leader Tom O’Neill conducted the training and is a champion of RPO, as shown by his numerous presentations and workshops this past year. Tom provided a short course on RPO and site closure at the Battelle conference, June 4, 2003.

RPO Team membership has grown tremendously in the last year; and as other states begin to prepare for taking responsibility for EPA Superfund-lead sites, we expect additional RPO interest. The costs for operating and monitoring these Superfund sites will shift to the states in the coming years, and RPOs can help states effectively and efficiently bring the sites to closure.

The RPO Team’s upcoming activities include conducting a mini-RPO assessment at the Syncon Resins Superfund Site in Kearny, N.J. in conjunction with a team meeting in Princeton, N.J. In addition, several federal team members will be participating in an upcoming Air Force RPO visit at Wurtsmith AFB, Mich. Results of that RPO, as well as six other Air Force RPOs, will be included as case studies and lessons learned in the team’s final guidance document.

This summer the team is focusing on finalizing a draft of the RPO technical/regulatory guidance document. A subteam will also be formed to focus on Internet and classroom training requirements. The team welcomes new state regulators from California, Florida, Georgia, and Oregon. Other states interested in RPO or individuals interested in participating in an RPO, or having one conducted at a particular site, may contact Tom O’Neill at (609) 292-2150, tom.o’neill@dep.state.nj.us for more information.

## Risk Assessment Resources (Risk)

The Risk Assessment Resources Team is outlining various subteam products. For example, the team is reviewing the Region 6 Corrective Action Strategy and the variation in states’ risk calculations of the Soil Screening Levels. These topics were discussed at the team meeting June 22–25 at Lawrence Livermore National Laboratory (LLNL), which included a tour of the lab. Other topics addressed at the meeting included the following:

- focus, deliverables, and timelines for the State Risk Assessment, DOE End-State Vision, Corrective Action, and Specific Issues subgroups;
- national survey of numerical criteria by the California Center for Land Recycling;
- how risk was used at LLNL for RCRA and CERCLA activities;
- work being done for the Johnson-Ettinger Model; and
- the Five-Year Plan proposal.

Team Leader Steve DiZio (Calif.) can be reached at (916) 255-6634, sdizio@dtsc.ca.gov.

## Sampling, Characterization, and Monitoring (SCM)

The Sampling, Characterization, and Monitoring (SCM) Team has been busy working on two technical/regulatory guidance documents concerning the Triad Approach to environmental projects and direct-push wells. The team plans to have both these documents near completion in time for the next team meeting, planned for August 4–6 near Burlington, Vt.

New Jersey has taken a real interest in the Triad Approach and has recently hosted a workshop to train and prepare environmental consultants to begin using this concept on

New Jersey projects. The state plans to certify professionals for Triad projects and to certify applicable field methods for real-time measurement analyses. The team is keeping a close eye on the New Jersey effort.

The team has a lot of exciting and innovative paths that it could pursue and has been invited to participate and present at the NORISC (Network Oriented Risk assessment by In situ Screening of Contaminated sites) meeting in Cologne, Germany in December 2003. One of the innovative ideas being discussed includes a potential collaboration with NELAC (National Environmental Laboratory Accreditation Conference) and INELA (Institute for National Environmental Laboratory Accreditation) on the validation of field analytical methods to be used for expedited methods like Triad. Team Leader Stu Nagourney (N.J.) can be reached at (609) 292-4945, stu.nagourney@dep.state.nj.us.

## Small Arms Firing Range (SMART)

The SMART Team completed its first Internet-based training on *Characterization and Remediation of Soils at Closed Small Arms Firing Ranges*. More than 115 students attended.

Small arms firing ranges may be operated by private clubs for members; by commercial businesses open to anyone; by cities, counties, or states for law enforcement officers; or by the military. These ranges may operate continuously or intermittently, and their use may be specific to a particular small arms or may contain sites designed for all varieties of shooting, pistols, rifles, and shotguns. Following the spring meeting in Charlotte, the team developed a state survey to understand more clearly the agencies that have the greatest interest in operating small arms firing ranges. The survey will focus on the owners, operators, and government agencies that might have interest in the environmental stewardship (using best management practices) of small arms firing ranges. The survey will be conducted during the summer.

