

Quarterly Update

June 2005



INTERSTATE TECHNOLOGY & REGULATORY COUNCIL

Since the beginning of the year, the Board of Advisors has been very active in starting a new program and looking toward the future of ITRC. First, the Board decided to implement the Industry Affiliates Program (IAP). We have received both praise and expressions of concern about this new program, and we will continue to address issues as IAP takes shape and becomes a significant part of the fabric of ITRC. To date, two companies have joined IAP at the Gold Membership level. You will learn more about these companies in this newsletter.

COCHAIR UPDATE

Second, the Board has started a strategic planning process to clearly define ITRC's role and to set the direction for the

future. We just completed two full days of planning activities that we feel will go a long way toward finalizing a strategic plan that all members can embrace. Over the summer and continuing into the fall, the Board will be working on the strategic plan, and we will be sharing our progress with you. You can also read more about this process on the Board of Advisors Web page. In the Board's Web file cabinet is a folder labeled "Strategic Plan," which contains an outline of the process for developing the strategic plan.

A critical component of the strategic plan involved a market analysis, based in part on a review of EPA's report "Cleaning up the Nation's Waste Sites: Markets and Technology Trends." More important, Michael Smith, Board member from Vermont, conducted related interviews with POCs, Team Leaders, and representatives of public stakeholders, industry, and program advisors. Additionally, many POCs conducted interviews with their state commissioners. The purpose of all interviews was to capture a wide variety of views with regard to the many factors that are influencing ITRC. These interviews will provide the basis for the strategic plan to position ITRC so that we will be able to meet the inevitable changes and challenges that the future holds.

The basis of the ITRC strategic plan will be provided at the Midyear Meeting in Salt Lake City. If you have specific input or questions about the strategic planning process, please contact one of us.

Hope you all have an enjoyable summer!

Bob Mueller and Joe Francis

Fall Meeting in

NEW ORLEANS

ITRC's Fall meeting will be held in New Orleans October 25–28 at the Marriott Convention Center. More details on meeting agendas, hotel reservation information, and meeting registration will be on the ITRC Web site in the coming months.

New Advisory Board Member

The Board of Advisors is pleased to announce the new Association Representative, David A. Finley (WY). Dave is the Administrator of the Solid and Hazardous Waste Division in Wyoming's Department of Environmental Quality. The division's programs include permitting and remediation at solid and hazardous waste facilities and the recently developed voluntary remediation program. Dave is new to ITRC but has been a member of the Association of State and Territorial Solid Waste Management Officials since 1978. He's served in a number of capacities in ASTSWMO, including as President. Dave also participated in the development of EPA's RCRA corrective action reforms and has a strong interest in advancing remedial technologies and systems. We welcome Dave to the Board and look forward to working with him.

In This Issue:

- On the Road
- New Document
- The IAP is up and running!
- Success Stories
- Training Opportunities

2005 Teams

Alternative Landfill Covers (ALT)
Team Leader: Charles Johnson, CO

Arsenic in Groundwater
Team Leader: Chuck Pippen, NC

Bioremediation of DNAPLs
Team Leader: Najji Akladiss, ME

Brownfields
Team Leader: Christine Costopoulos, NY

Diffusion Sampler
Team Leader: Kim Ward, NJ

Ecological Land Reuse
Team Leader: Charles Johnson, CO

**Enhanced Attenuation:
Chlorinated Organics**
Team Leaders: Judie Kean, FL
and Kimberly Wilson, SC

MTBE and Other Fuel Oxygenates
Team Leader: Fred McGarry, NH

Perchlorate
Team Leaders: Sara Arav-Piper, NV and
Laurie Racca, CA

Radionuclides
Team Leaders: Tom Schneider, OH
and Carl Spreng, CO

Remediation Process Optimization
Team Leaders: Tom O'Neill, NJ
and Sriram Madabhushi, SC

Risk Assessment Resources
Team Leader: Steve DiZio, CA

**Sampling, Characterization
and Monitoring (SCM)**
Team Leader: Stuart Nagourney, NJ

Unexploded Ordnance (UXO)
Team Leaders: Jeff Swanson, CO
and Gary Moulder, PA

Vapor Intrusion
Team Leaders: Bill Morris, KS
and John Boyer, NJ

Updated PRB Guidance Heralds the Technology's Coming of Age

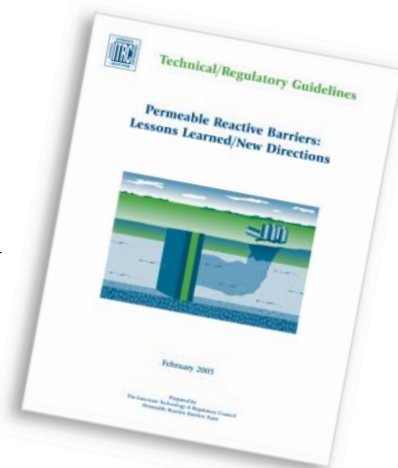
Permeable reactive barriers (PRBs) are underground "walls" placed in the path of contaminated groundwater. Materials in the treatment zone react with chemicals in the water passing through to make them less harmful. Treatment zones may work directly, using reactive materials like iron, or indirectly, using materials that stimulate secondary processes like microbial activity.

