

Report to the Environmental Management Advisory Board
Evaluation of the United States Department of Energy
Environmental Management Strategic Planning Communication Tool

Submitted by the Risk Communications Subcommittee

September 2015

Additional Evaluations:

In addition to the evaluation of the strategic planning tool, the EMAB Risk Communications Subcommittee had presentations of other studies and tools currently in use or under development at various DOE cleanup sites to understand their current or potential use in risk communication. These included Hanford's PHOENIX (PNNL- Hanford Online Environmental Information System) and the Consortium for Risk Evaluation with Stakeholder Participation (CRESP) Oakridge and Hanford risk evaluation projects.

During the May 2014 full EMAB meeting a presentation of the Advanced Simulation Capability for Environmental Management (ASCEM) modeling project was provided by DOE, LANL and PNNL representatives. This modeling platform is a multiple national lab supported effort and has been applied on a number of sites across the cleanup complex.

Background:

The ASCEM was formed to create an integrated approach to a modeling platform for simulating contaminant fate and transport through natural and engineered systems. It takes complex information and data gathered throughout the DOE system and incorporates the information into a standardized code that will provide a level of consistency across the DOE complex. It has been and continues to be developed on a phased, graded and expandable approach to allow both the incorporation of existing modeling tools and the integration of new process models as they become available.

Akuna is the user interface element of the ASCEM. Users may include technical personnel within DOE, site contractors and regulators. It is intended to help assist in technical review, decision making and project management. It provides the tool set to assist modelers in setting up and calibrating models and work is underway to add both risk assessment and decision support tools.

Observations:

- The tool has been used at a number of sites to assist in interpretation of complex groundwater plume movement and in understanding remediation, as well as in DOE required Performance Assessments. (Savannah River H Tank Farm PA and F Area remedy understanding, Hanford C Tank Farm PA and B/C Cribs and Trenches, Nevada National Security Site PA compliance model technical foundation for example).
- The full tool is still under development.
- Technically vetted and recognized tool to assist project managers and regulators in better understanding release, fate and transport at complex sites.
- May serve DOE as standardization mechanism for insuring that models being used at various sites are robust and can meet quality assurance standards.
- Visualization tools were clear and understandable.
- Multiple simulations can be done in less time than older data analysis tools.
- Tool is intended for use by technical decision makers and modeling professionals.

- Currently the tool is not intended for use by lay persons or those without an understanding of models and model use. There is work is underway to support and enhance modeling activities for linking with other data systems such as PHOENIX, which are more easily accessible to less technical audiences.

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