



Promoting Innovative Technology

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In 1995, the Interstate Technology & Regulatory Council created a state-led national coalition focused on developing tools and strategies to reduce barriers to the deployment of innovative environmental technologies. From a small group of dedicated people, ITRC has grown into a worldwide network of members and interested parties who work together to accomplish that mission. ITRC's unique network brings state and federal regulators, citizen stakeholders, industry representatives, consultants, and tribal partners together to move new technologies from mere innovation to wide acceptance and use. In short, ITRC is helping the environmental remediation community make informed, quality decisions regarding innovative technologies.

Over the years, ITRC has published dozens of technical regulatory overviews, guidance documents, and case studies to help move promising new technologies to the forefront of the environmental arena. ITRC has also delivered classroom and Internet-based training to thousands of participants worldwide. Through this work, ITRC has created a strong network of the varied sectors involved in remediation.

ITRC is completing its first decade with a strong foundation of experience and practices in place to continue the work it set out to do so ambitiously in 1995. With continued funding and support from federal agencies, in-kind support from state agencies, and participation from industry and organizations, ITRC will continue to promote innovative technology.

Many people have contributed to ITRC's progress and success over the past decade. We cannot recognize all of the individuals who have provided countless hours to the growth of ITRC; however, we collectively thank them and recognize their contributions.

This report outlines the accomplishments and successes of ITRC and provides a snapshot of the progress made during its first 10 years. It also addresses the current and future challenges facing ITRC and what steps need to be taken to ensure that ITRC will continue for another decade to facilitate the efficient application of the most appropriate science and technology for a clean and safe environment. For the immediate future, ITRC's Board of Advisors and state points of contact are working to promote ITRC products and resources and are identifying new sources of financial support.

Sincerely,



Robert Mueller



Joe Francis

Co-Chairs

ITRC Board of Advisors

ITRC's Mission and Methods

The Interstate Technology & Regulatory Council is a state-led national coalition of state environmental agencies, federal agencies, industry, academia, and public/tribal stakeholders. Its mission is to develop and spread information about innovative environmental technologies and reduce interstate regulatory barriers to their deployment. The ultimate goal is to build knowledge and strategies for decision making so that resources can be applied as efficiently as possible to remediate environmental contamination. ITRC attacks this challenge by three primary means: documents, training, and networking.

Working in teams focused on environmental problems or technological solutions, ITRC members, spanning the interested sectors, pool their experience and expertise to research and develop consensus overviews, case studies, and—ultimately—technical and regulatory guidance documents. ITRC guidelines are widely reviewed by relevant agencies, and ITRC seeks broad state concurrence on approaches and standards. These documents are distributed at no charge in hard copy (or compact disc) and made available by download through the ITRC Web site.

As documents are published, ITRC teams follow up with training to build acceptance of and confidence in their work. The courses gain both credibility and timeliness from their development and delivery by working professionals drawn from academia, industry, and oversight agencies. ITRC Internet-based training sessions are drawing ever-larger audiences, and several topics are offered in classroom settings across the country as well.

The key to developing these products and services is the third element in achieving ITRC's mission—the network that naturally evolves as experts and stakeholders work together to build better approaches to pressing environmental challenges. Through work group conference calls and periodic meetings, ITRC provides a forum where professionals from across the industry and throughout the country share best practices and lessons learned. This unique network brings together regulators, citizen stakeholders, and the regulated entities and enables consensus to replace contention.

Documents

Training

Networking

The Work of ITRC

Documents and Resources

During the past ten years, ITRC has published over 50 technical and regulatory overviews and guidance documents. For a complete listing of published documents and to download or request a copy of a document, visit www.itrcweb.org. In 2004, technical teams published six documents and a resource CD for the environmental community.

