

# Environmental Life-Cycle Management (ELM) Disposition Evaluation Procedure

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# **ELM Mission and Objectives**

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**The ELM mission is to ensure long-term protection of human health and the environment, and proactive management toward sustainable use and protection of natural and cultural resources affected by any Sandia National Laboratories (SNL) operations and operational legacies.**

**The primary objectives of the ELM program are to:**

- **Protect the environment from present and future operations;**
- **Preserve and protect natural and cultural resources, and;**
- **Apply environmental life-cycle management to SNL operations.**

# Overarching Issues

- Department of Energy (DOE)/Environmental Management (EM) is no longer paying for site cleanup post Environmental Restoration (ER) Project at SNL. Therefore, there is no funding mechanism and currently “new” cleanup is paid for out of overhead costs.
- Sandia’s mission work must take into account life-cycle (cradle to grave) costing in compliance with DOE Order 450.1A (superseded by DOE O 436.1 – Departmental Sustainability), *Environmental Protection Program*.
- Sandia should minimize the growing liabilities associated with site cleanup.



- Sandia is the first DOE Nuclear Weapons Complex Site to consider environmental life-cycle cost including project ownership and development of a life-cycle cost model.

# **Life-Cycle Management Disposition Evaluation Procedure (ESH100.1.EP.3)**

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- **Procedure implemented into ILMS the end of March**
- **Evaluate environmental impacts at all stages of the project to minimize environmental impacts and financial liability, and to ensure proper disposal/cleanup.**
- **Account for environmental impact costs, including both cleanup and disposal.**
- **Complete an Environmental Life-Cycle Management Form.**





# Procedure Applicability

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**This procedure is limited to Members of the Workforce who conduct outdoor testing projects/activities. Outdoor test projects that would require implementation of this procedure include but are not limited to:**

- **Any project required to do a National Environmental Policy Act (NEPA) evaluation, and**
- **Any project or portion of a project that could potentially impact the environment including activities such as destructive testing, explosions, outdoor material testing, or other outdoor activity that may result in dispersal of hazardous materials, or**
- **Any project or portion of a project that results in materials left onsite (outdoors), or**
- **Any project or portion of a project that results in materials left onsite (outdoors) which are difficult to dispose of or have no disposal pathway, or**
- **Any project that has the potential for a medium or high environmental impact (as defined by the environmental life-cycle cost model).**



# Implementation Approach

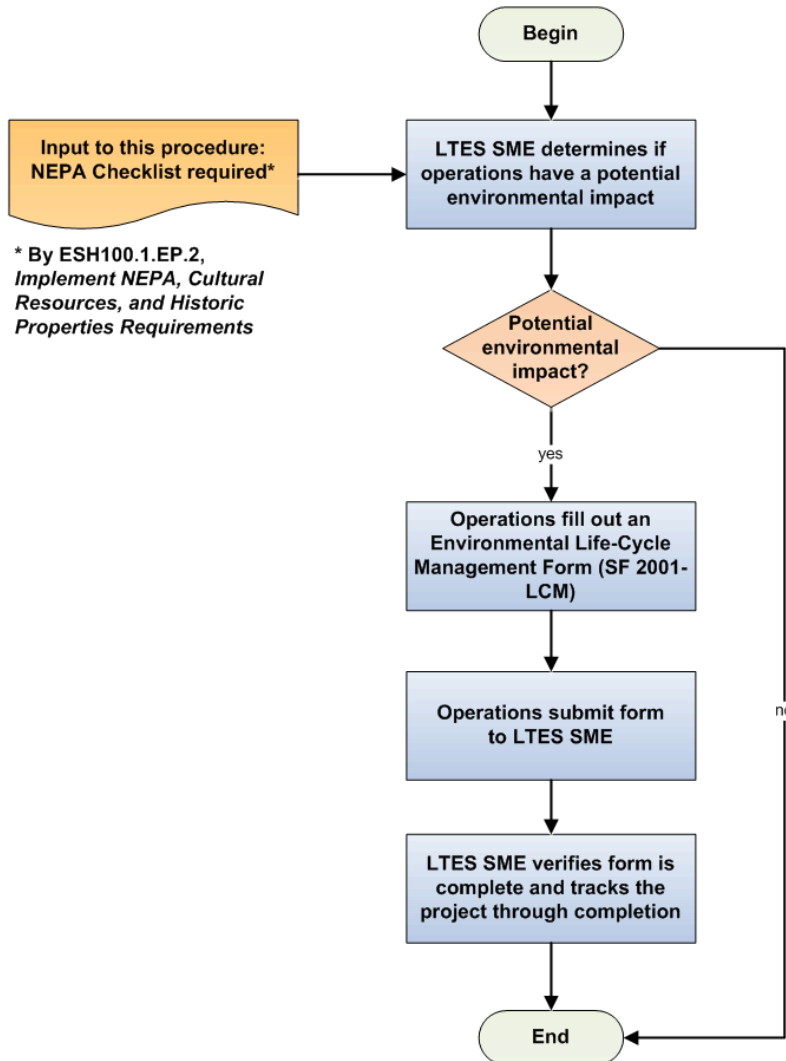
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- **Implementation is tied to the NEPA process in a manner similar to how the NEPA process currently links required environmental permits and regulations.**
- **All outdoor activities evaluated through the NEPA triage process (TEAMS) to determine if the associated project has a potential outdoor environmental impact.**
- **All outdoor activities then ranked as NA, low, medium, or high by the ELM SME with the support of the ELM cost model.**
- **Projects ranked medium or high are required to complete a Life-Cycle Environmental Evaluation Form including accounting for the projects associated environmental impact costs. The ELM SME will provide an initial estimate of the projects environmental disposal/cleanup costs based on the information provided within the projects NEPA documentation.**
- **At this time, accounting for costs only. No requirement for funds to be available due to trust fund issues.**

