

Long Term Stewardship Community Checklist October 2010 For Legacy Sites at Sandia National Laboratories Albuquerque, New Mexico

Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.



<p align="center">Long Term Stewardship Community Checklist October 2010 For Legacy Sites at Sandia National Laboratories, Albuquerque, New Mexico</p>	
Question/Comment *	Answer *
<p>I. ANNUAL QUESTIONS:</p>	
<p>1. Regarding compliance and management of the program:</p> <p>a. In this current fiscal year, did the DOE fund stewardship by Sandia of legacy sites?</p> <p>b. What aspect(s) of Stewardship at legacy sites are DOE out of compliance on in FY10?</p> <p>c. Have any additional sites or areas of concern been identified in FY10?</p> <p>d. Have current operations in FY10 resulted in the creation of any new sites?</p> <p>e. What are the regulatory requirements for long-term stewardship?</p>	<p>a. NNSA—Yes. Sandia has received \$4.5 million in funding for fiscal year 2010.</p> <p>b. None.</p> <p>c. No additional sites were identified in FY10.</p> <p>d. No. The environmental impacts of current and future activities are addressed during the planning process. Impacts are minimized to the extent possible.</p> <p>e. Regulatory requirements for long-term stewardship at SNL/NM are included in four documents:</p> <ol style="list-style-type: none"> 1. COOC which establishes requirements for sites addressed through the Environmental Restoration Project at SNL/NM. 2. Module IV of Permit NM5890110518-1, which includes a list of sites at SNL/NM where remediation activities are complete – those sites that require controls are noted on the list. 3. Class III Permit Modification Request for the Management of Hazardous Remediation Waste in the Corrective Action Management Unit, Technical Area III. 4. Chemical Waste Landfill Post-Closure Care Permit and Closure Plan Amendment. <p>On August 20, 2007, NMED issued a draft RCRA permit for SNL</p>

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<p>f. Have any regulatory decisions in FY10 been reached regarding</p>	<p>for public comment. This draft permit includes requirements for future contaminated sites and requirements for the CAMU. DOE/Sandia and members of the public submitted comments on the draft permit before the NMED public comment period ended on February 8, 2008. Additional information from NMED can be found on the NMED website at http://www.nmenv.state.nm.us/HWB/snlperm.html under “SNL Draft Permit.”</p> <p>On December 10, 2007, NMED issued a notice of intent to approve a permit modification submitted by DOE and Sandia, and requested public comment on the proposed modification. In the modification, DOE and Sandia requested that NMED modify Module IV of the Permit to indicate that remediation activities are complete at 26 sites at SNL/NM. The notice and information regarding the 26 sites can be found on the NMED website at http://www.nmenv.state.nm.us/hwb/snlperm.html#C under “No Further Actions (NFA)”</p> <p>On October 15, 2009, NMED issued a final RCRA permit for post-closure care of the SNL CWL. The permit will take effect upon NMED’s written approval of CWL closure. On October 16, 2009, NMED issued a notice of approval of the Closure Plan Amendment and Final Remedy, approving the at-grade cover installed over the landfill, and directing that certain groundwater monitoring wells be replaced. Additional information from NMED can be found on the NMED website at http://www.nmenv.state.nm.us/hwb/snlperm.html under “Chemical Waste Landfill Post-Closure Care Permit” and “Closure Plan Amendment”</p> <p>f. No decisions have been reached in FY10. Please see above for</p>

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actions at sites that are not yet in stewardship of legacy sites?	information regarding post-closure care permit for Chemical Waste Landfill.
2. Where can information about the current status of physical controls be obtained?	Information regarding current status of ICs can be found in the IC Fact Sheet available on the LTES website at http://ltes.sandia.gov/ under "Publications" and then "Fact Sheets."
3. Regarding monitoring: a. Was all required monitoring performed and where can information about this year's monitoring results be obtained? b. Have this year's monitoring activities identified any major issues at the existing sites?	a. Yes. Further information regarding annual monitoring at SNL/NM is included in annual reports, particularly the ASER and the Groundwater Report. These are available at: http://www.sandia.gov/news/publications/environmental/index.html b. No.
4. Regarding information management: a. Where can current information about the long-term stewardship program be obtained? b. Where can site-specific information be obtained?	a. Most key documents for the LTS program are available to the public in the public reading room at UNM's Zimmerman Library or at http://ltes.sandia.gov/ under "Legacy." b. Most site-specific information is available to the public in the public reading room at UNM's Zimmerman Library. Some information is available at http://ltes.sandia.gov/ under "Legacy."
5. Regarding outreach: a. What were DOE's stewardship education goals for this year? Were they met? b. What was the community outreach with regards to stewardship this year?	a. During FY10, Sandia participated in School to World, APS Teachers Open House, the Annual Youth Conference on the Environment and the semi-annual public meetings. b. Legacy issues and status were discussed at semi-annual public meetings. This community checklist was reviewed and updated to