MAKING THE CASE FOR ECOLOGICAL ENHANCEMENTS (ECO-1, JANUARY)



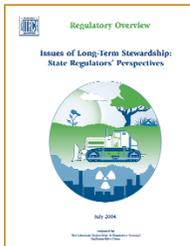
In collaboration with the Wildlife Habitat Council, presents a white paper and case studies on natural alternatives to traditional remediation processes

TECHNICAL AND REGULATORY GUIDANCE FOR USING POLYETHYLENE DIFFUSION BAG SAMPLERS TO MONITOR VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (DSP-3, FEBRUARY)

Provides guidance for regulators, technology users, and stakeholders to facilitate the use of polyethylene diffusion bag sampling, particularly for long-term monitoring, including applicability and regulatory issues, a cost model, and case histories

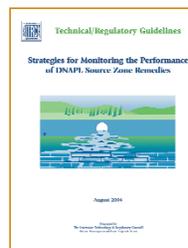


ISSUES OF LONG-TERM STEWARDSHIP: STATE REGULATORS' PERSPECTIVES (RAD-3, JULY)



Presents the results of a survey of state regulator perspectives on long-term stewardship

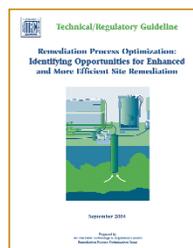
STRATEGIES FOR MONITORING THE PERFORMANCE OF DNAPL SOURCE ZONE REMEDIES (DNAPLs-5, AUGUST)



Presents approaches to performance monitoring of various in situ technologies for treating DNAPL source zones

REMEDATION PROCESS OPTIMIZATION: IDENTIFYING OPPORTUNITIES FOR ENHANCED AND MORE EFFICIENT SITE REMEDIATION (RPO-1, SEPTEMBER)

Provides guidance on how to use RPO as a tool to systematically evaluate and manage uncertainty associated with the remediation process



GEOPHYSICAL PROVE-OUTS FOR MUNITIONS RESPONSE PROJECTS (UXO-3, NOVEMBER)

Introduces the purpose and scope of geophysical prove-outs, provides examples of associated goals and objectives, and presents information needed to understand and evaluate their design, construction, implementation and reporting





DIFFUSION SAMPLER RESOURCE CD (DSP-2, JULY)

Expanded to contain DSP-3, along with nearly 80 articles and presentations on various diffusion samplers, a training video, and a field sampling video

