



Quarterly Update

September 1999

ITRC Web site is ready for prime time

It's time to change your bookmark. Now the most up-to-date information from and about ITRC is at a new location on the Internet: www.itrcweb.org. From information about ITRC's history to copies of the guidance documents, you'll find what you're looking for on ITRC's improved Web site. Here's what you'll find when clicking on the Web site's navigation bars:

ITRC Home – The Web site's home page.

About ITRC – Descriptions of ITRC's vision, mission, and objectives. Look here for a copy of ITRC's fact sheet, too.

Guidance Documents – Electronic copies of the Technology Overviews, Regulatory/Technical Guidelines, Case Studies, and other documents published by ITRC. To the extent possible, documents are available in both html and pdf versions.

Calendar of Events – A month-by-month listing of upcoming ITRC conferences and training courses. Conferences cosponsored by ITRC are also listed.

Newsletters – Copies of the ITRC *Quarterly Update* in both html and pdf formats.

Teams – A VPN (virtual private network) that, when fully operational, will facilitate information sharing among the members of ITRC's technical teams.

Enviro-Tech Links – A jumping-off point for getting to a wide variety of online resources related to innovative environmental technologies.

Training – Descriptions of the courses codeveloped and offered by ITRC.

Presentations – Two versions of a presentation about ITRC with varying levels of detail.

Ted Joy, ITRC's circuit rider from the Southern States Energy Board, coordinates the information included on the ITRC Web site. The Web site is made publicly accessible by Global Environment & Technology Foundation (GETF). As with all effective Web sites, the ITRC Web site will continue to evolve to meet the needs of the people using the information. Please forward suggestions and comments on the Web site to Ted Joy, (770) 242-7712, joy@sseb.org.



When you go to www.itrcweb.org, here's what you'll see.

UPCOMING EVENTS

Get ready for next meeting of ITRC

The Fall ITRC meeting will be held November 1–2 in Itasca, IL (Chicago area). The ITRC meeting will tie into USEPA's Innovative Cleanup Approaches Conference, which will be November 2–4. Current plans are for the ITRC technical teams to meet on November 1 and for an ITRC plenary session to be held on the morning of November 2. (The USEPA conference starts in the afternoon.) ITRC members should have already received conference details and registration materials with a previous mailing. Other interested parties can contact Michelle Brown at Booz Allen Hamilton, brown_michelle@bah.com, (703) 902-5838, for registration information.

Technology Information Exchange Workshop

A presentation abstract submitted by ITRC for consideration by the organizers of the Technology Information Exchange (TIE) Workshop has been selected. The workshop will be held October 25–28 in Las Vegas. The final day of the workshop includes a tour of DOE's Nevada Test Site. A representative of ITRC will participate in a session titled, "Communicating with Regulators and Stakeholders," which will be on the morning of October 26. The workshop is sponsored by DOE's Office of Environmental Restoration (EM-40). Attendees from throughout the DOE complex as well as USEPA are expected.

Third regional deployment workshop planned

The Southwest Technology Deployment Workshop, the third in a series of regional workshops that encourages the use of innovative technologies at DOE cleanup sites will be held in December. The Southwest workshop will focus on solutions for better technology selection and deployments, technology needs assessment processes, contract reform, and ways to increase multisite deployments. The workshop will be held at the Wyndham Hotel in Albuquerque, New Mexico, December 8 and 9. A one-day, optional training for stakeholders and regulators on how to use DOE's Technology and Needs Management System will be held on December 7.

The workshop is being sponsored by ITRC, the Western Governors' Association, DOE-HQ, DOE's Albuquerque Operations Office, the Waste-management Education Consortium (WERC), and the Remedial Technologies Network. Conference sponsors expect the following participants: contractor and DOE project managers, technology vendors, technology consultants, corporate management from DOE's M&O and M&I contractors, members of DOE's Site Technology Coordination Groups, technology developers from national labs, public and tribal stakeholders, USEPA and state regulators, staff from DOE's focus areas, mid-to-upper level DOE operations office management, and DOE procurement and contract managers.

Registration for the workshop is \$50, non-refundable. Scholarships for stakeholders and others are available. Contact Anne Callison at (303) 331-0704 for more information about scholarships. Anne or Kay Perkins at WERC at (800) 523-5996 can answer all other questions.