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c. What opportunities will there be for community involvement, including independent external oversight of the SNL LTS program?	reflect current information. It is available at: http://ltes.sandia.gov/ c. Direct community involvement is possible at the periodic public meetings. DOE/DoD Public Meetings were held April 24, 2010 and October 20, 2010 at the Cesar Chavez Community Center. The NMED and EPA provide independent oversight of the long term stewardship program through enforcement of regulations and permits. The NMED and EPA process includes soliciting input from the community on environmental issues at certain times.
6. If you are interested in learning more and participating in long term stewardship, what can you do?	Contact information and details about current meetings and events can be found at http://ltes.sandia.gov/ .
II. UNDERSTANDING THE SNL LONG TERM STEWARDSHIP PROGRAM	
1. Why is a long-term stewardship of legacy sites needed?	Stewardship is to prevent inadvertent exposure and inappropriate use or access of a site.
2. Who will be the primary stewards?	The federal government (DOE) is the primary steward. Sandia Corporation (a wholly-owned subsidiary of Lockheed Martin) manages and operates SNL for the DOE and is responsible for carrying out DOE Directives, meeting environmental standards, and providing appropriate stewardship.
3. Who will direct the program including: a. Ensuring that the remedies are performing as designed? b. Coordinating the monitoring and maintenance? c. Coordinating and maintaining information systems? d. Ensuring adequate funding?	Sandia directs the stewardship program with DOE oversight. a. Sandia ensures the remedies are performing as designed. b. Sandia conducts the monitoring and any maintenance required. c. Sandia coordinates and maintains information systems. d. DOE is responsible for ensuring adequate funding
4. What will happen if a new site is found?	DOE and Sandia will notify NMED as required in the COOC. Contingency funding may be used to accomplish preliminary

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	characterization in a timely manner, to help determine next steps to be taken.
5. What does Sandia do with the waste currently being generated to avoid creating new environmental problems?	When practical, Sandia personnel minimize the quantity and toxicity of wastes as they are generated. Wastes are accumulated, stored, and treated at SNL in compliance with applicable state and federal regulations that are designed to prevent new environmental problems. Wastes are then shipped off-site to permitted waste treatment and/or disposal facilities.
III. UNDERSTANDING INSTITUTIONAL AND PHYSICAL CONTROLS	
1. What happens when federal land is turned over to an entity other than the federal government? a. What process does DOE land go through? b. What if KAFB should close?	Both DOE and DoD processes require compliance with regulations and allow for substantial stakeholder input. a. Currently, Sandia and DOE must notify NMED before transfer of legacy sites that are subject to the COOC. Furthermore, DOE has a detailed process already in place in which extensive environmental requirements must be met prior to any real estate sales or transfers. Additional information on DOE real estate processes can be found at http://www.directives.doe.gov/ b. If KAFB should close, DoD would initiate a process to ensure protection of the environment and human health.
2. Explain institutional controls: a. What is an institutional control?	a. An institutional control can consist of administrative or physical controls, or a combination of both. Examples of administrative controls include tracking site information, retaining records, and site inspections. Physical controls include engineered barriers, establishing land use restrictions, installing fences, signs or any combination of the above.

