

SUBJECT MATTER EXPERTS (SME)
Scope of Work and Overview of SME Role in Phase 1 Studies
West Valley Demonstration Project (WVDP) and Western New York Nuclear Service Center
(WNYNSC)

ACRONYMS:

DOE	United States Department of Energy
ISP	Independent Scientific Panel
NYSERDA	New York State Energy Research and Development Authority
PAS	Potential Areas of Study
SME	Subject Matter Expert(s)
WNYNSC	Western New York Nuclear Service Center
WVDP	West Valley Demonstration Project

Background:

The New York State Energy Research and Development Authority (NYSERDA) and the U.S. Department of Energy (DOE) recently selected Phased Decisionmaking as the path forward for Decommissioning and/or Long-Term Stewardship of the West Valley Demonstration Project and the Western New York Nuclear Service Center. During Phase One of the Phased Decisionmaking Alternative, which will take about 10 years, NYSERDA and DOE (the agencies) plan to conduct scientific studies to facilitate interagency consensus to complete decommissioning of the remaining facilities. The agencies have agreed on a facilitated process for identifying, designing, and implementing potential Phase 1 Studies that involves input from Subject Matter Experts (SME), a four-member Independent Scientific Panel (ISP), regulatory agencies, and the public.

NYSERDA and DOE have identified a number of Potential Areas of Study (PAS) that will be considered by SME for further evaluation through specific studies. These include, but are not limited to:

- Soil erosion
- Groundwater flow and contaminant transport
- Catastrophic release of contamination and impact on Lake Erie
- Slope stability and slope failure
- Seismic hazard
- Probabilistic vs. deterministic dose and risk analysis
- Alternate approaches to, costs of, and risks associated with complete waste and tank exhumation
- Viability, cost, and benefit of partial exhumation of waste and removal of contamination
- Exhumation uncertainties and benefit of pilot exhumation activities
- In-place closure containment technologies
- Engineered barrier performance
- Additional characterization needs
- Cost discounting and cost benefit analyses over long time periods

Objectives:

SME will form collaborative working groups for each Potential Area of Study (PAS) and will work together to assist DOE and NYSERDA to reach consensus on matters relating to decision-

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making for facility decommissioning/long-term stewardship for the WVDP and WNYNSC. SME will evaluate their respective PAS to determine whether further scientific study will facilitate interagency consensus. As appropriate, SME (as a group) will then recommend a study or suite of studies that will explore the pertinent issues of the PAS in order to reach this consensus. These "Phase 1 Studies" may consist of additional work on prior studies, or performance of additional studies as appropriate.

Multiple PAS will be addressed simultaneously, and individual SME's may serve in one or more SME groups, depending upon the needed expertise for each PAS.

For each PAS, SME tasks are outlined below.

TASK 1: Evaluate and make consensus recommendations on Phase 1 Studies

Considering the following:

- The remaining facilities requiring a Phase 2 decision.
 - Analyses and information relevant to the PAS and to Phase 2 decisions.
 - Public input and comment.
 - Funds for Phase 1 Studies are not unlimited.
 - Potential studies must be completed in ~ 6 years.
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- After agency authorization to start work on a PAS, the SME will evaluate the PAS and make recommendations to the agencies on whether further scientific study will facilitate interagency consensus on a Phase 2 decision.
 - If differences of opinion prevent the SME from making a recommendation on Phase 1 Studies, the SME may consult with the ISP in an attempt to resolve differences.
 - The SME will provide recommendations for Phase 1 Studies to the agencies within 3 months of the agencies' notification to start work on the PAS. Recommendations shall include:
 - A description of the proposed study or studies that easily communicates how and why the investigation is being conducted.
 - An assessment of the potential of the study or studies to facilitate interagency consensus with respect to decommissioning and/or long-term stewardship of the remaining facilities and prioritize the recommended studies based on this assessment.
 - A schedule for the completion of the recommended studies (The Phase 1 Studies will be completed by approximately 2017-2018).
 - The SME study recommendations will be presented at a public stakeholder meeting.
 - The agencies will review SME recommendations for Phase 1 Studies and considering input from public stakeholders will make a decision to proceed with those studies both agencies feel will facilitate interagency consensus on Phase 2 decisions.

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Task 2: Scoping (Note: ECS will support the SME working groups by generating and producing documents as required)

- For studies which the agencies decide to conduct, the SME, ECS, or a specialty subcontractor will develop study plan(s) to implement the recommended Phase 1 Studies. The plan(s) will:
 - Describe the scientific theory used to understand, explain, and make predictions about the given subject matter.
 - Include a set of assumptions and definitions under which the investigators may work.
 - Identify data needs.
 - Where applicable, identify the study process (design, methodology, etc).
 - Estimate costs and time required.
- As necessary, SME will consult with the ISP for independent scientific guidance during the identification and scoping of potential studies and to facilitate resolution of any SME differences of opinion.
- SME shall submit study plans to DOE, NYSERDA, and the ISP for review.

Task 3: Meetings

- As required, the SME will attend Regulatory Roundtable and public stakeholder meetings in person or by telephone to discuss Phase 1 Study recommendations, provide Phase 1 Study status updates, and present Phase 1 Study results.
- The SME shall answer technical questions from the regulatory agencies and the public that are asked during these meetings and assist the agencies in responding to public stakeholder's technical questions submitted in writing.
- During the Phase 1 Study process the SME will consider input received from the regulatory agencies and the public during their review of the Phase 1 Study recommendations, study plans, progress reports, validated data, study results, and final study reports.
- The SME will interact with the ISP to resolve any outstanding issues regarding study purpose, design, technical scope, etc.

TASK 4: Oversight/Review of Phase 1 Studies

- The SME will supervise and provide guidance for the Phase 1 Studies that will be performed by ECS, a specialty contractor, or in some necessary cases by the SME.

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- The SME will evaluate study findings, make necessary adjustments to the study plans, and provide DOE and NYSERDA with an interpretation of the Study results.
- As appropriate, the studies will be conducted by ECS, a specialty subcontractor, or in some necessary cases, by SME members. The SME working group will provide oversight, guidance and review.

TASK 5: Interpret study findings and make recommendations to DOE and NYSERDA

- As study results become available, evaluate their impact on the investigation plan and make recommendations for modifications, as necessary.
- Provide a written review report(s) from the working group that interprets study findings and provides an evaluation of the findings as they relate to interagency consensus on the PAS.

TASK 6: DELIVERABLES

- Communications - provide copies of all formal communications between the SME and the agencies, other SME, the ISP, and public stakeholders to the DOE and NYSERDA:
 - Moira.N.Maloney@wv.doe.gov and LMG@nyserdera.org
- SME working group recommendations for Phase 1 Studies within 3 months of the agencies' notification to start work on a PAS.
- The SME working group review of Phase 1 Studies Work Plans for DOE, NYSERDA, and ISP review within 45 days of receipt of the Work Plan from ECS.
- The SME working group report of review of Phase 1 Studies results and recommendations for DOE, NYSERDA, and ISP review within 45 days of receipt of the Work Plan from ECS