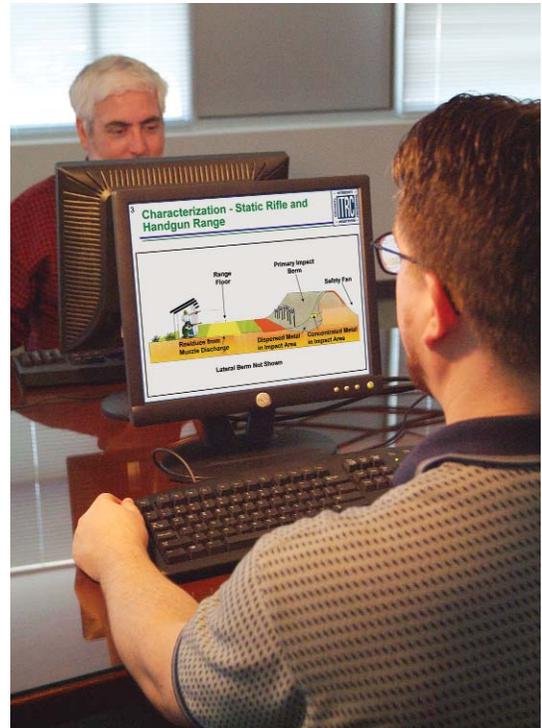
Document Outreach and Impact

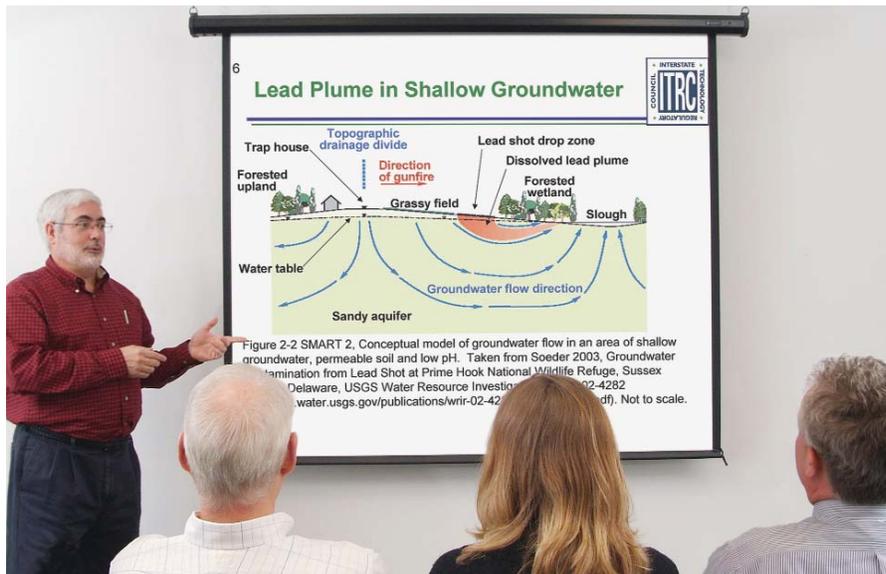
Counting initial distributions and individual requests, ITRC distributed more than 2,500 documents in 2004, all at no charge. Almost half of the more than 50 titles now on the ITRC product list are technical and regulatory guidance documents. Promoting interstate acceptance of its guidance documents is an ITRC core value. Therefore, all ITRC technical and regulatory guidance documents are sent to states for concurrence.

In California's San Francisco Bay Area, the use of ITRC guidance documents was instrumental in the implementation of a bioremediation remedy in place of a large-scale pump-and-treat system at a chemical manufacturing facility. Two ITRC documents, *Technical and Regulatory Requirements for Enhanced In Situ Bioremediation of Chlorinated Solvents in Groundwater* and *Natural Attenuation of Chlorinated Solvents in Groundwater: Principles and Practices*, both developed by ITRC's In Situ Bioremediation Team, were used as key resources and guidance in this project. It is estimated the indirect savings of at least \$14 million in capital costs and \$3 million in annual operating and maintenance costs were realized because the facility was able to demonstrate the efficiency of in situ bioremediation as the primary remedy.

Internet-Based Training

ITRC technical teams develop training courses that are broadcast via the Internet in live, interactive sessions under the auspices of the U.S. Environmental Protection Agency's Technology Innovation Program. These courses are a unique forum for the exchange of technical and regulatory information because they are based on ITRC guidance documents, which reflect the consensus opinion of ITRC members from state and federal environmental agencies, the private sector, and citizen stakeholders. The two-hour sessions are taught by ITRC's own network of experts, who were contributing authors of the supporting documents. In 2004, the 35 sessions on 17 topics were attended by a geographically dispersed audience of more than 5,000 regulators, consultants, and other members of the environmental community—an increase of almost 50% over 2003, bringing the total trained since 1999 to nearly 20,000. Many ITRC training courses—including audio, slides, and instructors' notes—are archived for worldwide online access at a user's convenience.





Classroom Training

ITRC also offers training in classroom settings, where participants receive more extensive instruction and often participate in interactive group exercises. In 2004, ITRC instructors delivered 10 training courses to 563 participants in five different cities across the country. Six different classes were offered:

- Accelerated In Situ Bioremediation of Chlorinated Solvents (two offerings)
- Alternative Covers for Landfills, Waste Repositories, and Mine Wastes in the Northwest: Design, Modeling, Construction, and Monitoring
- MTBE & TBA: Comprehensive Site Assessment and Successful Groundwater Remediation (two offerings)
- Phytotechnologies: Mechanisms and Applications (three offerings)
- The Triad Approach: A New Paradigm for Environmental Project Management
- Unexploded Ordnance Basic Training



Networking

ITRC's members come from state regulatory agencies, federal agencies, industry, public interest groups, academia, and tribal nations. The ITRC network of more than 11,000 people—knit by participation, communication, and training—is building states' ability to expedite quality environmental decision making while protecting human health and the environment.

