WESTERN
GOVERNORS'
ASSOCIATION

THE FEDERAL ADVISORY COMMITTEE
TO DEVELOP ON-SITE
INNOVATIVE TECHNOLOGY
(THE DOIT COMMITTEE)

Coordinating Group Report

FY 1995

PREFACE

In December 1992, western governors and the Secretaries of Defense, Energy, and Interior, and the Administrator of the Environmental Protection Agency formed a federal advisory committee to develop recommendations on changes in state and federal policy needed to expedite the development and use of cheaper and safer innovative cleanup technologies. The Committee, known as the Committee to Develop On-site Innovative Technologies (DOIT), has enlisted the help of a variety of key players to help identify, test, and evaluate new more cooperative approaches to deploying promising innovative waste remediation technologies and cleaning up federal waste sites.

The following reports summarize the FY 1995 findings and activities of the Coordinating Group of the DOIT project.

Funding for the DOIT working group and Coordinating Group activities in fiscal year 1995 was provided by the Department of Energy as the lead federal agency for the initiative. Funding was also provided by both the Departments of Energy and Defense to the Western Governors' Association to help manage the project and pass through funding to participating states.

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1.0 EXECUTIVE SUMMARY

The Federal Advisory Committee to Develop On-site Innovative Technologies (DOIT Committee)[1] continued its efforts in 1995 to help frame public policy on the use of innovative technology. This pioneering effort is testing new approaches to stakeholder involvement, regulatory streamlining, and commercialization of promising new cleanup technologies. Over 200 people are involved in the DOIT initiative at the Coordinating Group, working group, and site team levels representing federal and state agencies; tribal and local governments, environmental and public interest groups; industry; academia; and other groups. This report summarizes FY 1995 activities under the DOIT initiative.

The primary focus this year was turning the DOIT Committee's January 1994 recommendations for technology demonstrations at candidate sites into refined plans to conduct and evaluate the demonstration of new approaches.[2] Four working groups meeting every two or three months, discussed barriers to developing and deploying new technologies, and began to frame projects to test new approaches. Subgroups were formed to address cross-cutting issues not specific to any site or demonstration. The working groups then created site implementation teams with broad representation at the local level to design new approaches. The site teams used a consensus-based decision-making process to draft site implementation plans.

Based upon the proposed site implementation plans and available funding, the federal agencies agreed to move ahead with nine of the original thirteen demonstration sites proposed by the DOIT Committee. In addition, the DOIT initiative sponsored several key forums, including a Stakeholder Roundtable, a Tribal and Public Technology Assessment Forum, and a Munitions Cleanup Workshop. Another major development was the formalization of the Interstate Technology and Regulatory Cooperation working group to develop mechanisms for interstate cooperation in the permitting of innovative cleanup technologies.

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[1]See Appendix A for DOIT organizational chart.

[2]See Appendix B for a list of sites, demonstrations and their current status.

The findings of the working groups and forums, and descriptions of the demonstrations and projects which are now underway are summarized in this report. The DOIT Committee will issue a final report in June 1996, including recommended changes to state and federal policy, based on the results of the demonstration projects.

The DOIT Committee expenditures for FY 1994 are estimated to have been $1.11 million, plus invitational travel for working group members to attend meetings.

1.1 FY 1995 Accomplishments, Key Outcomes and Products to Date

- Plans for testing new approaches to cleanup technology development were developed for 13 sites in eight states. Based on available funding, nine of the 13 sites involving discrete demonstrations or projects were able to move ahead. Three additional projects for the Mine Waste Working Group were approved and funded.

- The Interstate Technology and Regulatory Cooperation (ITRC) Working Group was formalized in December 1994. Its purpose is to facilitate cooperation among the states in a common effort to test, demonstrate, evaluate, verify and deploy innovative environmental technologies, particularly those related to waste management, site characterization and site cleanup. Twelve western states and six east of the Mississippi are currently participating in this effort.

- Consistent with stakeholder principles adopted by the DOIT Initiative, both the Coordinating Group and the Interstate Technology and Regulatory Cooperation Group expanded their membership to include representative public stakeholders. (See Appendix C for list of Coordinating Group members)

- In April 1995, four states involved in the interstate cooperation effort (California, Illinois, New Jersey and Massachusetts) entered into a Memorandum of Understanding which will guide their mutual efforts regarding the exchange of information for review

and assessment of new environmental technologies. Several additional states are currently considering entering into the MOU.

- Stakeholders with a broad spectrum of interests in the development and deployment of cleanup technologies were brought together in several settings to participate in significant dialogue and provide substantive input in the decision-making process. A Stakeholder Roundtable, held in September 1994, and a Tribal and Public Forum for Technology Acceptance, held in May 1995, produced practical guidelines for public involvement in the process. (see Appendix D)

- Dialogue between DOIT working groups and federal agencies influenced the development of new institutional processes. For example, the Mixed Waste Working Group provided early input into the design and structure of the Department of Energy's new focus area approach to technology development. A DOE study of alternatives to Thermal technologies was initiated in response to a request from the working group.

- In June 1995, western governors approved a codicil supporting interstate cooperation in the permitting of new technologies and directing the ITRC to adopt the Tribal and Public Involvement Guidance, to the extent practicable (see Appendix E)

- Also in June 1995, the ITRC developed draft protocols for two technologies: in-situ bioremediation and low temperature thermal desorption. The protocols will be used to streamline and facilitate regulatory acceptance.

- To enhance the internal management and communication functions within the DOIT initiative, a regulatory technology circuit rider and stakeholder liaison were added to the Western Governors' Association staff.

2.0 FY 1995 WORKING GROUP FINDINGS & FY 1996 DEMONSTRATIONS

The following text summarizes the findings of each Working Group, as contained in their 1994 Annual Reports, and a summary of each of the demonstration projects the federal agencies have agreed to fund.

2.1 The Mixed Waste Working Group

1. Internal Process Issues Must be Addressed and Resolved Up Front When Working With Representatives of Diverse Groups.

    * The Working Group found that there were different understandings among its members of the role and function of the DOIT Committee, its Working Groups, participation in the group, and the decision-making process of the group and that no substantive progress could be made until internal process issues were resolved.

2. Stakeholder Involvement is Necessary in All Stages of Technology Development.

    * Communication among stakeholders in technology development fosters a better understanding of the issues and concerns relative to technology development.
    * Stakeholders must be involved in all stages of technology development to help ensure technology acceptability and more efficient deployment.
    * Local stakeholder input is crucial to technology development work at the site level.
    * Stakeholder concerns about thermal treatment technologies need to be addressed.

3. DOE's "New Approach to Technology Development" Should Have Coordination, Stakeholder Participation, and a Focused Lead Program Office.

    * A focused lead program office needs to be implemented expeditiously to direct and speed integration of DOE's "New Approach to Technology Development."
    * Integration and communication among program offices is vital to the success of the "New Approach."

* Increased stakeholder (public and regulatory) involvement is necessary to the decision-making process of focus areas.

* Multi-disciplinary management teams that are qualified to understand DOE policy, to coordinate and integrate complicated technology development efforts, and to be sensitive and responsive to stakeholder issues are necessary for effective program organization.

4. A Comprehensive DOE-EM Technology Needs Assessment is Required for Effective Technology Development.

* A thorough demand-driven mixed waste technology needs assessment is required to address technology development needs among all EM program offices.

* Focus Areas' technology development work should arise from DOE's identified needs.

* Technology development should be planned and advanced with transfer and commercialization (where appropriate) as critical goals leading to actual deployment and cleanup.

