

**PUBLIC MEETING  
DETAILED AGENDA  
Rev. 1**

**Second Annual Subsurface Investigations Public Workshop**

May 11, 2022, 12:00 PM to 05:00 PM ET

Microsoft Teams meeting (see meeting notice for access information)

<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
12:00 pm	#0 Logistics and Welcome	NRC: Brett Klukan Jane Marshall
12:10 pm	Opening Remarks #1 NRC Opening Remarks #2 NEI Opening Remarks	NRC: Tom Aird Cynthia Barr NEI: Bruce Montgomery
12:40 pm	Overview Presentations <i>#3 Methodologies for Optimization of Survey Design</i> <i>#4 Statistical Methods for Subsurface Surveys to Support Decommissioning</i>	SC&A: Carl Gogolak PNNL: Deborah Fagan Jennifer Hockett
1:20 pm	Discussion Period A #3 Potential Discussion Questions i. What methods are available to determine an elevated area size of concern? Should multiple sizes/geometries of elevated areas be considered? ii. Is the use of the Bayesian Ellipgrid to detect elevated areas of a certain size appropriate for users and site use scenarios? Are the assumptions made for this analysis reasonable? What other approaches are available? iii. Are there other methods that could be used to optimize the number of samples taken in an initial survey (e.g., check and cover)? iv. What should be the criteria for secondary sampling? For example, is the use of Markov Bayes appropriate? Are the assumptions necessary for this analysis reasonable? v. How can geostatistical and other tools be used to inform, and how do approaches differ for remediation versus compliance decision-making? vi. Can the advanced statistical methods proposed be used by statistical laymen? With appropriate software? #4 Potential Discussion Questions i. How does the number of samples (boreholes) change for estimation versus prediction? ii. Are there advantages or disadvantages to using a 2D layered versus 3D approach?	All

	<ul style="list-style-type: none"> <li>iii. How would a stratified sampling design effectively estimate a statistic to compare to a dose threshold? Can a stratified design be used with kriging?</li> <li>iv. Using a layered approach, how should survey/sampling data be processed to perform kriging more effectively (e.g., average, maximum)?</li> <li>v. What are the temporal considerations for estimation and prediction?</li> </ul>	
2:00 pm	Break	
2:10 pm	<p><i>#5 Utilizing the Nuclear Energy Institute (NEI) 07-07 Industry Groundwater Protection Initiative as a Foundation for Addressing Subsurface Site Assessments</i></p> <p><i>#6 Subsurface Basement Modeling and Survey Methods</i></p>	<p>RSCS: Matt Darois Eric Darois</p>
2:50 pm	<p style="text-align: center;">Discussion Period B</p> <p><b>#5 Potential Discussion Questions</b></p> <ul style="list-style-type: none"> <li>i. What are some of the inputs to develop risk ranks for systems, structures, and components and work practices and how does this benefit subsurface investigations?</li> <li>ii. How can the hydrogeologic conceptual site model (CSM) support focused/biased investigation areas?</li> <li>iii. How can local changes to climate trends effect subsurface investigations?</li> </ul> <p><b>#6 Potential Discussion Questions</b></p> <ul style="list-style-type: none"> <li>i. How many subsurface samples would be considered adequate in the proposed method to determine the total activity inventory?</li> <li>ii. Would the proposed subsurface surveys include direct measurements in addition to sampling?</li> <li>iii. Would the sample analysis include hard-to-detect radionuclides?</li> </ul>	All
3:20 pm	<p><i>#7 US DOE Challenges with Subsurface Investigation and Site-Specific Case Study</i></p>	<p>DOE: Amanda Anderson Brian Harcek</p>
3:40 pm	<p><i>#8 Using Electrical Resistivity Tomography (ERT) and Other Geophysical Methods to Non-Invasively Inform Subsurface Investigations Related to Decommissioning</i></p>	<p>PNNL: Tim Johnson Fred Day-Lewis</p>
4:00 pm	Break	
4:10 pm	<p><i>#9 Lessons Learned Identified during Independent Verification Activities</i></p>	<p>ORAU/ORISE: David King</p>
4:30 pm	Discussion Period C	All

	<p><b>#7 Potential Discussion Questions</b></p> <ul style="list-style-type: none"> <li>i. What topical areas would benefit additional guidance related to subsurface investigations?</li> <li>ii. How could new subsurface guidance be used in a DOE setting?</li> </ul> <p><b>#8 Potential Discussion Questions</b></p> <ul style="list-style-type: none"> <li>i. How has ERT been used at Nuclear Power Plants (NPPs) or other sites with residual subsurface radioactivity?</li> <li>ii. How can ERT imaging be used to guide and/or reduce direct borehole sampling requirements?</li> <li>iii. What are the limitations of using ERT at NPPs?</li> <li>iv. How can ERT be used to understand processes or performance of remedial actions taken to mitigate subsurface radionuclide contamination?</li> </ul> <p><b>#9 Potential Discussion Questions</b></p> <ul style="list-style-type: none"> <li>i. What techniques have been used to survey excavations and other hard-to-access locations that may be unsafe for surveyors to enter?</li> <li>ii. What is ALARA when looking for discrete sources or elevated areas in the subsurface?</li> <li>iii. Is it important to relate survey design to the dose modeling assumptions used to derive DCGLs?</li> </ul>	
5:00 pm	Adjourn	