LMS/S07225

Site Sustainability Plan

U.S. Department of Energy
Office of Legacy Management

December 2015

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David W. Geiser, Director, Office of Legacy Management **Date**

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Abbreviations

AFV	alternative fuel vehicle
AS&T	Applied Studies and Technology
Btu	British thermal units
CAS	Condition Assessment Survey
CEDR	Consolidated Energy Data Report
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CO_2	carbon dioxide
D&D	deactivation and decommissioning
DOE	U.S. Department of Energy
DRRP	Dolores River Restoration Partnership
E85	85-percent ethanol alternative fuel blend
ECM	energy conservation measure
EISA	Energy Independence and Security Act
EMS	Environmental Management System
EO	Executive Order
EPA	U.S. Environmental Agency
EPAct 1992	Energy Policy Act of 1992
EPAct 2005	Energy Policy Act of 2005
EPEAT	Electronic Product Environmental Assessment Tool
ESPC	Energy Savings Performance Contract
EUI	energy use intensity
FAST	Federal Automotive Statistical Tool
FDCCI	Federal Data Center Consolidation Initiative
FEMP	Federal Energy Management Program
FIMS	Facilities Information Management System
FY	fiscal year
Gal	gallons
GHG	greenhouse gas
GP	Guiding Principle
GPCP	Guiding Principles Compliance Professional
GSA	U.S. General Services Administration
GSF	gross square feet; gross square footage
HPSB	high-performance and sustainable building
HRPP	high-risk personal property
HVAC	heating, ventilation, and air-conditioning
IAEA	International Atomic Energy Agency
ILA	industrial, landscaping, and agricultural
JAMIS	Job Cost Accounting Management Information System
kW	kilowatts
kWh	kilowatt-hours
LM	Office of Legacy Management
LMS	Legacy Management Support
NECPA	National Energy Conservation Policy Act
OMB	U.S. Office of Management and Budget
PL	Public Law
PREP	Preliminary Real Estate Plan
PUE	power utilization effectiveness
RE	renewable energy
REC	renewable energy certificate
RSLS	Regulatory Supervision of Legacy Sites
SF_6	sulfur hexafluoride
SOARS	System Operation and Analysis at Remote Sites
SPO	Sustainability Performance Office
SSP	Site Sustainability Plan
SSPP	Strategic Sustainability Performance Plan
T&D	transmission and distribution
TAA	Trade Agreements Act
ULP	Uranium Leasing Program
USC	*United States Code*
USFWS	U.S. Fish and Wildlife Service
WMP2	Waste Minimization and Pollution Prevention
WUI	water use intensity
yd^3	cubic yards
ZVI	zero-valent iron

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I. Executive Summary

a. Site Management Vision

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) embodies environmental stewardship excellence while performing its primary mission managing DOE post-closure legacy sites. As of December 2015, LM monitors, tests, inspects, and maintains more than 62,000 acres at 90 sites in 28 states and Puerto Rico. Thirty-nine sites required only records management and public outreach. LM's goals are protecting human health and the environment; preserving, protecting, and sharing records and information; meeting commitments to the contractor workforce; optimizing land and asset use; and sustaining management excellence. LM incorporates the Environmental Management System (EMS) life-cycle continuum in the LM mission. See Attachment A for a copy of LM's *Environmental Policy*.

LM operates its EMS program jointly with its prime contractor for the Legacy Management Support (LMS) contract, and both partners prioritize resource sustainability while executing the LM mission.

Note 1

In this document, a reference to "LM" represents both LM and the prime contractor (for data, personnel, etc.) unless specifically noted otherwise.

Note 2

Unless stated otherwise, all data are reported in fiscal years (FY).

b. Planning Synopsis

This *Site Sustainability Plan* (SSP) outlines LM's sustainability and management strategies and details LM's progress in meeting sustainability goals defined in federal law, Executive Orders (e.g., Executive Order [EO] 13693, *Planning for Federal Sustainability in the Next Decade*), Presidential Memorandums, and DOE departmental guidance documents (e.g., Strategic Sustainability Performance Plan [SSPP]).

LM's priorities are to sustainably manage LM's legacy sites, land, and assets. LM achieves these goals by conserving resources (consuming fewer resources, reusing/recycling resources, and promoting resource conservation), implementing infrastructure improvements, and operating onsite renewable-power-generating projects.

c. People and Processes

LM's EMS is a joint program between LM and its prime contractor for the LMS contract. LM's EMS comprehensively incorporates life-cycle environmental considerations into all aspects of the LM mission. The EMS covers both environmental compliance and environmental sustainability. The EMS environmental compliance side helps LM to use its finite resources wisely, to minimize wastes and adverse environmental impacts, and to comply with the laws, regulations, DOE requirements, and other applicable requirements that protect the environment, public and worker health, and resources. The EMS environmental sustainability side enables LM

to implement sustainable environmental stewardship practices that enhance the 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 in environmental stewardship.

The environmental compliance aspect of the EMS consists of regulatory compliance and monitoring programs that implement federal, state, local, and tribal requirements, agreements, and permits. The LMS Environmental Compliance group is integrated into program/project implementation from planning through completion to help ensure activities are performed so that the safety of the public and protection of the environment is maintained.

The LM EMS environmental sustainability aspect, with its comprehensive approach to fulfilling sustainability goals, will advance the DOE sustainability mission with a diverse approach and a concentrated effort toward the goals of 2016 and beyond. To achieve the goals, LM will work with its EMS Core Team, EMS sustainability teams, the LMS Environmental Compliance group, and the LM operations and maintenance staff. In addition, LM will enlist the technical expertise of its scientists and engineers to enable LM to operate sustainably and in compliance. This fostering of sustainable operations will include continued emphasis on behavior change.
See Section 12 for additional information.

d. Successes and Challenges, Including Traditional Triple Bottom Line Activities

In 2015, LM passed its triennial external EMS audit and continued to put forth its EMS as a good model of a joint federal/contractor effort. LM declared conformance with the International Organization for Standardization 14001:2004 standard in June 2015, on the basis of the results of a formal audit by a qualified external party. The external auditors gave LM a "Best in Class" rating for their strategic planning.

LM achieved or exceeded all of its 2015 sustainability goals. However, LM is a small DOE organization, and so it represents only a small percentage of DOE's overall sustainability goals.

By 2025 LM is projected to assume responsibility for 59 additional legacy sites and will adjust its EMS accordingly. As LM receives sites, it will employ more workers, occupy more office space, operate more vehicles, consume more fuel, purchase more supplies, and generate more waste. In addition, buildings at future sites that will be transferred to LM might affect energy use intensity (EUI) and water use intensity (WUI) sustainability goals. Sites' conditions at transfer could vary greatly, making it difficult to predict their impact to LM sustainability goals. As LM receives sites it will monitor the impacts to sustainability goals and related funding. LM might request additional EMS funding and/or a waiver for achieving certain sustainability goals.

As identified in the "Site Management Vision" section above, LM has multiple fundamental goals. Underlying these fundamental goals are LM's "triple bottom line" activities that focus on social responsibility, economic prosperity, and environmental stewardship. For social responsibility, LM focuses on both staff and public communication and safety. For economic prosperity, LM promotes business excellence by being fiscally responsible and using best business practices. For environmental stewardship, LM consults with stakeholder communities regarding its compliance with environmental laws, regulations, and agreements; its support for environmental justice; and its general respect for the environment. LM climate-related advancements include gaining a better understanding of climate science and developing

vulnerability assessments. Climate-related challenges include embracing a more holistic integration of climate adaptation; considering resilience considerations in operations, policy, and workforce protocols; and further identifying climate risks for LM sites.

e. Funding

LM utilizes a multi-year sustainability budgeting plan to identify funds that will be needed to approve projects in a timely manner and to improve ease of data collection for the multiple budget requests. With a 5-year look-ahead, LM identifies the major sustainability goals and related activities (e.g., water audits or annual reporting events) and the projects that will be necessary to achieve and track the goals. LM funds long-term sustainability projects in its site-specific budgets. The EMS staff identifies project costs for the Sustainability Crosscut budget and other related budget calls. See Section 11 for additional information.

f. Summary Table of Goal Targets

LM's reporting consists of both the 2015 Consolidated Energy Data Report (CEDR) and this 2016 SSP. See Table 1 for a performance summary of efforts through 2015, a long-term performance projection through 2025, and evaluations of the risks of non-attainment.

