



Quarterly Update

June 2000

ITRC Gears Up For Fall Conference Theme is “New Environmental Technologies and Market Opportunities”

Don't miss an opportunity to help shape ITRC's mission for the next three years. Come to San Antonio October 16–20 and participate in ITRC's planning for 2001–2003. For the first time since it began, ITRC is developing a multiyear planning process to ensure that the highest priority project areas receive funding. At the fall conference, attendees will have an opportunity to hear about project areas ITRC is considering and provide input to the planning.

The fall conference is presented by ITRC in cooperation with the Environmental Council of States, the Air Force Center for Environmental Excellence, DOE's Office of Science and Technology, DOD's Office of Environmental Security, and USEPA's Technology Innovation Office. The 2000 fall conference will include an audience of state environmental officials; federal representatives from USEPA, DOD, and DOE; and industry and citizen stakeholders.

The fall conference is part of ITRC's multiyear planning process. At the spring meeting, federal partners and members identified some technology and regulatory needs, which the general membership then considered. ITRC teams and the POC network are also reflecting and considering potential project areas for ITRC focus. A call for abstracts has gone out to state, federal, and industry representatives to gather input on priority project areas, including areas for which they'd like to provide in-kind support or take a leadership role. From the submittals, speakers will be selected to present potential projects at concurrent sessions at the ITRC fall conference. At the conclusion of the conference, ITRC will announce those areas in which work teams will be formed for 2001.

Why you should attend the ITRC fall conference

Attendees will participate in technical sessions to discuss new technology solutions. These technical sessions will help ITRC allocate \$7 million over the next three years to facilitate the deployment of technologies identified in the technical sessions. By attending the conference, you will have opportunities to

- ▼ **Shape** ITRC's mission for the next three years,
- ▼ **Dialogue** on pressing issues in environmental technology with national authorities,
- ▼ **View** exhibits on environmental technology,
- ▼ **Attend** sessions of current ITRC work teams,
- ▼ **Gain** new perspectives on important issues and technologies, and
- ▼ **Network** with public and private-sector professionals and specialists.

Technical Areas of the ITRC Fall Conference

Treatment Technologies

- ▼ DNAPL
- ▼ Sediment Remediation
- ▼ Phytoremediation
- ▼ Permeable Reactive Barriers
- ▼ Bionitrification
- ▼ In Situ Bioremediation/HRC
- ▼ Landfill Reclamation, Alternative Covers, Bioreactors
- ▼ Chemical Oxidation
- ▼ DOE's Gate 6 Technologies
- ▼ Metrics for Source Zone Remediation

Monitoring and Data Handling

- ▼ Sampling and Characterization
- ▼ GIS/GPS Applications/Information Management

Contaminant-Specific

- ▼ MTBE
- ▼ Carbon Tetrachloride-Fumigant
- ▼ UXO
- ▼ Radionuclides
- ▼ Perchlorate

Remediation Policy

- ▼ e.TARP/Six-State Technology Acceptance Program
- ▼ Long-Term Stewardship

Risk Assessment

- ▼ Ecological Risk Assessment
- ▼ Bioavailability of Metals

Nonremediation

- ▼ Pollution Prevention
- ▼ Greenhouse Gases, Renewable Energy

Conference logistics

The conference will be held in San Antonio, TX at the historic St. Anthony Hotel (www.stanthonyhotel.com), which is a block from the famous Riverwalk. Built in 1909, the St. Anthony Hotel is recognized for its rich heritage and has been designated a Texas and National Historical Landmark.

Additional information

For more information on the fall conference, see the ITRC Web site at www.itrcweb.org or contact Marty Kushner at (202) 624-3501, mkushner@sso.org. ITRC is looking for presenters, exhibitors, and sponsors for the fall conference. Again, check the Web site or call Marty if you or your organization is interested in these opportunities.

❖ ITRC Web site is looking good

Take a peek at ITRC's newly designed Web site (www.itrcweb.org). It contains all the ITRC guidance documents as well as an updated fact sheet for promoting ITRC. The overhauled Web site also allows approved users to post news items, add calendar events, and use team-specific pages. Information on how to use these interactive features will be shared at upcoming ITRC events, including the Team Leaders Mid-Year Review July 19–20 in San Francisco and the fall conference October 16–20 in San Antonio. More features and updates are planned so be sure to check back frequently.

