LMS/S05979

DOE Order 430.2B Executable Plan for LM (DOE FEMP Final)

December 2009

U.S. DEPARTMENT OF ENERGY | Legacy Management

This page intentionally left blank

LMS/S05979

DOE Order 430.2B Executable Plan for LM
(DOE FEMP Final)

Signature for Site Office Concurrence

Acting Director, Office of Legacy Management

12/30/09

This page intentionally left blank

Contents

Tables

1.0 Executive Summary

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) is committed to excellence in environmental stewardship. LM's Environmental Management System (EMS) is a comprehensive method for incorporating life-cycle environmental considerations into all aspects of the LM mission. LM's EMS is a joint program between LM and their prime contractor for the Legacy Management Services (LMS) contract. The EMS helps LM use its finite resources wisely, minimize wastes and adverse environmental impacts, and comply with the laws, regulations, and DOE requirements that protect the environment, public health, and resources. The EMS enables LM to implement sustainable environmental stewardship practices that enhance protection of air, water, land, and other natural and cultural resources affected by DOE operations. Implementing the EMS is integral to LM's mission and to achieving excellence.

The purpose of this Executable Plan is to outline the strategies for managing and implementing various energy-related activities at LM. This plan reflects progress made toward, and strategies in place for, accomplishing the goals and requirements established by:

- Executive Order (EO) 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, October 5, 2009.
- Executive Order (EO) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, January 26, 2007.
- DOE Order 430.2B, *Departmental Energy, Renewable Energy, and Transportation Management*, February 27, 2008.
- Energy Independence and Security Act (EISA) of 2007, section 432 (Title 42 *United States Code* Section 8253[f]).
- The Energy Policy Act (EPAct) of 2005, Public Law 109-58.
- The Energy Policy Act (EPAct) of 1992, 102th Congress H.R.776.ENR.
- Transformational Energy Action Management (TEAM) Initiative (DOE Headquarters [HQ]).
- DOE Order 450.1A, *Environmental Protection Program*, June 4, 2008.
- LM Policy 450.8, *Environment, Safety, and Health Policy*, May 29, 2009.

LM's mission is to manage post-closure responsibilities at legacy management sites and ensure the future protection of human health and the environment. LM has control and custody of legacy land, structures, records, and facilities and is responsible for maintaining them according to DOE long-term plans.

LM has established a team to direct and support the goals of the EMS. In fiscal year (FY) 2009, LM's EMS team continued to work on review of the new EO 13514, implementation of EO 13423 and DOE Order 430.2B, and progress is evaluated and reported quarterly on activities related to energy, environmental, and transportation management. The resulting status report encompasses the following:

- Energy efficiency
- Renewable energy

- Energy-savings performance contracts projects activities
- Water conservation
- Environmentally preferable purchasing
- Waste management and pollution prevention
- Sustainable buildings and the Facilities Information Management System
- Vehicle and fuel management
- Electronic stewardship
- Land stewardship

The team meets every 2 weeks and provides critical input to senior management once a month. The input helps establish direction, develop strategies to implement the sustainable programs, provide status updates, and facilitate the successful execution of the sustainable programs across the sites. LM will use this Executable Plan to ensure that the energy management provisions outlined in EO13514, EO 13423, DOE Order 430.2B, and the TEAM Initiative are implemented properly.

Section 2.0 is a table that summarizes progress toward DOE Order 430.2B goals. Individual program performance tables are provided in their respective sections of this Executable Plan, along with their individual planning assumptions, issues, and funding strategies.

2.0 DOE Order 430.2B Goal Summary Progress

	DOE ORDER 430.2B Goal Summary Progress
Goal Elements	**Status and Plans**
30% energy intensity reduction by FY 2015 from the FY 2003 baseline	The LM energy intensity has decreased by 9.8% compared to FY 2003. Several sites currently fall short of the 30% reduction goal due to the removal of buildings. Plans are in place to ensure that the goal for all sites is met by 2015.
16% water intensity reduction by FY 2015 from the FY 2007 baseline	This goal has been exceeded. At the completion of the second year of the program's implementation, the LM combined-sites percent water intensity reduction for FY 2009 was 82.1% compared to the FY 2007 baseline.
7.5% of a site's annual electricity consumption from on-site renewable sources by FY 2010	A parabolic solar-heating system at the Tuba City, AZ, Site was completed in FY 2009 to reduce electricity usage. Construction of a solar photovoltaic system to produce 4% of the site's electricity will be completed in early 2010. Green energy purchases of electricity continued at the Fernald, OH; the Monticello, UT Site; and the Grand Junction, Disposal Site, CO. In accordance with DOE Order 430.2B and the Executable Plan, feasibility evaluations for installing renewable energy electricity projects at Fernald, OH; Tuba City, AZ; Monticello, UT; Rifle, CO; the Grand Junction Disposal Site, CO; Shiprock, NM; and Monument Valley, AZ—and renewable energy thermal projects at Fernald, OH were completed by September 15, 2009.

	DOE ORDER 430.2B Goal Summary Progress
Goal Elements	**Status and Plans**
10% annual increase in fleet alternative fuel consumption relative to a FY 2005 baseline	The E85 fuel consumption for FY 2009 compared to the FY 2007 consumption has increased by 173.6%. LM is using 2007 as its baseline year because the number of LM sites and vehicles did not level off until 2007. There were dramatically fewer sites and vehicles in 2005.
2% annual reduction in fleet petroleum consumption relative to a FY 2005 baseline	The FY 2009 fuel use for October 2008 through September 2009 was 35,263 gallons compared to the LM FY 2007 baseline for fuel use for the same time period (36,570 gallons)—a 4% decrease in fuel use. The goal was to reduce the petroleum use in FY 2009 by 4% compared to the baseline year of FY 2007 and has been achieved for FY 2009. LM is using 2007 as its baseline year because the number of LM sites and vehicles did not level off until 2007. There were dramatically fewer sites and vehicles in 2005.
75% of light-duty vehicle purchases must consist of alternative fuel vehicles.	The strategy for light duty vehicles, which consists of acquiring an alternative-fuel vehicle (AFV) for 100% of these units as they are replaced, exceeds the requirement of 75 percent AFV acquisition. These AFV are currently planned to be either E85 capable vehicles or hybrid vehicles as detailed in the Federal Acquisition Statistical Tool (FAST) database. As technology improves FAST and this plan will be updated to reflect the most efficient and effective AFV for the LM mission.
All new construction and major renovations greater than $5 million to be LEED Gold certified.	The Fernald Preserve Visitors Center located at Fernald, OH was awarded Leadership in Energy and Environmental Design (LEED) Platinum certification under the LEED New Construction (NC) 2.2 rating system in FY08. LM pursued LEED Gold certification with the landlord through GSA for the LM Business Center in Morgantown, West Virginia in FY09.
15% of existing buildings to be compliant with the five guiding principles of High Performance Sustainable Building design	The Fernald Preserve Visitors Center was awarded LEED Platinum certification under the LEED NC 2.2 rating system prior to October 1, 2008, thus being grandfathered as meeting 100% of the guiding principles. Assessments against the guiding principles were performed on 11 existing buildings. The team is currently assessing the feasibility of upgrading the Weldon Spring Interpretive Center, Weldon Spring, MO to meet the guiding principles and pursuing certification under the 3.0 LEED Existing Building: Operations and Maintenance rating system.
Advanced metering to the maximum extent practicable	As part of the Executable Plan, baselines were established for the major consuming sites. These sites are also metered. The team is proceeding to meter buildings within the individual sites. Electric meters were installed at the Tuba City Control and Maintenance buildings, Tuba City, AZ and the Fernald Preserve Converted Advanced Waste Water Treatment Facility and the Fernald Preserve Visitors Center, Fernald, OH during FY 2009.

