

# ITRC Implementation Workshop

*Solidification/Stabilization Team*  
*Wilmer Reyes, DE*

October 2011

Denver, CO



# Implementation Session Agenda

- Opening & Importance of Implementation (2 min)
- Product Overview (15 min)
- Small Group Discussions by Sector (25 min)
- Report Outs on Implementation Targets (15 min)
- Wrap-Up/What's Next (3 min)

# Overview

- Tech-Reg addresses barriers to use of S/S:
  - Inconsistent criteria for development of performance specifications
  - Uncertainties associated with prediction of long-term performance
  - Lack of methodologies for measure of long-term compliance
- Concerns regarding what types of contaminants (such as organics) can be treated with S/S have limited its use
- States have been reluctant to use S/S because of the difficulty in assessing performance

# Tech-Reg Content

## ■ Solidification

- Entrap contaminants within a solid matrix
- Coating of contaminant molecule
- Organics are generally immobilized due to reduced hydraulic conductivity

## ■ Stabilization

- Bind or complex contaminants
- May involve chemical transformation
- Metallic contaminants are stabilized by precipitation or by interaction (e.g. sorption) with cement matrix

## ■ Example: Lead



# Tech-Reg Content

- Provides an approach to identify and evaluate appropriate performance specifications, tests, and parameters
- Describes appropriate implementation and post-implementation sampling and testing
- Evaluates long-term performance of technology
- Provides long-term stewardship methods to measure and verify performance

# Steps to Achieve Impact

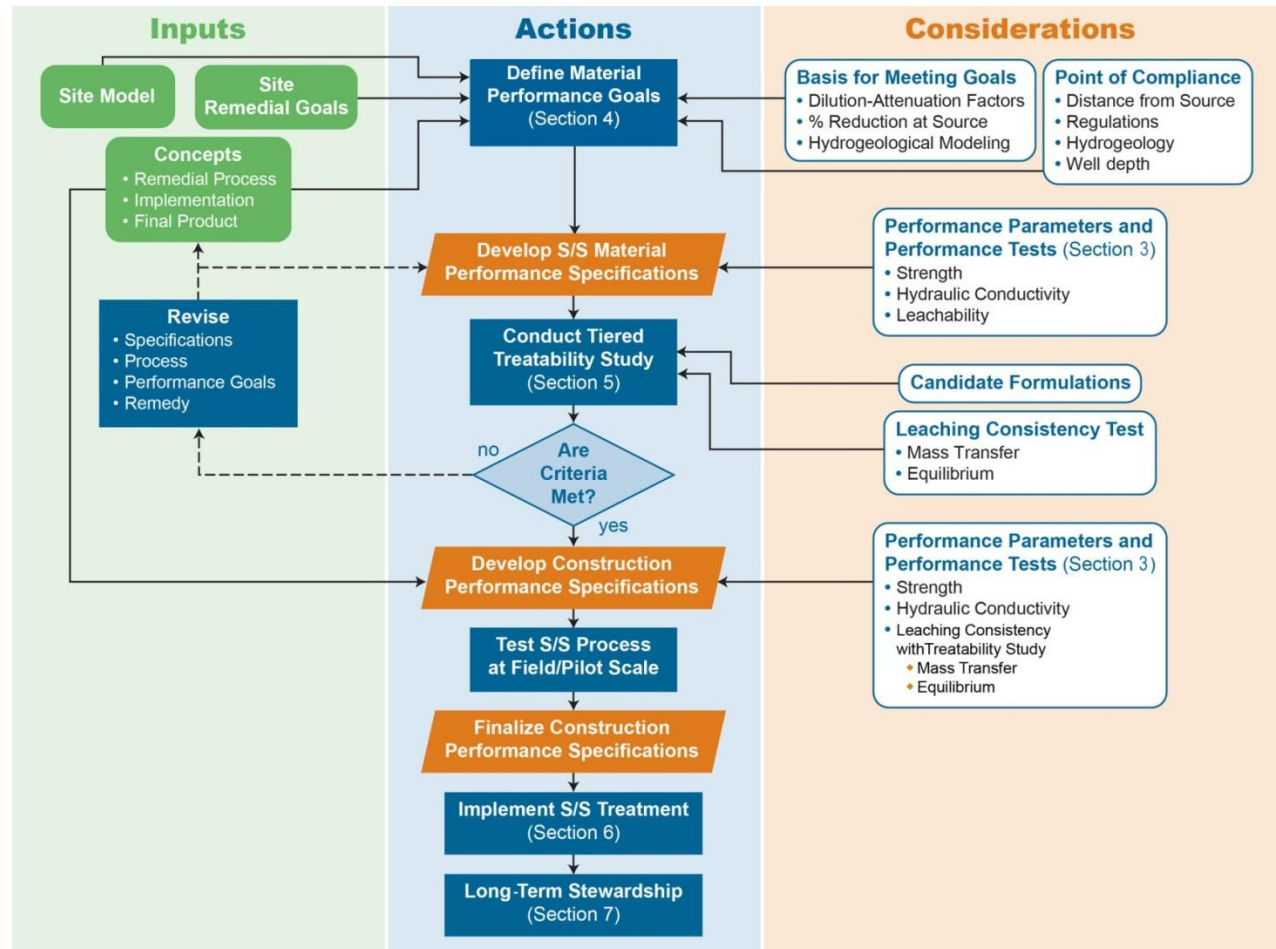
- Advertise availability of document to appropriate audiences
- Communicate with S/S specific audiences
- Provide internet based trainings
- Give overview and topic-specific talks at appropriate conferences

