



Benefits of the Interstate Technology & Regulatory Council

State of CALIFORNIA and the ITRC ~

2004 Update

August 2004

Facts about State of California ITRC involvement

State Point of Contact: Paul Hadley
Team Leads: Steve DiZio, Risk Assessment Resources
Mark Malinowski, Perchlorate

Number of people trained in California: 1,352 Internet training participants
484 Classroom training participants

Number of members: 59 Team Members
23 Interested parties

Teams with membership from California:

Alternative Landfill, Arsenic in Groundwater, Brownfields, Contaminated Sediments, Dense Non-Aqueous Phase Liquids (DNAPL), Diffusion Sampling, Enhanced Attenuation: Chlorinated Organics, Mitigation Wetlands, Perchlorate, Permeable Reactive Barriers (PRB), Radionuclides (RADs), Risk Process Optimization (RPO), Risk Assessment Resources (Risk), Sampling, Characterization, and Monitoring (SCM), Small Arms Firing Range (SMART), Unexploded Ordnance (UXO)

Examples of Document and Training use in California

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Anna Willett, a manager in the Research and Development Department at Regenesis, in San Clemente, described the use of ITRC documents and training courses at Regenesis. “We at Regenesis often use ITRC documents and training courses as a way to stay aware of technical issues in the bioremediation field. I have personally taken several internet-based training courses and others at Regenesis have taken the In Situ Bioremediation classroom training class. We also recommend the documents to potential customers who want to brush up on bioremediation or DNAPL topics. ITRC ends up saving us money and time because we have a good, well-developed resource for training employees on bioremediation topics”.

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Judy Huang of the San Francisco Bay Regional Water Quality Control Board had this to say about the Guidance Document on In Situ Chemical Oxidation. “In our work at the Alameda Point site, the ISCO document provided much-needed information on technical requirements and data needs, all in one place. The first five pages of the guidance document provided me with the information that took me an afternoon to research on the internet!”

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The California Fires & Risk Team Response

In the midst of the devastating, tragic fires in southern California in October, 2003, the California EPA Emergency Response Management Committee (ERMAC) supported the actions of local, state, and federal authorities in managing and responding to those fires. Part of the support included health advice on various fire-related topics. Tracy Hammon of the Colorado Department of Public Health and Environment and also a member of the ITRC Risk Assessment Resources Team had a similar experience in Colorado in 2002. With that background, she provided thorough and useful information on flame retardants which was sent to the representatives in ERMAC.

This is another example of the value of the ITRC network of technical experts. Critical information was provided to people who needed it in a timely fashion. “I think that is a great example of how ITRC helps in ways that we never imagined when ITRC was formed over eight years ago,” stated Paul Hadley, the State Engagement Coordinator and the State of California Point of Contact.

The public wanted information about the health impact of flame retardants that were being dumped in mass quantities on communities. Steve DiZio, Chief of the Human and Ecological Risk Division of the Department of Toxic Substances Control with California EPA, is the team leader for the Risk team and was actively involved in making this synergy a reality. Tracy Hammon developed a fact sheet and a review that was provided to ERMAC. These documents are attached at the end of this document. In addition, the following web link to a journal article on the subject was provided to the ERMAC (http://www.gnest.org/Journal/Vol2_No2/01_kalabokidis.pdf).

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Paul Hadley, State POC, spoke of the incredible improvements over time that have come with an institutional maturity. ITRC is proving to be invaluable in pushing forward new approaches to remediation and the 2004 teams are only indicative of how far ITRC has come in value production.

“The two teams I’m working with this year- Perchlorate and Bioremediation of DNAPLs- have hit the ground running. Sometimes in the past, teams would be very slow getting started and have little to show for the first six months’ efforts. We now have people being very engaged right at the beginning, offering reference documents for others to review, providing access to case studies, and in general participating in the

dialogue. Several things are responsible for this improvement in productivity including having some industry representatives who are back for second or even third team tenure. Having the experience is a real asset. The level of expertise is also incredible.”

Mr. Hadley surmises that 4-5 non-government representatives have come back for a second term on one of the teams he is on and one individual who is now working on his third team. He also credits the quick start of teams to this year’s membership and team processes; an effective team training; and maturity and experience of team members and team leaders.