3.0 Energy Intensity

The EO 13423 energy reduction goal is to reduce energy intensity by 3 percent annually through the end of FY 2015, or 30 percent by the end of FY 2015, relative to the FY 2003 baseline.

The DOE Order 430.2B energy intensity reduction goal is to reduce energy intensity by no less than 30 percent by FY 2015, relative to the FY 2003 baseline.

The purpose of the energy reduction goal is to reduce energy intensity by no less than 30 percent on average by FY 2015, relative to the site's or facility's energy use in FY 2003 (DOE Order 430.2B, 1.b.[1] and Attachment 1, 5.a.). Site-specific goals will be set.

3.1 Current Status

The LM energy intensity in FY 2009 compared to the FY 2003 baseline was 9.8 percent lower as identified in Table 1. The decrease is attributable to the following:

- The inventory of sites included in the LM gross square footage was corrected to include the Piqua, OH; Pinellas, FL; Weldon Spring, MO; and Durango, CO, Sites; the Grand Junction Disposal Site, CO, and the Monticello Site, UT. Energy consumption for these additional sites was also used in the energy intensity calculation for the FY 2003 base year.
- Energy intensity for the two largest users, Tuba City, AZ and Fernald Preserve, OH Sites was above their respective values for the base year. The Fernald, OH Site was remediated after 2003, and the building area was reduced from 698,000 square feet to 12,900 square feet, although groundwater cleanup, the primary user of energy, continued. Energy use at Tuba City, AZ increased in proportion to the quantity of water being treated. Purchased energy use at the Rocky Flats, CO, site was eliminated when the utility infrastructure was removed during remediation.
- The Fernald, OH; and Rocky Flats, CO; sites were undergoing remediation during the base year of FY 2003 resulting in building areas decreasing by 98 and 100 percent respectively. Overall, the building area of sites that would become LM's responsibility decreased by more than 96 percent. The LM program was created in FY 2004 to manage the former weapons sites as well as over 80 others that had been remediated under various federal programs.

Table 1. LM Energy Consumption

	DOE Goal FY 2015 (BTU/GSF[a])	FY 2003[b] (BTU/GSF)	FY 2008 (BTU/GSF)	FY 2009 (BTU/GSF)	Energy Reduction (%)
LM Total	178,208	257,137	640,757	242,152	**5.8**
Energy with RECs[c]	178,208	257,137	640,757	236,048	**8.2**
Energy with RECs & on-site generation	178,208	257,137	636, 748	231,887	**9.8**
		2003		**2009**	
Gross Square Feet		3,183,365		115,374	
Total Buildings Energy Use (MBtu)[a]		818,561		27,878	

Note: All values above denote the site-delivered energy, not the source energy.
[a]British thermal units per gross square feet
[b]The 2003 baseline was adjusted to reflect changes in building square footage and energy usage due to remediation and adding previously outgranted facilities. This will ensure that future comparisons are representative of current conditions.
[c]Renewable Energy Credits

Energy conservation measures that have been taken are identified in Table 2.

Table 2. LM Energy Conservation Measures

ESPC Project or separate Energy Conservation Measure	Actual or Estimated Energy Saved MBtu/yr[a]	Actual or Estimated Implementation Cost ($)	Expected Year of Implementation	Funding Source (ESPC, UESC, Overhead, GPP, Other)	For ESPCs, Indicate Expected Date of Delivery Order Award
Fernald Preserve, OH—Shutting off OSDF valve house ventilation fans and lowering thermostat	1405	5 K	FY 2008	Other	—
Fernald Preserve, OH—Lowering thermostat in extraction well pump houses	1417	0 K	FY 2008	—	—
Fernald Preserve, OH—Removal of unneeded street lights	112	0 K	FY 2008	—	—
Fernald Preserve, OH—Turning off lights during daylight hours	121	0 K	FY 2008	—	—
Tuba City, AZ—Solar hot-water preheating system	730	510 K	FY 2009	LM budget	—
Tuba City, AZ—Installation of de-aerator on evaporator feed lines	307	5 K	FY 2008	—	—
Monticello, UT—Installed new insulated white roof on office building	30	25 K	FY 2009	LM budget	

Note: ESPC = Energy Savings Performance Contract; UESC = Utility Energy Service Contract; GPP = General Plant Project.
[a]MBtu/yr = million British thermal units per year

3.2 Site-Specific Goals

LM site-specific goals are to exceed the goals specified in DOE Order 430.2B, which includes the TEAM Initiative, and EO 13423.

3.3 Description of Projects and Activities

LM will continue to develop the Energy Efficiency and Greenhouse Gas Reduction Program and will make adjustments to its program metrics to align with the new EO 13514. LM sites will meet or exceed the energy goals specified in DOE Order 430.2B, which includes the TEAM Initiative, and EO 13423 by (1) installing setback thermostats on buildings and ensuring that they are used, (2) ensuring that newly constructed buildings are very energy efficient, (3) shutting down well pumps at Fernald Preserve, OH as the groundwater remediation is completed, and minimizing the operating time of the Converted Advanced Waste Water Treatment facility as the need for groundwater treatment declines, and (4) reducing the water treatment energy use at Tuba City, AZ by revising the treatment technology.

3.4 Funding Plan

Current operating expenses will fund the energy-efficiency measures' implementation. If necessary, the baseline change control process will be used to request additional funding.

3.5 Milestones for Reaching the Goals

As groundwater remediation goals are met at the Fernald Preserve, Fernald, OH, energy use will decrease as the extraction wells are gradually shut down. This gradual reduction is expected to achieve the goal.

4.0 Water Intensity

The purpose of the water conservation program is to protect water resources through efficiency and reuse management. The previously existing goal, as extended by the new EO 13514, is to reduce total freshwater (both potable and non-potable) use intensity (WUI) by no less than 2 percent annually through FY 2020, or 26 percent by the end of FY 2020, relative to a baseline of applicable LM sites' water consumption in FY 2007. A new goal added by EO 13514 is to reduce LM industrial, landscaping, and agricultural water consumption by no less than 2 percent annually, or 20 percent by the end of FY 2020, relative to a baseline of applicable LM sites' water consumption in FY 2010.