Among the new features that are in the works for the Web site are online registration for conferences and training courses, online access to travel policies and reimbursement forms, and capability to host Web-based training sessions. As these features are ready, they'll be available as links from the Web site and announced as "News" items on the homepage.

❖ New circuit rider assumes the reins

Ted Joy, who served as ITRC's circuit rider from the Southern States Energy Board for three years, has left to join AIG as an insurance consultant on environmental projects. Cain Diehl is filling Ted's position for the remainder of the year until a permanent replacement is formally selected.

Cain has a degree in geology from the University of Florida and has worked for SSEB for two years. While with SSEB, Cain has worked with DOE's Subsurface Contaminants Focus Area, the Southeastern Regional Biomass Energy program, and the Technology

Deployment Workshops. Cain is familiar with ITRC and should do a great job of filling the vacancy left by Ted with minimal loss of institutional knowledge. Cain can be reached at SSEB at (770) 242-7712, diehl@sseb.org.

❖ ITRC brings states to ERTEC

ITRC members participated on a panel at a recent conference that focused on the deployment of innovative environmental technologies among end users at federal sites. Jointly sponsored by DOE, DOD, and EPA, the Environmental Restoration Technology End User Conference, held in early June in Augusta, GA near DOE's Savannah River Site (Aiken, SC), was a great opportunity for ITRC to inform attendees of its work in smoothing the regulatory path for new environmental technologies among states. Field workers and project managers from federal and state agencies, as well as contractors and private industry representatives, heard how ITRC is defining the technical and regulatory issues that impact the use of new technologies in states.

Through their participation on the panel, Mary Yelken (circuit rider for the State Engagement Team) and ITRC team leads Jim Harrington (DNAPLs Team), George Nicholas (Diffusion Sampler Team), and Carl Spreng (Radionuclides Team) were able to get out the message that ITRC guidance documents can serve as valuable tools in the federal site decision-making process regarding the deployment of new environmental technologies. The panel session was led by John Lehr, acting associate deputy assistant secretary for DOE's Office of Science and Technology. The attendees also heard how ITRC is providing outreach to state regulators and other members of the environmental community through training courses on the applicability of new technologies.

❖ Two new titles for ITRC's bookshelf

The DNAPLs/Chemical Oxidation Team and the EISBD Team have recently completed their first documents:

- ▼ *Dense Non-Aqueous Phase Liquids (DNAPLs): Review of Emerging Characterization and Remediation Technologies (DNAPLs-1)*
- ▼ *Emerging Technologies for Enhanced In Situ Bioremediation (EISBD) of Nitrate-Contaminated Ground Water (EISBD-1)*

These documents have been distributed to team members and other interested parties. If you haven't received a copy and would like one, contact Elaine Specht at WPI,

(540) 557-6071, elaine_specht@wpi.org. Please request documents by their numbers. The documents are also available on the ITRC Web site at www.itrcweb.org.

yet to be determined. If you'd like to help the team develop its second document or have questions about the team, give Jim a call at (518) 457-0337, jbharrin@gw.dec.state.ny.us.

STATE ENGAGEMENT UPDATE

The State Engagement Team concentrates on four specific areas of effort: technical and regulatory guidance document training, outreach and communication, technical and regulatory guidance document concurrence, and ITRC success tracking and documentation.

The team coordinates with the In Situ Bioremediation Team in delivering natural attenuation training sessions on the Web. The next session is scheduled for July 26. To register for this course, see <http://clu-in.org/conf/itrc>. For additional information, call circuit rider Mary Yelken (contact information listed below).

The team is planning additional outreach to state environmental agencies and other members of the environmental community through an additional Internet training module on permeable reactive barriers. The team is also reviewing its efforts to track and document ITRC impacts on federal and state policy.