REMEDIAL TECHNOLOGIES NETWORK AND ITRC ANNOUNCE CLOSER RELATIONSHIP



Your Source for Environmental Information.

Under an agreement that will provide ITRC state members with unprecedented access to even more information than they enjoyed before, Remedial Technologies Network (RTN) and ITRC are extending an accord they reached last spring. To date, state members have been using the Internet

information mining tool from RTN called RIMS to get reliable information about a variety of remediation matters in just a few seconds. The expanded agreement will now allow ITRC users to access RIMS2000, a wholly Web-based application with up-to-date contact information, which, since the first version of RIMS was released two years ago, has proven to be a vital tool for project managers, state regulators, vendors, and internal corporate environmental staff.

"All the features and benefits of RIMS2000—technology abstracts, case studies, vendor information, site data, and cost information—have been enhanced to the point where this application represents the best of the Web in the environmental arena," said John Brosnahan, vice president at RTN. RIMS2000 continues to have objective, third party-verified information updated continuously through an exclusive arrangement RTN has with the Research Triangle Institute in North Carolina. In announcing the expanded relationship with ITRC, Mr. Brosnahan commented that, "ITRC's state and stakeholder members have been a great partner for us in the past. Our hats are off to ITRC project manager Rick Tomlinson for spearheading this effort. Extending the relationship through August of next year shows how committed both organizations are to putting relevant environmental information at the fingertips of those who need it most." RTN is currently developing content and partner arrangements in environmental areas beyond remediation, according to Mr. Brosnahan, although details were not disclosed.

Under the agreement, RTN also will cosponsor several ITRC workshops, including the upcoming Southwest Technology Deployment Workshop in Albuquerque, New Mexico on December 8-9, 1999.

To get free access to RIMS2000 or to start your ITRC account, visit www.EnviroGlobe.com. Comments or questions can be e-mailed to Rick Tomlinson at rickt@sso.org, or to John Brosnahan at jbrosnahan@EnviroGlobe.com.

ITRC PROMOTIONAL MATERIALS AVAILABLE

Do you have to give a presentation about ITRC? No sweat. Slides for two presentations about ITRC have been developed and are available on the ITRC Web site. One is a generic ITRC introductory overview that helps acquaint an audience with ITRC. The August 1999 presentation goes into greater depth, explaining the activities of ITRC's teams (both those that are ongoing and those that have closed out) and providing details about the benefits ITRC brings to various entities (such as states, industry, DOD, DOE, and USEPA). The generic presentation can be

viewed online in html or as a pdf file. The August 1999 presentation can be viewed as a pdf or PowerPoint 97 file. When preparing a presentation, you can select slides from the existing presentations or use them as a starting point for tailoring your own presentation. A good rule of thumb is to plan a minimum of two minutes per slide.

ITRC also has an Information Kit containing handouts you can use in conjunction with your presentation. The kit includes ITRC fact sheets, the list of ITRC products, and a "Web card." The Web card is the size of a business card; but instead of a person's name, it gives the ITRC Web site address. The kit also includes an 8.5 x 11 in. sign that can be used wherever you are passing out ITRC materials. POCs, team leads, and the Leadership Team have each received a complete Information Kit by mail.

Anyone needing a complete Information Kit or additional copies of materials in the kits can contact WPI (ITRC's communication contractor). WPI can provide additional hard copies (with reasonable notice) or an electronic copy. Copies of the most recent ITRC newsletter can also be provided by WPI or printed from the ITRC Web site to be used as handouts. Please contact Elaine Specht, (540) 557-6071, Elaine_Specht@wpi.org when you need additional information materials for upcoming events.

STATE ENGAGEMENT PROGRAM UPDATE

The State Engagement Program is accomplishing its mission "to build successes" on several fronts.

Training

During its first round of Internet-based training for regulators, environmental consultants, industry, and public and tribal stakeholders, ITRC has trained more than 400 individuals on the document, *Natural Attenuation of Chlorinated Solvents in Groundwater: Principles and Practices* (ISB-3). This specific technical and regulatory guidance document provides the framework needed to evaluate the appropriateness of natural attenuation as a remediation alternative. Three sessions held in July and August were found to be a cost-effective and popular way to familiarize audiences with ITRC products and services. Internet-based training will become standard practice for ITRC as more products are transitioned into Internet application. Upcoming training sessions will be based on technical and regulatory guidance documents covering permeable barrier walls, enhanced in situ bioremediation of chlorinated solvents in groundwater, and low-temperature thermal desorption. These sessions are cooperative efforts among ITRC's State Engagement Program and technical teams, the Remediation Technologies Development Forum, and USEPA.

