A SUCCESS STORY: ENVIRONMENTAL DECISION MAKING

Getting New Technologies Accepted

- ITRC
- SERDP/ESTCP
25. Western High Plains
27. Central Great Plains
42. Northwestern Glaciated Plains
43. Northwestern Great Plains
44. Nebraska Sand Hills
47. Western Corn Belt Plains
The Great State of Nebraska

In the geographic center of the U.S.

77,000 sq. mi.

17th largest state in the U.S.

37th in population (1,800,000)

The Breadbasket
A SUCCESS STORY: ENVIRONMENTAL DECISION MAKING

The Breadbasket

- Double the Population by 2050
- 4th Largest Ag Economy in the U.S.
- $22.6 Billion toward the State’s GDP
- 1st in Irrigation
- 93% of our land is devoted to Agriculture (18,413,196 ha.)
  - 1st in Red Meat Production
  - 1st in Great Northern Beans
  - 2nd in Cattle and Calves
  - 3rd in Corn
  - 4th in Soybeans
  - 6th in Hog
A SUCCESS STORY: ENVIRONMENTAL DECISION MAKING

- Why this is important
  - Environmental issues persist
  - Environmental issues affect everyone

- What is the problem?
  - Climate Change/Energy Use/Water
  - Legacy contamination
  - Emerging environmental issues

- Why is it so hard to adopt new technologies?

- A better process to use
  - ITRC
  - SERDP/ESTCP

- Conclusions/Recommendations
A SUCCESS STORY: ENVIRONMENTAL DECISION MAKING

Why this is important

• Persistent
• Ubiquitous
• Cost
• Use of resources
• We are only as good and healthy as our environment
• It is our responsibility
A SUCCESS STORY: ENVIRONMENTAL DECISION MAKING

- What is the problem
  - Water
    - Safety
    - Availability
  - Air Quality
    - National Ambient Air Quality Standards
    - Transport
  - Waste
    - Consumption
    - Legacy disposal
  - Climate Change, Energy Use, Legacy Contamination, Emerging Issues....
Why is it so hard to adopt new technologies, or why is it so hard to convince my wife that 84th Street is a better way home?

- Education/Knowledge
- Certainty
- Cost
- The Fear of Failure
What is ITRC?

ITRC is a state-led coalition working to advance the use of innovative environmental technologies and approaches.

ITRC translates good science into better decision making.
ITRC Values

Technical Excellence

Integrity

Consensus

Change

Innovation

Partnership

Collaboration
ITRC Purpose & Mission

- **ITRC Purpose**
  To advance innovative environmental decision making

- **ITRC Mission**
  Develop information resources and help break down barriers to the acceptance and use of technically sound innovative solutions to environmental challenges through an active network of diverse professionals
ITRC Key Strategies

- ITRC looks to future environmental challenges and focuses resources on developing innovative solutions to address those challenges.
- ITRC develops quality products that meet the needs of customers.
  - Tech/Reg
  - Training
- ITRC conducts outreach to demonstrate value and increase visibility to funding sponsors.
- ITRC emphasizes collaboration and cooperation as a way to foster consensus.
Typical Project Schedule

Overview Document
State Survey

Reviewed by all membership sectors

Technical regulatory guidance

Training modules

Year 1
Year 2
Year 3
Power of ITRC’s Unique Network

- Environmental Council of the States (ECOS)
- Federal Government
- Public/Tribal Stakeholders
- Industry
- Academia
ITRC Role in the Environmental Community

Reduce barriers
- To the use of innovative environmental technologies

Improve cleanup
- By educating on innovative environmental technologies

Provide a national consensus
- On approaches to implementing innovative environmental technologies
Benefits to States

- Information and technology transfer – states make ITRC guidance their own
- Free training and knowledge on how to use innovative environmental technologies/approaches
- Access to peers and experts in other regulatory agencies
- Shortened learning curve by obtaining advance knowledge of innovative technologies/approaches
- Cost-effective involvement in demonstrations conducted in other jurisdictions
- Sounding board for problem solving
- Leadership and professional development
Benefits to DOD and DOE

- Encourages use of innovative environmental solutions
- Increases reliance on cost-effective cleanup approaches
- Reduces review and approval times for innovative approaches to environmental problems
- Facilitates interactions between federal managers and state regulators
- Increases consistency of regulatory requirements for similar cleanup problems in different states
- Can help reduce uncertainties when preparing cleanup plans
- Addresses DOD and DOE unique environmental needs (e.g. munitions, radionuclides, chlorinated solvents)
Benefits to EPA