5. Standardized, Credible, Accessible Information Would Aid Technology Development, Stakeholder Education, and Technology Deployment Efforts.

* Standardized information is critical to the utilization of existing and new technologies and timely regulatory and stakeholder approval.

6. Timely Technology Deployment is Dependent on Streamlining of the Regulatory Process.

* To speed the technology permitting process, multi-state cooperation among the regulatory agencies is needed.

7. Creative and Expanded Solicitation/Procurement Methods are Needed.

* Creative and expanded solicitation methods would boost private sector technology demonstrations and encourage new technology developers.

* Before new forms of procurement are recommended, an effort should be made to apply the existing range of procurement mechanisms in a creative manner.

8. Workforce Training and Education Efforts Should Be Enhanced.

   * Education and training opportunities for workers are necessary for safe management of mixed waste cleanup and stakeholder approval.

9. Utilization of Innovative Technologies Can Save Millions of Dollars.

   * Based on the findings of the EPA SITE program, significant cost savings can occur when innovative treatment technologies versus standard treatments are used.

DEPARTMENT OF ENERGY FUNDED DEMONSTRATION PROJECTS

- **Idaho National Engineering Laboratory:** Radiological and Hazardous Materials Measurement System (stakeholder involvement and regulatory acceptance); Rapid Transuranic Monitoring Laboratory (commercialization); Dig Face Characterization (regulatory acceptance); and Plasma Hearth Process (regulatory acceptance and stakeholder involvement via the development of a RCRA Research, Development and Demonstration [RD&D] Permit for thermal treatment of mixed waste);

- **Sandia National Laboratory-Albuquerque**: Advanced Landfill Cover Demonstration Project (regulatory acceptance, stakeholder involvement, and commercialization);

- **Rocky Flats Environmental Technology Site**: Low-temperature Thermal Desorption (regulatory acceptance via a cooperative multi-state permitting effort);

- **Request for Proposal Subgroup**: Develop and test a technology solicitation process that includes criteria recommended by public stakeholders, small technology developers, and state regulators.

2.2 The Waste Contaminants at Military Bases Working Group

1. Environmental Contamination Problems and Technology Needs

   *Numerous new technologies are emerging to address the special site and contaminant conditions at military facilities. One of the goals of the DOIT project is to demonstrate that additional input by non-federal stakeholders can improve priority setting and improve the focus of technology development.

2. Private Sector Participation and Commercialization

   *Technologists require better access to site contracts and expanded market development for successful demonstrations. New processes for more agile and flexible demonstration procurement and better financing for under-capitalized technology developers must be explored.

3. Technology Transfer Tools

   *More user friendly, real-time and electronic forms of technology communication will expedite and improve decision-making. The working group will test the use of CD-ROM and electronic clearinghouses.

4. Stakeholder Involvement

   *It is a primary DOIT assumption that support for innovative technology deployment can be enhanced through close coordination with site-based Restoration Advisory Boards. Technology deployment may also be accelerated and facilitated through expanded participation of regional stakeholders who benefit from the lessons of site demonstrations.

5.Regulatory Reform and Multi-State Cooperation

   *Multi-state cooperation in technology demonstrations and new forms of cooperative agreement have the potential for streamlining technology transfer. Phase I will test new forms of interstate cooperation, including coordination with the California Certification Program.

6. Technology Evaluation Protocols

*Standardization of methods for documenting technology cost and performance remains critical to timely and effective decision-making. Two Phase I demonstrations will test new protocols, including WGA's draft evaluation template.

7. Interagency Technology Development Coordination

*Accelerated efforts to coordinate multiple federal technology development programs will improve the match between DOD investments and DOIT technology needs. A white paper called *The Conceptual Model for Integrating Federal, State and Local Cleanup Technology Development in California* urges integration and clarification of overlapping and often confusing technology development efforts.

8. Technology Development Priorities

*Because technology development is most effective when "demand" driven, the working group recommended that the DOD should strengthen, consolidate and clarify future technology development through the creation of an integrated "demand" driven technology needs assessment. DoD DOIT representatives have noted that the 1995 Revised Department of Defense Environmental Technology Requirements Strategy (DETRS) provides guidance in the area of user, or "demand" driven technology development. DETRS is a user-generated requirements document which, among other things, outlines the goals, requirements and priorities of end users for the purpose of addressing the priority needs of the user community and leveraging, where possible, the investments of other federal agencies, as well as the private sector. More specifically, the DETRS will: 1) provide an integrated view of DoD user needs; 2) serve as a vehicle for coordinating DoD technology development needs with other federal agencies; and 3) identify to the private and non-government organization sectors the priority environmental technology requirements of DoD.

9. DOD and Service Coordination

*Closer and sustained coordination with key organizations within the DOD system will improve demonstration performance, including a stronger interface between site support

teams and DOD site personnel and stronger "process improvement" performance incentives for DOD personnel. New levels of cooperation with the Naval South West Division Command provides a model for cooperation.

10. Tribal Concerns

*Tribal representatives have emphasized the need for closer coordination with state and federal representatives; recognition of tribal regulatory agencies and their respective roles in regulatory consultations; and the need of some tribes for assistance in developing technical capacity in order to broaden their role in technology assessment activities.

DEPARTMENT OF DEFENSE FUNDED DEMONSTRATION PROJECTS

- **Hill Air Force Base:** Bioventing - a relatively proven technology - will provide a context to test and validate interstate technology protocols.

- **McClellan Air Force Base:** A series of off-gas treatment technologies for Soil Vapor Extraction will be tested through the participation of a multi-state team which will refine testing protocols and distribute results to potential user sites.

- **Pt. Hueneme:** Aggressive testing of improved forms of stakeholder participation in site-based technology selection and site reuse will occur in parallel with a field demonstration of the cone penetrometer under the National Test Site - Site Characterization and Analysis Penetrometer System, including a multi-state performance review which builds upon California's technology certification program.

2.3 The Abandoned Mine Waste Working Group

1. Inventory Efforts

   *Barrier: lack of comparable and reliable information on the hazards and contaminants at abandoned mine sites. Without this information and funding for cleanup, the potential market for new technologies remains uncertain. In addition, not all potential users of the information have been consulted in the past regarding their information needs on abandoned mine properties.

2. Stakeholder Participation

   *Barrier: limited models, and experience applying those models, for involving all stakeholders in the decision-making process of technology demonstrations and abandoned mine waste cleanup efforts.

3. Technology Transfer and Commercialization

   *Barrier: lack of independent, standardized format for reporting results of mine waste technology demonstrations. Technology development efforts for mine waste appear uncoordinated among various federal agencies. In addition, communication among technology developers and users, regulators, and other stakeholders appears to be weak or non-existent, and may thereby inhibit getting new technologies accepted and widely used in the field.

4. Regulatory and Institutional Enhancements

   *Barrier: confusing and overlapping regulations for cleanup. There are a number of regulatory and institutional barriers that hamper the deployment of innovative technologies and the cleanup of mine sites including: concerns about liability, inflexible cleanup/water quality standards, and redundant and time consuming regulatory review.

DEPARTMENT OF THE INTERIOR FUNDED RESEARCH AND DEMONSTRATION PROJECTS

The Mine Waste Working Group did not propose any demonstration projects in January 1994. However, during 1994 the group developed a package of ten research, case study, and demonstration projects to address the issues identified in the January 1994 report. The Department of the Interior has agreed to fund three of the ten projects.

- **Inventory Principles Group:** The development of guiding principles for new abandoned mine inventory efforts to ensure that these inventories generate results that meet the users needs, including remediation technology developers.