Paul Hadley (CA) leads the State Engagement Team with assistance from Mary Yelken, circuit rider from the Western Governors' Association, and Cain Diehl, circuit rider from the Southern States Energy Board. Paul can be reached at (916) 324-3823, phadley@dtsc.ca.gov. You'll find Mary at (402) 325-9615, myelken@westgov.org, and Cain at (770) 242-7712, diehl@sseb.org.

TECHNICAL TEAM UPDATES

❖ Dense Non-Aqueous Phase Liquids (DNAPLs)

The DNAPLs Team, under the leadership of Jim Harrington (NY), recently released its first product, *Dense Non-Aqueous Phase Liquids (DNAPLs): Review of Emerging Characterization and Remediation Technologies* (DNAPLs-1). This is an overview document, which details the use of some emerging technologies for characterizing and treating DNAPLs. The document was recently mailed out, and it's also on the ITRC Web site. The team is working on a second document that will consider the technical and regulatory requirements for in situ thermal and chemical flushing technologies. The team is planning an early fall meeting at the site of a DNAPL remediation project, the location and exact date

❖ Diffusion Sampler Protocol (DSP)

The DSP Team is participating with the Navy, the U.S. Geological Survey, and the Air Force Center for Environmental Excellence to develop a joint protocol on when, where, and how to use diffusion samplers for groundwater monitoring. As part of this effort, the DSP Team met with representatives of USGS and the Navy to finalize the format, schedule, and approach for issuing the protocol, *Guidance Document for Use of Polyethylene-Based Passive Diffusion Bag Samplers to Obtain Volatile Organic Compound Concentrations in Wells*. The DSP Team has provided comments on the draft document. George Nicholas (NJ) is heading up the DSP Team. George can be reached at (609) 984-6565, gnychola@dep.state.nj.us.

❖ Enhanced In Situ Bionitrification (EISBD)

Members of the EISBD Team are continuing to serve as facilitators at sites where deployment of EISBD is a viable remediation technology for nitrate contamination. Potential deployment sites include Air Force bases, dairies, explosives manufacturers, and fertilizer distributors. Many state regulators, responsible parties, and consultants have been in contact with team members concerning the application and deployment of EISBD. The team recently completed its first document, *Emerging Technologies for Enhanced In Situ Bionitrification (EISBD) of Nitrate-Contaminated Ground Water* (EISBD-1). Bart Faris (NM) leads the EISBD Team. Reach him at (505) 841-9466, bart_faris@nmenv.state.nm.us.

❖ Environmental Technology Acceptance and Reciprocity Partnership (e.TARP)

Like the ITRC technical teams, e.TARP is focused on creating tools to reduce interstate barriers to the deployment of innovative technologies. The team's strategy builds on the ITRC technical protocol development process. e.TARP's protocols are developed for environmental priority areas in addition to remediation and monitoring technologies. The protocols define a common pathway for reciprocal state approval and permitting decisions—a process that links state regulatory decisions to prior decisions made using the protocols in

another state. Through the development of these protocols, participating states will examine alternative regulatory approaches for adoption if they improve states' environmental protection efforts or policy objectives.

e.TARP subgroups are working on three protocols:

- ▼ The stormwater protocol will help states, municipalities, and site developers evaluate new, possibly more effective stormwater control technologies. Stormwater, if untreated, is a leading cause of water quality impairment in this country. Nancy Baker of MADEP is leading her subgroup in the development of the stormwater protocol. The final draft for final review is expected in the fall.
- ▼ The beneficial use determination (BUD) protocol will define the performance expectations and regulatory requirements for use of solid and hazardous waste. NJDEP's Joe Carpenter leads this subgroup, which expects to have the second draft protocol out to participating states in June. In addition, the group is incorporating information gathered by another state-led hazardous and solid waste organization—the Northeast Waste Management Officials Association (NEWMOA).
- ▼ The septic system protocol will clarify the testing requirements and data submittal needs for alternative septic system designs. This group presently consists of New Jersey, Massachusetts, and Pennsylvania representatives and is led by Fred Bowers of NJDEP. The first draft protocol will be out in June.