USEPA RCRA Letter

Beginning in July 1999, the ITRC state points of contact (POCs) and team leaders put their heads together to study, from a regulatory and policy standpoint, the challenges of applying in situ technologies to remediate contaminated sites. Building on the work done by the In Situ Bioremediation Team as articulated in *Technical and Regulatory Requirements for Enhanced In Situ Bioremediation of Chlorinated Solvents in Groundwater* (ISB-6) and the work of the In Situ Bionitrification (ISBD) and DNAPLs teams, POCs and team leaders further explored the issue from their state-specific perspectives. The State Engagement Program has brought the issue to the attention of USEPA by sending a September 10, 1999 letter that expresses states' concerns and asks for USEPA's help in clarifying application of RCRA Section 3020(b) to appropriate, efficient in situ bioremediation of contaminated groundwater. The clarification is expected to come in the form of OSWER guidance sometime in October. Special thanks to Paul Hadley (CA), Elizabeth McManus (WA), Bart Faris (NM), and Baird Swanson (NM) for their roles in continuing to work the issue with the ITRC membership. Congratulations to all for embracing the challenging regulatory barrier to in situ remediation and for meeting what is at the heart of the ITRC mission for sensible regulation and efficient deployment of effective innovative technologies.

POCs and team leaders

Whether it is evaluating and enriching training courses, discussing and proposing solutions to regulatory barriers, or positioning documents under development for a higher level of concurrence, ITRC's POCs and technical team leaders are working closely together to achieve successful development and implementation of ITRC products. The POC/team leader meeting, scheduled for October 21, 1999 in Baton Rouge, LA is slated to be a culminating meeting for the group's work in addressing regulatory issues associated with in situ technologies. The State Engagement Program will also evaluate its plan for 2000 to identify collective ways to build additional ITRC successes—and ultimately expedite the cleanup of contaminated sites. Congratulations to all participants in helping to make 1999 a stellar year for the ITRC! Mary Yelken (NE) is the coordinator for the State Engagement Team; she can be reached at (402) 471-2181, deq033@mail.deq.state.ne.us.

TEAM UPDATES

This issue's Team Updates focus on how ITRC's technical teams are using online resources as an information gathering tool and to facilitate their interaction.

Dense Nonaqueous Phase Liquids (DNAPLs)

The DNAPLs Team is currently working to piece together the initial draft of a technology overview that focuses on technologies for DNAPLs remediation and characterization. The team expects to have a final draft submitted for outside review during the month of November, and a final technology overview document will be ready for printing by the end of December. In addition, the team has arranged to travel to Cape Canaveral to observe the remediation processes being conducted at Launch Complex 34. This visit will allow the team to interact with congressional delegates and members of the federal DNAPL Consortium and view operation of two technologies, Six-Phase Soil Heating and In Situ Chemical Oxidation utilizing KMnO₄.

The team has relied heavily upon the Internet in locating information and has found the following government and private-sector sites to be relevant to DNAPL-related issues:

- *Global Environment & Technology Foundation* (www.getf.org) for viewing the Quality Assurance Project Plans (QAPPs) for the various technologies used at Cape Canaveral.
- *Hazardous Waste Clean-up Information* (CLU-IN, www.clu-in.org) for locating documents and/or information on DNAPL technologies and specific site examples.
- *Ground-Water Remediation Technologies Analysis Center* (www.gwrtac.org) for locating documents on DNAPL-related technologies.
- *TechDirect* (www.clu-in.org/techdrct) for identifying newly published documents on DNAPL-related technologies.
- *U.S. EPA Technology Innovation Office* (TIO, www.epa.gov/swertio1/index.htm) for locating documents, technology write-ups, and site-specific information.
- *U.S. Department of Energy* (DOE, www.doe.gov) also for locating documents, technology write-ups, and site-specific information.
- *Federal Remediation Technologies Roundtable* (FRTR, www.frtr.gov) for locating site-specific information.
- *Remedial Technologies Network—RIMS2000* (www.enviroglobe.com) for finding a variety of information on DNAPL-related technologies, case studies, and cost and performance data.