- Provides knowledge transfer to states for better environmental protection
- Encourages use of innovative environmental solutions by states and others
- Increases state reliance on cost-effective cleanup approaches
- Facilitates idea sharing between federal managers and state regulators
- Provides a mechanism for identifying and integrating regulatory performance expectations among states
- Unique and cost-effective approach for demonstrating and deploying new technology/approaches
Benefits to the Private Sector

- Cutting-edge information on innovative environmental technologies and approaches
- Opportunities to author national guidance documents and participate in training courses
- Insight into the regulatory world
- Access to multiple state and federal government entities
- Opportunity for broader review of technology
- National approach to demonstration and deployment of new technology
- Mechanism to identify and integrate regulatory performance expectations among states
A Success Story: Environmental Decision Making

Since 1995, ITRC has expedited quality regulatory decision making, while protecting human health and the environment.

http://www.itrcweb.org/

Success hinges on COLLABORATION
Success hinges on COMMUNICATION
Success hinges on CONSENSUS
And you have to be TRANSPARENT
Permeable Reactive Barriers (PRB)

NPV Saving > $150 M

Passive In Situ Treatment
- Chlorinated solvents treatment
- 21 DoD full scale systems

ESTCP Support

Operational Systems

1st DoD Demo
Multi Site Demo
ITRC Reg. Doc.
ITRC Design Doc.
ITRC Lesson Learned Doc.
DoD’s Environmental Technology Programs

- DoD, DOE, EPA Partnership
  - Advanced technology development to address near-term needs
  - Fundamental research to impact real world environmental management

- Demonstrate Innovative Cost-Effective Environmental and Energy Technologies
- Promote Implementation
  - Direct Technology Insertion
  - Partner with End User and Regulator
Strategic Environmental Research and Development Program (SERDP)

- Established by Congress in FY 1991
  - DoD, DOE, and EPA partnership

- SERDP is a requirements driven program that:
  - Identifies high-priority environmental science and technology investment opportunities that address DoD requirements
    - Advanced technology development to address near term needs
    - Fundamental research to impact real world environmental management
Investment Approach

- SERDP’s Investments Are Structured Through Annual Statements of Need (SON)

  - SON reflect:
    - Longer term strategic plans to address high priority requirements
      - Groundwater liability, live fire ranges, UXO, marine mammals and sonar, eliminating Cr⁶⁺ etc.
      - Issue-specific workshops form basis for strategic plans

  - Increasing Focus on Sustainability and O&M Costs
    - Success at reducing costs of legacy liabilities
    - Need to reduce costs and long term vulnerability at installations and ranges
SERDP – Core Solicitation Process

1. Broad Agency Announcement
2. Pre-proposal
3. Staff Review
4. Full Proposal
5. Peer Review
6. Technical Committee Review
7. Selection
8. SAB Approval
Environmental Technology Development Process

Service Requirements → Basic/Applied Research → Advanced Development → Demonstration Validation → Implementation

Office of the Deputy Under Secretary of Defense - Installations and Environment

A Requirements-Driven Integrated Program
Partnerships within Projects

- Multiple entry paths – solicitations to allow lead as appropriate to project
  - University
  - Federal Laboratory
  - DoD user
  - Industry
- Single-performer projects are rare
Technical Management

- **Project Selection – Technical Reviews**
  - External peer review
  - Technical committee – SERDP, Services, DOE, EPA experts
  - Science Advisory Board approval – distinguished scientists nominated by National Academy

- **Project Management**
  - Annual In-Progress Review Briefing
    - Brief of technical progress to panel of technical experts from the services
    - Projects on common topics brief together
    - Detailed feedback
Program Area Management Structure

- Weapons Systems & Platforms
- Environmental Restoration
- Energy & Water
- Resource Conservation & Climate Change
- Munitions Response
It’s The Method AND The Model

- The M&M Works for ANY Issue
- Get the Right Players at the Table
  - You Need A Top-Notch Team
  - Check Agendas At The Door
- Agree on the Process
  - Define the problem
  - Consensus, not 100% agreement
- Set a Schedule
- Be Accountable
- Be Flexible
A Success Story: Environmental Decision Making

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