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b. Why are they needed?	<p>Institutional controls are normally needed when wastes or constituents are left onsite at concentrations of concern that limit the activities that can safely take place at the site. They are designed, implemented and enforced to prevent inappropriate activities on former legacy sites, and prevent new Sandia activities that may result in contamination exceeding regulatory limits.</p> <p>Further information on ICs is available in DOE G 454.1-1 “Implementation Guide for Use with DOE P 454.1, <i>Use of Institutional Controls</i>” at http://www.directives.doe.gov/pdfs/doe/doetext/neword/454/g4541-1.pdf</p>
<p>3. Explain physical controls:</p> <p>a. What is a physical control?</p> <p>b. Why are they needed?</p>	<p>a. A physical control can consist of a fence or sign, or in some cases, an engineered cover.</p> <p>b. Please see response to Question III.2.b above. Physical controls are needed to prevent inappropriate activities on former legacy sites, prevent new Sandia activities that may result in contamination exceeding regulatory limits, and to protect human health and the environment.</p>
4. How are institutional and physical controls determined?	<p>The NMED (and others) determines the institutional control type depending on the site condition under which it was closed. To close a site, it must meet a certain criteria for future land use (residential or industrial). The site is either closed as “corrective action complete with controls” or “corrective complete without controls”. There are also controls that the Sandia corporation institutes as a</p>

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	best management practice depending on the residual concern. These are considered 'corporate' controls.
5. What guides the use and management of the institutional controls?	Regulators (i.e., NMED and DOE) have guidance available for addressing the use and management of ICs: Use of Institutional Controls, DOE Policy 454.1; U.S. Department of Energy, Institutional Controls, Implementation Guide for Use with DOE Policy 454.1, and U.S. Department of Energy, Institutional Controls in RCRA & CERCLA Response Actions; and the NMED COOC.
6. Where can the information regarding institutional controls at SNL/NM be obtained?	An IC fact sheet with information is available on the LTES website at http://ltes.sandia.gov/ under "Publications" and then "Fact Sheets."
7. How long will these controls have to be in effect?	Physical and administrative controls vary by site and may be in place short term or long term. Sandia, together with DOE, may terminate ICs for sites that no longer present hazards to human health and the environment. DOE and Sandia will not terminate controls established by NMED or other regulators without prior approval.
8. How often will the physical controls need to be inspected, and by whom?	The inspection frequency is site-specific and varies. Sandia conducts the inspections with DOE oversight.
9. How and where are the results of the inspections documented?	Sandia documents the inspections using a checklist developed from the DOE IC guidance document. The results of the inspections are maintained with other Sandia information for each site and tracked using an internal database.
10. Have the life-cycle costs of all of these physical controls been included in the cost estimates?	As part of operations, ICs are factored into the annual budget process.

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<p>a. What will be the anticipated lifecycle costs of these controls?</p> <p>b. How do these costs compare to other remedial options?</p>	<p>a. At this time, the life-cycle costs of these controls have not been fully established, and the preliminary costs are being refined based on on-site experience.</p> <p>b. In general, physical controls may be less costly than other remedial options. The costs depend on numerous factors, including the nature and extent of contamination, and the feasibility of each option.</p>
<p>11. Have the specific plans for reporting failure, including a contingency plan, should the controls fail been addressed?</p>	<p>Yes, the general requirements for reporting and responding to failure of controls have been addressed for each site. Where applicable, the requirements are incorporated into permits and plans approved by NMED.</p>
<p>12. If there is a failure, where will the corrective measures information be stored?</p>	<p>The information would be stored as required by the regulations, permits, or plans (see previous question). Through routine inspections, corrective measures are stored and tracked as part of the regulatory or corporate requirements. NMED maintains the corrective measures information submitted to them.</p>
<p>13. How soon and through what avenue would you inform the public?</p>	<p>Notification requirements vary by site, and range from hours to days. For example, Condition IV.U.8 of Permit NM5890110518-1 requires that Sandia and DOE verbally notify NMED within 24 hours of detecting a leak in the CAMU containment cell. In general, DOE and Sandia would notify NMED as required by the applicable permits, regulations, or plans, and would notify the public at the semi-annual public meetings. NMED may choose to post reports on their website or notify the public.</p> <p>DOE requires that Sandia notify emergency response organizations in surrounding communities within 15 to 30 minutes in the event of an emergency that involves the uncontrolled release or potential</p>