- **McCoy Cove Mine, Nevada:** The evaluation of the effectiveness in facilitating multi-state approval of a technology through a cooperative effort to review and evaluate the demonstration of two biocyanide reclamation technologies.

- **Triumph Mine Site:** The evaluation of a Memorandum of Agreement between EPA and the State of Idaho where the mine site, proposed to be on the Superfund National Priorities List, will be remediated under state authority rather than EPA.

2.4 The Military Munitions Working Group

1. Regulations

   *There is a lack of clear and consistent policy guidance and regulatory requirements in the area of ordnance management and waste/ residue cleanup.

2. Risk Management

   *Explosive potential and chemical risk management techniques should be integrated to provide a decision tool for ordnance contaminated site cleanups. Improved long range risk protection systems are also needed to supplement the present deed restriction methods used.

3. Risk Communication

*Better risk communication approaches and materials to explain the differences between explosive risk and residue risks at site cleanups must be developed.

4. Technology Gaps

*Significant gaps exist in available technology to detect and identify unexploded ordnance.

5. Stakeholder Involvement

*Poor stakeholder involvement is a key barrier to innovative technology development and other cleanup decisions.

6. Collaboration Needed

*Better collaborative approaches are needed (which include state and federal agencies, international users, and other key stakeholders) in the technology development and demonstration phase in order to improve on the current "pick and shovel" techniques used.

7. Trained Workforce

*The limited trained workforce creates a need for more extensive training in munitions detection, identification and remediation.

DEPARTMENT OF DEFENSE FUNDED DEMONSTRATION PROJECTS

- **Jefferson Proving Ground/Yuma Proving Ground:** An array of national and international technical experts and local community members will be involved in developing and testing better technology transfer mechanisms to: 1) demonstrate advanced technology systems leading to regulatory and interagency acceptance of technologies to locate and identify surface ordnance and explosive waste , and 2) standardize the description of cost and performance of the tested technologies in the field.

- **Black Hills Army Depot:** Stakeholder involvement will be evaluated at this formerly used defense site which is slated for characterization and restoration.

2.5 The Interstate Technology and Regulatory Cooperation Working Group

A group of state regulators, lead by Jim Allen of Cal EPA and Nancy Worst of the Texas Natural Resources and Conservation Commission, are developing a framework for interstate cooperation for regulation of remediation technologies. The effort involves eastern and southern states as well as western states. Providing technical and administrative support are: Western Governors' Association, DOE, Coleman Research Corporation, Colorado Center for Environmental Management, DoD, EPA and the Association of State and Territorial Solid Waste Management Officials. The framework will initially be focused on four technology classes and will be tested during 1995 at the selected demonstration projects listed above.

The ITRC is exploring mechanisms which decrease the amount of time it takes for new technologies to become widely accepted. Mechanisms under development include:

1. Standardized cost and performance data requirements;

2. Protocols for testing and evaluating technologies (including the use of common data sets on the performance of the technologies across ranges of variables and operating conditions and how these data should be collected); and

3. Standard technical requirements (to the extent feasible) for regulatory approval and monitoring of technologies.

The ITRC will focus initially on the following technology classes: 1) In situ bioremediation (including bioventing); 2) real-time field characterization (including cone penetrometer); 3) low temperature thermal desorption; and 4) plasma technologies. Technology classes identified for potential future work include ex situ bioremediation, soil gas treatment (from soil vapor

extraction), contaminant automated analysis, electrokinetic removal of metals, and containment systems.

Related State Efforts

Western states have been working, collectively and individually, outside of specific DOIT working groups and planned site demonstrations to streamline the process for permitting of innovative technologies. Representatives of western states helped draft an interstate technology reporting format to help sister states consider technologies for use that had been demonstrated in another state. Individual state actions include:

•California implemented a hazardous waste technology certification program last year which will serve as the basis for a test of regional certification this year. In 1995 California is implementing a pilot program for pre-certification of air pollution control technologies.

•Nevada is implementing a unified permit approach to streamline technology permitting.

•Texas has developed an innovative technology ombudsman to be a resource on and advocate for innovative technologies.

•Utah recently adopted a new rule using risk criteria for RCRA, UST, and CERCLA cleanups.

3.0 OTHER FY 1995 DOIT COMMITTEE SPONSORED ACTIVITIES

3.1 Stakeholder Roundtable

On September 28-30, 1994 the DOIT Committee convened a Stakeholder Roundtable at the recommendation of the Working Group members. The purpose of the roundtable was to gather advice on changes needed to the Committee's efforts, based upon the first year's experience, and to ensure that the initiative's final recommendations in 1996 were supported by all the key

players. The Roundtable was attended by eighty people from a diverse cross section of interests. In summary, the attendees findings were that the DOIT initiative should:

- Improve diversity and balance of participation in the initiative;
- Clarify purpose, structure, and process;
- Seek funding and improve access for wider range of stakeholders to participate;
- Link initiative more directly to state and federal decision making processes;
- Develop a communications and outreach plan; and
- Develop a strategy to address education and training issues.

Changes based upon the Roundtable have been integrated into approved revisions to the DOIT Management Plan.

3.2 Tribal and Public Forum on Technology Acceptance

One of the primary issues being addressed by DOIT is that of how to achieve public acceptance of innovative technologies, both on a local and regional basis. On May 4-5, 1995, in Reno, Nevada, DOIT sponsored a forum to discuss and develop guidance for working with communities on technology assessment issues. The objectives of the forum were to clearly define the role of community in determining technology acceptance and to develop a formal guidance for federal and state agencies to use in working with tribes and communities on technology assessment issues.

Forum participants stated that:

- The decision-making process for technology development is unclear, with little perceived tribal and community impact on final decisions;

- The term "acceptance" is a personal and site specific concept that cannot be extrapolated to a regional level;

- When characterizing cooperative efforts on technology development within a community, the concept of "tribal and public cooperation in technology assessment" is more reachable than the idea of "acceptance" or "buy-in";

- "Meaningful involvement" is determined site-by-site and must include active participation in the decision-making process; and

- National Environmental Policy Act (NEPA) public involvement requirements come too late in the decision making process to provide for any kind of meaningful participation in decision making or alternatives development. Federal agencies should make a concerted effort to design tribal and public involvement programs that go above and beyond regulatory requirements for such activities.

The sixty-five participants in the Forum included representatives from tribal government, local government, environmental and public interest groups, business, industry, academia and the general public. Conclusions and recommendations included:

- definitions of "community";

- clarification of "meaningful public involvement";

- recommendations for involving local communities in technology assessment activities;

- discussion of issues related to technology assessment, including: political, economic infrastructure, cultural, social, regulatory, environmental, health and safety, performance criteria, and political; and

- a summary of tribal issues related to technology assessment.

The results of the Forum are included in *A Guide To Tribal and Community Involvement in Technology Assessment*, available from Western Governors' Association and included in this report as Appendix D. The Forum also produced suggested language that was subsequently included in the amended Western States Waste Management Protocol, as well as additional language that became a part of the Interstate Technology and Regulatory Cooperation (ITRC) codicil adopted by resolution by the western governors' in June 1995.[3]

3.3 Munitions Workshop

On May 22, 1995 the Military Munitions Working Group co-sponsored a technical conference to assist participants in identifying the most promising technologies available to remediate soil and water contaminated by ordnance and explosive waste and residues. The conference, which was held at Kansas State University, was attended by over 60 academic, state, federal, and site cleanup representatives. A video tape of the conference will be made into a training and education tool for use by stakeholders, state agencies and others addressing these types of cleanups.