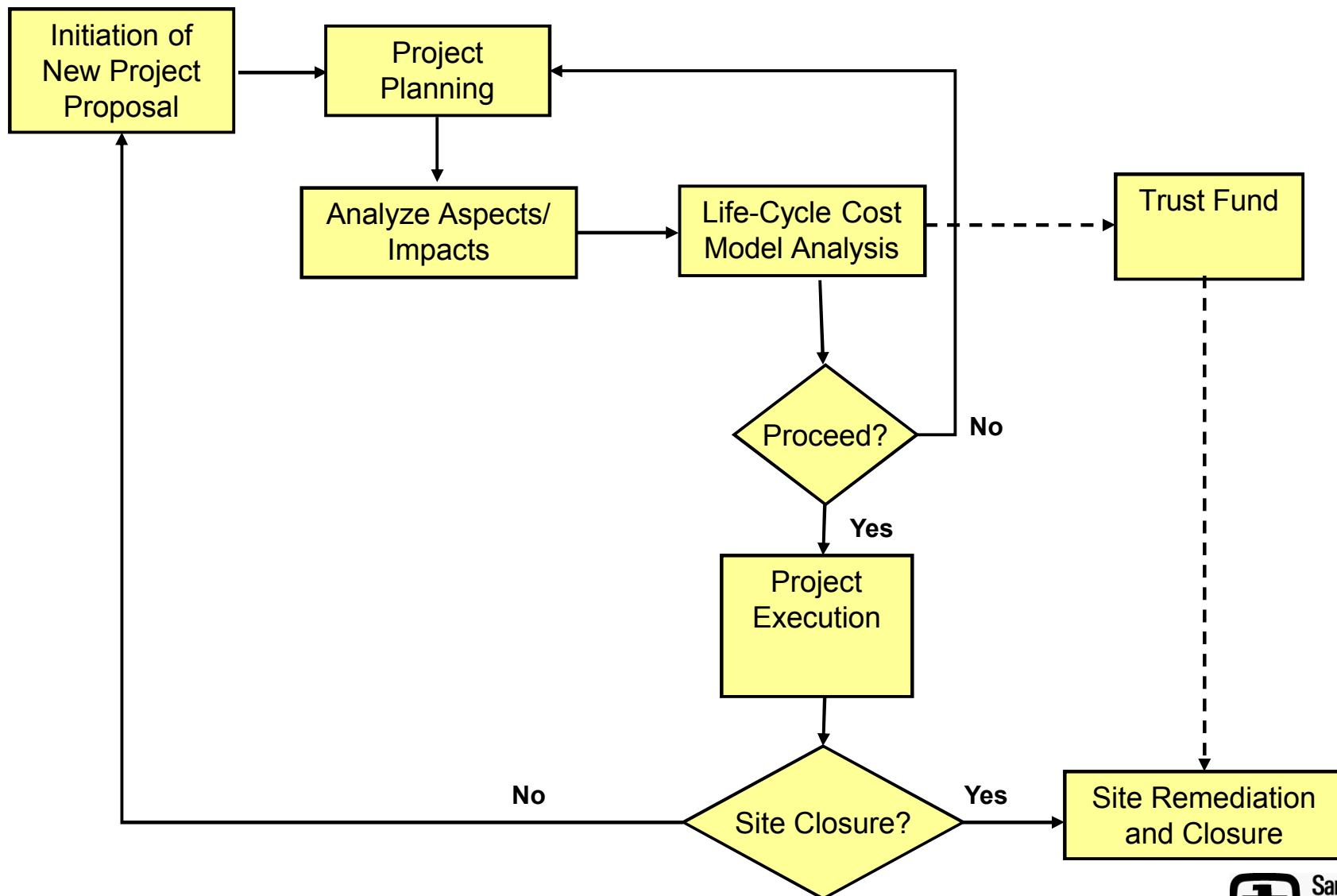


# Implementation Approach (cont)

## ESH100.1.EP.3, Complete an Environmental Life-cycle Management Evaluation



# Life-Cycle Cost Model Process





# Activity Ranked Medium or High – Now What

SF 2001-LCM (3-2010)



## Environmental Life-cycle Management Form


### Disposition and Cleanup Plan for Activities with Potential Environmental Impacts

Project Name:	Department:
Project Contact:	Date:
<b>PROJECT DESCRIPTION</b>	
Project Description:	
NEPA INFORMATION: <a href="#">NEPA Procedure</a>	
NEPA ID:	
If no NEPA ID, List of environmental Impacts:	
List of Actions to Mitigate Environmental Impacts:	
Disposition and/or Cleanup Activities:	
Disposition and/or Cleanup Timeline:	
<b>FUNDING INFORMATION</b>	
Funding Source:	
Funding Source Owner Department:	
Projected Disposition and/or Cleanup Budget:	
Is This Budget Currently Included in Projects Budget Allocation? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If no, how does this project propose to pay for disposition and/or cleanup expenses, including but not limiting to the following:	
-labor	
-analytical	
-disposition	
-waste (including both hazardous and solid waste)	
-site maintenance	
-re-vegetation (long-term)	

For questions regarding this form, contact the Long-Term Environmental Stewardship Subject Matter Expert, [Michael Nagy](#).




# Cost Model User Interface







**LTES**  
Long-Term Environmental Stewardship

**Long Term Cost Model**



Sandia National Laboratories




**Welcome to the Life Cycle Cost Model.**

Please log in. If you cannot log in, contact Mike Nagy at 845-3178.

User Name:

Password:



Long-Term Environmental Stewardship