# Where Tech-Reg Will Provide Impact

Expected User Group	Intended Use	Benefit
Regulators	<ul style="list-style-type: none"> <li>• Consistent approach for reviewing, selecting, testing and/or using performance specifications</li> <li>• Develop and/or review long-term stewardship programs</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and select appropriate performance specifications for design, implementation, and monitoring of S/S remedies</li> <li>• Anticipate potential stakeholder concerns</li> </ul>
Consultants	<ul style="list-style-type: none"> <li>• Consistent approach for performance specifications.</li> <li>• Treatability studies guidelines</li> <li>• Long-term monitoring program design</li> </ul>	<ul style="list-style-type: none"> <li>• Regulatory acceptance</li> <li>• Potential cost and time savings</li> </ul>
Site Owners	<ul style="list-style-type: none"> <li>• Understand the role of performance specifications</li> </ul>	<ul style="list-style-type: none"> <li>• Potential cost and time savings</li> <li>• Regulatory acceptance</li> <li>• Potential for land reuse</li> </ul>
Stakeholders	<ul style="list-style-type: none"> <li>• Understand the role of performance specifications</li> </ul>	<ul style="list-style-type: none"> <li>• Greater confidence in remedial process</li> <li>• Potential for land reuse</li> </ul>

# Case Study of Tech-Reg Use

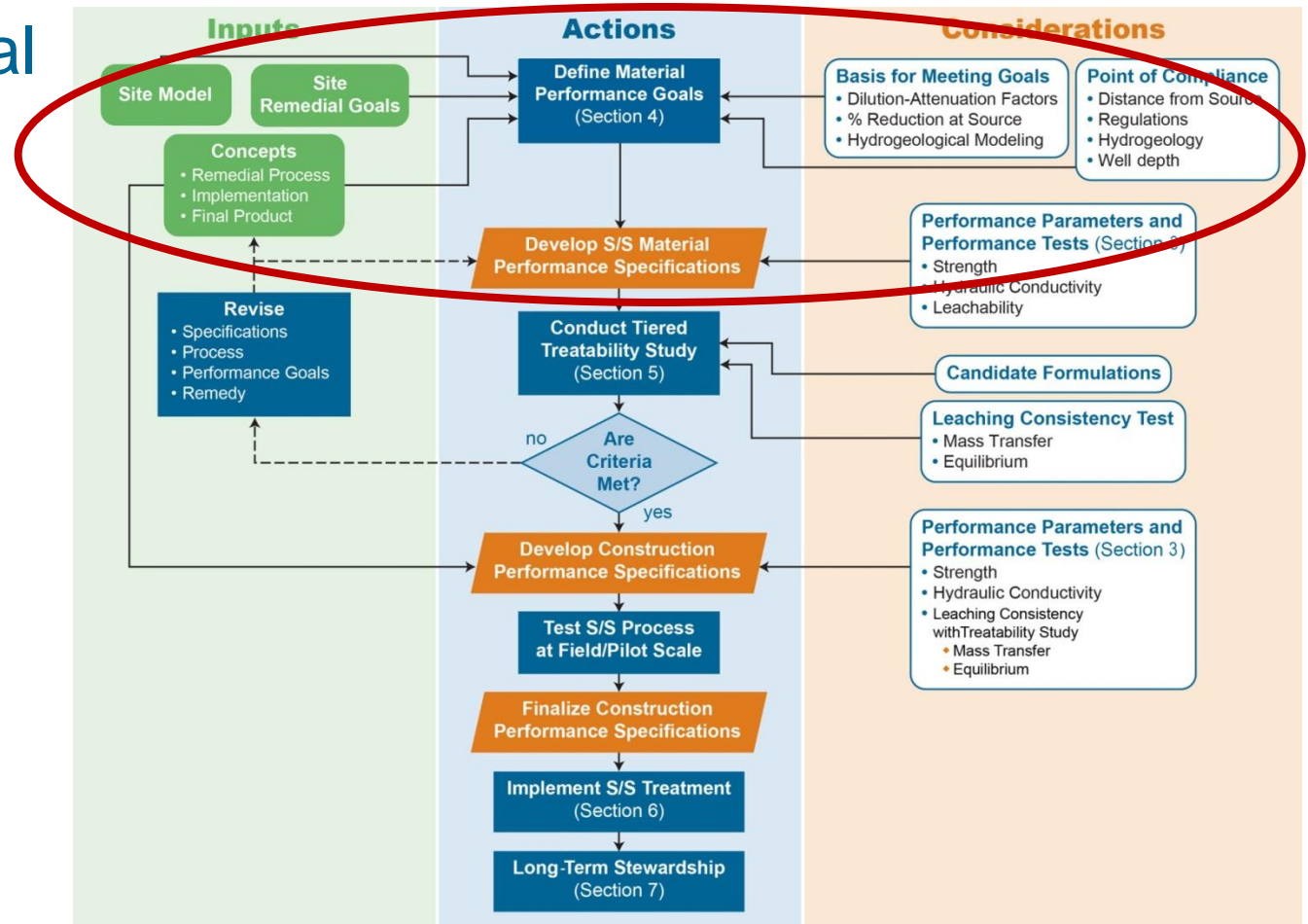
- The guidance assumes S/S has already been selected as a remedial alternative