4.1 Current Status

4.1.1 Corrections to Prior FY 2007 and FY 2008 Information

Revisions were made to the applicable LM combined-site's total freshwater use, building size, and performance numbers for FY 2007 (baseline year) and FY 2008 based on clarifications from FEMP/HQ. Any changes in values are noted in the associated data Tables 3 and 4.

Table 3. LM Combined-Sites FY 2007 Water Baseline

Site Name	Gross Square Feet (GSF)	Water Use (gallons freshwater)		Comments
		Potable	Non-potable	
Monticello, UT	1,800[a]	9,122	NA	NA
Grand Jct. Disposal Site, CO	1,992[a]	10,900	NA	NA
Fernald Preserve, OH	7,200	1,477,076	NA	NA
Old Rifle, CO	NA[b]	NA[b]	NA[2]	NA
Water Subcategory Totals	NA	1,497,098	NA	Non-potable freshwater use was not tracked during this year; only potable water was tracked.
Total freshwater (potable and non-potable)		1,497,098		NA
Totals	**10,992**	**1,497,098**		GSFs corrected, and baseline is not adjusted to changes in outyears.
FY 2007 Baseline: Combined-Sites WUI = 1,497,098 ÷ 10,992 = 136.2[c]				

[a]In 2009, LM aligned the reported building's gross square footage (GSF) baseline numbers to match GSF reported in the Facilities Information Management System (FIMS) and for reporting consistency across the various LM sustainability programs.
[b]Old Rifle, CO, Site was added as an applicable site in FY 2008. In FY 2008, LM adjusted the FY 2007 baseline to include this site. Subsequent guidance given to LM during 2009 clarified that the baseline should not be adjusted when building sizes change or when new buildings are added or taken out of service.
[c]WUI for the combined-sites differ from prior reporting due to changes identified in notes a and b above.

Table 4. LM Combined-Sites FY 2008 Water Use

Site Name	Gross Square Feet (GSF)	Water Use (gallons freshwater)		Comments
		Potable	Non-potable	
Monticello, UT	1,800[a]	8,482	NA	NA
Grand Jct. Disposal Site, CO	1,992[a]	63,100	NA	NA
Fernald Preserve, OH	7,200	996,641	NA	NA
Old Rifle, CO	720	2,545	NA	Field trailer installed in June 2008. Water use projected to cover full year.
Water Subcategory Totals	NA	1,070,768	NA	Non-potable freshwater use was not tracked during this year; only potable water was tracked.
	Total freshwater (potable and non-potable)	1,070,768		
Totals	**11,712**	**1,070,768**		GSFs corrected and baseline is not adjusted to changes in out years.
FY 2008: Combined-Sites WUI = 1,070,768 ÷ 11,712 = 91.4[b]				
Combined-Sites Percent WUI Reduction [(FY 2007 WUI – FY 2008 WUI) ÷ FY 2007 WUI] × 100 = [(136.2 – 91.4) ÷ 136.2] × 100 = 32.9% reduction[c]				

[a]In 2009, LM aligned the reported building's GSF baseline numbers to match GSF reported in the FIMS and for reporting consistency across the various LM sustainability programs.
[b]WUI for the combined-sites differ from prior reporting due to changes identified in note 1 above.
[c]WUI reduction differs from prior reporting due to GSF changes in FY 2007 baseline and FY 2008.

4.1.2 FY 2009 Information

Specific information for determining the FY 2009 water use and performance toward the intensity reduction goal is included in Table 5.

The large water-use savings in FY 2009 was mostly attributable to (1) the total combined-site's GSF basically doubled with the addition of the minimal-water-using Fernald Preserve Visitors Center building; and (2) water use at the Fernald Preserve, OH, the largest LM water-using site, was greatly reduced in FY 2009 because previously planted vegetation associated with the site's restoration has become established and did not require as much watering, and rainfall during FY 2009 provided more favorable growing conditions.

Table 5. LM Combined-Sites FY 2009 Water Use

Site Name	Gross Square Feet (GSF)	Water Use (gallons freshwater)		Comments
		Potable	Non-potable	
Monticello, UT	1,800	8,754	NA	NA
Grand Junction Disposal Site, CO	1,992	192,490	NA	Water use was greatly increased this year to support increased site activities, which occur sporadically. Water costs at this site increased greatly in FY 2009.
Fernald Preserve, OH	18,000	320,818	NA	LEED Platinum-certified Visitors Center building (10,800 GSF) was added to the Fernald Preserve, OH Site.
Old Rifle, CO	720	2,400	NA	NA
L-Bar, NM	0	NA	25,000	Temporary outdoor construction work. There is no building on site. Site added because of mid-calendar year change to definition of potable to add freshwater sources.
Water Subcategory Totals	NA	524,462	25,000	Freshwater definition expansion to include non-potable freshwater occurred in mid-2009.
	Total Freshwater (potable and non-potable)	549,462		
Totals	**22,512**	**549,462**		
FY 2009: Combined-Sites WUI = 549,462 ÷ 22,512 = 24.4				
Combined-Sites Percent WUI Reduction = [(FY 2007 WUI – FY 2009 WUI) ÷ FY 2007 WUI] × 100 = [(136.2 – 24.4) ÷ 136.2] × 100 = 82.1% reduction				

Other activities that occurred in FY 2009 include:

- Audits—Water audits were conducted at four sites (Monticello, UT; Grand Junction Disposal Site, CO; Fernald Preserve, OH and Old Rifle Site, CO) during November and December 2009 to understand current water use practices at the site, verify metering, and identify any obvious efficiency improvement opportunities.
- Metering—Two standard meters were installed at the Grand Junction Disposal Site, CO to improve the quality of the water use data for this site. It was determined that the existing method for measuring water use at the Old Rifle Site, CO (based on volume of potable water hauled to the site) was adequate. Installation of a meter at this site was not deemed practicable because a meter would not provide any appreciable benefit. Only a small amount of water is used at this unstaffed site trailer, which is intended to be taken out of use in 2012. **Note:** A leaking toilet at the Monticello, UT site was identified and repaired through periodic water meter data review.
- Environmentally Preferable Purchasing—LM has implemented a program to adhere to the preferential purchase of water-efficient products and services that use sustainable

environmental practices. Where applicable, WaterSense-labeled products are purchased, and irrigation contractors who are certified through a WaterSense-labeled program are procured.

4.1.3 Interim Goal/Trend Achievement

At the completion of the second year of the program's implementation, the LM combined-sites percent water intensity reduction for FY 2009 was 82.1 percent compared to the baseline. This by far exceeds the required water reduction goal for the second year, which is 4 percent. The FY 2009 goal performance was based on the five combined LM sites identified in Table 5. The resulting water savings during FY 2009 was 947,636 gallons.