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Web Developers: [ES&H INT](#) [TERM](#)

Content: [Dennis Peek](#)

<https://forio-dev.sandia.gov/simulation/lifecyclemodelprod//login.htm>



## **Key Project Specific Cost Model Input Values**

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### **Cost Model Project Specific Input Obtained from the NEPA Checklist Include**

- **Location**
- **Type of Activity**
- **Number of Tests**
- **Constituents Used**
- **Impacted and Cleared Areas**
- **Volume of Material Used/Generated (i.e., Explosives; Solid, Hazardous, Radiological, or Mixed Waste)**
- **Percent of Area Impacted by Waste Type (does not apply to most projects)**



# **Projects Reviewed To Date**

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- **Process Implemented Late March**
- **44 Outdoor Activities NEPA Submittals**
  - **10 Activities Ranked Low Potential Environmental Impact**
  - **4 Activities Ranked Medium Potential Environmental Impact**
  - **0 Activities Ranked High Potential Environmental Impact**
  - **30 Activities Ranked NA or Outside the Scope of the Procedure**

# Implementation Issues

- Sandia will be the only site in the DOE Complex utilizing this method; in order for Sandia to implement this proactive approach, this needs to be complex wide. SNL/NM and DOE/SSO is continuing to pursue presentation of the Life-Cycle Cost Model to DOE/HQ.



- In order to setup a funded liability account (trust fund), congressional approval will be needed. A DOE/HQ champion needs to be identified to lead effort and work with DOE/SSO and SNL.



# Questions

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