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	release of hazardous or radioactive materials beyond SNL/NM (note that legacy sites and their operations do not involve activities that would lead to such emergencies).
IV. UNDERSTANDING MONITORING AND MAINTENANCE	
<p>1. What is the purpose of the monitoring?</p> <p>a. To ensure that the remedy remains protective and is performing as designed (performance monitoring)?</p> <p>b. To ensure that the remedy is operating as designed (operational monitoring)?</p>	<p>The overall purpose of long term monitoring is to verify that residual contamination onsite is consistent with the conceptual model for the site, and that residual contamination is not affecting other environmental media (i.e., groundwater). A secondary goal is to verify that the onsite concentrations are at levels still protective of human health and the environment based on the established land use. The monitoring purpose varies by site and depends on the controls instituted.</p> <p>a. Yes, as applicable.</p> <p>b. Yes, for sites with operational remedies.</p>
<p>2. Why is long term monitoring required at legacy sites?</p>	<p>Monitoring requirements are site-specific and are established in various documents, including individual permits, the COOC, and post-closure care plans. For example, at the vast majority of sites for which corrective action is complete with controls, the only monitoring requirement is to inspect the site to ensure maintenance of the institutional controls established by NMED. Therefore, for these sites, long-term monitoring is required to maintain land-use restrictions. Active monitoring (including groundwater, terrestrial sampling and onsite maintenance), is required to ensure that the site remedy is performing as designed (see previous question).</p>
<p>3. Are all the monitoring programs adequately funded so that the goals</p>	<p>Yes. Failure to meet the compliance monitoring requirements</p>

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for monitoring are met?	established through permits, the COOC, or plans approved by regulatory agencies could result in fines and penalties.
4. What operational and performance monitoring will be included? a. How often will the remedy be inspected? b. Will the remedy require decommissioning?	Operational and performance monitoring requirements are site-specific and are established in various documents, including permits, the COOC, and site-specific or general plans. a. The inspection frequency is specific to each site and remedy. For example, aspects of the CAMU are inspected quarterly or annually. b. The site remedies that have been completed thus far do not require decommissioning.
5. What maintenance will be conducted as part of the remedy?	For the several sites requiring active monitoring (including analytical sampling and onsite maintenance), maintenance requirements for these sites are or will be established in various documents, including permits, the COOC, and post-closure care plans. For the remaining permitted sites, the maintenance will be dictated by the given institutional control land use restriction.
6. What are the regulatory requirements for monitoring and maintenance?	Please see response to the two previous questions.
7. What substance(s) are you monitoring for?	Monitoring requirements are site-specific and are established in various documents, including permits, the COOC, and plans. The documents include the chemicals and parameters that will be monitored for and the monitoring frequency. In general, the chemicals monitored for are consistent with those found or previously found at the site.
8. Where is the monitoring report being kept?	Results may be reported in site-specific documents, or results from multiple sites may be combined into periodic or one-time reports. Monitoring reports are considered a regulatory deliverable and

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	submitted to the NMED or other regulatory agencies. Copies of the documents are available from those agencies.
9. What monitoring information will need to be retained and periodically assessed?	Monitoring information is retained in accordance with regulations and will be submitted to NMED or other regulatory agency as required. SNL has a records management plan.
V. UNDERSTANDING INFORMATION MANAGEMENT	
1. Where can information about SNL/NM legacy sites be found?	Most general and site-specific information is available at http://ltes.sandia.gov/ , and in the reading room in Zimmerman Library on the University of New Mexico campus. Information that has been submitted to the NMED or other regulatory agencies is available from the agencies.
2. What are the regulatory requirements guiding information management?	Sandia has developed a fact sheet to provide the public with information about the regulatory framework for the stewardship program; the regulatory requirements include information management. This fact sheet is available at http://ltes.sandia.gov/ under "Publications" and then "Fact Sheets."
3. Will there be a records archive and tracking system?	Yes. DOE and Sandia have processes, systems, and databases currently in place for archiving and tracking records. Regulatory agencies also maintain their records.
4. How will information be accessed and made available to the stewards in the future?	Information will continue to be available in Sandia records, and in records of NMED and other regulatory agencies.
5. Will local information centers or reading rooms continue to exist after site closure, and if so, is there a funding mechanism to guarantee their continued existence?	DOE and Sandia are required to establish a public information repository and reading room under the Permit, and will continue to meet the requirements of the Permit. Funding for compliance with Permit conditions is included in annual operating budgets. The reading room is currently located in UNM's Zimmerman