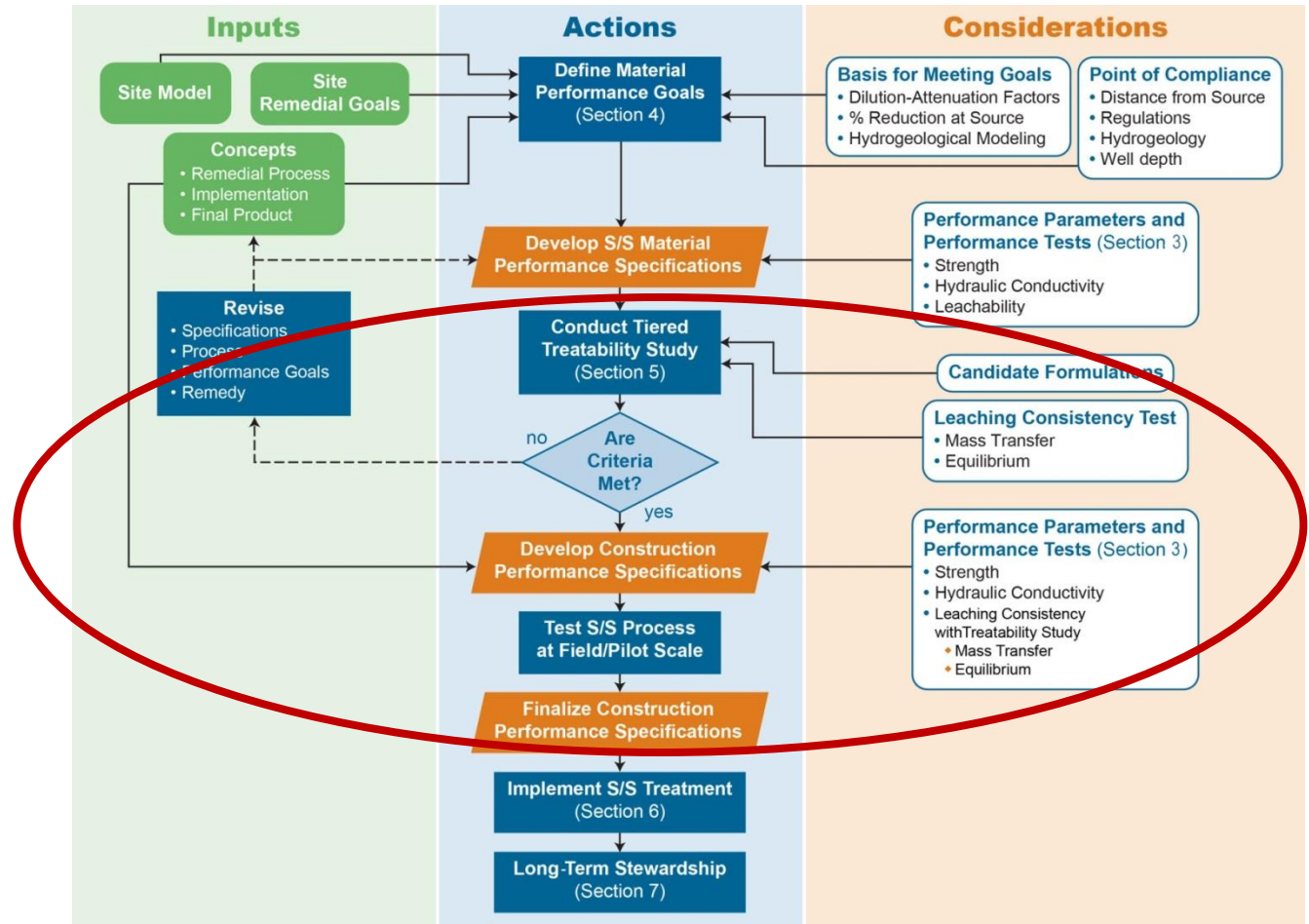
# Case Study of Tech-Reg Use

- Define material performance goals
- Develop S/S material specifications