EO 13693 established multiple new goals and/or extended the goal periods. The federal government, including DOE, is still developing guidance, metrics, and interim goals to better define the EO goals. Because of the timing of this report in comparison to EO issuance dates and implementation dates, some explanation of the Table 1 entries is warranted:

Note 1

1) *The table below identifies the new goals.*
2) *Within the "Performance Status Through Fiscal Year (FY) 2015" column, the status discussion may include:*
   - *An evaluation against prior EO sustainability goals. These evaluations will be noted in square brackets.*
   - *A discussion as not applicable (N/A). This applies if the goal is newly identified and LM has not yet pursued activities.*

Note 2

In Table 1, the information in the "Risk of Non-attainment" column represents evaluations against the following risk categories and risk ratings:

Risk categories:	***Risk ratings:***
Technical Risks: *Technology is available or not available in current facilities and/or systems to attain the goal.* ***Management Risks:*** *Management systems and/or policies might require changes for which approval authority is outside DOE or that require an internal DOE policy or procedural change.* ***Financial Risks:*** *Funds are not identified in current or outyear targets to achieve the goal.*	***High:*** *Risk in at least one of the three categories is so significant that non-attainment of goal is likely or expected. For the goals that have a high risk of non-attainment, please provide a brief description of the gap in the narrative.* ***Medium:*** *Risk in at least one of the categories above is so significant that it is moderately likely you may not attain the goal.* ***Low:*** *Any risks associated with this goal are being satisfactorily mitigated such that attainment of the goal is likely.*

Table 1. DOE Goal Summary Table

SSPP Goal #	DOE Goal	Performance Status Through FY 2015	Planned Actions and Contributions	Risk of Non-attainment
GOAL 1: Greenhouse Gas Reduction and Comprehensive Greenhouse Gas Inventory				
1.1	Reduce Scope 1 & 2 GHG 50% by FY 2025 from a FY 2008 baseline. (2015 target: 19%)	LM exceeded the 2015 target by achieving a 50.9% reduction.	LM will strive to continue to reduce energy, water, and fleet use and to produce renewable energy (RE) or purchase renewable energy certificates (RECs) in order to continue to meet the new goal.	Low
1.2	Reduce Scope 3 GHG 25% by FY 2025 from a FY 2008 baseline. (2015 target: 6%)	LM estimates exceeding the 2015 interim target, with a tentative Scope 3 greenhouse gas (GHG) reduction of 35.4% from the 2008 baseline. Final performance is pending federal employee business travel data; 2014 data placeholders were used for the estimated reduction.	Scope 3 GHG calculations fluctuate based on numerous factors. LM will strive to maintain goal status and to further reduce these emissions.	Low
GOAL 2: Buildings, Energy Savings Performance Contract (ESPC) Initiative Schedule, and Regional and Local Planning				
2.1	Reduce energy intensity (Btu per gross square foot) 25% by FY 2025 from a FY 2015 baseline (-2.5% reduction per year) in goal subject buildings. (2015 target: 30%)	LM has met and exceeded the 2015 target. LM reduced EUI by 75.8% compared to the 2003 baseline. LM's 2015 baseline is 64,337 Btu per gross square foot.	LM will continue to pursue projects that will further reduce its EUI and to make certain that it doesn't fall below the 2025 goal.	Low
2.2	Conduct EISA Section 432 energy and water evaluations.	In 2015, LM completed 100% of the scheduled energy and water evaluations for the Energy Independence and Security Act (EISA) 4-year cycle.	LM will conduct water audits at the Fernald, Ohio, Site; the Monticello, Utah, Disposal and Processing Sites; and the Weldon Spring, Missouri, Site. Energy audits will be conducted at the Fernald and Weldon Spring sites.	Low
2.3	Meter all individual buildings for electricity, natural gas, steam, and water, where cost-effective and appropriate.[1]	LM has met this goal. LM has evaluated all buildings; Metering would be either not cost effective or not appropriate for the currently unmetered buildings.	LM will evaluate metering on any upcoming projects.	Low

[1] In accordance with the National Energy Conservation Policy Act (42 USC Section 8253), the term "buildings" includes industrial, process, or laboratory facilities.

Table 1 (continued). DOE Goal Summary Table

SSPP Goal #	DOE Goal	Performance Status Through FY 2015	Planned Actions and Contributions	Risk of Non-attainment
2.4	At least 15% (by building count or square footage) of existing buildings greater than 5,000 gross square feet (GSF) to be compliant with the GPs of HPSBs by FY 2025, with progress towards 100% thereafter.[2]	LM has met and exceeded the 2015 goal. 15% of existing buildings greater than 5,000 GSF to be compliant with the Guiding Principles (GPs) of high-performance and sustainable buildings (HPSBs) by FY 2015. 71% of LM's existing buildings meet the established guiding principles.	LM will continue to monitor its existing building inventory for the GPs by conducting HPSB surveys relative to EO 13693.[2]	Low
2.5	Increase regional and local planning coordination and involvement efforts.	LM dispositioned approximately 6 acres of land; undertook a 12-acre wetland creation project; reintroduced federally endangered species of insects, increased vegetation diversity, and supported revegetation at various LM sites; maintained educational outreach activities at local colleges; and co-hosted a workshop on former uranium site clean-ups and long-term care programs.	LM will continue to pursue community planning and involvement efforts at non-remote locations and support ecosystem enhancement activities.	Low
2.6a	Net Zero Buildings: Percentage of the site's existing buildings above 5,000 GSF intended to be energy, waste, or water net-zero buildings by FY 2025.	N/A. Percentage has not been established yet for this newly identified goal.	LM will assess and prioritize existing buildings >5,000 GSF for their potential to become net-zero buildings.	To be evaluated once a percentage is established for this new goal.
2.6b	Net Zero Buildings: Percentage of new buildings (>5,000 GSF) entering the planning process designed to achieve energy net-zero beginning in FY 2020.	N/A. Percentage has not been established yet for this newly identified goal.	LM has no new building construction entering the planning process in 2020 or thereafter.	To be evaluated once a percentage is established for this new goal.
2.7	Establish a power usage effectiveness (PUE) target in the range of 1.2–1.4 for new data centers and less than 1.5 for existing data centers.	LM has met and exceeded this goal. LM maintained a PUE ratio of 1.32, exceeding the target of less than 1.5 for existing data centers.	LM will monitor and maintain the PUE ratio within the target range.	Low

[2] HPSB targets cited in this SSP Guidance correlate with previous Executive Orders. Revised Guiding Principles will be published in the near future that will amend these targets through 2025. Until those updates are completed and distributed, report progress in this goal area using the previously established targets.

Table 1 (continued). DOE Goal Summary Table

SSPP Goal #	DOE Goal	Performance Status Through FY 2015	Planned Actions and Contributions	Risk of Non-attainment
GOAL 3: Clean and Renewable Energy				
3.1	"Clean Energy" requires that the percentage of an agency's total electric and thermal energy accounted for by renewable and alternative energy shall be not less than 10% in FY 2016-2017, working towards 25% by FY 2025.	N/A. This is a new goal for 2016. LM exceeds the 2025 goal with 34.4% of total energy from clean sources.	LM will research adding additional renewable energy/clean energy installations at LM sites or purchasing additional green energy in order to continue meeting the 2020 goal that 20% of LM electrical energy comes from renewable sources and 16% of total energy comes from clean sources.	Low
3.2	"Renewable Electric Energy" requires that renewable electric energy account for not less than 10% of a total agency electric consumption in FY16–17, working towards 30% of total agency electric consumption by FY 2025.	N/A. Percentage has not been established yet for this newly identified goal. LM exceeds the 2025 goal with 38.8% of electricity from renewable sources.	LM will operate and maintain existing RE systems; pursue installation of new RE systems where cost-effective; and continue to purchase RECs to ensure that the percentage of renewable energy use doesn't fall below the goal by 2025.	Low
GOAL 4: Water Use Efficiency and Management				
4.1	Reduce potable water intensity (Gal per gross square foot) 36% by FY 2025 from a FY 2007 baseline. (2015 target: 16%)	LM has met and exceeded this goal. LM reduced potable water use by 92% as compared to the 2007 baseline.	LM will continue to track and monitor potable water use to help achieve the 2016 interim target (reduce use by 18%).	Low
4.2	Reduce industrial, landscaping, and agricultural (ILA) water consumption (Gal) 30% of by FY 2025 from a FY 2010 baseline. (2015 target: 10%)	LM has met and exceeded this goal. LM reduced ILA water use by 95.9% as compared to the 2010 baseline.	LM will continue to track and monitor ILA water use to help achieve the 2016 interim target (reduce use by 12%).	Low
GOAL 5: Fleet Management				
5.1	Reduce fleet petroleum consumption reduction 20% by FY 2015, and each year thereafter, relative to a FY 2005 baseline. (2015 target: 20%)	LM has met and exceeded this goal. 21.5% decrease compared to 2005 baseline.	Promote trip consolidation, videoconferencing, and teleconferencing to prevent unnecessary conventional fuel use.	Low
5.2	Increase annual alternative fuel consumption 10% from a FY 2005 baseline. (2015 target: 159%)	LM increased its alternative fuel use by 297,885% compared to a 2005 baseline.	Promote fueling with 85% ethanol alternative fuel blend (E85) whenever possible.	Low