4.2 Site-Specific Goals

During FY 2010, water conservation program efforts will largely be directed at:

- Establishing the new metrics required to track industrial, landscaping, and agricultural water consumption at the applicable LM sites. FY 2010 will be the baseline year for applicable use in this water category.
- Making adjustments to the existing freshwater intensity reduction tracking metrics, if applicable.
- Installing new meters, as required, to accommodate the new goal.

Once the new metrics are established, LM will refocus on identifying, assessing, implementing, and tracking improvement opportunities in support of meeting the LM water-reduction goals. The LM water conservation program's implementation is integrated through EMS and long-term surveillance and maintenance plans for planning, operating, and acquiring systems, as appropriate.

4.3 Description of Projects and Activities

LM will continue to develop the Water Conservation Program and will make adjustments to its program metrics to align with the new EO 13514. Installation of new meters to isolate industrial, landscaping, and agricultural water uses will likely be required at several sites.

A sixth site (Tuba City, AZ Site) should have been added under the freshwater term clarification scenario during FY 2009, but because non-potable freshwater is inconsistently withdrawn from the aquifer, and there is no pump run-time data, water use at the Tuba City, AZ Site was not included in the FY 2009 data. A meter will be installed at the site during FY 2010, and the site will be included as an applicable LM water conservation program site in FY 2010. Although this site was operational in FY 2007 and FY 2008, water intensity numbers will not be retroactively added to the LM baseline or FY 2008 or FY 2009 use data.

An internal water audit will be conducted at the Tuba City, AZ Site during FY 2010 to assess water use and metering needs and to identify potential water conservation opportunities. Any efficiency improvement measures that are identified will be assessed and prioritized based on individual and overall combined-sites performance needs, and all water conservation measures will be life-cycle cost-effective. Once needs are prioritized, approved water conservation measures will be implemented, and water savings and cost savings will be tracked.

Future efficiency improvements will likely involve improving landscaping equipment and practices at the sites.

LM will also look for ways to increase the reuse of reclaimed, recycled, and gray water for appropriate applications.

4.4 Funding Plan

LM current operating expenses and the overhead (minor construction) budget will fund the water audit, meter installations, and implementation of future water conservation measures and projects. If necessary, the baseline change control process will be used to request additional funding. LM will consider the order of funding as described in DOE Order 430.2B prior to initiating water efficiency improvements. Water conservation measures will be assessed to ensure that they are life-cycle cost-effective.

4.5 Milestones for Reaching the Goals

The milestone for completing the Tuba City, AZ water audit is the end of FY 2010. The milestone for reassessing and adding any new meters to support the new EO 13514 is the end of FY 2010. Milestones for completing approved water conservation measures will be identified once potential efficiency opportunities have been evaluated and prioritized; some minor efficiency measures may be implemented in FY 2010.

The Executable Plan will be updated annually to address issues, additional projects (including water conservation measures not identified in this plan), and changes to building-use functions (including increases or decreases in gross square footage). These plans may also be updated if new policy requirements apply or if concerns arise.

As required by the guidance for preparing the Executable Plan, Table 6 provides various metrics.

Table 6. LM Required Water Metrics

ESPC Project or Separate Energy Conservation Measure[a]	Actual or Estimated Water Saved (kgal/yr)	Expected Year of Implementation	Actual or Estimated Implementation Cost	Funding Source (ESPC, UESC, Overhead, GPP, Other)
Installation of additional standard meters at LM sites.	0	FY 2010	$10,000	Overhead; see discussion in Section 4.4.
Freshwater use audit at Tuba City, AZ.	0	FY 2010	$5,000	Overhead; see discussion in Section 4.4.
Individual site water conservation initiatives TBD[b].	TBD[b]	FY 2010−FY 2020	TBD[b]	Overhead; see discussion in Section 4.4.

Note: ESPC = Energy Savings Performance Contract; kgal = thousand gallons per year; UESC = Utility Energy Services Contracting; GPP = General Plant Project
[a]List the total project for individual ESPCs, not each individual energy conservation measures.
[b]TBD = To be determined

5.0 Renewable Energy

The EO 13423 renewable energy goal is to have at least 50 percent of the current renewable energy purchases come from new (after January 1, 1999) renewable sources and, to the extent feasible, to implement on-site renewable energy projects. EO 13423 allows the use of electricity from new renewable energy sources and non-electric renewable energy sources to meet the EO goals.

The EPAct of 2005's renewable energy goal (adopted by EO 13423) is to have a minimum of renewable energy consumption (percentage of annual electric consumption) to be 3 percent each year from FY 2007 through FY 2009; 5 percent each year from FY 2010 through FY 2012; and 7.5 percent each year from FY 2013 forward. The EPAct of 2005 allows only the use of electricity from renewable energy (old and new) to meet the requirement. Non-electric renewable energy sources cannot be used to meet the EPAct requirement.

The on-site renewable energy goal of DOE Order 430.2B is to maximize the installation of on-site renewable energy projects so that by FY 2010, at least 7.5 percent of each site's total annual electricity and thermal consumption is acquired from on-site renewable sources. A renewable energy project will be installed at each site by the end of FY 2010. All sites except the Fernald Preserve, OH; Monticello, UT, and Monument Valley, AZ Sites will generate sufficient on-site electricity to meet the DOE Order 430.2B goal. LM will request waivers for on-site generation at these sites, because either the projects are short term or the renewable resource is poor, making the project uneconomical.

5.1 Current Status

Nine LM sites have occupied buildings, and several sites that are normally unoccupied use utility-generated line power, thermal energy, or both. LM consumes, but does not directly purchase, electricity or thermal energy at several of the occupied sites, because the utilities are included in the leases (or other occupancy agreements).

Small renewable energy projects (solar) are also currently installed at many, mostly remote, LM sites for sampling, data-logging, and telemetry needs where utility power is unavailable or basically inaccessible. While line power is also used at some of these remote sites, it appears that the 7.5 percent renewable energy goal is already met for these sites.

At LM sites that directly purchase electricity, green power[1] is being bought wherever utility companies offer it. Essentially, purchasing green power from utility companies is like purchasing renewable energy credits; however, buying green power does not involve the buying, selling, and trading of renewable energy certificates. Green power is purchased in blocks of 100 kilowatt-hours per month (kWh/mo).

[1] Green power is a type of renewable energy that is most beneficial to the environment. The U.S. Environmental Protection Agency (EPA) defines "green power" as "electricity produced from solar, wind, geothermal, biogas, biomass, and low-impact small hydroelectric sources" and states that "customers often buy green power for avoided environmental impacts and its greenhouse gas reduction benefits" (EPA, *Green Power Defined*, http://www.epa.gov/greenpower/gpmarket/index.htm, accessed November 13, 2008).

Table 7 summarizes the site-specific status at the end of FY 2008 and site evaluations for FY 2009.