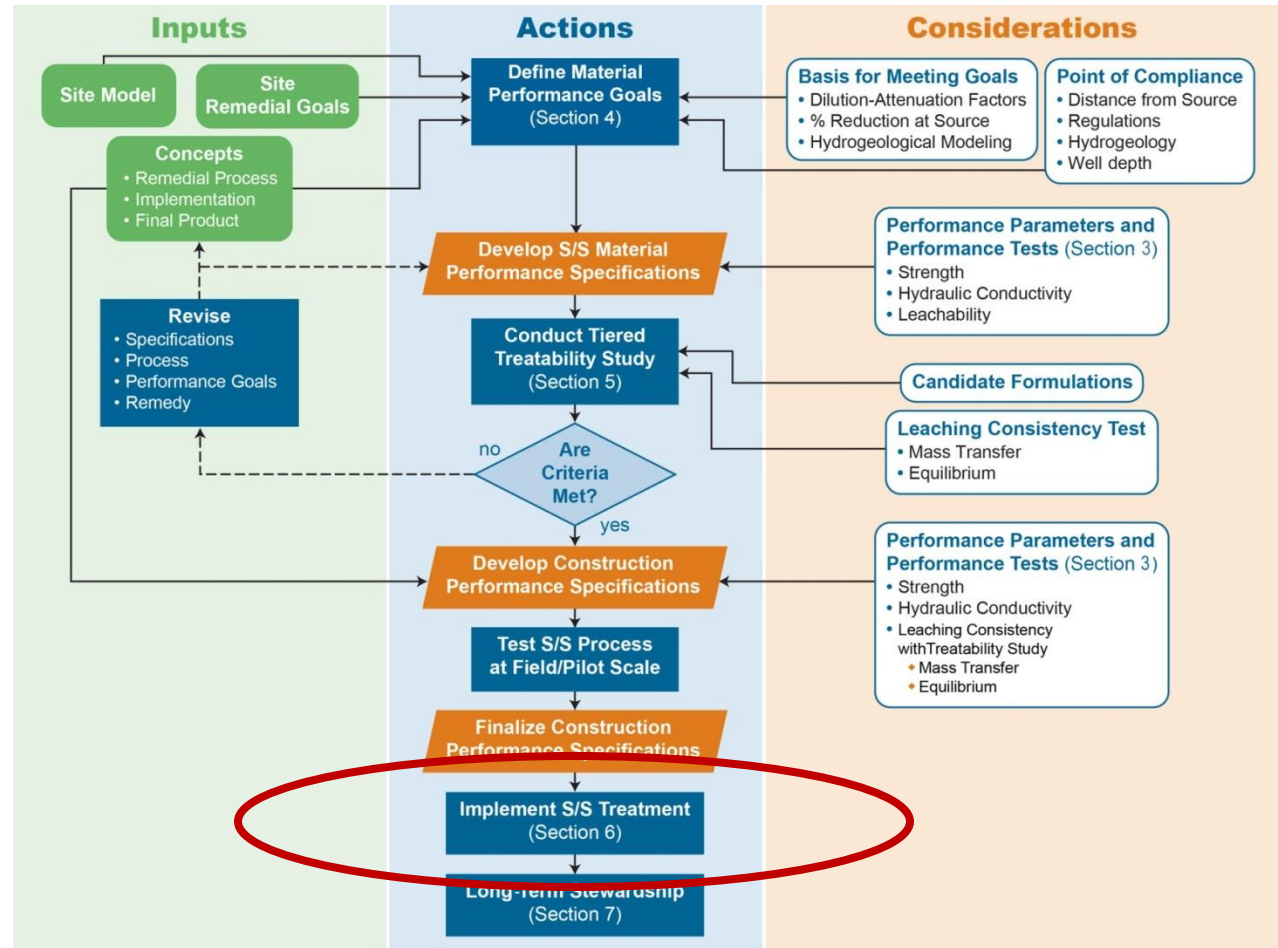
# Case Study of Tech-Reg Use

- Conduct treatability studies
- Develop, test, and finalize construction performance specifications