ITRC members interact primarily through technical team meetings and monthly conference calls. In 2004, the members of ITRC's 21 technical teams convened meetings throughout the country, providing intensive work sessions for team members to develop documents and training. Additionally, technical teams met during ITRC's spring and fall conferences, where they conducted organizational business and benefited from interaction among teams focused on interrelated issues. In total, over 60 team meetings were held in 2004. At the 2004 Spring Meeting in Atlanta, more than 320 participants shared experiences and ideas and advanced team projects. The Fall Meeting in Albuquerque drew 330 participants. These national meetings let team members learn what other teams are developing, enable field trips to see innovative technologies at work, and provide time for sessions of general interest.



Essential Partners

Throughout its 10-year history, ITRC has collaborated with other organizations to foster the appropriate use of innovative environmental technologies. ITRC's federal partners are the U.S. Department of Defense, the U.S. Department of Energy, and the U.S. Environmental Protection Agency. DOE and DOD funds support the publishing of ITRC documents and enable regulators from across the country to collaborate face to face. EPA provides technical support and seed funding for many ITRC training courses. For example, ITRC's Internet-based training courses are hosted through the EPA CLU-IN Web site.

For its part of the partnership, ITRC addresses, through its guidance documents and training, many of the technical and regulatory issues that affect the successful deployment of innovative technologies for cleaning up DOE and DOD sites.

Industry also supports ITRC because it sees benefit in working with regulators and others to demonstrate goodwill in seeking mutually agreeable solutions to environmental problems.

Finally, and critically, ITRC receives in-kind support from 43 state regulatory agencies and the District of Columbia. These agencies allow their personnel, as part of their job-related duties, to contribute their expertise as state regulators participating on ITRC technical teams. States benefit from their employees' exchanging technical and regulatory information with regulators from other states and with industry representatives and public stakeholders, seeking consensus on issues that often divide regulators from the regulated community.

Formalized Synergy

In 2004, ITRC formalized its DOD partnership with a memorandum of understanding (MOU) that identifies respective responsibilities and establishes a review process for ITRC products of interest to DOD. The joint vision of this MOU is to strengthen a cooperative venture to find creative ways to facilitate regulator acceptance of new environmental technologies, reduce remediation costs, and accelerate cleanup schedules.

ITRC also shares a vision with the Wildlife Habitat Council (WHC)—both organizations are seeking efficient and cost-effective ways to couple the restoration of contaminated sites with the improvement of wildlife habitat. This common purpose has led the two organizations to agree, through a formal MOU, to cooperate in fostering the use of innovative environmental technology, streamlining environmental technical and regulatory criteria, and improving training and technology transfer.

 1995

First Official Meeting of ITRC (DOIT) Charge

 1996

First Document Published

 1997

First Classroom Training Offered

 1995
5 Member States

 1998
24 Member States

In 2005, ITRC is implementing an Industry Affiliates Program (IAP) to formalize ITRC's relationship with industry. IAP will serve as the official membership group and primary assembly for participation in and contribution to ITRC. Industry participation is a critical element to ensure that ITRC products and documents are relevant to the environmental community.



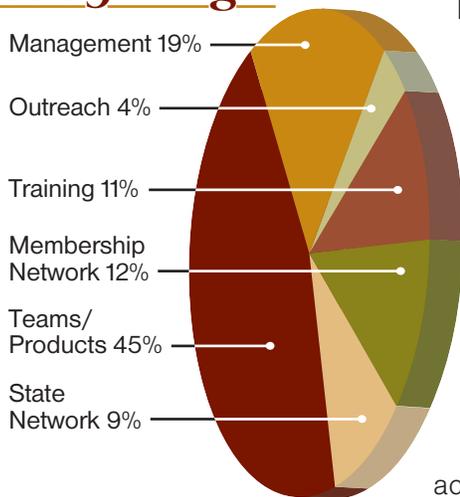
A Proven Record of Success

Success stories capture the many ways ITRC documents, training, and networking have improved environmental cleanup and streamlined regulatory approval processes. In 2004, ITRC's State Engagement Team documented 24 success stories that exemplify how ITRC products and services bring together diverse areas of expertise, promote better solutions, cut approval time, slash remediation costs, and build stakeholder confidence in deploying innovative solutions. These stories are available at www.itrcweb.org.