A contract for developing an interstate database with the Remedial Technologies Network (RTN) was signed this quarter. The database will be a Web-based application that provides users access to technology performance evaluations and regulatory acceptance requirements. Users will include state environmental agencies that participate in the technology partnership and environmental technology vendors. An audit process to ensure confidence in the data will also be developed. Linda Benevides (MA) and Nancy Uziemblo (WA) are e.TARP's co-team leaders. Linda can be reached at (617) 292-5782, linda.benevides@state.ma.us; Nancy can be reached at (509) 736-3014, nuzi461@ecy.wa.gov.

❖ In Situ Bioremediation (ISB)

The In Situ Bioremediation Team has officially launched its new course, *Accelerated In Situ Bioremediation of Chlorinated Solvents*. Following two dry runs in 1999, in Louisiana and California, the ISB Team successfully delivered its course to 96 regulators and other members

of the environmental community during the International Environmental Technology Expo 2000 in Atlantic City, NJ held June 5–7. Upcoming courses are scheduled for the following dates and locations:

- ▼ September 19–20 in Boston
- ▼ October 19–20 in San Antonio
- ▼ December 5–6 in Tampa

Paul Hadley leads the ISB Team and can be reached at (916) 324-3823, phadley@dtsc.ca.gov.

❖ In Situ Chemical Oxidation (ISCO)

The ISCO Team is now working separately from the DNAPLs Team and is developing a technical and regulatory guidance document to assist regulators, site owners, industry representatives, and stakeholders in understanding the capabilities, limitations, cost, efficiency, and regulatory concerns/barriers for using in situ chemical oxidation to remove or destroy BTEX and metals. The guidance document will primarily focus on the three most common chemical oxidants/processes that vendors are using today—hydrogen peroxide (H₂O₂), potassium permanganate (KMnO₄), sodium permanganate (NaMnO₄), and ozone (O₃).

The ISCO Team attended a seminar in San Jose, CA on May 25 and 26 that included discussions of chemical oxidation using permanganate and ozone. The team's working draft is 25%–40% complete, and the remaining pieces have been assigned to team members. The team is on schedule to have a 90%–95% completed document by the time the team meets again during the fall ITRC conference. The team plans to collect comments and have a final document ready for printing in December. Tom Stafford (LA) is leading the ISCO Team. He can be reached at (225) 765-0462, t_stafford@deq.state.la.us.

❖ Permeable Reactive Barriers (PRB)

The PRB Team, in partnership with USEPA and the Remediation Technologies Development Forum, continues to present its one-and-a-half-day training course *In Situ Permeable Reactive Barriers: Application and Deployment*. The course is designed to assist professionals in the regulatory community in overseeing the design, implementation, and monitoring of groundwater remedies that involve the deployment of permeable reactive barriers. Industry professionals and environmental consultants have benefited from the updated technical information presented as well as the interaction with regulators and other professional colleagues.

Begun in 1999, the course has been presented 10 times, including two pilot sessions, and has reached more than 1,000 regulators and consultants. Upcoming courses are scheduled for the following locations:

- ▼ July 25–26 in Chicago
- ▼ September 12–13 in Kansas City, MO

The team is currently developing a Web-based version of the course with members of RTDF. The dates of the team's Web-based course will be announced soon.

As part of its involvement in a U.S. Department of Defense Long-Term Performance Monitoring Project for PRBs, the team has reviewed two documents and attended meetings in February and May. The project is designed to address longevity and hydraulic performance issues of PRBs. DOD's Naval Facilities Engineering Service Center (NFESC) is the lead agency on this project, which also involves USEPA and DOE. 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 developed an interactive tool for determining if phytoremediation has the ability to be effective at a given site. This tool is an electronic flow chart that's available as a link from the ITRC Web site. A user inputs basic information about a specific site, and then the program, employing a decision tree, comes up with a recommendation as to the applicability of phytoremediation at the site. The tool uses separate decision trees for three types of contaminated media: soil, groundwater, and sediments. To find the link to this site from the ITRC Web site, go to where the Phytoremediation Team's guidance document is listed. The team is working on its second document, *Technical Information and Regulatory Guidance for Phytoremediation of Organic Contamination*, which is an intermediate step between technology overview and the team's planned technical and regulatory document.