Table 1 (continued). DOE Goal Summary Table

SSPP Goal #	DOE Goal	Performance Status Through FY 2015	Planned Actions and Contributions	Risk of Non-attainment
5.3	Reduce fleet-wide per-mile greenhouse gas emissions 30% by FY 2025 from a FY 2014 baseline by 4% relative to an FY 2014 baseline. A 30% reduction is required by FY 2025. (2015 target: N/A; 2017 target: 4%)	N/A. This is a new goal for 2016. LM's 2014 baseline in the Federal Automotive Statistical Tool is 629.45 grams of carbon dioxide equivalent per mile.	LM will acquire Low GHG vehicles and fuel in the Low GHG emitting configuration whenever possible.	Low
5.4	Ensure 75% of light duty vehicle acquisitions meet consist of alternative fuel vehicles (AFVs). (2015 target: 75%)	LM has met and exceeded this goal. 100% of light-duty acquisitions are AFVs.	As a primary policy LM will continue to acquire low GHG emitting vehicles, which are considered AFVs when fueled with conventional gas. In accordance with LM's secondary policy, LM will acquire E85-capable vehicles when feasible.	Low
5.5	Ensure 20% of passenger vehicle acquisitions consist of zero emission or plug-in hybrid electric vehicles by 2020. (2015 target: N/A; 2020 target: 20%; 2025 target: 50%)	N/A. This is a new goal for 2016.	If LM has a need for passenger vehicle, LM will pursue a zero-emission vehicle. LM's fleet consists of non-passenger vehicles and LM does not foresee a change in this pattern.	Low
GOAL 6: Sustainable Acquisition				
6.1	Meet Contract Actions requirements by including BioPreferred and biobased provisions and clauses in 95% of applicable contracts.	LM has met and exceeded this goal. 100% of contract actions included required provisions and clauses.	Continue to meet and exceed the 95% goal.	Low
GOAL 7: Pollution Prevention and Waste Reduction				
7.1	Divert at least 50% of non-hazardous solid waste, excluding construction and demolition debris.	LM has met and exceeded this goal. 59.4% of non-hazardous solid waste, excluding construction and demolition debris was diverted.	Continue to promote the LM guidance developed for project managers on ways they can reduce or recycle nonhazardous solid waste.	Low
7.2	Divert at least 50% of construction and demolition materials and debris.	LM has met and exceeded this goal. 98.9% of construction and demolition materials and debris were diverted.	Continue to promote the LM guidance developed for project managers on ways they can reduce or recycle construction and demolition debris in their projects.	Low

Table 1 (continued). DOE Goal Summary Table

SSPP Goal #	DOE Goal	Performance Status Through FY 2015	Planned Actions and Contributions	Risk of Non-attainment
GOAL 8: Energy Performance Contracts				
8.1	Annual targets for performance contracting to be implemented in FY 2017 and annually thereafter as part of the planning of Section 14 of EO 13693.	N/A. This is a new goal for 2017.	LM will evaluate new projects for ESPC ENABLE initiatives during the planning process.	Medium
Goal 9: Electronics Stewardship				
9.1	Ensure 95% of eligible electronics acquisitions meet EPEAT standards.	LM has met this goal. 100% of eligible electronic acquisitions met Electronic Product Environmental Assessment Tool (EPEAT) standards.	LM will continue to procure electronics equipment meeting EPEAT standards whenever possible.	Low
9.2	Ensure 100% of eligible PCs, laptops, and monitors have power management enabled.	LM has met this goal. 100% of eligible systems had power management enabled and locked in place.	LM will continue to maintain 100% compliance on all eligible systems.	Low
9.3	Ensure 100% of eligible computers and imaging equipment have automatic duplexing enabled.	LM has met this goal. 100% of eligible computers and imaging equipment are configured with automatic duplexing by default.	LM will continue to maintain 100% compliance on all eligible systems.	Low
9.4	Ensure 100% of used electronics are reused or recycled using environmentally sound disposition options each year.	LM has met this goal. 100% of used electronics were reused or recycled using environmentally sound disposition.	LM will continue to maintain 100% compliance in reusing or disposing of electronics using environmentally sound means.	Low
Goal 10: Climate Change Adaptation				
10.1	Update policies to incentivize planning for, and addressing the impacts of, climate change.	This is a new goal for 2016.	LM will update its Environmental Policy to reflect consideration of climate change in LM activities.	Low
10.2	Update emergency response procedures and protocols to account for projected climate change, including extreme weather events.	This is a new goal for 2016. An opportunity to include additional climate change considerations was identified in the 2015 review of the *Comprehensive Emergency Management System*.	LM will include additional extreme weather considerations in the next revision of the *Comprehensive Emergency Management System*.	Low
10.3	Ensure workforce protocols and policies reflect projected human health and safety impacts of climate change.	This is a new goal for 2016.	LM will initiate actions to achieve this goal.	Medium

Table 1 (continued). DOE Goal Summary Table

SSPP Goal #	DOE Goal	Performance Status Through FY 2015	Planned Actions and Contributions	Risk of Non-attainment
10.4	Ensure site/lab management demonstrates commitment to adaptation efforts through internal communications and policies.	This is a new goal for 2016. LM has demonstrated management commitment through the continued efforts of the EMS Climate Change Adaptation Team and the Applied Studies and Technology Team.	The LM 2016–2025 Strategic Plan is being updated to include climate change considerations as a long-term surveillance and maintenance consideration. Climate change adaptation/ resilience will be the EMS communication topic for third quarter 2016.	Low
10.5	Ensure that site/lab climate adaptation and resilience policies and programs reflect best available current climate change science, updated as necessary.	This is a new goal for 2016. The Applied Studies and Technology group are using best available science to study potential climate impacts to site remedies and sharing best available science through educational outreach.	The EMS Climate Change Adaptation Team plans to survey LM sites using the modified screening vulnerability assessment survey. Team members will continue to attend conferences and webinars for information exchange.	Low

Abbreviations:

AFV	alternative fuel vehicle
EISA	Energy Independence and Security Act
EPEAT	Electronic Product Environmental Assessment Tool
E85	85-percent ethanol alternative fuel blend
ESPC	Energy Savings Performance Contract
GHG	greenhouse gas
GP	Guiding Principle
GSF	gross square feet
HPSB	high-performance and sustainable building
ILA	industrial, landscaping, and agricultural
PUE	power usage effectiveness
RE	renewable energy
REC	renewable energy certificate

II. Performance Review and Plan Narrative

1 Greenhouse Gas (GHG) Reduction and Comprehensive GHG Inventory

1.1 Scope 1 and 2 GHG Emission Reduction

50 percent Scope 1 & 2 GHG 50 percent reduction by 2025 from a 2008 baseline (2015 target: 19 percent).

1.1.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate Office of Legacy Management (LM) quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Scope 1 & 2 GHG emissions	Tab 1.2a, Tab 1.2b	Yes	No	No
Purchased Energy	Tab 3.1	Yes	Yes	No
Operating Onsite Renewable Energy	Tab 3.2a	No	No	No
Purchased Renewable Energy	Tab 3.2b	No	No	No
Mixed Refrigerants	Tab 6.1	No	No	No
Fugitive F-gases	Tab 6.2	No	No	No
Onsite Wastewater Treatment	Tab 7.1a	No	No	No
Fleet Data	Tab 10	No	No	Federal Automotive Statistical Tool

Abbreviations:
FIMS = Facilities Information Management System

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

LM is evaluating the feasibility of switching the Mound, Ohio, Site's active pump-and-treat remedy to a more passive attenuation remedy to treat contaminated groundwater at the site. In 2014, the site deployed a multi-year field demonstration to evaluate the bioinjection of edible oils to create in situ geochemical treatment zones to enhance natural attenuation processes. If the geochemical treatment zones are successful, a request would be made to change the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Record of Decision remedy. Sampling frequency has already been reduced as part of the field demonstration. If monitored natural attenuation is approved as the remedy, it will reduce future sampling events and related carbon dioxide (CO_2) emissions.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM produced 50.9 percent fewer Scope 1 and Scope 2 GHG emissions in 2015 than in 2008 and 3.6 percent less than in 2014. Based on current annual GHG emissions, LM has met the 2015 target and expects to meet the 2025 goal. Figure 1 below shows progress against goal.

