

# ENVIRONMENTAL MANAGEMENT SITE-SPECIFIC ADVISORY BOARD

## CHAIRS MEETING RECOMMENDATION

May 9, 2019 - Augusta, Georgia

### **Recommendation #2 – Improving EM’s Science and Technology Program**

#### **Background:**

The Environmental Management Site-Specific Advisory Board (EM SSAB) Chairs wish to respond to the National Academies of Sciences’ (NAS) report, “Independent Assessment of Science and Technology for the Department of Energy's Defense Environmental Cleanup Program” (2019) which assesses the success of the EM Science and Technology (S&T) program; a program that defines needs for near-term and out-year cleanup of radioactive material. As Advisory Boards to DOE-EM, the EM SSAB Chairs collectively seek a continued EM focus on permanent reduction of risk to future human generations and the environment.

The EM SSAB Chairs agree to the need for a formal, open, transparent, quantifiable and integrated S&T program that is accessible, by everyone – scientists, regulators and the public. We also agree on the need for an aggressive, cohesive S&T program that can verify the success of selected remediation pathways by utilizing hard data in defense of chosen risk-informed cleanup decisions. We also see the need for a data-rich, user friendly and publicly accessible digital platform that is easily accessed and navigated by everyone.

#### **Recommendations:**

- 1. The EM SSAB Chairs support the development of a programmatically integrated, (under one identified EM government program) robust S&T effort that is fully funded in order to: a) identify and pursue development of the technologies necessary to successfully achieve risk based reduction of radiological and other hazardous waste material; b) to integrate decisions that are common between sites with similar remediation needs; c) to identify scientific challenges common to sites.**

Deferring cleanup to the future (by relying on the myth that there will be more money or other, cheaper remediation solutions) has never driven down cost of remediation, to date.

- 2. A portion of the technology development effort for the DOE-EM cleanup program should focus on breakthrough solutions and technologies that can substantially reduce cleanup costs, schedules and uncertainties as stated in the NAS report.**
- 3. The EM SSAB Chairs recommend exploring already developed, usable computer platforms to see if they are flexible enough to systematize verification of Best Practices decisions.**

At Hanford Nuclear Reservation, the PHOENIX Computer Platform has been in development both for the Richland side of the site (soil and groundwater remediation) and for the DOE Office of River Protection (in support of the safe configuration of the Tank Farms and building of the Waste Treatment Plant).

In development for eight years now, the Phoenix Platform is a data-rich base of maps, waste-site definition, characterization data and more. We wonder if a platform, such as this one, might not be adapted as a solution, programmatically, to address the need to define S&T needs and validate decisions.

It is clear that piecemeal, undocumented and scattered S&T efforts to date, have not served EM well, leaving the DOE-EM department potentially destined to not be able to identify common remediation needs from site to site, or worse, repeat testing of already pursued technologies that could not reach maturity.

- 4. The EM SSAB Chairs recommend EM explore the path of working with the Advanced Research Projects Agency-Energy (ARPA-E) office, coupled with public outreach and transparency to implement a directional shift towards better control.**

The culture and process of contracting must be changed. The reins of scientific need and technology development should reside in a government-identified and controlled structure of discipline that manages budgetary resources, delivery time expectations and mission scope. ARPA-E might be the solution to manage a breakthrough S&T development program for EM. ARPA-E focuses on technologies too early for private-sector investment. ARPA-E awardees are unique because they are developing entirely new ways to generate, store, and use energy.

## **Who We Are**

*The EM SSAB is the DOE-EM's most effective vehicle for fostering two-way communication between DOE-EM and the communities it serves. The EM program is the world's largest environmental cleanup program, and the EM SSAB its only citizen advisory board. For more than 20 years, the volunteer citizens of the EM SSAB have partnered with EM officials at both the local and national levels to ensure that the public has a meaningful voice in cleanup decisions.*

*Public participation is required/recommended as part of a number of environmental regulations. It is also good business practice, resulting in better decisions that often result in improved cleanup. Over the past two decades, EM SSAB members have volunteered over 48,000 hours of their time and submitted to EM officials over 1500 recommendations, 88% of which have been fully or partially implemented, resulting in improved cleanup decisions.*

*The EM SSAB comprises approximately 200 people from communities in Georgia, Idaho, Kentucky, Nevada, New Mexico, Ohio, Oregon, South Carolina, Tennessee and Washington. The Board is cumulatively representative of a stakeholder population totaling millions of people who are affected by generator sites, transportation routes and disposal sites. As we move forward the EM SSAB welcomes the opportunity to highlight the value of this unique volunteer board and discuss its priorities during the months and years ahead.*