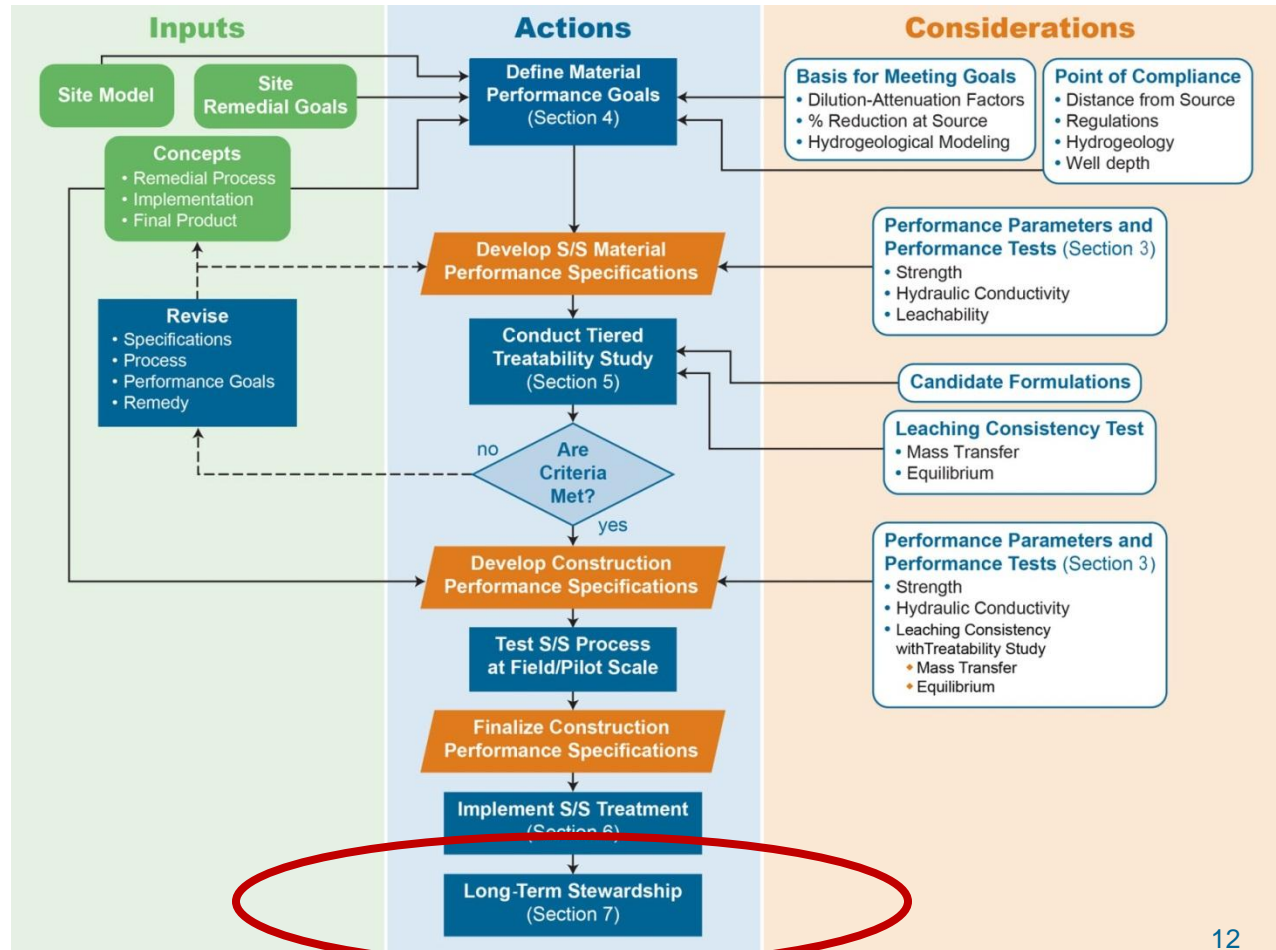
# Case Study of Tech-Reg Use

## ■ Implement S/S



# Case Study of Tech-Reg Use

- Long-term stewardship to monitor and verify performance



# Specific Implementation Target Ideas

- Manufactured Gas Plant (MGP) sites
- S/S specific audiences
- General remediation sites, brownfields
- Oil and gas industry

# MGP sites

- Provided fact sheet and short presentation at MGP quarterly meeting in California (June 2011)
- Provided fact sheet to attendees of EPRI MGP meeting (August 2011)
- Provide article for EPRI quarterly newsletter
- 4<sup>th</sup> Intl. Symposium and Exhibition on the Redevelopment of MGP Sites, March 2012
  - 3 abstracts submitted: (1) Overview of ITRC guidance; (2) Leaching test methods; (3) Long-term monitoring
  - Scheduling an Internet training following the conference

# S/S Specific Audiences

- Announcements to S/S Linked-in group about document and training offerings
- Portland Cement Association – requesting a link on their web site

# General Remediation Sites/ Brownfields

- RemTech 2011 (October 2011)
  - Presentation by team member on ITRC S/S Team and products
  - Fact sheets to advertise document and training
- Request Pollution Engineering to list internet trainings on web site
- RemTEC Summit 2012 (Date TBD)
  - Submit abstract for conference
  - Schedule an Internet training following conference
- Brownfields Conference (Date TBD) (?)



# Oil and Gas Industry

- International Petroleum Environmental Conference (IPEC) (November 2011)
  - Overview presentation on ITRC guidance
  - Distribution of fact sheets
- Article in Society of Petroleum Engineers (SPE) Oklahoma chapter newsletter and web site

# Sector Implementation Discussions

- Identify implementation targets for this Product (e.g., sites)
- Identify key personnel (by name if possible) that need this product in your sector
- Identify key messages that would attract people in your sector to use this product