The most important success story that ITRC can produce is to examine an innovative technology and assist in moving that technology forward to becoming a widely used solution. One technology that ITRC has moved from innovation to utilization is permeable reactive barriers (PRBs). PRB technology was brought to ITRC's attention in the spring of 1995 by EPA. An ITRC member stepped forward, accepted the role of team leader, and began building a team. The team officially started work in 1996. Over the years, the team has produced several technical and regulatory guidance documents and two Internet-based training sources. In addition to this work, the PRB Team formed a partnership with the Remediation Technology Development Forum (RTDF). This partnership was instrumental to the team as RTDF provided access to scientists who were actively involved in PRB research, development, and application.

Today, the PRB Team has updated its technical and regulatory guidance documents and is preparing a new Internet-based training course. As the documents and training are reviewed, team members continue to receive phone calls and e-mails asking questions about PRBs. EPA has stated that PRBs are now considered mainstream technology, and team members report that PRBs are being deployed at several sites across the nation.

ITRC 2005 Budget



1999

First Internet-Based Training Offered

2000

Guidance Documents Available Online

2004
43 Member States

2005

10th Year Anniversary

How ITRC Started

The Western Governor's Association (WGA) and its Federal Committee to Develop On-site Innovative Technologies (DOIT) provided ITRC's initial direction. DOIT charged ITRC to seek ways to encourage state environmental regulatory agencies to cooperate in permitting innovative environmental cleanup technologies. DOIT was dissolved in 1996, but the committee's final report encouraged ITRC to "continue its role as a forum for interstate cooperation on the regulation and permitting of new technologies." WGA supported this finding and agreed for ITRC to function independently. At that time, WGA and the Southern States Energy Board (SSEB) jointly provided secretariat duties to continue ITRC's charge.

In 1999, ITRC aligned with the Environmental Research Institute of the States (ERIS), extending its influence among a steadily increasing number of state environmental agencies. ERIS is a 501(c)(3) nonprofit, education subsidiary of the Environmental Council of the States (ECOS), an organization of state environmental agency heads. ITRC's affiliation with ECOS through ERIS has leveraged the support of state environmental agency heads in soliciting funding to support its mission.

Promises to Keep

Today, ITRC has 43 member states and D.C., with team members from every state and four foreign nations. Its decade of steady growth and productivity is a strong testament to ITRC's influence and value. In 2005, ITRC will support 15 project teams. ITRC is actively seeking new funding sources from industry and other organizations and associations that benefit from ITRC's pioneering work.

As is the case with environmental organizations, ITRC would like to see the day when there is essentially nothing else for the organization to do. While that may seem like a far-fetched goal, the last 10 years have seen considerable progress in remediating some of the nation's most contaminated sites. ITRC is proud of the role it has played in addressing these sites, which has had a significant impact in achieving "safer, faster, cheaper" cleanups. While there is much that remains to be done, much has been accomplished, and ITRC looks forward to continuing its prominent role in improving and preserving the nation's environment.

Leadership

Board of Advisors

The Board of Advisors is responsible for leadership and the strategic direction of the ITRC. The board oversees the work of the various teams and administration and is also responsible for consideration and recommendation of ITRC's entering into memoranda of understanding or agreement with other organizations. The board co-chairs serve as the primary link between ITRC, the ERIS Board, and ECOS. In 2004 the board members were:

Ken Taylor (SC), Co-Chair	Ken Nemeth (GA), Southern States Energy Board
Bob Mueller (NJ), Co-Chair	George Nicholas (NJ), Team Leader Liaison
Dave Ellis (DE), Industry Representative	Wade Waters (GA), Public Stakeholder
Mavis Kent (OR), State Engagement Coordinator	

In 2005 the board members are:

Joe Francis (NE), Co-Chair	George Nicholas (NJ), Team Leader Liaison
Bob Mueller (NJ), Co-Chair	John Chambliss (TN), Public Stakeholder
Anna Willett (CA), Industry Representative	Saba Tahmassebi (OK), State Representative
Mavis Kent (OR), State Engagement Coordinator	Michael B. Smith (VT), State Representative
Dave Finley (WY), Association Member (ASTSWMO)	

Team Leaders

As the engines that drive ITRC's success, its technical teams enjoy broad-based participation from federal agencies, industry, academia, and other stakeholders to build collective knowledge and collaborative products. Each team relies on the strong leadership of one or two state regulators to build the team, set direction, coordinate team communications and product development, and advocate for the team within ITRC and the industry. Leaders of the 2005 technical teams are:

Alternative Landfill Technologies	Charles Johnson (CO)
Arsenic in Groundwater	Chuck Pippin (NC)
Bioremediation of DNAPLs	Naji N. Akladiss (ME)
Brownfields	Christine Costopoulos (NY)
Diffusion Samplers	Kim Ward (NJ)
Ecological Enhancements	Charles Johnson (CO)
Enhanced Attenuation: Chlorinated Organics	Judie Kean (FL)/Kimberly Wilson (SC)
MTBE and Other Fuel Oxygenates	Fred McGarry (NH)
Perchlorate	Sara Arav-Piper (NV)/Laurie Racca (CA)
Radionuclides	Tom Schneider (OH)/Carl Spreng (CO)

Remediation Process Optimization	Tom O'Neill (NJ)/Sriram Madabhushi (SC)
Risk Assessment Resources	Steve DiZio (CA)
Sampling, Characterization, and Monitoring	Stuart Nagourney (NJ)
Unexploded Ordnance	Gary Moulder (PA)/Jeff Swanson (CO)
Vapor Intrusion (Indoor Air)	Bill Morris (KS)/John Boyer (NJ)

State Points of Contacts

State Points of Contact (POCs) are a critical component in the ITRC network because they serve as champions for ITRC in their state environmental agencies and ensure two-way communication between their states and ITRC. They enable their states' environmental technology priorities to be addressed nationally and bring ITRC tools and resources back to their states for implementation. As the primary representative in their states to ITRC, POCs facilitate state review, comment, and concurrence on ITRC technical and regulatory guidance documents; identify their states' environmental priorities as part of the five-year program planning process; and provide state input and participation on ITRC training courses. State POCs for 2005 are:

Alabama	James L. Bryant	Nebraska	Bill Gidley
Arkansas	Daniel Clanton	Nevada	Mike Verchick
Arizona	Bill Ruddiman	New Hampshire	Robin Mongeon
California	Paul Hadley	New Jersey	Brian Sogorka
Colorado	Ken Vogler	New Mexico	[vacant]
Delaware	Qazi Salahuddin	New York	Jim Harrington
District of Columbia	Nick Kauffman	North Carolina	Robert McDaniel
Florida	Jeff Lockwood	North Dakota	Scott Radig
Georgia	Jim Ussery	Ohio	Thomas A. Winston
Hawaii	Keith E. Kawaoka	Oklahoma	Jarrett Keck
Idaho	Joseph Nagel	Oregon	Deborah Bailey
Illinois	Ted Dragovich	Pennsylvania	Jeff Painter
Indiana	William Hayes	Rhode Island	Ron Gagnon
Kansas	Dan Nicoski	South Carolina	Mihir Mehta
Kentucky	Ahad Chowdhury	Tennessee	David Randolph
Louisiana	Narendra M. Dave	Texas	Gary Beyer
Maine	Naji N. Akladiss	Utah	Neil B. Taylor
Maryland	Stanley Tsai	Vermont	Matt Moran
Massachusetts	Ken Marra	Virginia	James Bernard
Michigan	Joe Rogers	Washington	Dean Yasuda
Mississippi	Robbie Wilbur	Wisconsin	Renée Sanford
Missouri	Julieann Warren	West Virginia	Pasupathy Ramanan



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