4.0 LOOKING AHEAD TO FY 1996

During the remaining months of the DOIT initiative, much remains to be done. The site teams will complete, to the extent possible, the implementation of the technology demonstrations and conduct their evaluations. Their findings will be submitted to the appropriate working groups for inclusion in their final reports to the Coordinating Group. The working group reports will include any proposed protocols, guidance or models from each subgroup working on cross-cutting or broader issues, such as the Mixed Waste model solicitation, the Mine Waste inventory principles, or the Interstate Cooperation electronic communications.

The Coordinating Group will integrate the reports of all the working groups into a draft final DOIT report for consideration by the DOIT Federal Advisory Committee at their meeting in

[3]See Appendix E

June 1996. The report's conclusions, if accepted by the governors and agency heads making up the committee, can then be recommended to the appropriate federal agencies for implementation.

4.1 Anticipated Outcomes and Products of the DOIT Initiative

Some of the major recommendations expected from the DOIT initiative are:

- Institutionalizing a comprehensive technology needs assessment process, coupled with full interagency and interoffice technology development coordination, to vastly improve the match between technology investment dollars and cleanup technology needs.

- Adoption of institutional incentives to encourage the use of alternative or innovative technologies to promote the development and commercialization of cleanup technologies.

- Refinement of institutional mechanisms to provide meaningful stakeholder involvement in all phases of technology development, eliminating a critical barrier to cleanup technology deployment.

4.2 FY 1996 Key Milestones

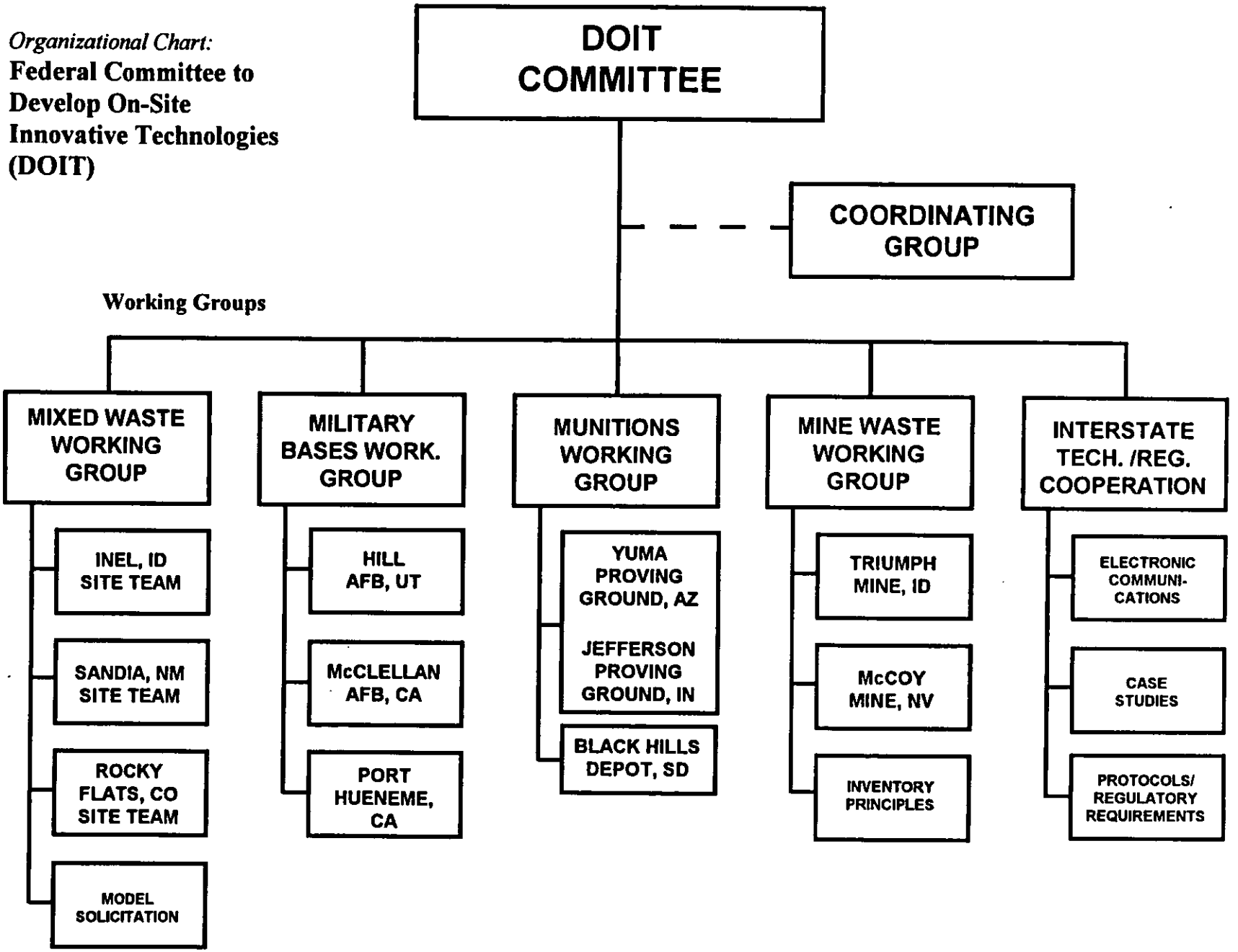
Site demonstrations	July 95 - May 96
Demonstration project draft reports completed	March 1996
Final working group combined meeting	April 1996
Final report drafted for DOIT Committee	May 1996
Final DOIT Committee meeting	June 1996

APPENDICES

APPENDIX A

Organizational Chart:

Federal Committee to Develop On-Site Innovative Technologies (DOIT)



Site Teams and Project Sub-groups
As of August, 1995

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APPENDIX B

GUIDE TO DOIT SITE TEAMS, PROJECTS AND DEMONSTRATIONS

Federal Committee to Develop On-Site Innovative Technologies (DOIT)

INTERSTATE TECH. /REG. COOPERATION WORKING GROUP

- ELECTRONIC COMMUNICATIONS
- CASE STUDIES
  - In-Situ Bioremediation
- PROTOCOLS/ REGULATORY REQUIREMENTS
  - Low-Temperature Thermal Desorption
  - In-Situ Bioremediation
  - Plasma Technology
  - Site Characterization/Cone Penetrometer

MIXED WASTE WORKING GROUP

- MODEL SOLICITATION
- SANDIA, NM SITE TEAM
  - Landfill Cover
- ROCKY FLATS, CO SITE TEAM
  - Low-Temperature Thermal Desorption
  - Microwave Solidification
- INEL, ID SITE TEAM
  - Radiological and Hazardous Materials Measurement Sys.
  - Plasma Hearth Process
  - Rapid Transuranic Monitoring Laboratory
  - Dig Face Characterization

MILITARY BASES WORK. GROUP

- HILL AFB, UT
  - Bioventing
- McCLELLAN AFB, CA
  - Off-Gas Treatment
- PORT HUENEME, CA
  - Cone Penetrometer

MINE WASTE WORKING GROUP

- TRIUMPH MINE, ID
  - MOU Case Study
- McCOY MINE, NV
  - Biocyanide Technology
- INVENTORY PRINCIPLES

MUNITIONS WORKING GROUP

- YUMA PROVING GROUND, AZ
- JEFFERSON PROVING GROUND, IN
  - Regulatory Acceptance
- BLACK HILLS DEPOT, SD
  - Stakeholder Involvement