Over the past 10 years, the iron-based PRB has evolved from innovation to accepted standard practice for the containment and treatment of a variety of groundwater contaminants. There are more than 80 full-scale iron-based PRBs, the vast majority in the United States. Alternative non-iron-based reactive materials are now being researched.

Iron-based PRB systems have garnered much attention in the past few years primarily due to concerns about long-term reactivity, permeability, and hydraulics. Most PRBs are less than 10 years old, and it is not known whether they will remain effective over the lifetime of the contaminant plume, which could be decades or more. Recent studies have focused on questions such as "How long will an iron wall remain reactive?" and "How does permeability change over time?"

Permeable Reactive Barriers: Lessons Learned/New Directions (PRB-4), published in February by ITRC's PRB Team, compiles research and development data on PRBs generated over the last 10 years and highlights many lessons learned, including predesign site characterization requirements and construction techniques. PRB-4 also provides information on non-iron-based reactive media that can be used in PRBs and on developing technology in which source zone contamination is treated with iron-based reactive media.

As with all ITRC documents, *Permeable Reactive Barriers: Lessons Learned/New Directions* can be downloaded from the ITRC Web site at www.itrcweb.org by clicking on "Guidance Documents." The Web site also notes which documents are still available in hard copy. E-mail requests to itrc@wpi.biz.



On the Road

The ITRC exhibit has been making the rounds at several conferences this year. In early April, ITRC had a booth at the Joint Services Environmental Management Conference in Tampa, Florida. This was a great opportunity to connect with the Department of Defense and also various industry members. In May, the exhibit was at Restoring Greenspace, 2005 hosted by the Wildlife Habitat Council.

A new exhibit has been developed and will make its debut at the Battelle 8th In Situ and On-Site Bioremediation Conference in Baltimore, on June 6-9. That same week, ITRC will also be attending the NAID/ADC 2005 Annual Conference in Denver. If you are attending any of these events, please make sure to stop by and visit the exhibit.

New ITRC exhibit

Interstate Technology & Regulatory Council
Promoting Innovative Technology
www.itrcweb.org

Documents

The Interstate Technology & Regulatory Council is composed of state and federal regulators, industry representatives, citizen stakeholders, and academia. ITRC is dedicated to achieving better environmental protection through the use of innovative technologies.

Training

Three ways ITRC makes a positive impact are:

1. Technical regulatory guidance documents
2. Classroom and Internet-based training
3. Network of over 12,000 environmental professionals that continues to grow

Members from all 50 states

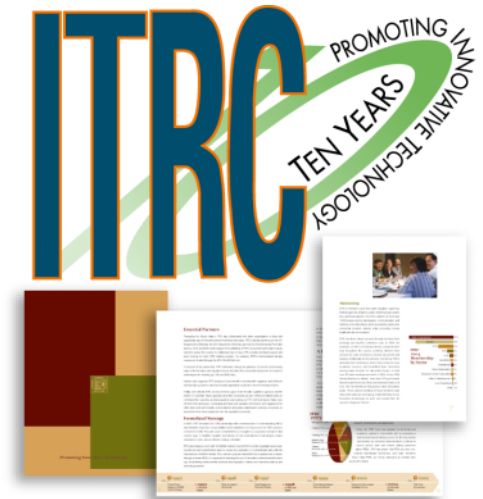
Annual Report Marks 10 Years of ITRC Growth and Success

ITRC is proudly celebrating a decade of helping the environmental remediation community make informed, quality decisions regarding innovative technologies. Set in motion by the Western Governors' Association's Committee to Develop On-Site Innovative Technologies, ITRC has grown from a small group of dedicated people into a coalition of 43 member states and D.C., with team members from every state and four foreign nations.

Over the years nearly 30 different ITRC technical teams have developed and spread information about innovative environmental technologies to reduce interstate regulatory barriers to their deployment. More than 50 titles now grace the ITRC product list, the majority being technical and regulatory guidance documents, on which states have concurred.