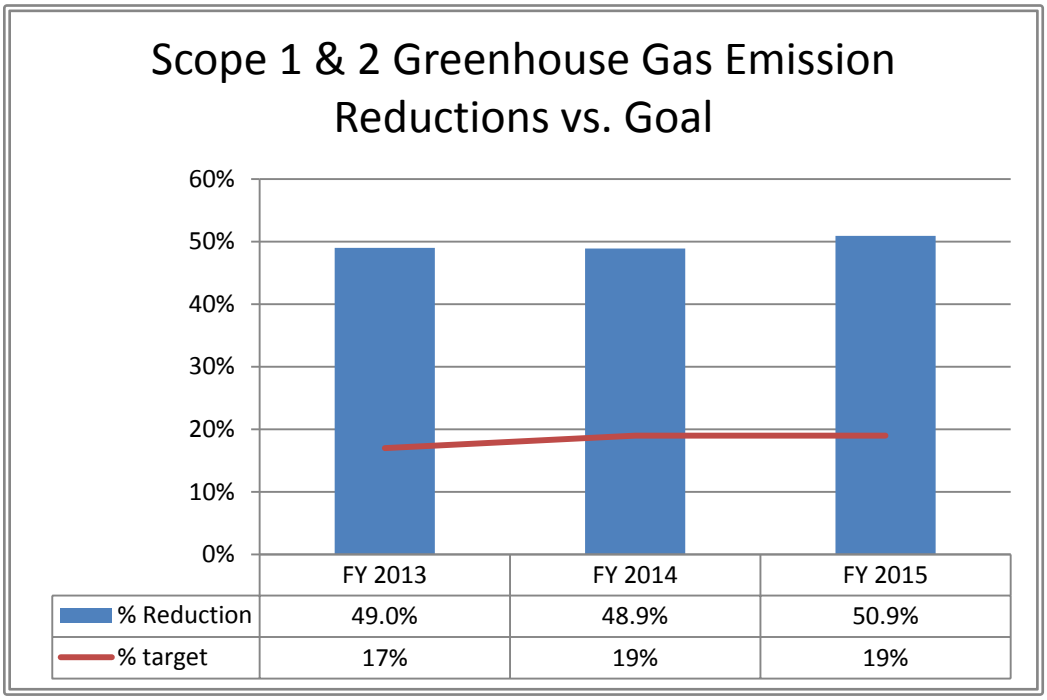

Figure 1. Scope 1 and 2 GHG Emission Reductions vs. Goal

LM's SOARS (System Operation and Analysis at Remote Sites) collects data from 19 sites in nine states and transmits the information to servers in the LM office at the Grand Junction, Colorado, Site. Active remediation systems operate more efficiently with SOARS. SOARS reduces staff travel to remote sites, thus conserving energy, protecting natural resources, and reducing GHG emissions.

LM used 2,980 gallons of 85-percent ethanol alternative fuel blend (E85) in 2015 compared to 0 gallons in the baseline year, 2005.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

1.1.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

With the following activities, LM expects to continue to reduce greenhouse gas emissions:

- As LM gains more sites, LM will likely increase staff, travel, mission-related activities, resource use, and GHG emissions.
- Fleet Management will strive to replace vehicles with higher efficiency low greenhouse gas emitting vehicles for all light-duty replacements.
- Fleet will promote ridesharing, trip consolidation, videoconferencing, and the right size/type of vehicle for the task.
- LM will continue to replace inefficient process equipment and install electricity-saving control systems, thus decreasing life-cycle costs and increasing systems' efficiencies.
- LM will undertake cost-effective, renewable energy projects.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Reduce fleet emissions by following better vehicle-use guidelines and acquiring additional hybrid and flex-fuel vehicles.
- Where cost-effective, increase the use of SOARS to collect data from remote sites.
- Review and compare current LM renewable energy produced onsite to purchased renewable energy certificates (RECs) and consider renewable energy projects on LM sites to replace purchased RECs.
- In accordance with "Reduce the Footprint" guidelines, complete a 360-review of office space standards and come up with guidelines for the design of new offices/cubicles. Also, implement any guidelines for real property efficiency that come from the Office of Asset Management.

e. If needed, request CEDR project number technical assistance

None

f. Planned or needed training to increase awareness and encourage behavior change

Environmental Management System (EMS) Sustainability teams work with the EMS training team to ensure EMS Sustainability Awareness training is updated and provided within the 2-year refresher period and to new employees. EMS sustainability teams work with the EMS media to produce the awareness articles, which are published in the internal quarterly newsletter *ECHOutlook* at least once every 2 years. Related posters, contests, and activities sometimes accompany the articles to encourage behavioral changes.

1.1.3 Response to additional SSP guidance questions

[a.] LM's overall Scope 1 and 2 GHG reduction strategy is to identify the emission sources and develop ways to reduce emissions.

[b.] To optimize office space LM will complete a 360-review of office space standards and come up with guidelines for the design of new offices/cubicles.

[c.] Fugitive emissions are a small fraction of LM's Scope 1 GHGs. Combined they are less than 1 metric ton of carbon dioxide equivalent. LM does not expect significant increases or impacts from these emissions. When possible, LM will reduce GHG emissions. LM will inspect chemical containers and gas cylinders as necessary, to reduce potential spills and leaks. In 2012, fugitive emissions, including sulfur hexafluoride (SF_6), became part of Scope 1 GHG emissions calculations. At that time LM surveyed its use of SF_6 and concluded it was not using SF_6 or maintaining SF_6 in its inventory, and that is still true for 2015. The LM chemical inventory is updated once a year and is used to track and monitor the use of all chemicals, including any fluorinated gases.

[d.] LM has no high-energy mission-specific facilities.

1.2 Scope 3 GHG Emissions Reductions

Reduce Scope 3 GHG 25 percent by 2025 from a 2008 baseline; (2015 target: 6 percent).

1.2.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
GHG Emissions Summary	Tab 1.2b	No	No	No
Electricity Use	Tab 3.1	Yes	Yes	No
Gas Use	Tab 3.1	Yes	Yes	No
Square Footage	Tab 1.2a	Yes	Yes	No
Purchased Renewable Energy	Tab 3.2b	No	No	No
Off-Site WWT	Tab 7.1b	No	No	No
Air Travel	Tab 8.1	No	No	LM JAMIS Data Warehouse
Ground Travel	Tab 8.2	No	No	LM JAMIS Data Warehouse
Commute	Tab 8.3	No	No	No
Off-Site Landfill Municipal Solid Waste	Tab 9.1b	No	No	No

Abbreviations:
FIMS = Facilities Information Management System
JAMIS = Job Cost Accounting Management Information System

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

Transmission and Distribution (T&D) Losses

The combined 336 kilowatts (kW) of solar panels at the Tuba City, Arizona, Disposal Site generated 620,252 kilowatt-hours (kWh) of electricity in 2015. This photovoltaic solar system helps reduce CO_2 emissions by reducing the amount of purchased electricity and associated T&D losses.

In 2012, a Fernald, Ohio, Site project placed about half of their overhead electrical lines underground and replaced associated oversized, inefficient electrical transformers. Phase II of this project, to replace many of the remaining overhead lines underground and to replace more oversized, inefficient electrical transformers was completed in summer 2015.

In 2015 at Rocky Flats, which is entirely solar powered, a pump-and-treat system powered by an 8 kW solar panel was installed. This raised the total solar capacity at Rocky Flats to over 29 kW which produces over 71 kWh of electricity per year.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM reduced Scope 3 GHG emissions by about 35 percent in 2015 from the 2008 baseline year. Based on current annual GHG emissions, LM has met the 2015 target and expects to meet the 2025 goal. Figure 2 below shows progress against the goal.