REV. 8/31/95

STATUS OF DOIT DEMONSTRATION PROJECTS
AS OF JULY 1995

DOIT Demonstration or Project	Complete	Funded & Underway	Pending	Canceled	Other
INTERSTATE TECHNOLOGY AND REGULATORY COOPERATION WORKING GROUP					
Electronic Communications, Case Studies, Protocols and Regulatory Requirements		X			4
MIXED WASTE WORKING GROUP					
Model Solicitation of Non-Thermal Technologies		X			4
Idaho National Engineering Laboratory, Idaho Falls, ID					
Radiological and Hazardous Materials Measurement System		X			
Rapid Transuranic Monitoring Laboratory	X				
Dig Face Characterization		X			5
Plasma Hearth Process		X			
Rocky Flats Plant, Denver, CO					
Thermal Desorption	X				
Microwave Solidification				X	
Sandia/Kirtland Air Force Base, Albuquerque, NM					
Advanced Landfill Cover		X			

DOIT Demonstration or Project	Complete	Funded & Underway	Pending	Canceled	Other
Los Alamos National Laboratory, Los Alamos, NM					
Two-Stage Advanced Oxidation Unit				X	
Undetermined Site (Washington or Texas)					
Minimum Additive Waste Stabilization				X	
MILITARY BASES WORKING GROUP					
McClellan Air Force Base, Sacramento, CA					
Dual Vacuum Extraction/Steam Injection			X		
Soil Vapor Extraction with Innovative Off-gas Treatment			X		
Bioventing System			X		
Williams Air Force Base, Mesa, AZ					
Evaluation of horizontal extraction wells in containing/ remediating petroleum-contaminated ground water				X	
Hill Air Force Base, Layton, UT (plus other bases in West)					
Demonstration of Air Force Center for Environmental Excellence Bioventing Initiative			X		
Air Force Center for Environmental Excellence					
Investigation of Intrinsic Bioventing Initiative					1
Port Hueneme Naval Construction Battalion Center, CA					
Demonstration of jet fuel and solvents characterization and remediation technologies		X			

DOIT Demonstration or Project	Complete	Funded & Underway	Pending	Canceled	Other
MILITARY MUNITIONS WASTE WORKING GROUP					
Black Hills Ordnance Depot, SD					
Demonstration of public involvement in remedy selection for subsurface unexploded ordnance at a formerly used Defense Site		X			
Jefferson Proving Ground, IN					
Demonstration of technologies for the remediation of unexploded ordnance in the subsurface					2
Fort Ord, CA					
Demonstration of public participation and risk management strategies associated with the reuse of base closure lands containing ordnance and explosive wastes				X	
Yuma Proving Ground, AZ					
Demonstration of technologies for the remediation of unexploded ordnance lying on the surface			X		
Kaho'olawe Island UXO Cleanup					3
ABANDONED MINE WASTE WORKING GROUP					
Triumph Mine Site, ID					
Evaluation of stakeholder-led cleanup			X		4
McCoy Cove Mine, NV					
Evaluation of multi-state approval using two biocyanide reclamation technologies		X			4

DOIT Demonstration or Project	Complete	Funded & Underway	Pending	Canceled	Other
Mine Waste Inventory Principles Subgroup			X		4

"OTHER" NOTES:
1. Combined with Hill AFB demonstration
2. Combined with Yuma Proving Grounds demonstration
3. Recommended by working group, but not approved by federal agency
4. Approved by the DOIT Coordinating Group after Jan. 31, 1994, DOIT Committee meeting
5. Demonstration moved from INEL to Brookhaven, NY

APPENDIX C

FY 1995 COORDINATING GROUP MEMBERSHIP

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APPENDIX D

A Guide to Tribal and Community Involvement in Innovative Technology Assessment

Developed by the DOIT Tribal and Public Forum on Regional Technology Acceptance Reno, Nevada, May 4-5, 1995

Prepared by:
The Colorado Center for
Environmental Management
Denver, CO

in cooperation with:
Coleman Research Corporation
Washington, D.C.

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The Federal Advisory Committee to Develop On-Site Innovative Technologies (DOIT), through its Interstate Technology and Regulatory Cooperation Subgroup, is developing a draft framework for interstate cooperation in exploring mechanisms to streamline the regulatory process for deploying technologies.

In order to recognize and integrate the interests of tribal governments and communities into this and other technology assessment efforts, the Western Governors' Association (WGA), in conjunction with the U.S. Department of Energy (DOE), organized a Forum to discuss and develop guidance for working with communities on technology assessment issues. Hundreds of representatives from tribes, universities, advisory boards, local governments, and various public interest organizations were invited to participate in this Forum.

The group's objectives, as stated at the Forum, were to clearly define the role of the community in determining technology acceptance and to develop a formal guidance for federal and state agencies in working with tribes and communities on technology acceptance issues. The two-day agenda was carefully designed to produce a clear product – a draft technology assessment and deployment guidance for federal and state agencies working with tribal governments and the public.

The Forum participants were asked to separate into two groups for the purposes of creating smaller discussion groups, establishing a sense of community, and fostering interactive dialogue. Although the tasks assigned were identical, each community chose distinct paths and produced unique results. Community A summarized their discussion as steps, defining the technology development and assessment process. Community B chose to establish a list of issues which should be addressed throughout the process.

While tribal governments have issues common with communities, it was recognized at the Forum that tribal issues need to be addressed independently (see Attachment C). Furthermore, like the concerns of communities, tribal concerns vary dramatically site by site, tribe by tribe, etc., and therefore need to be identified on a case-by-case basis.

Results from the two community groups and follow-up discussions with tribal representatives at the Forum were compiled and combined to form the following draft guidance.

One of the issues raised at the Forum was the need for clear definition of terms in order to ensure accurate and complete communication. This applies to both technical and non-technical terms. Many commonly used terms and phrases hold different meanings depending on the individual or group using them. Lack of familiarity with and misunderstanding of terms may create significant language barriers, particularly between technology developers and other stakeholders. The following sections define key issues and terms used throughout this guidance.

Within the context of this discussion, the terms tribes and communities are used in place of the commonly used term "stakeholder."

What is the problem?

The decision-making process for technology development is seen to be unclear, with little perceived tribal and community impact on final decisions. What tribal and community involvement does occur is often late in the process, after many key decisions have already been made. For example, Forum participants felt that the National Environmental Policy Act (NEPA) is not adequate: is not early enough; engages the public too late in the process to be meaningful; is not enforceable; and is useful only as a public participation checklist. The process of involving tribal governments and communities in technology assessment needs explicit and broad definition and clarification.

What is acceptance?

The term "acceptance" was defined as a personal concept that should not be co-opted for broad or regional use. Participants agreed to use the concept of tribal and public cooperation in technology assessment, when characterizing the response from a community. Forum attendees emphasized that the consensus reached during single meetings should not be construed as acceptance by an entire community.

There are many factors which should be considered in addressing the issue of acceptance. These factors include, but are not limited to:

- credible and independent peer review of technology and problem assessments

- an educated public, involving educators/school systems in information dissemination
- information about location of technology and waste
- economics - cost analysis, including environmental and social costs
- secondary waste
- identification of risks/hazards, including those associated with "worst case scenario" or failure of "fail-safe" mechanisms
- health risks - falling within parameters established as acceptable by tribes or the community

When all information is open and accurate there are still additional considerations that must be recognized to approach acceptance. For example:

- differences in thought processes and objectives among interested parties
- perceived risk and actual risks may be different
- each value system should be addressed
- cultural relationships - values, spiritual
- differentiation between tribal governments and the general public
- variety of decision-making mechanisms
- defining the role of all stakeholder groups (i.e., regulators, tribes, public interest groups, general public, etc.) in the decision-making process

What is meaningful community involvement in decision-making processes?