❖ **Radionuclides**

The Radionuclides Team is working on two case studies with the following working titles:

- ▼ *Case Study: Decision Making Bases and Cleanup Goals for Radionuclides at DOE Complex Sites*. This document will compare the bases Hanford, Rocky

Flats, and Oak Ridge are using to decide on cleanup goals for plutonium, uranium, thorium, and radium.

- ▼ *Case Study Comparison of Institutional Controls for Long-Term Management of Radiological Contaminants*. Among the issues to be explored are types of institutional controls, their context, and criteria for selection; comparison of factors of success; and implications of failing to implement institutional controls at selected sites.

Representatives of the Radionuclides Team and the Leadership Team met with DOE's Office of Long-Term Stewardship to explore opportunities to work together on DOE's stewardship responsibilities. The team is making its name and ITRC known through participation at conferences. Team leaders Tom Schneider and Carl Spreng

- ▼ chaired a panel at the Center for Public Environmental Oversight's conference on land use controls in San Francisco last fall and this year in Washington D.C. in June,
- ▼ delivered a speech about the team and ITRC at DOE's Environmental Management Science Program workshop in Atlanta in April, and
- ▼ presented a Radionuclides Team overview at the Environmental Restoration Technology End User Conference in June in Augusta, GA.

In September, the Radionuclides Team will send representatives to the Fernald Long-Term Stewardship Technology Conference. Team leaders Tom Schneider (OH) and Carl Spreng (CO) can be reached at (937) 285-6466, tom.schneider@epa.state.oh.us; and (303) 692-3358, carl.spreng@state.co.us.

❖ **Unexploded Ordnance (UXO)**

The UXO Team is nearing completion on the first draft of its case study of states having experience in remediating UXO-contaminated sites. Another milestone for the team is its completion of a compendium of acronyms and definitions used in DOD technical and regulatory documents. The team will now be involved in reviewing the document. The UXO Team welcomes Jennifer Roberts (AK), who, along with Jim Austreng (CA), provides leadership for the team. Jim can be reached at (916) 255-3702, jaustren@dtsc.ca.gov. Jennifer is at (907) 269-7553, jennifer_roberts@envircon.state.ak.us.

CALENDAR

Event	Location	Date	Contact
ITRC Team Leaders Mid-Year Review	San Francisco, CA	July 19–20	Marty Kushner, (202) 624-3501 (703) 902-3613 (fax) diamond_rebecca@bah.com
Course: Permeable Reactive Barriers	Chicago, IL	July 25–26	www.trainex.org/prb Matthew Turner, (609) 984-1742 mturner@dep.state.nj.us
Internet Training: Natural Attenuation of Chlorinated Solvents		July 26	Register at http://clu-in.org/conf/itrc Mary Yelken, (402) 325-9615, myelken@westgov.org
ECOS Annual Meeting	Anchorage, AK	Aug. 13–16	Lia Parisien, (202) 624-3660 lparisie@sso.org
Course: Permeable Reactive Barriers	Kansas City, MO	Sept. 12–13	www.trainex.org/prb Matthew Turner, (609) 984-1742 mturner@dep.state.nj.us
Course: Accelerated In Situ Bioremediation of Chlorinated Solvents	Boston, MA	Sept. 19–20	Paul Hadley, (916) 324-3823, phadley@dtsc.ca.gov
ITRC Fall Conference	San Antonio, TX	Oct. 16–20	Marty Kushner, (202) 624-3501 mkushner@sso.org
Course: Accelerated In Situ Bioremediation of Chlorinated Solvents	San Antonio, TX (in conjunction with fall meeting)	Oct. 19–20	Paul Hadley, (916) 324-3823, phadley@dtsc.ca.gov
Course: Accelerated In Situ Bioremediation of Chlorinated Solvents	Tampa, FL	Dec. 5–6	Paul Hadley, (916) 324-3823, phadley@dtsc.ca.gov

❖ What team are you on?

According to our records, you are on the team(s) shown on the label below:

If this is incorrect, please note changes below.

Return this page by fax to: (540) 557-6085

Or

E-mail corrections to: Leah_Fink@wpi.org