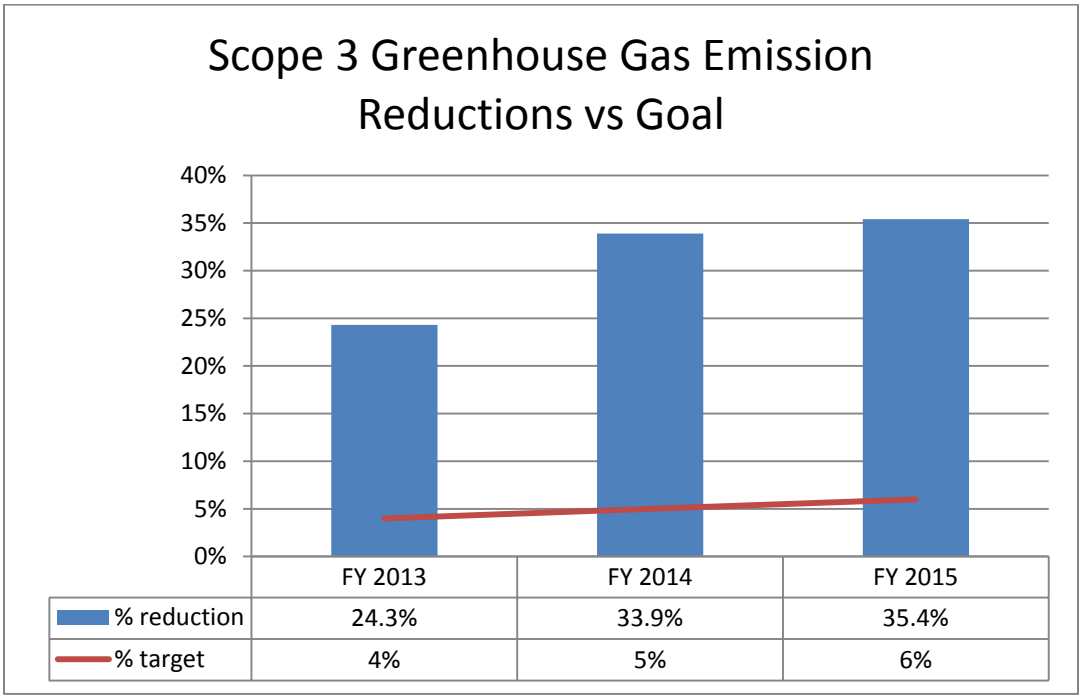

Figure 2. Scope 3 GHG Emission Reductions vs. Goal

A lesson learned is that design flaws in the employee commuting survey s impacted the results and required more extrapolation than usual in order to achieve the CEDR data entry points. Percent distributions from the 2014 survey applied to 2015 employee numbers were used to derive the 2015 commuter data. The lessons learned from the 2014 commuter survey effort will help greatly in the design of the 2016 survey.

Business Air and Ground Travel

Legacy Management Support (LMS) air-travel-related GHG emissions were higher than ground-travel-related emissions. LMS air-travel-related GHG emissions decreased by 82 metric tons in 2015 from 2014. LMS ground-travel-related GHG emissions decreased by 9 metric tons from 2014. The SPO will be updating LM federal employee business travel information in the CEDR at a later date.

LM utilizes the following best management practices to reduce Scope 3 emissions:

- LM uses the Cisco TelePresence Management Suite tracking and reporting tools to track videoconferencing and provide an estimated CO_2 savings report. According to the CO_2 savings report, LM has saved an equivalent of 4,500 metric tons of equivalent CO_2 emissions by videoconferencing.

- LM employees consolidate trips, use videoconferences and teleconferences, use instant messaging or video chat instead of face-to-face meetings, travel only when necessary, and carpool when possible during business trips. LM utilized webinars to enhance job skills, as well as other seminars and training sessions provided by federal and state agencies and educational institutions. Here are some examples:
  - LM held their annual All Hands training in Ohio. Attention was given to sustainable details such as vanpooling between the airport, the training location, and various sites instead of individual cars.
  - LM conducts its annual EMS Management Review via videoconferencing, which significantly reduces travel. Forty-nine individuals participated from six different locations.
- LM continues to upgrade processes and increase efficiencies at LM sites where feasible.
- LM continues to promote recycling and reuse during project planning activities. Waste minimization is a mandatory part of subcontract language to ensure that all personnel working on LM projects reduce the amount of waste generated and recycle to the extent possible.
- LM continuously promotes recycling and reuse during project planning activities.
- The LM Waste Minimization and Pollution Prevention (WMP2) Team completed a pollution prevention opportunity assessment on the Building 12A demolition at the Grand Junction site, which piloted new waste-minimization guidance for construction debris diversion.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

1.2.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM will be supporting the U.S. Department of Energy (DOE) 2025 GHG reduction target by meeting the 2016 interim goal of a 7 percent reduction in Scope 3 GHG emissions through efforts in the following areas:

- LM will continue to encourage employees to carpool and use public transportation to the extent possible. LM will continue to allow flexible work weeks to reduce commute time (i.e., four 10 hour days, five 9 hour days). LM will also work to increase telecommuting options through mutual alternative work agreements that are designed to reduce commuting days.
- LM will continue to pursue installation of additional renewable energy (RE) systems where costs effective, and maintain operation of the existing system.

- Excess materials will be donated or recycled.
- LM will review the recycling and composting programs at select sites for potential improvement opportunities.
- Beginning in 2016, all new agency lease solicitations for fully serviced leases over 10,000 rentable square feet shall include requirements for lessors to disclose energy consumption and carbon emissions data.
- New leases or terms of occupancy extensions involving substantial changes to operating conditions or contract documents will be developed in compliance with Executive Order (EO) 13693, "Planning for Federal Sustainability in the Next Decade." See Section 2.5.2.a.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Conduct a 2016 commuter survey. Information gathered from the survey will be used to further identify opportunities for initiatives in this area. LM will also continue to explore mutual alternative work schedule agreements.
- Continue to evaluate and implement ways to reduce business ground and air travel.
- Continue to upgrade processes and increase efficiencies at LM sites where feasible.
- Perform energy audits to identify system modifications or equipment replacements that could increase energy efficiency.
- Incorporate the LMS *Guidance for Implementing Solid Waste and Construction Debris Diversion Strategies* (LMS/PLN/S12185) into planning other LM projects.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

1.2.3 Response to additional SSP guidance questions

[a.] LM's overall Scope 3 GHG reduction strategy is to identify the emission sources and develop ways to reduce emissions.

[b.] LM promotes carpooling, alternative work schedules, and work-from-home days to save transit time and reduce GHG emissions. To reduce personal vehicle use during lunch periods, the LM Employee Association sponsors onsite luncheons at some sites, as well as onsite, commercial food deliveries.

[c.] LM's mission is to manage Cold-War-related, post-closure sites and to protect human health and the environment at those sites. Because of the nationwide distribution of LM sites, travel is an integral part of day-to-day LM activities. LM uses teleconferencing services and virtual-presence software to conduct meetings and will continue to reduce business travel to the extent practical. Where feasible, LM personnel share business rental cars while attending out-of-town meetings and events.

[d.] LM conducted a commuter survey in 2014 based on (1) information in the *Consolidated Energy Data Report (CEDR) Technical Support Document (TSD)* and (2) questions from the U.S. General Services Administration (GSA) Commuter Survey Tool that is part of the larger GSA Carbon Footprint Tool. commuter data for 2015 was based on percent distributions from the 2014 commuter survey. The 2014 survey was not as accurate as anticipated, but LM assumes that the responses are still fairly representative of the current employee pool and the percent distributions are, therefore, reasonably representative of the LM commuter landscape. A new commuter survey will be conducted in 2016.

[e.] The local utility T&D loss factor varies for LM sites across the country. Calculations in the CEDR are calculated based on eGrid emissions factors by zip code. The 2015 zip codes identified in the CEDR and associated loss factors for LM sites are shown below:

eGRID Subregion Name	eGRID Subregion Acronym	Power Grid	Grid Gross Loss Factor (%)
RFC West	RFCW	Eastern	9.17
WECC Rockies	RMPA	Western	5.76

Source: http://www2.epa.gov/sites/production/files/2015-10/documents/egrid2012_technicalsupportdocument.pdf

[f.] LM staffed sites actively recycle municipal solid waste and plan projects to reduce and recycle waste. LM staffed sites are not actively composting due to site and logistical obstacles; however, sites that have larger amounts of organic material waste generally reuse that waste onsite as mulch or soil enhancements. (See Section 7 for details).