Table 7. LM On-Site Self-Generated and Purchased Renewable Energy

Site[a]	Electricity Purchased in FY 2008 (MWh)	Electricity Purchased in FY 2009 (MWh)	On-Site Electricity RE Project FY 2008 (MWh)	Green Power Purchased in FY 2008 (MWh)	On-Site Electricity RE Project FY 2009 (MWh)	Green Power Purchases in FY 2009 (MWh)	Evaluated in FY 2009 for On-Site Electricity RE Project(s)?
Fernald Preserve, OH[b]	5,235.0	5,008.8	—	15.2 (0.3%)	—	182.4 (3.5%) Evaluate additional purchase	Yes
Tuba City, AZ	2,020.0	1,822.2	—	—	Solar thermal system was installed that replaces a portion of electricity formerly used to produce heat.	A 51 kW solar photovoltaic system will be completed in FY 2010	Yes
Grand Junction Disposal Cell, CO	17.3	13.3	—	14.4 (88%)	—	14.4 (100%)	Yes
Monticello, UT	57.1	45.0	—	5.2 (9%)	—	9.6 (21%)	Yes
Shiprock, NM	77.1	38.5	—	Green power not available	—	Green power not available	Yes
Monument Valley, AZ	4.9	6.1	—	Green power not available	—	Green power not available	Yes
Old Rifle, CO	7.9	24.3	—	—	—	Evaluating purchase	Yes
Rocky Flats Site, CO	17.0	0	0.7 (100%) No utility power as of 10/08.	—	6.9 (100%)	—	No
Piqua, OH	50.0	50.0	—	—	—	—	No
Weldon Spring, MO	1,324.0	796.4	—	—	—	—	No
SOARS[d] telemetry systems installed at various sites.	0	0	1.0 (100%)	—	1.2 (100%)	—	No

Note: MWh = megawatt-hours; RE = renewable energy

[a]This listing does not include the locations where the energy cost is included in a DOE lease. Renewable energy projects will be considered under the Sustainable Buildings program when the lease/occupancy arrangement expires and a new lease/occupancy arrangement is developed. This listing also does not include sites that do not consume energy. These sites may be considered for a renewable energy project under the LM Beneficial Land Reuse program.

[b]The Fernald Preserve, OH was a DOE Office of Environmental Management site in FY 2008. However, all Fernald Site utilities and on-site geothermal project completion was paid through LM budget in FY 2008 and is shown in the table. The Fernald Preserve, OH Site was transferred to LM responsibility in FY 2009.

[d]SOARS is an acronym for System Operation and Analysis at Remote Sites. On-site solar energy is supplied by 10-20 watt solar panels that power telemetry and data logging. Total SOARS megawatt-hours are based on solar panel rating × 365 days/year × 24 hours/day.

5.2 Site-Specific Goals

LM site-specific goals are to meet or exceed the goals specified in DOE Order 430.2B, which includes the TEAM Initiative and EO 13423. The main objective is to maximize the installation of on-site renewable energy projects, where technically and economically feasible, so that at least 7.5 percent of each site's annual electricity and thermal consumption will be acquired from renewable energy by the end of FY 2010. The LM sites will be evaluated to determine the feasibility of this goal, as described in the next section.

LM will request waivers at sites where on-site renewable energy projects are not feasible; in addition, the purchase of more utility-supplied green power will be considered.

5.3 Description of Projects and Activities

LM will continue to develop the Renewable Energy Program and will make adjustments to its program metrics to align with the new EO 13514. LM sites will meet or exceed the energy reduction goals specified in DOE Order 430.2B, which includes the TEAM Initiative and EO 13423 by (1) maximizing the use of on-site renewable energy, (2) screening facilities to see where on-site renewable energy projects would be technically and economically feasible, and (3) purchasing green power where available.

The renewable energy screening process identified sites for which no further evaluation is needed, and prioritized the sites to be evaluated. The following evaluation approach was implemented:

- Sites with on-site renewable energy that provides at least 7.5 percent of energy needs already meet goals and need not be evaluated further, unless further evaluation is done as part of a land reuse evaluation.
- Sites where DOE has only leasehold interest need not be evaluated until an existing lease is up for renewal or modification, or a new leasehold is being acquired.

The renewable energy evaluation will be conducted under the Sustainable Buildings Program.

Table 8. LM FY2009 Electrical Consumption

FY 2009 Electrical Consumption= 7805 MWH				
	FY 2009 Energy Produced (MWH)	**FY 2009 Energy Produced (Million Btu)**	**RE as a Percentage of Electricity Use**	**RE as a Percentage of Energy Use (includes non-electric)**
Electricity from Solar	11.9	0	0.152%	0.146%
Electricity from Wind	0	0	0	0
Renewable Thermal Energy	0	362	1.36%	1.29
On-Site Total	**11.9**	**362**	**1.51%**	**1.44%**
Purchased RECs from New Renewable Source	0	0	0	0
Total	**11.9**	**362**	**0.152%**	**1.44%**

Table 9. LM Renewable Energy/Thermal Energy Technology including RECs

Renewable Energy/Thermal Energy Technology including RECs	System Size (capacity)	Total MWh/yr	Renewable Energy Initial Project Capital Cost	Funding Source (ESPC, UESC, PPA, Other)	Implementation Year
Tuba City Site, AZ—solar thermal	2 MBtu/day	300	$510,000	Other	FY 2009
Fernald Site, OH—geothermal	333,000 Btu/day	48	$369,000	Other	FY 2008
Rocky Flats Site, CO—solar electric	6,800 W	10	$25,000	Other	FY 2009
Green power	NA	49.4	NA ($3400/yr cost)	Other	FY 2008
SOARS	750 W	6.5	$25,630	Other	FY 2009
Distributed generation electrical systems[a] at sites to be evaluated in accordance with this Executable Plan.	NA	717	$1,500,000	Other	FY 2009, FY 2010
Distributed generation thermal systems[a] at sites to be evaluated in accordance with this Executable Plan.	604 MBtu/yr	NA	$250,000	Other	FY2010
Additional greenpower purchases where an on-site renewable energy project is not feasible	NA	50	NA ($7,000/yr operating budget)	Other	FY 2009, FY 2010

Note: RECs = Renewable Energy Credits; MWh/yr = megawatt-hours per year; ESPC = Energy Savings Performance Contracts; UESC = Utility Energy Savings Contract; PPA = Power Purchase Agreement.
[a]Electrical and thermal renewable energy distributed generation systems will be reported separately after feasibility evaluations are performed and systems are selected. Current values are estimated savings.

5.4 Funding Plan

The renewable energy feasibility evaluations were included in the Legacy Management Support contract budget.

On-site projects that are determined feasible will be funded through the baseline change proposal process.

5.5 Milestones for Reaching the Goals

The feasibility evaluations were completed by September 15, 2009. Renewable energy projects that were determined feasible will be scheduled to be completed by September 30, 2010, with specific milestones developed in accordance with the baseline change proposal process.