Not relying on documents alone to move new technologies toward wide acceptance and use, ITRC teams have followed through with both classroom and Internet-based training. In 2004, ITRC instructors delivered 10 training courses to 563 participants in five different cities across the country. Thirty-five Internet-based training sessions on 17 topics were presented to more than 5,000 regulators, consultants, and other members of the environmental community, bringing the total trained since 1999 to nearly 20,000.

This decade of steady growth and productivity is a strong testament to ITRC's influence and value. The ITRC story is told and the state of the organization is detailed in a 16-page annual report recently sent to members and posted on the Web site at www.itrcweb.org. The report



emphasizes ITRC's debt to its members, the support of member states, and its gratitude to federal partners, the U.S. Department of Energy, the U.S. Department of Defense, and the U.S. Environmental Protection Agency.

Highlight of a POC

**Qazi
Salahuddin
DE**

Qazi Salahuddin has been active in ITRC for more than five years. His introduction to ITRC was through an Internet-based training class. He then joined first the DNAPLs Team and later the Sampling, Characterization, and Monitoring Team. In 2003 he became ITRC's POC for the state of Delaware and continues today in that role and on the Sampling Team.

Qazi says ITRC provides substantial benefits both to his state and to him as a professional—knowledge and access to a network of subject matter experts from across the nation. Learning about the advantages and limitations of innovative technologies gives him valuable insight into important issues. He encourages colleagues and consultants in his state to take part in



ITRC's Internet-based training courses for their valuable, current, and unbiased information. He believes that the guidance documents produced by ITRC are an excellent resource and promotes their use by regulators and consultants.

As for ITRC's benefits to his state, Qazi notes that, in developing guidance on the Triad Approach and vapor intrusion, Delaware has gained valuable information and assistance from members of ITRC's Sampling and Vapor Intrusion Teams. When he has questions about a particular issue, Qazi taps the state POC network to see if anyone can provide insight, ideas, or avenues to helpful information. Qazi's work in ITRC has also opened lines of communication to upper management, and he has been working on getting more participation in ITRC and concurrence on ITRC documents.

For Qazi, ITRC is a great organization that is helping the environmental community learn more about innovative technologies.

Success Stories—Spreading the Word

Interest expressed in alternative landfill cover requirements had the Oklahoma Department of Environmental Quality thinking about a guidance document on the subject. But instead of working independently, DEQ contributed an employee's time to the ITRC's Alternative Landfill Technologies Team as they developed *Technical and Regulatory Guidance for Design, Installation, and Monitoring of Alternative Final Landfill Covers (ALT-2)*. As a player in the process, DEQ confidently concurred with the document when it was published in December 2003. By using ALT-2 instead developing its own document, DEQ saved an estimated \$63,000 of DEQ staff resources.

At the Hardage-Criner Superfund Site, also in Oklahoma, the Potentially Responsible Party (PRP) asked DEQ's help in finding a cost-effective means of groundwater monitoring. A DEQ staff member familiar with ITRC recommended the *Diffusion Sampler Resource CD*, and the PRP developed a work plan based on the information it contains. The DEQ project manager also gained familiarity with passive diffusion bag (PDB) sampling from the resource CD and approved the work plan. Comparison studies against the traditional procedure, which involves well purging, demonstrated PDBs to be accurate, precise, and reliable. The PRP says that using PDBs reduced labor costs by nearly two-thirds. Just another example of the

way ITRC is helping both regulators and the regulated community find better solutions.

Success stories like these build confidence in the value of participating in and supporting ITRC activities and products. We need your help in building the body of evidence the ITRC is making a difference in the practice and regulation of environmental remediation. If you know of a case in which ITRC documents or training accelerated the approval process or saved money, please help us spread the word by completing an online survey form (click "Success Stories" on the ITRC home page at www.itrcweb.org) or contacting Gary Garrett, garrett@sseb.org, (770) 242-7712.

Did
You
Know?

There are 486 members in ITRC representing all 50 states and several foreign countries.

ITRC Training Opportunities

Upcoming Internet-Based Training Courses

June 14—*Guidance for Characterization, Design, Construction, and Monitoring of Mitigation Wetlands*, 2:00 p.m.–4:15 p.m. Eastern Daylight Time

June 28—*Environmental Management at Operational Outdoor Small Arms Firing Ranges*, 2:00 p.m.–4:15 p.m. Eastern Daylight Time

July 12—*What's New With In Situ Chemical Oxidation?* 2:00–4:15 p.m. Eastern Daylight Time

August 2—*Unexploded Ordnance Site Investigation/Site Remediation*, 2:00–4:15 p.m. Eastern Daylight Time

August 4—*Geophysical Prove-Outs for Munitions Response*, 11:00 a.m.–1:15 p.m. Eastern Daylight Time

August 11—*Radiation Risk Assessment: Updates and Tools*, 11:00 a.m.–1:15 p.m. Eastern Daylight Time

Upcoming Classroom Training

August 10–12—*MTBE&TBA: Comprehensive Site Assessment and Successful Groundwater Remediation*, San Francisco. For more information about this course, please go to the ITRC Web site and click on "Classroom Training."