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The Kick off Meeting

State Point of Contact Paul Hadley holds a “kickoff meeting” early in the year to communicate with representatives from California EPA Boards and Departments who participate in ITRC. Typically this meeting is held prior to the spring meeting. This group meets with the Director of the Department of Toxic Substances Control (DTSC), among others, in the summer to brief him on the story of the ITRC, activities ITRC is involved with and how they benefit the state Environmental Departments. Discussion items include a synopsis of upcoming ITRC meetings; update on current team activities; training opportunities, both classroom and internet-based; and other general information regarding ITRC and its interactions with the state of California.

Mr. Hadley has conducted these “orientation” meetings over the past three years and considers they are a key component of getting the word out about the ITRC. The meetings also help the Director understand how the efforts of each of the representatives are benefiting the state of California.

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In 2003, over ten percent of the story ideas generated for the ITRC ‘Success Story’ catalogue came from the state of California! With the large representative number of participants on ITRC teams and leadership in the state, significant activity is occurring due to ITRC training, documents and the synergy that comes with the connections made through the ITRC.

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Chris Cochrane of the SWRCB was charged with developing a presentation for the November 2002 Nitrate Conference in Fresno, CA. Chris utilized the documents available through the ITRC, specifically the EISBD Guidance Document (*Emerging Technologies for EISBD of Nitrate-Contaminated Groundwater*), which was “extremely useful in developing the presentation. Consistent information is being conveyed to a large number of users, developing a common underlying understanding of the problem and possible solutions.”

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Amy Terrell, regulator with the Water Quality Control Board, utilized training and the technical and regulator guidance documents to increase awareness of In Situ Bioremediation.

“Training connected me with others who are wrestling with similar issues. It has helped me identify management objections to developing in situ reducing conditions and helped formulate responses to the objections by describing microbial metabolic processes, pointing to case studies and emphasizing the temporal nature of geochemical disturbances.”

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Stacey Lear, regulator with the California Department of Toxic Substances Control, suggested that significant understanding and clarity of UXO technology and its practical uses was achieved in the UXO Basic Classroom Training. “This information will be invaluable on the Aerojet project in Chino Hills, as educational outreach materials are developed to assist impacted residents, local elected officials and various stakeholders from UXO issues.”

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“UXO Basic Training helped me to understand a permit project on which I am evaluating environmental documents and public comments. It helped me to put into context the potential dangers inherent in Open Burning/Open Detonation (OB/OD) operations,” said Laura Kaweski, regulator with the California Department of Toxic Substance Control of the project at the Sierra Army Depot.

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Michael Houlemard, executive officer of the Fort Ord Reuse Authority, indicated potential significant savings as a result of UXO Basic Training associated with a project at the Fort Ord site in Monterey. Being able to move forward with the reuse of both former ranges and areas adjacent to former ranges will create value to the community.

“The training served as a focused supplement to our regular activity with the remedial actions of the US Army, and it informed our work in developing educational programs for identification and safety in future reuse. In addition, we are embarking on a program that seeks to improve the interface between remedial work and property development which will require some fairly sophisticated engineering and construction support.”

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Ryan Tappero, a regulator with the Central Coast Regional Water Quality Control Board, participated in classroom training and use of the guidance document on phytotechnologies. “Substantial dollar savings were realized by using the phytotechnologies decision tree to determine the feasibility of using phytoextraction at a former wood preservation site. Classroom

training and guidance documents were critical to the design and implementation of a plan to remediate Arsenic, Chromium, and Copper contaminated soil.”

Linda Stone, who took the classroom training on Enhanced In Situ Bioremediation of Chlorinated Solvents in Groundwater, said “it helped me identify key components of an enhanced reductive declaration work plan that were missing. Presenters were very effective and knew the material extremely well- the material was practical, not theoretical.”

Examples of ITRC involvement with California projects

Small Arms Firing Range and Natural Attenuation Documents

At a firing range in California, information from the training and review of the documents on Small Arms Firing Ranges (SMART) and Natural Attenuation could save up to \$100,000, according to Robin Fryberger, environmental consultant with Cordilleran Compliance Services.