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	<p>Library. If it is moved to another location, DOE and Sandia will notify persons on the mailing list for the semi-annual meetings, and will provide the location at http://ltes.sandia.gov/.</p> <p>Continuation of the reading room after SNL ceases operations would be addressed as part of DOE processes discussed in Question III.1 (regarding land transfer).</p>
6. What information about residual contamination will need to be maintained?	Site-specific information is included in the decision documents for each site that are maintained in the NMED records systems. DOE and Sandia also maintain corporate records as required by the Permit, COOC, and applicable plans (see the regulatory framework fact sheet).
7. How and where will records be managed?	Records that provide relevant and unique information but are not required by NMED or other regulatory agencies, by the Permit, the COOC, or applicable plans, will be maintained in the Sandia corporate records system.
8. Are provisions in place to ensure information about the remedy and related controls is easily accessible and widely disseminated to all responsible and interested parties?	Information will continue to be available in Sandia records, in records of NMED and other regulatory agencies, and at reading rooms.
9. Regarding preservation of information:	
a. How will very old records that may be critical to future generations be preserved?	a. Sandia corporate records will be maintained and upgraded to use the latest technology as needed, and paper copies will be maintained as needed to ensure survival.
b. How will future generations be made aware that the necessary information exists?	b. Please see response to Question V.5. In addition to the Sandia corporate records, NMED and other regulatory agencies will also maintain records for future generations in accordance with their requirements.

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VI. UNDERSTANDING PERIODIC ASSESSMENTS	
1. What information will be reviewed during periodic assessments (performance monitoring data, operational monitoring data, engineering designs, other)?	Performance monitoring data, operational monitoring data, and engineering designs will be reviewed, as applicable, during periodic assessments.
2. Will aspects of the long-term stewardship program be reviewed regularly?	The long term stewardship program has periodic reviews built into the schedule, and includes budget requests for this activity.
3. What are the regulatory requirements regarding periodic assessments?	The requirements are site-specific, and are included in regulations, permits, and plans. A fact sheet about the regulatory requirements is available at http://ltes.sandia.gov/ under "Publications" and then "Fact Sheets."
4. What is the frequency and scope of this periodic review, and how will stakeholders be involved?	The scope and frequency of reviews are specified in environmental protection and waste management regulations, and are or will be specified in permits and plans. The regulations and permit conditions include provisions for stakeholder involvement.
5. Will the review include an assessment of new laws, regulations, and standards?	Yes, if applicable.
6. Will the review consider recalculating the risk or the risk assessment if standards, land use assumptions, or site conditions change significantly?	Yes, if applicable.
7. Will the review include an assessment of new research and technologies that could be applied?	Yes, if applicable
8. Will the assessment include an evaluation of whether the stewards should reduce the scope of the monitoring program?	Yes, it would be evaluated. The scope would not be reduced without prior approval by NMED or other regulators.
9. What are the procedures for reporting the findings of the review?	Some reporting requirements are included in environmental protection and waste management regulations. Additional reporting

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	requirements are or will be specified in permits, in the COOC, and in plans. A fact sheet about the regulatory requirements is available at http://ltes.sandia.gov/ under “Publications” and then “Fact Sheets.”

Community Checklist Acronym List

APS	Albuquerque Public Schools
ASER	Annual Site Environmental Report
CAMU	Corrective Action Management Unit
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COOC	Compliance Order on Consent
CWL	Chemical Waste Landfill
DoD	Department of Defense
DOE	Department of Energy
EPA	Environmental Protection Agency
FY	Fiscal Year
HWB	Hazardous Waste Bureau
IC (s)	Institutional Control(s)
KAFB	Kirtland Air Force Base
LTES	Long Term Environmental Stewardship
LTS	Long Term Stewardship
NFA	No Further Action
NMED	New Mexico Environment Department
NNSA	National Nuclear Security Administration
NOD	Notice of Disapproval
RCRA	Resource Conservation and Recovery Act
SNL	Sandia National Laboratories
SNL/NM	Sandia National Laboratories/New Mexico
UNM	University of New Mexico

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