The IAP is up and running!

ITRC wants to recognize and thank the first members of ITRC's Industry Affiliates Program: W. L. Gore and Associates, Inc. and WRS Infrastructure & Environment, Inc. have joined IAP at the Gold Membership level, and Regenesys has joined at the Regular Membership level. W. L. Gore provides GORE™ Surveys, passive sampling for site assessment, water quality monitoring, remediation monitoring, and vapor investigation studies using GORE-TEX® membrane technology for easy sample collection. WRS Infrastructure & Environment provides environmental and technical services to selected long-term public- and private-sector customers. Regenesys provides advanced technologies for groundwater resources. Please take some time to learn more about our new vendors on the ITRC Web site.

As these firms have learned, IAP provides three important elements to the environmental site owner, consultant, or technology developer:

- **information** exchange on the development and deployment of appropriate innovative environmental technologies;
- **access** to a large audience of state regulators, federal agency representatives, leading environmental companies, members of academia, and citizen stakeholders; and
- **participation** in ITRC technical teams that produce technical regulatory documents and training.

George Shaw of W. L. Gore says that his company's participation in ITRC not only raises its visibility in a target-rich network, but also supports broader regulatory acceptance of innovative technologies. "Nobody benefits when vendors are faced with gaining acceptance from 50 different states and 10 EPA regions."

Joining IAP enables private sector firms to

- advance understanding of appropriate innovative technologies,
- anticipate important technical or regulatory developments and stay on the cutting edge of the environmental remediation industry,
- improve decision making surrounding the development and deployment of innovative environmental technologies,
- obtain regulatory consensus on appropriate innovative environmental technologies,
- network with people from all aspects of the environmental remediation community, and



- gain exposure in the environmental remediation industry by authoring technical documents and conducting technical training.

All IAP members

- receive public acknowledgement of their organization's support on ITRC literature and Web site,
- receive substantial discounts on ITRC meeting registration fees, classroom training sessions, and exhibit space at ITRC meetings,
- are eligible for an ITRC team recognition award based on exemplary service during the year, which provides a discount on IAP membership for the following year),
- have a direct line of communication with ITRC's Board of Advisors through the board's industry representative, and
- have a mechanism, as a group, to review and comment on ITRC documents, training, and team proposals.

For more information about IAP, please contact Tim Titus at 202-624-3686 or via e-mail ttitus@ssso.org.

REGULAR
MEMBER



REGENESIS

Advanced Technologies for Groundwater Resources

Highlight of a Team Leader

Five years ago, Charles Johnson was asked by his program manager (Gary Baughman) to be the ITRC State POC for Colorado. He accepted and has been involved with ITRC ever since. In fulfilling his role as POC, Charles sat in on various team meetings at ITRC's semi-annual meetings. At a DNAPLs meeting the team asked him to be the leader for their cosolvent subgroup, and again he accepted. Then at an alternative landfills summit he was asked to be the leader for the ALT team, and he was unable to pass up this opportunity. He then helped write the proposal for the Ecological Land Reuse Team, expecting the approval process to take two or three years, at which time the ALT team would have concluded its work. As fate would have it, the ELR team was approved the very next year, and Charles was leading both the ALT and ELR teams.

In the course of working with ITRC, Charles has appreciated having contacts across the various states whose work relates to innovative technologies and new approaches to solving problems. While he jokes that the best part of the job is the hair-pulling, he truly

enjoys the camaraderie both on his own team and on other teams. Charles finds in ITRC a commonality of being very solution oriented and notes this spirit creates its own momentum and gives people a spark.

When telling others about ITRC, his lead-in line is, "It's a state-led organization that strives for the successful implementation of innovative technologies." He stresses that ITRC is very solution oriented, or as Charles puts it, ITRC is very "desk to dirt, getting stuff into the field that makes a real difference." He also points out ITRC has a very strong network, and when he speaks with people on other ITRC teams, he is amazed at how much information is out there and how good the people are at sharing it.

Outside of ITRC, Charles works as the Solid Waste Unit Leader for the state of Colorado. His unit does a lot of customer outreach and assistance, whether it's working with an activist who has a complaint, or explaining the details of Colorado's independent solid waste regulations to a site owner/operator who wants to try new approaches. When he has some time away from work, Charles enjoys coaching youth sports including basketball, baseball, swimming, and his current favorites: lacrosse and boys and girls soccer.

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