All U.S. environmental oversight or technical assistance programs specific to operating small arms firing ranges are voluntary. In some cases, agencies have established technical assistance programs as resources to owners and operators, and others have presented best management practices to increase awareness of environmental stewardship of lead in soils and ranges. The SMART Team has outlined and is writing *Best Management Practices for Environmental Stewardship and Small Arms Firing Ranges*. In addition, the team will develop a template, based on other government programs, for providing technical assistance to owners and operators of active ranges. Team members, particularly state members, will be available to travel to other states to explain the assistance they have found most beneficial to active range operators and the results they have seen in the past. SMART Team lead-

ers are Dib Goswami (Wash.) and Bob Mueller (N.J.). Dib can be reached at (509) 736-3015, dgos461@ecy.wa.gov; Bob can be reached at (609) 984-3910, bob.mueller@dep.state.nj.us.

## Unexploded Ordnance (UXO)

The UXO Team is nearing completion of the first document in a series that will cover different topics associated with the munitions response process. *Munitions Response Historical Records Review* is expected to be published this fall. The team is completing the associated Internet training, and three team members and two alternates are practicing delivering this training. The first public offering of this training is scheduled for August 25. In addition, the team is working to get greater state involvement for the development of the second document in the series, *Site-Specific Geophysical Prove Out*.

To meet the demand for more UXO Basic Training courses, the team delivered the following:

- UXO Basic Training (two-day course), sponsored by the State of Alaska Department of Environmental Conservation
- UXO Basic Training (one-day course), in conjunction with USEPA's National Remedial Program Managers conference
- Firefighter training on ordnance identification and hazard considerations, sponsored by Alaska Fire Service, Bureau of Land Management

The team will be presenting its last two-day course for 2003 in Austin, Tex. on October 28–29. The Texas Commission on Environmental Quality is cosponsoring this class, with funding provided by USEPA. Texas was very interested in cosponsoring this training because of the large number of regulators who have recently been assigned oversight responsibility for projects in the state. This training promises to reach the greatest number of state regulators of any of the 2002 or 2003 trainings. UXO Team leaders are Jeff Swanson (Colo.), who can be reached at (303) 692-3416, Jeffrey.Swanson@state.co.us, and Jennifer Roberts (Alaska), who can be reached at (907) 269-7553, jennifer\_roberts@dec.state.ak.us.

## Contacts

For questions or comments regarding ITRC, please contact Tim Titus, Interim ITRC Program Director, Environmental Council of the States, (202) 624-3686, ttitus@sso.org.

To provide comments, suggestions, or input for ITRC's *Quarterly Update*, please contact Elaine Specht, WPI, (540) 557-6071, elaine\_specht@wpi.org.

# Calendar

Event	Location/Date	Contact
Advanced Permeable Reactive Barriers*	July 24, 12:30–2:45 p.m. EDT	
Brownfields Team Meeting	July 24–25 / Philadelphia	Christine Costopoulos, (518) 402-9711 cjcstop@gw.dec.state.ny.us
Small Arms Firing Ranges Team Meeting	July 28–30 / La Jolla, Calif.	Robert Mueller, (609) 984-3910, bob.mueller@dep.state.nj.us
Radiation Risk Assessment*	July/Aug. TBD	Check Web site for date and time
Sampling, Characterization, & Monitoring Team Meeting	Aug. 4–6 / Burlington, Vt.	Stuart J. Nagourney, (609) 292-4945 stu.nagourney@dep.state.nj.us
DNAPLs Team Meeting	Aug. 7–8 / Burlington, Vt.	Eric Hausamann, (518) 402-9759 eghausam@gw.dec.state.ny.us
Diffusion Samplers Team Meeting	Aug. 19–21 / Lake Tahoe	George H. Nicholas, (609) 984-6565 george.nicholas@dep.state.nj.us
Systematic Approach to In Situ Bioremediation*	Aug. 21, 11 a.m.–1:15 p.m. EDT	
Munitions Response Historical Record Review*	Aug. 28, 11 a.m.–1 p.m. EDT	
Surfactant/Cosolvent Flushing of DNAPLs*	Sept. 9, 2–4:15 p.m. EDT	
Small Arms Firing Ranges*	Sept. 11, 11 a.m.–1:15 p.m. EDT	
In Situ Chemical Oxidation*	Sept. 16, 2–4:15 p.m. EDT	
ITRC Fall Meeting	Sep. 29–Oct. 2 / Monterey, Calif.	Carolyn Hanson, (202) 624-3501 chanson@sso.org

*\*Internet-based courses—contact Mary Yelken, (402) 325-9615, myelken@earthlink.net*

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