6.0 Fleet

The EO 13423 transportation/fleet management goals are to reduce the fleet's total consumption of petroleum products by 2 percent annually from the FY 2005 baseline, or 20 percent by the end of FY 2015; to increase the total fuel consumption that is non-petroleum-based by 10 percent annually; and to use plug-in hybrid vehicles when they are commercially available and life-cycle cost-effective.

The DOE Order 430.2B transportation/fleet management goals are to achieve the petroleum reduction goal through (1) reducing vehicle miles traveled through methods such as trip consolidation, videoconferencing and Web conferencing, mass transportation, and agency shuttles; (2) increasing the fleet's fuel economy overall by acquiring vehicles with better fuel economy; (3) "right sizing" the fleet; (4) employing energy-efficiency strategies (such as low-rolling-resistance tires and synthetic oil); and (5) considering the use of plug-in hybrid electric vehicles and electric-drive vehicles to the extent feasible and in accordance with applicable statutes, regulations, executive orders, and DOE guidance.

The Energy Policy Act (EPAct) of 1992, includes the requirement that 75 percent of vehicles acquired for federal agencies' covered fleets be alternative-fuel vehicles (AFVs). In addition, the EPAct of 2005 requires each federal agency to use alternative fuel in all of its dual-fuel vehicles (such as ethanol flex-fuel vehicles or bi-fuel vehicles) except when the vehicles have received a waiver from DOE.

6.1 Current Status

6.1.1 Vehicle Acquisitions

LM's fleet of vehicles currently consists of 42 General Services Administration (GSA) leased vehicles and one special purpose owned vehicle:

- 22 E85 vehicles
- 7 diesel vehicles
- 12 unleaded gasoline vehicles (3 light duty and 9 medium duty)
- 1 hybrid

LM's current strategy, which consists of acquiring an AFV when a fleet vehicle needs to be replaced, exceeds the EPA Act of 1992's requirement of 75 percent AFV acquisition.

6.1.2 Petroleum Reduction

LM met the goal to reduce petroleum use by 2 percent annually compared to its baseline year of 2007, which would be a reduction of 4 percent from 2007. LM is using 2007 as its baseline year as the LM sites and vehicles did not level off until 2007. There were dramatically fewer sites and vehicles in 2005. Total petroleum use in FY 2009 was 35,263 gallons, compared to 36,570 gallons in FY 2007.

LM is employing efficiency strategies, and with continued implementation of the following strategies, a minimum 2 percent annual reduction in petroleum usage is projected to continue for FY 2009 through FY 2015.

- Employees are encouraged to use the Fernald Preserve, OH/Mound, OH shuttle instead of their personal vehicles, and an expansion of the shuttle service is being considered.
- The purchase of John Deere Gator utility vehicles and global electric motorcars (GEMs), which use less fuel than conventional vehicles, is also being considered. An electric golf cart was purchased for use on the Pinellas, FL, Site in 2008.

- LM is committed to reducing miles through methods such as trip consolidation. A column is being added to the vehicle log to identify the number of passengers in each GSA vehicle so that trip-consolidation practices can be tracked.
- LM's shuttle service uses an E85-fuel, seven-passenger vehicle to transport employees between the Fernald Preserve, OH and Mound Site, OH.
- Video-conferencing can reduce vehicle miles. LM has established video-conferencing capabilities at its seven major sites around the country.
- LM's plan to increase the overall fuel economy of its fleet involves continually working with GSA to provide LM with smaller vehicles, plug-in hybrid vehicles, or other advanced-technology vehicles. LM's efforts to identify the most fuel-efficient vehicle for a given task include keeping track of miles driven, fuel used, and vehicle usage.

LM's current strategy, which consists of acquiring an AFV when a fleet vehicle needs to be replaced, exceeds the EPA Act of 1992's requirement of 75 percent AFV acquisition. This strategy will be applied on all acquisitions and will only be circumvented when special situations occur. It is projected that the AFV acquisition will exceed 75 percent of purchases in any given year though FY 2015.

6.1.3 Alternative-Fuel Availability and Use

LM's alternative-fuel use is predominantly E85. LM used 817 gallons of E85 in FY 2008 and 2,235 gallons in FY 2009, which represents an increase of 173 percent. The FY 2009 reduction exceeds the EO 13423 requirement of increasing non-petroleum-fuel consumption by 10 percent annually. However, meeting the 10 percent annual benchmark hereafter will be more challenging. LM will continue working with GSA to increase the number of alternative-fuel vehicles in the fleet.

LM has received AFV waivers for all E85-capable vehicles in FY 2009, as there are limited alternative-fuel stations within 5 miles of LM sites. Future AFV waivers are projected to be required where E85 fueling stations are unavailable, such as in the remote LM site areas. This need will be assessed annually and waivers applied for as needed. LM plans to use the DOE website to closely monitor the availability of the alternative-fuel stations. LM is working to increase awareness of the need to use E85 where it is available. Awareness training was provided during FY 2009, and a map of E85-fuel locations was given to fleet-vehicle drivers. E85 vehicles were designated with stickers so that drivers know what fuel to use, and a listing of local E85 stations was placed in each vehicle. Based upon these actions, LM is projecting to continue a 10 percent increase annually in alternative-fuel usage through FY 2015.

LM has not used biodiesel fuel to date because of its lack of availability, fuel consistency, and fuel quality. Based on current infrastructure, fuel availability, and fuel quality, biodiesel fuel (B20) is not projected to be used in FY 2010. Use of B20 in FY 2011 through FY 2015 will need to be reassessed annually to determine if infrastructure and fuel are available. LM will monitor the DOE website to determine B20 availability.

Working within the "Clean Cities" coalition; promotion of alternative fuels, use of advanced vehicles, use of fuel blends, use of hybrid vehicles, and idle reduction of vehicles will proceed. The continued education of vehicle users will be key in the success of these actions.

The current LM vehicle inventory is 42 vehicles, consisting of 2 sedans, both of which are E85 capable; 12 light-duty sport utility vehicles (SUVs) of which 9 are E85 capable, 2 are gasoline only and 1 is a hybrid; 27 pickups, of which 11 are light-duty E85 capable, 1 is light-duty gasoline only, 8 are medium-duty gasoline only, and 7 are diesel; and 1 van, which is medium-duty gasoline only. Another light-duty E85 pickup was returned to GSA late in the year due to safety issues. The unit will be replaced by GSA next year (Spring 2010). This will bring the fleets total to 43 vehicles.

Table 10 lists the vehicle acquisition plans by fiscal year.