The term "involvement" has been used to characterize a wide variety of levels of participation in decision-making. For example, public involvement may be used to describe education and awareness campaigns relying on one-way communication. This, many argue, is not adequate involvement in decision-making. Often, what is referred to as public involvement in decision-making is little more than an agency "deciding, announcing and defending." As a result, clarification is needed to define "meaningful" involvement.

A tribal and community involvement process acceptable at one site may be inadequate at another, and vice versa. The necessary level of participation needs to be defined on a site by site basis by the tribal governments and communities involved. Additionally, state and federal agencies and site operators need to recognize the varying levels of involvement; what makes each different; which is most appropriate according to the tribes and communities involved; and what the appropriate roles are within that process. Forum attendees agreed that there is significant difference between a process seeking to obtain consent and one seeking an informed choice, and the roles of the tribes and communities vary dramatically within these processes.

The following comments from Forum participants provide insight into what elements may be considered necessary for "meaningful" involvement in environmental or technology development decision-making.

- Require public notification on receipt of permit application (a change in law may be needed).

- Bring regulators, tribal governments, and communities together when technology needs are being developed and selection criteria is being defined (should not build a communication partnership between federal and state entities without full partnership of communities and tribes and other government entities).

- Document, in a timely manner, attempts to gain acceptance, whether acceptance has been gained or not. Acceptance could be defined as approval of a permit or agreement of owner/operator to address tribal or community concern. Document what input was received, from whom, frequency of feedback, when was technology selected for funding, number of public meetings held, number of fact sheets and/or press releases issued etc.

- Form an alliance of affected parties to: define problem, consider impacts, develop solutions, and ensure adequate public notice to elicit others' involvement who may not have been included to date.

- Establish a specific time frame for involvement.

- Provide feedback as to why issues can or cannot be addressed.

- Clearly define dispute resolution process to help both sides of the dispute resolve the issue in a timely manner. Progress could be stalled if there is a stalemate. A process is needed to settle the dispute and move forward.

- Establish a joint planning process among the agencies, tribes, and the community for investigating and solving the problem (e.g., selection and assessment of technology). Agencies must not feel thay may make decisions for the tribes and communities affected. The process may be slow, but with mutual cooperation commitments can be made at a lower cost

- Recognize industry as a stakeholder and involve representatives up front along with other community members.

- Consider economic recovery issues. Business must take initiative to learn about community involvement process. For example, in communities where military bases are closing or have closed, new businesses are needed. But businesses shouldn't expect everyone in the community to welcome them. Jobs and economic recovery are important, but so are other issues.

- Develop a plan for information sharing which should include information on how and why the technology developer got to the present point and what were the selection criteria.

The following statements were developed at the Forum for attachment to the Western States' Regional Waste Management Protocol. They represent general principles upon which the suggested guidance is based.

- The federal government, along with federal and state agencies, is currently directly involved with the primary decision-making process for the design, permitting, testing selection, evaluation, and implementation of environmental technologies.

- All stakeholders have not been equal participants in the above mentioned decision-making process.

- Tribal governments have historically been excluded from involvement with the above mentioned decision-making process.

- Tribal governments operate as individual sovereign entities on par with the federal government.

- Tribal governmental and community cooperation is integral to the successful implementation of innovative technologies.

- Tribal governments should be included on a government-to-government basis in the decision-making process for the design, permitting, testing, selection, evaluation, and implementation of environmental technologies, including but not limited to, decisions related to the storage and transportation of radioactive and hazardous materials and waste (including UXO/OEW) on or through Indian Country.

- Broad tribal government and community involvement is needed in the decision-making related to design, permitting, testing, selection, evaluation, and implementation of environmental technologies.

The observations presented in this section are the opinions of individuals or groups (as stated). They are not intended to represent the Forum participants as a whole. They may not even have been discussed at the Forum. However, they are valuable to the extent that they provide additional insights or perspectives of the tribal governments or communities. Specific comments from attendees include:

- The tribal representatives said that they felt that their concerns were being address on the level of the general public rather than on par with the federal government as is appropriate for sovereign entities.
- Individuals representing public interests said that they felt that community assessment of technology or any other issue could not be characterized on a regional level and trying to do so compromised the validity of the process.
- The term "regional technology acceptance" was regarded by Forum participants as a series of non sequiturs and a goal that may not be attainable.
- The title of the Forum suggested that "tribal and public ... technology acceptance" was a target outcome, which raised questions about the credibility of the process. Ultimately, acceptance cannot be forced. It requires an interactive process on an individual level which, by nature, may not be feasible in large group settings.

The suggestion was made to refer to activities related to the Forum as "tribal and community cooperation and technology assessment" efforts. Similarly the title of this document was chosen to be "A Guide to Tribal and Community Involvement in Innovative Technology Assessment" (for States and Federal Agencies) based on input following the Forum.

ATTACHMENT A
Results From Community A: Applying The Principles

ATTACHMENT B
Results From Community B: Overview Of The Issues

ATTACHMENT C
Tribal Issues

ATTACHMENT A

RESULTS FROM COMMUNITY A: APPLYING THE PRINCIPLES

The following process was outlined by Community A at the Forum to guide state and federal agencies, technology developers, site operators, and others toward the goals outlined in the above Principles section.

Define Community

The definition of community should be dynamic, allowing for change on a site-specific basis and as individual processes evolve. The process to define community should take place in two steps:

a) Agency would brainstorm with known affected parties to identify initial technology assessment committee members; committee should include, but not be limited to, all tribal and other forms of government (i.e., federal, state, county, and city), environmental interests, public interest groups, business interests, etc.

b) Technology assessment committee will research and further identify additional affected community groups at not only local levels but also regional and national levels if applicable. The committee will also define the level of impact associated with identified entities (i.e., they are affected because they are a taxpayer or because they are geographically, economically, or culturally related).

Define meaningful community involvement in the decision-making process

An adequate community involvement process at one site may be overkill and wasteful at another, and vice versa. The necessary level of participation needs to be defined on a site by site basis by the tribes and publics involved. The following guideline should be used to establish meaningful communication with tribes and communities.

- Two-way communication should take place between governmental agencies and committee members (i.e., not just information dissemination).
- Exchange of information (and information sharing) should be on an equal and timely basis for all stakeholders (before irrevocable decisions are made). No one interest should be favored over another. Parties should share all relevant, non-proprietary information, not just selected portions.
- Agencies need to provide the opportunity for community members to interpret information that is shared (e.g., funding availability for technical assistance grants).

- Ensure that opinions and concerns expressed will be considered in the decision-making process and timely and specific response will be provided.
- Committee would work in partnership with agency to: (a) identify general problem; (b) identify additional impacted community members; (c) focus in on definite problem; (d) consider impacts; and (e) develop solutions.
- Committee will periodically evaluate progress of their involvement in above outlined activities to ensure that full community involvement is met or has occurred.

Define process of how the community becomes involved

Tribes and communities should be involved in the following activities:

- develop a tribal and community involvement process;
- define support needed for tribes and the community to maintain involvement; and
- define a tribal and community education process.

Define dispute resolution process for disagreements among affected parties

- Develop an actual document that is signed by the technology assessment committee members that addresses how disputes among members will be resolved.
- (Agencies) need to provide funding for an independent mediator (if feasible).
- Assure dispute resolution process adheres to a reasonable time frame. Involve tribes and the community in defining reasonable.

Conduct analysis of current laws and rules

This process must analyze all existing and relevant regulations, guidance, policies, and laws to ensure that existing tribal and public involvement processes meet requirements. It is recognized that such analysis may be costly.

Develop guidelines for implementation

- Technology assessment committee will develop an implementation plan that will address site-specific requirements.
- Comment from interests outside the committee will be solicited and responded to prior to implementation of the plan.

