

## WM2017 Conference Panel Report

### PANEL SESSION 127: Sustainable Management Decisions Integrating Stakeholder Values and Scientific Data

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#### **Panelists:**

1. **Michael Mikolanis**, *Assistant Manager for Infrastructure and Environmental Stewardship, US DOE*
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3. **Paul Dixon**, *Senior Program Manager in the Civilian Nuclear Program Office, Los Alamos National Laboratory*
4. **Connie Herman**, *Director, Wasteform Processing Technologies, Savannah River National Laboratory*
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6. **Paul Black**, *CEO, Neptune and Company, Inc*

This report summarizes the proceedings of the panel convened on Thursday March 9, at the 2017 Waste Management Symposium to discuss Sustainable Management Decisions Integrating Stakeholder Values and Scientific Data.

The panel members offered their perspectives on how the U.S. Government (USG) can better involve stakeholder organizations in the decision-making process for environmental remediation actions. The facilitator then posed the following two areas of discussion to the panel:

- Thoughts on alignment of cleanup strategy objectives across the Complex
- How to improve the effectiveness of decisions with meaningful impact on mission success

#### **Summary**

DOE-EM's environmental remediation issues are very complex, with many interrelated technical issues, involving a wide array of potential solutions that must address competing objectives across stakeholder groups. Stakeholders want to be both more informed and more involved in the DOE decision making process to address environmental remediation questions that they feel impact their wellbeing. While DOE has put significant effort into collecting information and communicating that information to various stakeholder groups on specific EM issues, the stakeholders continue to feel that the USG communications have been inadequate and that their voices are not being adequately heard, and their concerns are not adequately addressed.

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Stakeholder concerns and issues are varied and their priorities are definitely not unified or monolithic. However, objectives of the different stakeholder groups typically include:

- Redevelopment organizations desire the re-use of federal land
- Environmental groups focus on particular contaminant cleanup
- Workers and their families want the assurance of healthy, safe and stable work
- Tribal groups want the return of ancestral lands in their original state and the acknowledgement of the damage done
- DOE and Contractors desire ability to complete scope
- Regulatory agencies charge is the protection of human health and the environment

Coordinating these and other desires from the different constituencies is a complex task.

Meeting these requests is further complicated by State, EPA, and DOE requirements that may vary from site to site and in some cases not necessarily align with each other.

In addressing the different environmental challenges across the DOE Complex, information is usually provided to stakeholder groups as the evaluation of the proposed alternatives concludes, however input is rarely requested by the USG from the various stakeholder groups in the preliminary or formative stages of the development of the alternatives.

We are beginning to recognize that “zero risk” is an impractical objective, that the current approach to addressing environmental remediation is prohibitively expensive, and that in many cases the USG’s current or traditional approach is just not sustainable. Instead, competing objectives and tradeoffs need to be addressed; structured decision making is an essential process for addressing stakeholder concerns and objectives, and for making sound decisions between alternatives, factoring in the elements of greatest importance to the affected parties.<sup>i</sup>

With the expanding complexity in the array of environmental issues that still need attention and the recognition of the limits of available federal funding, the need to change the paradigm for exploring alternatives is real. This drives the need to consider intermediate solutions and alternative end-states, and to engage with stakeholders to potentially broaden the range of considered alternatives. Also, instead of focusing solely on permanent/final closure options, consideration should be given to interim options recognizing the potential for using future yet-to-be-identified technologies.

Trust between the stakeholders, the States, and the USG entities is essential if there is going to be an adjustment to the current paradigm for evaluating alternative options. This approach has the potential for providing stakeholders with nearer term solutions that meet the majority of their objectives, versus solely pursuing total results that would not be attainable for decades. These approaches are also designed to increase transparency and traceability.