Baird Swanson (NM) leads the DNAPLs Team, (505) 841-9458, baird_swanson@nmenv.state.nm.us.

In Situ Bionitrification (ISBD)

The ISBD Team has completed its technical overview document and is attempting to place it online so its accessibility to team members can aid the revision process. ISBD is a developing technology, which shows promise in delivering a quicker, more cost-effective solution for dealing with nitrate-contaminated groundwater. ISBD may have applicability to a wide range of contamination—from overfertilization to concentrated animal feeding operations, explosives manufacture, wastewater treatment sites, DOD and DOE facilities, and UXO facilities. The ISBD Team has also submitted a budget and proposal for next year to complete a case study/regulatory guidance document that will contain at least four relevant case studies and the applicable regulatory requirements under which these projects were approved. Bart Faris (NM) leads the ISBD Team, (505) 841-9466, bart_faris@nmenv.state.nm.us.

In Situ Bioremediation (ISB)

In coordination with the ITRC State Engagement Program, Paul Hadley (CA) is using the Web to deliver training sessions to regulators and other members of the environmental community. Based on the ISB Team's document *Natural Attenuation of Chlorinated Solvents in Groundwater: Principles and Practices* (ISB-3), these training sessions allow people to stay in their offices as they hear Paul's instruction over the phone and view slides accessible from the Internet. Paul will also be instrumental in constructing and delivering future Internet-based training sessions based on *Technical and Regulatory Requirements for Enhanced In Situ Bioremediation of Chlorinated Solvents in Groundwater* (ISB-6).

The ISB Team is developing, in conjunction with the Remediation Technologies Development Forum, another series of training classes on enhanced ISB modeled on last year's successful and well-attended classes on natural monitored attenuation. Practice sessions are planned for October and December.

ITRC is currently printing ISB-3 and *Course Evaluation Summary: ITRC/RTDF Training Course on Natural Attenuation of Chlorinated Solvents in Groundwater* (ISB-7). They will be issued to ITRC members in October. Also, while most ISB documents are available on the ITRC Web site, you can find ISB-6 on USEPA's TechDirect Web site at clu-in.org/techpubs.htm. It is listed under the publications advertised in the September 1999 TechDirect message. Paul Hadley, the ISB Team Lead, can be reached at (916) 324-3823, phadley@dtsc.ca.gov.

Permeable Reactive Barriers (PRB)

The Permeable Reactive Barriers Team, in partnership with USEPA and the Remediation Technologies Development Forum, has completed the first three dates of a training course entitled "In Situ Permeable Reactive Barriers: Application and Deployment." Approximately 400 people have attended the three courses representing state regulatory agencies, USEPA, DOD, DOE, private industry, academia, and others. Counting the course's two dry runs, more than 500 people have received training on the use of PRBs. Additional courses are scheduled for the following locations:

Dallas, TX	November 16–17, 1999
Atlanta, GA	February 8–9, 2000
San Francisco	March 21–22, 2000
New York, NY	May 2–3, 1999
Denver, CO	June 13–14, 2000
Chicago, IL	July 25–26, 2000
Kansas City, MO	September 12–13, 2000

The PRB Team is coordinating state attendance at each course and has money available for travel reimbursement. ITRC state point of contacts or designees will be asked to coordinate regulatory enrollment for their states. For additional information, see the ITRC Web page or visit the training course Web site, www.trainex.org/prb, where online registration is available.

The newest document completed by the PRB Team, *Regulatory Guidance for Permeable Reactive Barriers Designed to Remediate Inorganic and Radionuclide Contamination* (PRB-3), is now available on the ITRC Web site and is currently being printed. It will be delivered to ITRC members in October. Matthew Turner (NJ) leads the PRB Team and can be reached at (609) 984-1742, mturner@dep.state.nj.us.

Phytoremediation

The Phytoremediation Team has been putting together a decision tree for its regulatory and technical guidance document. The decision tree will be presented in a flow chart format with a series of yes-no questions, designed to help environmental professionals determine whether or not phytoremediation is appropriate for a given site. This decision tree will be for three media: soil, groundwater, and sediments. Dib Goswami (WA) and Bob Mueller (NJ) lead the Phytoremediation Team. Dib can be reached at (509) 736-3015, dgos461@ecy.wa.gov; Bob can be reached at (609) 984-3910, bmueller@dep.state.nj.us.