"The documents and training have given us new insights to innovative environmental solutions, allowing us to feel more comfortable and expanding our areas of expertise. It is good to hear what our peers are working on and to learn a little more with each training. These have allowed us to provide better proposals, some of which have resulted in additional work", Mr. Fryberger stated.

In Situ Chemical Oxidation (ISCO) use at a site in Los Angeles

Gary Cronk, an environmental engineering consultant with Tait Environmental Management, estimates several hundred thousand dollars of savings are occurring through the use of ISCO at a site in the Los Angeles area. “I would say the cost savings are due in part to ITRC training, since we were moving forward with this project before the training became available.” The pilot test is underway and full treatment design is being developed that will allow the client to turn off the pump and treat system earlier than anticipated. Actual savings, based on contractual arrangements as a fixed fee for plant closure, will be about \$80,000 per year for the 3-5 years of reduced pump and treat, around \$240,000 to \$400,000 for the total period.

How did ITRC RADs Team involvement benefit a Bay-area community?

Community buy-in was very important in this case, so the insights and experience brought to bear through the RADs Team were critical to ensuring that community concurrence. With broader testing requirements, the community feels more secure and confident in the results of monitoring to ensure that there is no nuclear contamination at the site. The direct involvement of the team’s experts significantly relieved public confidence issues constraining the site’s industrial or commercial redevelopment.

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Bioremediation Documents and Training Aid Chemical Manufacturing Facility in Cleanup Efforts- Millions Saved!

Again in California's San Francisco Bay Area, the use of ITRC guidance documents proved key in the implementation of a bioremediation remedy in place of a large-scale pump and treat system at a chemical manufacturing facility. Indirect savings of at least *\$14 million* in capital costs and *\$3 million* in annual operating and maintenance costs resulted because the facility was able to demonstrate, with the help of ITRC documents, that in-situ bioremediation could work as the primary remedy. Direct cost and time savings were also realized from the use of the ITRC guidance documents in which a spokesperson for the manufacturing facility estimates

“We saved at least a year of consulting time, modeling costs, and other documentation that would have been needed to develop, convince the agency, and implement an experimental design that would have gotten us to the same point. ITRC protocols and principles saved our company at least half a million dollars”.

Whom can I contact to learn more about these examples of ITRC success?

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What is ITRC?

ITRC is all about environmental cleanup—getting the right technology or strategy applied to the situation at hand. Many times that “right technology” is a new technique, approach, or device that leads to faster, better, more cost-effective cleanup strategies. Often finding and implementing the “right” technology or strategy require innovation on the part of the site manager and industry consultant. Approving the “right” technology may require state environmental offices to change their decision-making process. ITRC teams, documents, and training courses not only provide information but also foster interaction within the environmental community. ITRC is a catalyst, providing a network of experts and industry leaders to think creatively and explore better methods of site characterization and remediation, leading to more efficient decision-making with an increased level of confidence and trust.

How does ITRC measure success?

So what has ITRC accomplished? How do we measure success within the framework of environmental cleanup? Protection of human health and protection of the environment are two of ITRC’s critical goals. Our accomplishments and success can be measured by the following:

- Assistance to the community
- Acceleration of cleanup—Cutting approval time
- Decreasing the cost of cleanup—Slashing remediation costs
- Knowledge transfer to facilitate cleanup—Finding better solutions and transferring technologies
- Building expertise industry- and nationwide
- Paving the way for new technologies
- Long-term management of cleanup sites
- Institutional innovation—Breaking down regulatory barriers

ITRC captures the value of these accomplishments and exchanges in several ways. First, ITRC teams develop guidance documents to help regulatory staff, site managers, and technology vendors in the deployment of innovative technologies. Second, ITRC members form a network of technical resources, expertise, and support for implementing new ideas in their own organizations. Correspondingly, the measures of ITRC success include the extent to which guidance documents are used in deploying specific technologies at specific sites (product use), the degree to which ITRC helps create acceptance of innovative technologies as regular practice rather than as an extraordinary occurrence (institutional change), and the effectiveness of the synergy created in the environmental community as ITRC teams collectively address cleanup issues from various perspectives.

For a complete listing of technical and regulatory guidance documents and training, see www.itrcweb.org.