Table 10. LM Vehicle Acquisition Plans

Fiscal Year	Vehicle to be Replaced	New Vehicle Leased
2010	1 E85 Sedan 3 LD E85 SUVs 1 LD E85 PU	1 Hybrid sedan 1 LD E85 SUV 1 LD E85 PU 2 Hybrid LD SUVs
2011	1 LD E85 SUV 6 LD E85 PUs 2 LD Gas SUVs	3 LD Hybrid SUVs 6 LD E85 PUs
2012	1 LD E85 SUV 2 MD gas PUs 5 MD diesel Pus	1 Hybrid sedan 2 MD E85 PUs 5 MD Diesel PUs
2013	2 LD E85 SUVs 1 E85 sedan 2 MD gas PUs 2 LD gas PUs 1 MD gas van	2 LD Hybrid SUVs 1 Hybrid sedan 2 MD E85 PUs 2 LD E85 PUs 1 MD van
2014	1 LD E85 SUV 2 LD E85 PUs 2 MD gas PUs 1 MD diesel PU	1 LD Hybrid SUV 2 LD E85 PUs 2 MD E85 PUs 1 MD B20 diesel PU
2015	1 LD E85 SUV 3 LD E85 PUs 2 MD gas PUs 1 MD diesel PU	1 LD Hybrid SUV 3 LD E85 PUs 2 MD E85 PUs 1 MD B20 diesel PU

LD = light duty; MD = medium duty; PU = pickup

LM's mission is to manage post-closure responsibilities and ensure the future protection of human health and the environment. As of June 2009, LM is responsible for monitoring, testing, inspecting, and maintaining 45,015 acres of land at 85 sites located in 28 states and Puerto Rico. LM's fleet of 42 vehicles is located at 8 sites in 7 states and is a necessary element in the success of the LM mission and associated activities.

By 2015 all gasoline sedans, light-duty SUVs, and light-duty pickups will be replaced with hybrid and E85-capable vehicles. While no impediments are anticipated in the acquisition of these vehicles, the availability of E85 fuel remains an issue due to the remote areas in which most of these vehicles operate. The availability of B20 diesel for newly acquired medium-duty diesel pickups is an issue for the same reason. LM will monitor the DOE website to determine E85 and B20 availability. Once B20 fuel is available, usage will increase a minimum of 10 percent per year through FY 2015. The continued education of vehicle users will be key in the

success of these actions. All employees shall receive awareness-level training along with required refresher training regarding the EO 13423 vehicle and fuel use goals.

6.2 Site-Specific Goals

LM site-specific goals are to meet or exceed the goals specified in DOE Order 430.2B, which includes the TEAM Initiative, and EO 13423.

6.3 Description of Projects and Activities

LM will continue to develop the Vehicle and Fuel Use Program and will make adjustments to its program metrics to align with the new EO 13514. To comply with program goals, the Vehicle and Fuel Use Program team maintains a list of vehicles in the LM fleet, monitors the monthly fuel consumption with detailed spreadsheets, monitors vehicle and fuel type, and takes appropriate action to meet program goals for vehicle and fuel use. The team has regular monthly meetings to discuss the continued fuel use and progress toward the goals. The meetings are documented with detailed meeting minutes. The team also requested information from managers and documented several projects that had an unanticipated increase in fuel use.

All vehicles currently in or acquired for the LM fleet that are capable of using E85 fuel shall use this alternative fuel to the maximum extent practicable. Otherwise, a waiver will be obtained.

Each site with alternative-fuel vehicles shall utilize the DOE Web-based Alternative Fueling Station Locator to identify stations within a 5 mile radius that provide the appropriate fuel. Where no stations exist, site management shall investigate possible solutions through private-sector alternative-fuel distributors, including existing fuel vendors and stations.

GSA determines when GSA-leased vehicles should be replaced, based on vehicle age and mileage. When it is time to replace a vehicle, GSA notifies pertinent fleet management (in this case, the Legacy Management Support contractor). The contractor tells GSA what type of vehicle is required, using the following criteria:

- The availability of alternative-fuel, dual-fuel, or hybrid vehicles meeting the job or usage requirements.
- The availability of the appropriate fuel in the areas in which the vehicle will typically operate.

The LM fleet currently has 42 vehicles and consists of medium- and light-duty pickups, SUVs, and sedans. Four-wheel-drive pickups and SUVs are often preferred because of the remote, rough country and job requirements. This vehicle inventory and how each vehicle is used (days used, miles driven, and quantity of fuel purchased) are tracked through GSA's standard tracking system and/or LM's internal fleet management system, which includes fuel purchases using GSA-authorized credit cards.

GSA's existing vehicle tracking system will be modified if necessary and used to track fuel use by fuel type and vehicle type. The metrics will be placed in a spreadsheet so that monthly and year-to-date data can be tracked and sorted for easy comparisons to previous months or years.

LM shall have internal policies that require the accurate tracking of vehicle acquisitions and inventory, mileage, fuel consumption by fuel type, and other relevant data.

LM and GSA will work together to update and maintain the Federal Automotive Statistical Tool (FAST) to reflect the goals of EO 13423. FAST is a Web-based program developed to measure how federal agencies comply with the DOE requirements pertaining to vehicle and fuel use reduction.

LM is required to submit annual vehicle use data, including the type and quantity of fuel used, to DOE-HQ no later than December 31 of each year. DOE-HQ specifies the reporting format and collection methods for data to be submitted.

The Vehicle and Fuel Use Program team provides LM and Legacy Management Support contractor management with quarterly reports on progress toward meeting program goals.

All employees shall receive job-specific awareness-level training as well as necessary refresher training regarding the EO 13423 vehicle and fuel use goals; the purpose, scope, and implementation of the Vehicle and Fuel Use Program; and the environmental impact of employees' actions.

6.4 Funding Plan

The funding source to implement vehicle and fuel use measures is included in the current operating expenses.

6.5 Milestones for Reaching the Goals

The following three steps will be taken to ensure that the goals are met: (1) Status will be tracked monthly, (2) quarterly reports will identify any challenges to the goals, and (3) appropriate actions will be developed as needed to ensure that the goals are met.

7.0 High-Performance Sustainable Building

The DOE Order 430.2B high-performance and sustainable buildings goals are:

- All new buildings and major building renovations over $5 million will incorporate the guiding principles of EO 13423 and attain LEED Gold certification.
- Existing buildings that are owned or leased real property must develop and implement a plan to ensure that 15 percent of enduring buildings comply with the guiding principles of EO 13423 by 2015.
- Each year on August 1, the contractor will submit high-performance building plans to the appropriate DOE field element office. The plans will address how the contractor will ensure that all new construction and renovation projects support the sustainable design/high-performance building goals of EO 13423 and statutory requirements, and how existing facilities' maintenance and operation practices support the goals of EO 13423. Such plans must also be aligned with EO 13327 and DOE's real property asset management plan.

7.1 Current Status

LM used the DOE High-Performance and Sustainable Buildings Assessment and Compliance Tool for Existing Buildings to assess the current building inventory. The purpose of the assessment was to determine the extent of compliance to the high-performance sustainable building guiding principles of EO 13423. The assessment will also serve as a baseline and planning tool, identifying the current status and needs to facilitate EO 13423 compliance by 2015.