ATTACHMENT B

RESULTS FROM COMMUNITY B: OVERVIEW OF THE ISSUES

The following issues were identified as those which should be addressed throughout the technology development and assessment process. These issues should be considered and discussed thoroughly, understood and followed though on. A general classification and brief description is followed by a more detailed list of specific examples. The classifications were developed by Community B for the purposes of organization and management. Many issues are cross-cutting or related to other classifications. The lists are not meant to be exhaustive, particularly in terms of site-specific issues.

Economic Infrastructure Issues

Generally, those issues which positively or negatively impact economic development, re-development, or "spin-off" industries, and physical or bureaucratic systems.

- cost as a percentage of total available funds for the site
- transportation issues, including: the amount of materials brought to and removed from site (vehicle trips) and infrastructure issues such as the ability of the tribes and communities to deal with the transportation issues associated with the technology or waste streams (including emergency response)
- short-term vs. long-term technology: is this something we can do now or do we have to wait - future development needs
- cross-jurisdictional impacts: for such things as transport issues that will cross jurisdictions there are additional issues
- need for clearly defined milestones (for time and effort purposes) and funding necessary to reach them
- secondary economic impacts: including sub-services, multiplier effects, employment levels, how will this impact jobs
- sustainable economic benefits: post-cleanup utilization of technology as well as potential attraction of secondary industry (and related imported waste issue)
- infrastructure impacts: including short- and long-term effects on transportation, water, energy, structural and educational infrastructure
- local (including tribal) technical capacity for involvement: involvement in the whole process including monitoring, construction and education
- ability to privatize facility: investment incentives for pre-remediation privatization, as well as post-remediation operations

Cultural Issues

Identifying those unique relationships between and among peoples and their environment. A cross-cutting classification, under which a variety of other issues may fall.

- cultural protocol: need to respect the tribal and community culture, including the local hierarchy and associated protocols
- difference between community and culture: recognize that no guidelines will apply broadly to all tribes and communities due to cultural variations
- impacts on spiritual/cultural ties: emphasize potential spiritual importance of sites
- impacts on spiritual/cultural ties: explore non-intrusive cleanup techniques for spiritually or culturally significant sites

Social Issues

Identified as those issues which affect different socio-economic strata of tribes and communities at different levels.

- environmental justice
- improve communication among stakeholder groups (regulatory, tribes, citizens, interest groups, etc.)
- difference between community and culture: recognize that no guidelines will apply to all tribes and communities due to cultural variations
- effects on future generations (all issues on this list may fall within this definition)
- not in my backyard: tribal, public and governmental perspectives
- lack of information regarding equity issues: issues such as who is producing the waste, who is processing it, and the benefits/costs to tribes and communities throughout the process

Regulatory Issues

Public participation and regulatory compliance should be viewed as one issue.

- use tribal and public participation as an opportunity for partnering with regulators
- increase tribal and public input into permitting decisions
- view tribal and public participation as part of regulatory reform
- assist regulators in making perceptual shift to increase tribal and public input into permitting decisions

Environmental Issues

Those impacts which affect environmental media; additional classifications of issues will be impacted.

- noise/vibration produced
- secondary wastes: what kind of waste products are produced by the technology independent of the waste to be processed
- off-gas/emissions
- air pollution: includes more than just off-gassing
- water pollution: including surface and ground waters
- is there a problem which needs to be addressed: defining "problem" carefully in technical, environmental and cultural terms
- what happens with no action: what are the possible benefits or liabilities of not acting to cleanup
- hours of operation
- identify worst case scenario: give concrete information about failure scenarios (including failure of "fail-safe" mechanisms)

Health Issues

Includes those impacts on human health which may also affect other classifications.

- current health effects: information about the health effects of the cleanup site as well as the potential health risks of the proposed technology

Performance Criteria Issues

Technical and performance criteria specifically for technologies.

- ability of the technology implementor to meet timelines
- intrinsic safety vs. engineered safety: how much of the safety of the technology depends on engineering
- problem history: history of technological difficulties and/or problems with the technology developer, etc.
- accountability of responsible parties
- waste minimization or prevention: is the technology geared strictly toward cleanup or can it be applied to reducing or preventing waste production at the source
- absolute candor: all parties involved need to feel that they can give and receive complete honesty
- willingness to make changes
- does technology make waste less dangerous?

- does the technology actually do anything worthwhile?
- ensure the technology contains its own wastes as well as possible (closed loop)
- clarification/definition of language: make sure that everyone is talking about the same thing
- clearly define milestones (for time and effort purposes) and funding necessary to reach them
- develop technology assessment based on technology impacts and costs/benefits

Political Issues

Those issues addressed or raised through political or geo-political bodies.

- how clean is clean: future land use may be a factor in the definition (must be determined by the community)
- centralized vs. decentralized technologies: applicability of technology for mobile use
- problem history: history of difficulties and problems with associated groups (e.g., historic distrust of federal agencies, historical compliance problems with some industries, etc.)
- jurisdiction specific to Indian Country: federal facilities on or adjacent to either reservations or tribal lands
- do not find lowest common denominator in regulations
- state and federal recognition of tribal sovereignty
- meaningful involvement in decision-making versus agencies "deciding, announcing, and defending"
- local decision-making on land use issues
- legal obligations met: federal facility agreements, state regulations, tribal regulations, etc.
- cross-jurisdictional or "downstream impacts" (on neighbor): those impacts off-site
- zoning and liability issues
- local government inclusion

ATTACHMENT C

TRIBAL ISSUES

At the Forum, tribal issues were raised both independently from the two communities and also integrated into their discussion. The general consensus was that the tribal concerns were most appropriately addressed independently from general public interests. This is due, in part, to the unique legal status of tribal governments and their resulting relationship with state and federal agencies and their role in environmental decision-making. However, the separation of tribal issues is not meant to suggest that the issues detailed in other sections of this document are not of concern to tribes. It is designed to highlight key issues, uniquely relevant to tribes.

This discussion of tribal concerns is not meant to be all inclusive.

- Address tribal governments individually, on a government-to-government basis.

- Communicate with and involve tribes pro-actively. Do not wait to be approached with opinions and input.

- Consider the entire technology development and implementation system, including source, transportation, treatment, storage, and disposal, in the process of determining the sphere of influence and the potentially affected tribes who should be involved in the decision-making process.

- Broaden the interpretation of "affected" tribal nations to take into consideration lands of historic and cultural significance.

APPENDIX E

Western Governors' Association
Resolution 95 - 022

June 26, 1995
Park City, Utah

SPONSORS: Governors Leavitt, Miller and Wilson
SUBJECT: Western States' Regional Waste Management Protocol

A. BACKGROUND

1. Managing the wastes our society produces is no longer merely a local management issue. The complexity of waste characteristics and costs of safely treating and disposing of wastes has made waste management a state and regional issue guided by federal regulations.

2. Few states have the capacity to treat and dispose of all types of wastes generated within their borders. Western states are interdependent on one another for the management of solid, biomedical, hazardous, and low level radioactive waste.

3. The federal government, primarily through the Department of Energy and the Department of Defense, has created significant waste sites in the West. In many western states, the magnitude of the problems at these sites dwarfs other waste management problems.

   Tribal lands have also been impacted by federal activities, including weapons testing, and tribal governments continue to be impacted by federal decisions related to the storage and transportation of radioactive/hazardous materials and waste (including unexploded ordnance and ordnance environmental waste) on or through Indian Country.

4. Waste sheds, like watersheds, do not follow the political boundaries on a map. Likewise the policies we adopt to manage waste in one state will impact waste management in another state. In addition, federal decisions on site cleanup can cause wastes to move between states in the West for treatment and disposal.