[g.] LM fully serviced leased facilities greater than 10,000 gross square feet (GSF) utilities are tracked in Portfolio Manager. LM will require any new leased solicitation over 10,000 rentable square feet shall include requirements for lessors to disclose energy consumption and carbon emissions data.

[h.] Any action LM takes that goes beyond simply exercising an option to extend the term of occupancy, or involves substantial changes in the operation conditions or tenant fit out, or requires more than a simple contract amendment document, shall comply with EO 13693.

[i.] LM sites are generally located on former processing or disposal sites and in remote locations. Therefore, they are not typically pedestrian-friendly, accessible to public transit, or near planned town centers. These accommodations would be considered in new planning to the extent practicable. Apart from the LM office at Westminster, Colorado, LM is not planning on building or leasing new facilities outside of the existing site locations at this time.

2 Buildings, Energy Savings Performance Contract (ESPC) Initiative Schedule, and Regional and Local Planning

2.1 Energy Intensity Reduction

The National Energy Conservation Policy Act (NECPA), as amended by the Energy Independence and Security Act (EISA) in 2007, requires DOE to reduce its energy intensity by 30 percent by 2015 from a 2003 baseline. EO 13693 requires a 2.5 percent reduction per year in energy intensity from a 2015 baseline, for a total of 25 percent reduction from 2015.

2.1.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Energy Use Intensity	Tab 1.2a	Yes	No	No
Square Footage	Tab 1.2a	Yes	Yes	No
Electricity Usage	Tab 3.1	Yes	Yes	No
Natural Gas Usage	Tab 3.1	Yes	Yes	No
Diesel Usage	Tab 3.1	Yes	No	No
Propane Usage	Tab 3.1	Yes	Yes	No
Training	Tab 2.1	Yes	No	No

Abbreviations:
FIMS = Facilities Information Management System

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

LM's highest energy use is not in buildings but rather in other structures and facilities processes, such as the 20 large extraction wells at the Fernald site (which consume more than 50 percent of the power used by LM). In June 2014 new controls were installed that include dedicated meters for the Fernald site well field. The Fernald site wells were metered for a full year in 2015 and so their energy use has been totally excluded from the energy use intensity (EUI) calculation. LM is using the EISA Exclusion G, which allows mission-related energy use (that is separately metered

and reported annually) to be excluded from the energy intensity calculation. In addition, the Tuba City site treatment system was not operating for most of 2015, also contributing to a large decrease in energy consumption.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM's current energy intensity use, based on its 2015 data calculated in Tab 1.2a of the CEDR, is 62,353 British thermal units per gross square foot (Btu/GSF). When compared to the 2003 baseline of 257,678 Btu/GSF per year (see Table 2), 2015 represents a 76 percent decrease from 2003, which is a significant change from last year's 3 percent decrease. The improvement in 2015 is mainly due to allowable exclusion of the Fernald site wells.

Table 2. LM Energy Intensity Use (Btu/GSF per Year)

Year	Energy Use Intensity (Btu/GSF)	% Decrease from 2003	Gross Square Feet
2003 (Baseline)	257,678	-	3,215,306
2008	636,748	-147%	26,374
2009	236,202	8%	72,206
2010	204,311	21%	114,797
2011	266,135	-3%	71,629
2012	288,371	-12%	71,015
2013	400,898	-56%	37,640
2014	249,591	3%	37,400
2015	64,337	76%	38,590

Notes:
All values denote the site-delivered energy, not the source energy.
See Figure 3 below for a summary of the figures used in the EUI calculation

Figure 3 graphically shows the percent change in EUI since 2008. A positive number means that LM's calculated EUI has improved from the 2003 baseline. Because LM met the 2015 goal of 30 percent reduction in EUI, LM can choose which evaluation method to use in achieving LM's 2025 goal. LM can continue to compare its EUI against the 2003 baseline and pursue a 47.5 percent reduction by 2025, or LM can switch to a 2015 baseline and pursue a 2.5 percent per year reduction (25 percent total) by 2025. Both the 2015 goal and the optional 2025 goal are shown on the chart.

As evidenced in Figure 4, overall electrical consumption at LM sites, including excluded electrical use, has been reduced over 36 percent since 2008 and 5 percent since 2014. The main reasons are that the more efficient Fernald site well controls have been in place for a full year and the fact that the Tuba City site treatment system was not operated for most of 2015.