The assessment team included members of the EMS Sustainability group, an integrated team representing DOE, facilities operations and maintenance (O&M), environmental, FIMS compliance, projects, and a LEED AP representative. Additional resources were utilized from the various facilities to provide the building details, planned uses, and prior FIMS assessments for the varied facilities.

The assessment process followed the prescribed approach, beginning with team assembly and gathering of available information for the existing inventory. The initial assessments used the compiled data to determine which buildings were exempt from the assessment process and which were the most suitable for achieving guiding principle compliance by 2015. A subset of buildings were identified for on-site and comprehensive assessment using the DOE High-Performance and Sustainable Buildings Assessment and Compliance Tool for Existing Buildings. Many facilities did not merit further assessment due to the lack of potential sustainability enhancements including limited or no utilities, and pending lease expiration without defined intent to renew.

Formal assessments were completed for twelve buildings at seven LM sites[2]. Only the Fernald Preserve Visitor Center (FPVC), a LEED Platinum facility, was identified as meeting 100 percent of the guiding principles. The FPVC represents approximately 10.8 percent of the existing owned LM building inventory of 99,476 square foot. The team is working to further define the projected LM square footage inventory in 2015, including leased facilities.

7.1.1 New Buildings and Major Renovations

All new DOE-owned buildings and major building renovations over $5 million will incorporate the guiding principles of EO 13423 in compliance with LM's current design standards. The guiding principles of EO 14323 will be considered for all new buildings and renovations, to the extent practical.

7.1.2 Existing Owned and Leased Space

The Fernald Preserve Visitors Center is approximately 10.8 percent of LM's current existing owned building square footage. LM's plans for all procurement specifications and selection criteria for acquiring new leased space to include a preference for LEED Silver-certified buildings are currently ongoing. LM currently leases 104,091 square feet.

[2] Buildings greater than 1,000 square foot were included in the formal assessment process based on guidance that was current at the time. Current requirements raised the threshold to 5,000 square foot, and the inclusion of out-granted facilities adjusted the total LM owned building inventory to 99,476 square foot.

The Legacy Management Business Center is pursuing LEED Gold certifications for commercial interiors, and core and shell. The facility is leased from a developer by GSA, and will be used by DOE LM through an inter-agency use agreement. DOE LM funded the enhanced LEED status for the facility, though the building will be counted as GSA inventory.

Significant ongoing activities of the EMS Sustainability team include comparison of building assessment data to identify sustainability enhancement projects needed to meet the 15 percent goal. The percent compliance to guiding principles score is the initial comparison data point, but the team is also utilizing factors of feasibility, fundability, long-term mission, and square footage to formulate a path forward to compliance by 2015.

Additionally, the team is currently assessing the feasibility of upgrading the Weldon Spring Interpretive Center to meet the guiding principles and pursuing certification under the 3.0 LEED Existing Building: Operations and Maintenance rating system.

LM's plans for the renegotiation or extension of existing leases to include, to the extent practicable, lease provisions that support the guiding principles of EO 13423 are under review. In the past and in current retrofit projects within the leased space, LM has incorporated energy-efficient technologies, such as energy-efficient lighting, water-efficient appliances and fixtures, Energy Star products, and LEED-approved sustainable products (e.g., low-volatile-organic-compound paints and recycled-content carpet).

7.2 Site-Specific Goals

LM site-specific goals are to meet or exceed the goals specified in DOE Order 430.2B, which includes the TEAM Initiative, and EO 13423.

7.3 Description of Projects and Activities

LM will continue to develop the Sustainable Building Program and will make adjustments to its program metrics to align with the new EO 13514. LM sites will meet or exceed the high-performance and sustainable buildings goals by (1) ensuring that all new buildings and major building renovations in excess of $5 million incorporate the guiding principles of EO 13423 and attain LEED gold certification, (2) developing a plan to ensure that 15 percent of existing buildings that are owned or leased real property comply with the guiding principles of EO 13423, (3) maximizing the use of on-site renewable energy, (4) ensuring that newly constructed building are very energy-efficient, (5) installing necessary metering, and (6) continuing to implement energy retrofits.

7.4 Funding Plan

The baseline change control process will be used to get required funding for renovations needed for existing buildings to meet the 15 percent goal, if the renovations are not covered by existing construction funding. The amount of funding needed to achieve the goal will not be known until the assessments are complete.

7.5 Milestones for Reaching the Goals

Approximately 12 percent of the existing buildings' square footage currently meets the guiding principles. Opportunities for sustainability gains will be identified, and funding will be requested to implement the building upgrades, if necessary, in FY 2010. Lease agreements will be modified as renewals come up. The guiding principles will be discussed in any new lease agreements, as needed.

8.0 Metering

As part of the Executable Plan, baselines were established for the major consuming sites. These sites are also metered. The team is proceeding to meter buildings within the individual sites.

Advanced electric meters were installed at the Tuba City Control and Maintenance buildings and the Fernald Preserve Converted Advanced Waste Water Treatment Facility and the Fernald Preserve Visitors Center during FY 2009.

Two standard water meters were installed at the Grand Junction Disposal Site to improve the quality of the water use data for this site.

9.0 Energy Management

9.1 Funding Mechanisms

LM's current operating expenses and the overhead (minor construction) budget will fund the energy management activities. If necessary, the baseline change control process will be used to request additional funding. Energy management measures will be assessed to ensure that they are life-cycle cost-effective.

9.2 Status of Energy Audits, Commissioning, and Retro-Commissioning

Water audits were conducted at four sites (Monticello Site, Grand Junction Disposal Site, Fernald Preserve, and Old Rifle Processing Site) during November and December 2008 to understand current water use practices at the site, verify metering, and identify any obvious efficiency improvement opportunities.

Energy audits were conducted at the Fernald, Monticello, Tuba City, Shiprock, and Monument Valley Sites to understand current site energy use practices, verify metering, and identify any obvious efficiency improvement opportunities. These were performed in conjunction with renewable energy feasibility evaluations.

One year post-commissioning was performed on the Fernald Preserve Visitors Center as required per LEED NC 2.2. No additional commissioning or retro-commissioning was planned for or conducted during FY 2009.

9.3 Personnel Management and Resources

LM has established a team of people to direct and support the goals of the EMS. In addition, each program has a team of cross-functional personnel who are charged with implementing their respective program. Some of the functions represented include operations and maintenance, facility management, the Federal Information Management System, procurement, training, environmental compliance, and quality assurance. Each team has two advocates. The role of the joint LM/LMS team management advocate is to make a clear alignment between the mission of the organization and the goals and objectives of EMS. The primary purpose of this advocacy role is to communicate a firm commitment to strengthening sound environmental stewardship practices LM-wide.

This page intentionally left blank