## **ITRC Solidification/Stabilization (S/S) Team Implementation Session Notes October 2011**

The Fall ITRC S/S Team Implementation Session was attended by a predominance of state regulators, therefore, the group determined that it would be more beneficial to conduct a group implementation discussion versus breaking into small groups by sectors.

### **1. What sites or type of sites would benefit from this guidance?**

- Navy response: Sites with sediment contaminations may benefit from this guidance.
- CT state regulator: small marinas with the need to dredge sediments
- Stakeholder: Lawrence Livermore Laboratory is currently considering S/S for one of its sites
- State regulator: operating facilities, such as fuel blends (with organic contaminants)

### **2. What other types of audiences may benefit from this guidance?**

Environmental Justice audiences may be interested in the application of S/S on brownfield sites.

Environmental Justice contacts include the following:

- Coordinators at state agencies
- Manny Stanislaus @ EPA
- Superfund community coordinators

### **3. How do we reach Brownfields-related audiences?**

- State Brownfield groups
- State Brownfield conferences
- State brownfield coordinators
- State brownfield programs may be in state economic development programs
- Real estate developers specializing in brownfields

### **4. What other mechanisms should we use to advertise the availability of the guidance and training?**

- Send fact sheet to the ITRC Sediment Team (reach sediment-related audience)
- Department of Defense:
  - RPM newsletter
  - Information in the monthly email to the Air Force Tech Transfer recipients (contact Kim Brown)
  - Notice in the Society of American Military Engineers newsletter
- National Lime Association
  - Look on web site – could ask for link on web site
  - Blake Scott has contact
  - Coal ash productions
- MGP Reporter Web newsletter quarterly (put out by GEI); Tom Plante has contact for newsletter