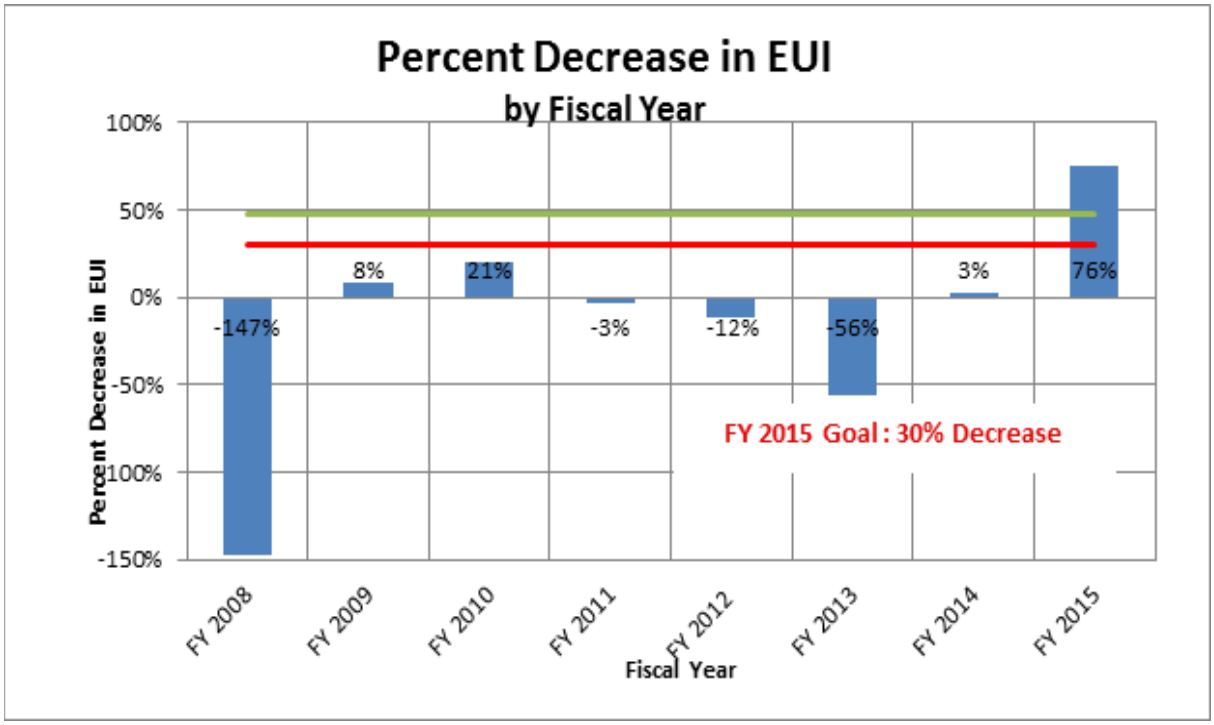

Figure 3. Percent Change in Energy Use Intensity

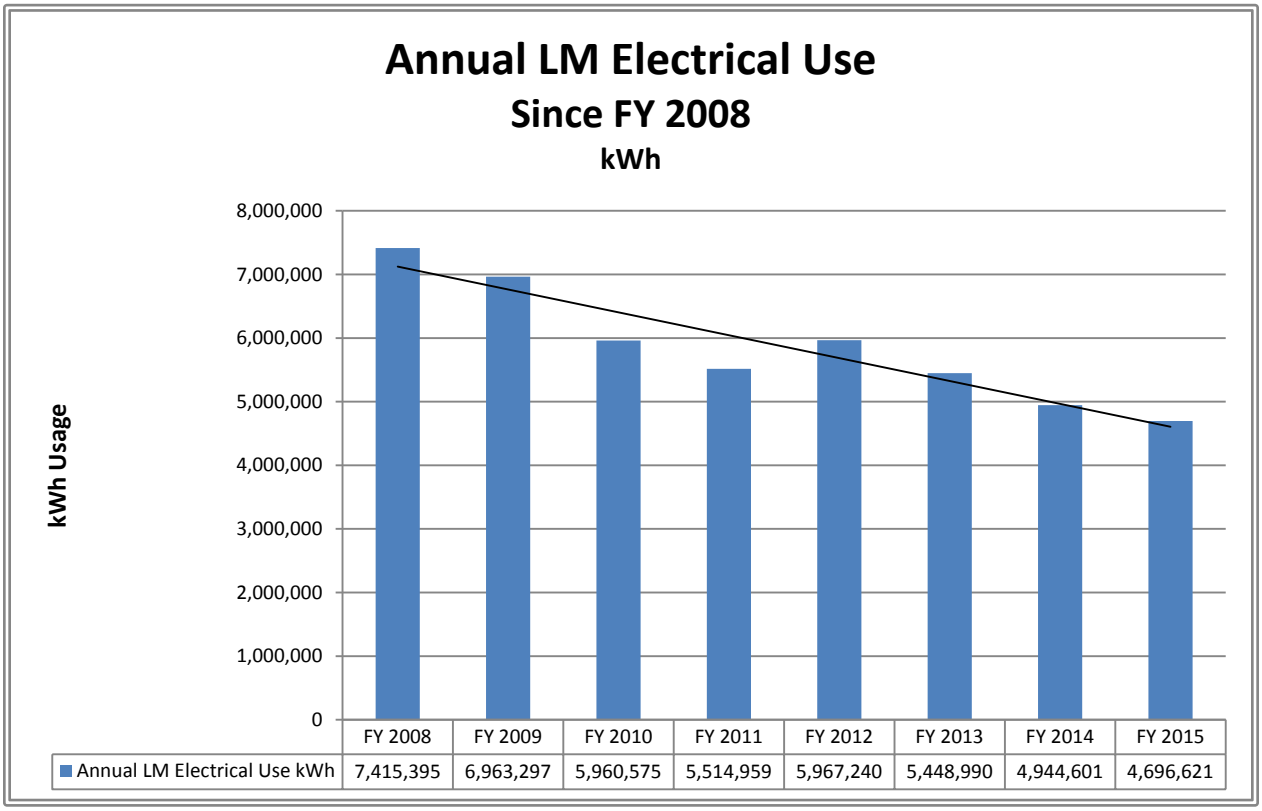

Figure 4. Annual LM Electrical Usage

As a success story showing management's commitment to reduction in energy, during this year's EMS Annual Management Review senior management requested the following actions:

- Provide site-specific energy use to the site leads/managers.
- Review sites to be transitioned into LM over the next 5 years to determine if any sites are expected to have high energy use and then project how that would affect LM energy use goals in the future.

LM accomplished an internal goal to evaluate LM's use of T12 fluorescent tubes, which are being phased out. LM surveyed the number of existing LM T12 fluorescent fixtures within LM-owned buildings and then estimated the cost to upgrade or replace them with newer, more efficient T8 tubes or other technology. T8 tubes use 37 percent less energy than T-12 tubes and are slightly more sustainable than T12 tubes because they contain less mercury. LM identified 186 fixtures still using T12 fluorescent tubes. LM estimated that if these fixtures were converted to T8 tubes, LM could save approximately 28,000 kWh per year in electrical usage. That energy savings would translate into approximately $2,200 cost savings per year. However, LM estimated that it would cost approximately $27,000 to convert the 186 fixtures to T8 tubes. This cost includes ballasts, retrofit kits, tubes, and labor. If the tubes were replaced now, the simple payback would occur over 12.27 years. LM will present this return-on-investment information to management to determine whether LM will begin retrofits in the near future or wait for end of life (including phase-out issues) of the current fixtures. In tandem with this goal, LM also surveyed the number of remaining lighting circuits that still don't have motion sensor switches. No locations for additional motion sensors were found.

Energy audits were conducted for the Grand Junction, Colorado, Disposal/Processing Site; the Rifle, Colorado, Disposal/Processing Site; and the Pinellas County, Florida, Site in 2015. Reports were sent to the site leads/managers to evaluate the recommendations.

LM continued to use the following best management practices for energy reduction:

- Setback heating, ventilation, and air-conditioning (HVAC) controls, at several locations.
- Employee incentive programs to reward exceptional individual and team performance in increasing energy efficiency and water conservation, deploying renewable energy, minimizing waste, reducing utility costs, and reducing GHG emissions.
- A results-based energy management component in some LM manager's performance evaluations.
- Project-planning tools (Project Activity Evaluation, Statement of Work, etc.) that LM uses to consider ways to reduce energy consumption.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating, and justifying any changes to previously reported data, including the baseline year in the appropriate CEDR tab. Major changes are subject to approval by program and SPO

LM continues to have concerns about reporting data for the baseline and subsequent years (see Attachment F). However, LM has met and exceeded the 2015 target though using either baseline.

2.1.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

With the following activities LM expects to continue to reduce energy use intensity:

- Investigate the U.S. Environmental Protection Agency's (EPA's) Green Button initiative to provide customers with utility usage information, as well as any other demand-side management programs offered by utilities. If a utility was to implement Green Button, that information would provide a more comprehensive look at utility use throughout the day, thus providing possible opportunities to reduce demand and energy usage.
- Install and monitor smart power strips and Kill-A-Watt meters at three locations, and then more widely implement any methods that prove effective. This will provide workers insight into how much energy their workstation uses. If a smart power strip shows a decrease in energy use, then smart power strips could be more widely implemented.
- In 2017, investigate ways to reduce energy in goal-excluded (not covered) buildings. Although excluded from tracking, improvements in those buildings can still be included in calculations.

b. Expected site contribution to the DOE goal(s)

LM has met the 2015 goal and is exceeding the 2025 goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Continue to use best management practices for energy reduction at several locations, such as installing setback HVAC controls, retrofitting T12 fluorescent fixtures with T8 fluorescent tubes and associated ballasts, using benchmark utilities in Energy Star Portfolio Manager, installing meters, and performing assessments and verifications.
- Continue to assess energy reduction as a factor in the decision process for maintenance and repairs. This includes identifying opportunities and checking status on deferred maintenance for energy-consuming buildings/facilities every 5 years via the Condition Assessment Survey (CAS) required annually by DOE Order 430.1B Chg 2.
- Make a general presentation of EO 13693 energy efficiency goals at an LM Senior Management meeting (with an open invitation to all LM personnel), at an LMS All-Hands meeting, and at a combined Projects and Programs meeting with site leads/managers, task managers, and Engineering personnel with a more specific discussion of the goals and needed actions.

- Better integrate energy efficiency team planning and implementation of actions with site operations, project and programs, and engineering teams. Make certain to communicate EMS sustainability goals and integrate these groups in achieving those goals.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

In addition to information provided in Section 1.1.2.f, employees will continue to attend energy-related workshops or symposiums to enhance their knowledge base and maintain certifications.

2.1.3 Response to additional SSP guidance questions

[a.] Use of recommended tools listed in EO 13693 Section 3(a)(i) is provided below:

- **Remote building energy performance assessment auditing technology:** LM has the capability to remotely access building energy use at the Weldon Spring and the Tuba City sites through SOARS. system. The SOARS system collects data every 5 minutes. The data is available at the SOARS website to be downloaded and analyzed. If other sites are connected to SOARS, the same remote access to building energy use will be explored. At the Monticello site, control of the Groundwater Contingency Remedy Optimization system and the Disposal Cell Pumping system are connected through SOARS so as to allow remote monitoring and control of the systems. The systems can be turned off, turned on, or parameters adjusted without needing to travel to the site.
- **Demand management program:** The Fernald, Grand Junction disposal, Tuba City, and Weldon Spring LM sites have demand charges on their electric bills. Only the Fernald site has large motor loads due to its 20 extraction wells, but most of these wells run almost continuously. These sites don't have a lot of changing loads that would be responsive to demand monitoring. Nonetheless, if the utilities that supply these sites have demand management programs, these will be investigated at the same time the Green Button programs are investigated.
- **EPA Energy Star Portfolio Manager:** All required LM buildings energy use is already being entered into the EPA Energy Star Portfolio Manager.
- **Green Button data:** A cursory check of LM's utility providers indicated that none of the utilities has implemented or is planning to implement the Green Button initiative in the near future. If a utility were to implement Green Button, that information would provide a more comprehensive view of utility use throughout the day, thus possibly providing opportunities to reduce demand and energy usage. LM's utilities will be contacted to determine if and when they may implement Green Button or other demand management programs.
- **Test-bed technologies:** Applicable test-bed technologies will be evaluated by the EMS team, site managers, and engineering personnel for their feasibility. If they are found to be feasible, the necessary budget, design, and installation documentation will be submitted for approval.
- **City energy performance benchmarking and reporting requirement:** LM will investigate city energy performance benchmarking and reporting requirements in 2016.