5. The West is leading the nation in working cooperatively on waste management concerns exemplified by its regional hazardous waste management dialogue and capacity assurance planning agreement, as well as on regional radioactive waste transportation planning. We must continue to work cooperatively with our local leaders, tribal leaders, business and environmental interests, citizens, and with each other to ensure that wastes are managed safely and economically.

6. Because of the region's geology, rainfall, and settlement patterns, the West has been asked to shoulder a large part of the national waste management responsibility. These same attributes have led private interests (and the federal government) to approach our communities to host waste management treatment and storage facilities for wastes generated in other regions.

7. The West's environment and natural resources have always been the lifeblood of the region. In addition, the West is perceived nationally and internationally as having pristine air and a clean and safe environment. It is in our best interests to work together to steward our environment and natural resources to ensure that people want to continue to move to or visit the West.

B. GOVERNORS' POLICY POSITION

1. The purposes of this protocol are to enhance the communication among western state governors and their agencies on waste management issues, to formalize the process of notification of affected neighboring states on waste facility siting decisions, and to establish regional principles on waste management.

2. We will encourage pollution prevention and the minimization of waste in private production processes and federal site cleanup. We will do everything economically and environmentally practical to ensure that wastes generated in our states are treated and disposed of in our own state before resorting to export.

3. We will notify and consult with each other over state decisions regarding waste management that may impact other western states. Issues which will trigger notification and opportunity for comment include:

   Facility siting: Proposed waste management facilities within sixty miles of another state's border and large regional facilities designed to draw wastes from other states and regions. Notification will be triggered by a state receiving a formal application for a facility;

   Cleanup waste: Planned waste shipments from federal or state cleanup or waste disposal actions which will leave the state of origin for treatment and/or disposal;

Fee changes: Modifications to a state's waste management fee system that have the potential to influence the movement of waste between states or into or out of the region (e.g. changes to state statutes and regulations which would cause an increase or decrease in fees or would redefine those wastes which are subject to state fees). Fees of interest include disposal, treatment, combustion, generator, permitting, siting and other related waste management fees;

Transportation Impacts: Planned waste shipments which would significantly increase transportation of waste through another state on its way toward treatment or disposal, to the extent that such information is discernable;

Regulatory and market changes. Actions that take place within the state hazardous waste management system which could cause a significant amount of waste to move across state lines. Such actions would include: closure of significant storage, treatment and disposal facilities; denial or revocation of permits for key storage, treatment and disposal facilities; and changes to state statutes and regulations which would redefine those wastes subject to state regulation.

4. We direct our regulatory agencies to consult with tribal governments on issues affecting tribal lands and ancillary rights related to the storage and transportation of hazardous and radioactive waste.

5. We will continue to work cooperatively to ensure that the West is treated fairly in national waste management policy decisions. This will include, but not be limited to, equitable treatment in the siting of waste disposal sites for wastes of national concern (e.g., low level, transuranic, and high level radioactive waste);

6. We will work cooperatively to speed the regulatory approval of promising innovative waste management and cleanup technologies. This includes cooperation in facilitating the permitting of new technologies, multi-state or regional technology certification, and the adoption of common technology reporting formats as set forth in the codicil to this agreement which is approved by reference.

7. This protocol is intended only to improve the regional management of specified wastes and is not intended to, and does not, create any right to administrative or judicial review, or any other right or benefit or trust

responsibility, substantive or procedural, enforceable by a party against the undersigned states, their agencies or instrumentalities, their officers or employees, or any other person.

8. This protocol supersedes the Western States Regional Waste Management Protocol signed by western governors in 1991.

C. GOVERNORS' MANAGEMENT DIRECTIVE

1. We will appoint a single point of contact within each state responsible for, and responsive to, notification of other states. The names of these contacts will be forwarded to the Western Governors' Association within sixty days of the signing of this protocol;

2. We will give copies of this protocol to our environmental agencies with instructions to incorporate the principles into their planning and siting processes;

3. We will sign executive orders or take administrative action within 120 days of the signing of this protocol making these principles a matter of state policy;

4. We will meet on an annual basis to review compliance with the aforementioned principles. The Western Governors' Association will produce for our review a Waste Management in the West profile that highlights regional waste problems, opportunities, and policy options.

5. The Western Governors' Association will circulate a formal copy of this protocol to every member governor for signature.

CODICIL # 1
TO WESTERN STATES'
REGIONAL WASTE MANAGEMENT PROTOCOL

INTERSTATE COOPERATION ON PERMITTING, TESTING, AND EVALUATING INNOVATIVE WASTE REMEDIATION TECHNOLOGIES

Whereas, the federal government has thousands of contaminated waste sites throughout the region as a legacy of a century of preparing for and participating in the defense of our nation, and

Whereas, these sites are primarily on lands owned or controlled by the Department of Defense, Department of Energy, and Department of Interior, and

Whereas, the federal government has committed to the cleanup of these sites, and

Whereas, the federal government is interested in turning back over to civilian use surplus property, some of which contains contaminated sites, and

Whereas, it is in the interests of the region to ensure a rapid and safe transfer of cleaned up surplus federal property over to private and local control, and

Whereas, better technologies are needed to clean up these sites faster, safer, and more cost effectively, and

Whereas, State regulatory agencies play a critical role in the permitting, testing, and evaluation of promising innovative technologies, and

Whereas, by cooperating across state lines state regulators can make more informed, reliable, and rapid decisions regarding the appropriate and safe use of innovative technologies and in so doing save time and resources, and

Whereas, tribal government involvement in decision making related to the design, permitting, testing, selection, evaluation and implementation of environmental technologies is integral to the commercialization of innovative technologies on tribal lands, and

Whereas, public involvement in decision making related to the design, permitting, testing, selection, evaluation and implementation of environmental technologies is integral to the commercialization and deployment of innovative technologies, and

Whereas, by saving time in the demonstration, testing, and evaluation of new technologies, we are also helping small technology development companies get promising technologies out into the commercial marketplace faster thereby strengthening the competitiveness of U.S. technology companies.

THEREFORE BE IT RESOLVED, that we amend the WESTERN STATES REGIONAL WASTE MANAGEMENT PROTOCOL by pledging our support and the involvement of our regulatory agencies to testing new approaches for interstate cooperation on the permitting, testing, evaluation, and sharing of information on promising new remediation and waste management technologies.

FURTHERMORE, to facilitate this interstate cooperation, by agreeing to this protocol we make official for the period of one year the Interstate Technology and Regulatory Cooperation (ITRC) working group as the vehicle for developing and testing these new cooperative approaches.

FURTHERMORE, we direct our regulatory agencies to:

- streamline and reduce regulatory barriers to technology innovation and implementation,

- actively support and participate in the interstate work of the ITRC Working Group, and

- cooperate with other states in the use of technology protocols developed by the ITRC Working Group.

FURTHERMORE, we direct the Interstate Technology and Regulatory Cooperation Working Group to:

- include tribal and public representatives, as fully participating members in the ITRC, in the development of recommendations for our consideration, and

- review and integrate to the extent feasible the formal guidance established at the DOIT Committee Tribal and Public Forum on Technology Acceptance in Reno, Nevada, and

- recommend to us by June 1996 the cooperative mechanisms which prove most useful in facilitating the interstate acceptance of remediation technologies.

It is our intent to take these recommended mechanisms to the National Governors' Association in August 1996 for that body's consideration. By agreeing to this codicil we in no way abrogate our sovereign authorities or our individual state statutory and regulatory responsibilities.