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There are many approaches available for engaging stakeholders, the choice of which has depended on when to engage stakeholders in the decision-making process. However, earlier and more involved engagement with the public is critical to change the paradigm and develop trust. A methodology that captures stakeholder objectives early in the process, communicates technical efficacy and objectively considers the risks and rewards of alternative options is necessary in order to develop consensus to pursue nearer term and potentially less costly remediation approaches.

To reach nearer term solutions at reasonable expense, we need:

- An atmosphere of trust among the parties
- A better level of understanding by the stakeholders
- Significantly increased level of input from the stakeholders in setting program objectives
- An intersection of regulators/stakeholders/DOE objectives
- An economic value analysis of alternatives
- Resetting the timeframe of performance objectives (100's of years vs. 1000's of years) recognizing that unimaginable technical advances will be at hand in the future
- A structured process to objectively evaluate alternatives that is recognized and trusted by all parties
- Awareness that technology continues to advance and re-evaluation of alternatives over time is worth considering, and is aligned with adaptive management

Two areas of discussion by the Panel were:

### 1. **Thoughts on alignment of cleanup strategy objectives across the Complex**

#### Different priorities

- A recognition of the different priorities and objectives of DOE and the stakeholder groups
- The need for communication and early input vs. trying to convince the stakeholders that the planned DOE answer is correct

#### Current approach is impractical and unsustainable

- The environmental liabilities far exceed the likelihood that DOE will be allocated the funding necessary for current cleanup expectations
- All the cleanup costs need to be considered - both the remediation efforts and ongoing "min-safe" expenditures
- Technology infusion needs to be included over the lifecycle of projects
- Reduce the current practice of adding "conservatism on top of conservatism"

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### Improved trust is needed

- The agencies need to resolve technical differences on requirements (provide a more common regulatory voice), which needs to:
  - Address consistency as well as the applicability of requirements and approaches
- Provide information to allow for the recognition of the real costs of risk reduction
- Better capture the prior work and decisions....the why and how decisions were previously made....document the assumptions fully to provide transparency and traceability (since individuals that make up stakeholder groups change over time)
- Instill a relevant probabilistic approach to characterize & manage uncertainty
- Work to build more trust – of individuals & organizations

### Process to evaluate and document decisions

- Provide information to allow for the recognition of diminishing returns and tradeoffs and the benefit of focusing on the highest risk issues....first
- Technology advancements need to be considered from DOE sites and Industry
- Develop and convey risk based strategies, value judgments, model risk objectively
- Use a common sense approach to formalize communications and decision methods

## **2. How to improve the effectiveness of decisions with meaningful impact on mission success**

- Adequately evaluating the most effective remediation strategies requires a shared understanding of what we are trying to mitigate, what the real risks are, and how to make the best decisions.
- A mutual understanding of the population fundamentally impacted by each option is necessary, along with recognition of how clean is clean enough to mitigate risk.
- A mechanism is needed to provide a way to evaluate options while considering risks and ensuring stakeholder involvement in the alternatives definitions, the acceptability of the risk, and the tradeoffs associated with each option. The mechanism to evaluate risk management approaches should also allow for choices between the time and the cost.
- A neutral party to facilitate the alternatives evaluation process is essential to ensuring objectivity is built into the process, and leads to increased trust between the parties.
- Using tools and systems that are designed to be shared publically and that are effective at communicating technical and value based input can also enhance the transparency of the decisions.

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### Final Comments

While DOE has made significant efforts to communicate to stakeholders concerning environmental remediation program actions, additional communications are needed to obtain better buy-in from those stakeholders. A systematic, national approach should be employed among stakeholders and the USG to update environmental liability agreements and court orders. Increasing the trust level between the various stakeholder groups and the USG is essential if alternative solutions are to be considered. Building the trust of the various stakeholders will likely require more input from those groups on the desired program objectives and the balancing of competing alternative solutions. A structured decision making mechanism would provide a valuable tool for both the stakeholders and the USG in more effectively considering the program alternatives in a sustainable manner. A shared objective is to make meaningful progress in completing the EM mission.

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