Radionuclides

The Radionuclides Team attended the Northwest Technology Deployment Workshop in Richland, Washington. In conjunction with the workshop, 11 team attendees toured the U.S. Department of Energy's Hanford Site and afterward held the Radionuclides Team's summer meeting. Dib Goswami, Washington State Department of Ecology, kicked off the team meeting with a presentation on groundwater contamination issues facing the Hanford Site. Following Dib's presentation, the team discussed the need to define future work products and developed a work plan for the upcoming year. The team also reviewed the first draft of two team documents entitled *Catalog of Radionuclide-Related Organizations and Activities* and *Glossary of Radionuclide Terms*.

For the remainder of the fiscal year, the team plans to finalize these documents and work with DOE Headquarters to establish state-only access to the Office of Science and Technology's (OST) Technology Management System (TMS) database. The TMS database contains analyses of innovative technologies developed with funding from OST. TMS is available online at ost.em.doe.gov/tms.

The team will continue to hold its monthly team conference calls and plans to convene its next ITRC Radionuclide Team meeting at Los Alamos in Albuquerque, New Mexico to coincide with the Southwest Technology Deployment Workshop. Sandia National Laboratory and the team have also been discussing future technology demonstrations and other partnering opportunities. Tom Schneider (OH) and Carl Spreng (CO) lead the Radionuclides Team. Tom can be reached at (937) 285-6466, tom.schneider@epa.state.oh.us; Carl can be reached at (303) 692-3358, carl.spreng@state.co.us.

Unexploded Ordnance (UXO)

The UXO Team plans to finalize its team report, a case study document, by December 1999. The document will focus on case studies of how early state involvement in the request for proposal (RFP)/solicitation process can remove barriers to the use of new and innovative UXO remediation technologies. Eleven questionnaires have been sent to ITRC states. The UXO Team plans to solicit additional case studies from other states that have had experience with UXO contamination and the process involved in contracting remediation solutions. The responses will then be screened for applicability to the case study topic. If you are interested in submitting a case study, please feel free to send an e-mail to brown_michelle@bah.com. The UXO Team is led by Jim Austreng (CA). He can be reached at (916) 255-3702, jaustren@dtsc.ca.gov.

Verification

The ITRC Verification Team's first document, *Multi-State Evaluation of Elements Important to the Verification of Remediation Technologies (VT-1)*, has been published and distributed to all ITRC state points of contact; other ITRC members; DOD, USEPA, and DOE representatives; and representatives of the verification programs. The report is also available on the ITRC Web site, which contributes to a wider audience for this document and makes distribution easier.

In addition, the Verification Team is completing a survey of the participating verification programs to document the types of changes verification programs have incorporated in responding to states' requests for particular types of data from technology evaluations. It is expected that as verifica-

tion programs collect more of the data needed by states during the technology verification process, the easier the technology evaluation will be for states. When complete, the results of this survey will be added to the ITRC Web site. Contact Nancy Uziemblo (WA), Verification Team leader, at (509) 736-3014, nuzi461@ecy.wa.gov.

CONTACTS

For questions or comments regarding ITRC, please contact Rick Tomlinson, ITRC project manager, Environmental Council of States, (202) 624-3660, rickt@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
ITRC POC and Team Lead Meeting	Baton Rouge, LA	October 21	Marsha Bracke, (208) 422-0305 Mary Yelken, (402) 471-2181
Technology Information	Las Vegas, NV	October 25–28	www.em.doe.gov/tie Sherie Earle ten Hoope, (301) 515-6776 sher@fred.net
Fall ITRC Meeting	Itasca, IL (Chicago Area)	November 1–2	Michelle Brown, (703) 902-5838 brown_michelle@bah.com
Innovative Cleanup Approaches Conference	Bloomington, IL (Chicago Area)	November 2–4	www.epa.gov/ttbnrmrl Lisa Enderle, (703) 698-6101
In Situ Permeable Reactive Barriers: Applications and Deployment Training Course	Dallas, TX	November 16–17	www.trainex.org/prb Matthew Turner, (609) 984-1742 mturner@dep.state.nj.us
Southwest Regional Deployment Workshop	Albuquerque, NM	December 8–9 (optional training on December 7)	Anne Callison, (303) 331-0704 Kay Perkins, (800) 523-5996