[b.] LM excludes several buildings and processes from the energy intensity goal. Attachment B includes the final Facilities Information Management System (FIMS) excluded building list and certification letter.

[c.] Deferred maintenance for energy consuming buildings/facilities is identified every 5 years through the CASs required annually by DOE Order 430.1B Chg 2. The most recent cycle of assessments for LM occurred in 2012/2013. Deferred maintenance including energy efficiency improvements identified in these assessments will be addressed prior to the end of 2018, depending on funding availability.

[d.] LM has no new buildings on the planning horizon to design in regard to EISA Section 433 fossil fuel reduction in new buildings or, if cost effective, to investigate in regards to renewable energy, clean energy, or net-zero energy project options.

[e.] To demonstrate core competencies for facility managers as identified by GSA in the Federal Buildings Personnel Training Act of 2010, the LMS team lead for the energy efficiency and greenhouse gas reduction team and the LMS renewable energy team is a certified energy manager and took required training during the past year in order to maintain the certification.

Training on energy conservation and recycling is already embedded in the periodic EMS sustainability training provided to LM employees. The LMS contractor has included this information in their employees' orientation programs.

[f.] The Sustainable Buildings Team works with other EMS sustainability teams, engineers, and design professionals as part of an integrated team to ensure all new construction is designed to be 30 percent more energy efficient than the baseline established by ANSI/ASHRAE/IESNA Standard 90.1. As of September 2015, the version in effect was ASHRAE 90.1 2010.[3]

2.2 EISA Section 432 Energy and Water Evaluations

EISA Section 432 requires energy and water evaluations to be conducted every 4 years.

2.2.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Energy Audits	Tab 1.2a Tab 11	No	No	Compliance Tracking System, LM Master File workbook
Water Audits	Tab 1.2a Tab 11	No	No	Compliance Tracking System, LM Master File workbook

[3] Volume 78 *Federal Register* pages 40945–40953, "Energy Efficiency Design Standards for New Federal Commercial and Multi- Family High-Rise Residential Buildings," http://www.gpo.gov/fdsys/pkg/FR-2013-07-09/pdf/2013-16297.pdf.

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

When feasible, water and energy audits are completed during regularly scheduled site inspections or CASs. This reduces the number of trips and conserves natural resources (especially fuel).

LM conducted water audits to assess water metering conditions at the Tuba City site in 2015. Energy audits were conducted at the Grand Junction disposal site in April 2015 and at the Old Rifle processing site and the Pinellas site in May 2015. Recommendations from the audits were submitted to the site leads/managers for consideration.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

2.2.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM will continue to rotate selection of audited sites to ensure that 100 percent of the sites are audited every 4 years to meet the requirements of EISA Section 432. The chart below shows year and location of planned EISA energy and water audits.

Planned EISA Section 432 Audits		
Year	**Energy Audits**	**Water Audits**
2016	Fernald Site Weldon Spring Site	Fernald Site (P/NP) Monticello Site (P) Weldon Spring Site(P)
2017	Monticello Site Monument Valley Site Shiprock Site	Grand Junction Disposal Site (P) Old Rifle Site (P)
2018	Tuba City Site	Tuba City Site (NP)
2019	Grand Junction Disposal Site Old Rifle Site Pinellas Site (Planned for Closure in FY 2017)	Weldon Spring Site (P)
2020	Fernald Site Weldon Spring Site	Fernald Site (P/NP) Monticello Site (P)

Abbreviations:
(NP) = non-potable water site
(P) = potable water site

Recommendations from the energy and water audits are shared with the site lead/manager of the site audited for implementation feasibility. As part of continuous improvement, LM will be reevaluating the level of line management to which the recommendations are provided and how projects are approved and funded.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Continue to benchmark EISA-covered facilities in Energy Star Portfolio Manager.
- Perform measurement and verification of implemented energy saving measures and projects as needed.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

2.2.3 Response to additional SSP guidance questions

[a.] LM rotates selection of audited sites to ensure that 100 percent of the sites are audited every 4 years. LM has been able to meet the 4-year cycle for conducting energy and water audits and foresees no issues with completing them on schedule in the future. Energy and water audits will be combined with CAS when possible.

[b.] The audit reports are shared with the site managers for the sites being audited. It is left to the site lead/manager to evaluate the feasibility of the recommendations from the audit and to procure funding if there is a decision to implement the recommendations. As part of continuous improvement, LM will periodically reevaluate the level of line management to which the recommendations are provided and how projects are approved and funded.

[c.] Energy Star Portfolio Manager is used for benchmarking all of LM's metered and covered buildings to ensure that (1) energy consumption is appropriate for these buildings compared to national averages and (2) high-performance and sustainable building (HPSB) Guiding Principle (GP) buildings are operating as intended after energy conservation improvements were made.

[d.] No projects have been identified to implement continuous measurement and verification as part of LM's EISA evaluations.

[e.] Covered building data in CEDR Tab 11 has been updated to ensure that metered building energy and water consumption remain above the 75 percent threshold for covered energy use; 93 percent of LM's energy use is metered.

[f.] Planned and completed evaluation dates and type/level information, including re/retro-commissioning and benchmarking status information, have been updated on CEDR Tab 11.

[g.] Facilities are selected as "covered" if they meet the EISA Section 432 requirements. LM covered facilities have the following characteristics: LM-owned, LM pays for the utilities, and more than de minimus energy is consumed. However, the vast majority of LM's electricity is consumed by the well field at the Fernald site, which is not associated with a covered facility. The 20 wells in this well field were individually metered in July 2014, and the wells accounted for 93 percent of LM's electrical use metered in 2015.

2.3 Metering

Meter all individual buildings for electricity, natural gas, steam and water, where cost-effective and appropriate.

2.3.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Electric Meters	Tab 2.1	Yes	Yes	No
Natural Gas Meters	Tab 2.1	Yes	Yes	No
Water Meters	Tab 2.1	Yes	Yes	No

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

With the new control system for the Fernald site well field, which included individual metering and was in place for the entire year, LM was able to exceed the 90 percent metering goal.[4]

[4] The NECPA, as amended by the Energy Policy Act of 2005, requires installation of electrical meters by 2012 on all individual buildings, with the use of advanced electrical meters to the maximum extent practicable. EISA 2007 added a requirement that all appropriate buildings must also be metered for steam and natural gas by 2016.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM uses metering information for benchmarking, reporting, system diagnostics and maintenance, and measurement and verification of savings. Here is a summary of LM's metering accomplishments for appropriate Energy Policy Act of 2005 (EPAct 2005) buildings:

- 93 percent of LM's electrical usage is individually metered as of 2015:
  - This includes buildings and processes.
  - Approximately 85 percent of the metering is standard and 10 percent is advanced.
- 100 percent of LM's natural gas usage is individually metered.
- 85 percent of LM's potable water usage is metered using standard meters. The remainder is purchased and trucked onsite, as needed.
- LM has no steam or chilled-water systems to meter.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

2.3.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

With the following activities LM expects to continue to comply with metering requirements:

- Review all of LM's standard meters to determine if upgrading to advanced meters would be cost effective. In later years, upgrade standard meters to advanced meters as cost effective. Upgrading standard meters will present LM with more detailed look at energy use and could provide opportunities for possible energy saving schemes to be implemented.
- As a best management practice, LM will install metering devices (either advanced or standard) in each building, in other facilities, and on site grounds to measure electricity, natural gas, and water use to the maximum extent practical and when cost effective.

b. Expected site contribution to the DOE goal(s)

LM has met this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Evaluate utility (electrical and water) information that is being benchmarked in Energy Star Portfolio Manager.
- Provide site leads/managers with building-specific utility trending information produced from metering data.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

2.3.3 Response to additional SSP guidance questions

[a.] No LM buildings were identified as appropriate for further metering in this year's CEDR. A metering plan is not required.

2.4 Existing HPSB Buildings

At least 15 percent (by building count or square footage) of existing buildings greater than 5,000 GSF to be compliant with the GPs[5] of HPSBs by 2025, with progress towards 100 percent thereafter.

2.4.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Building Inventory Changes	Tab 3.4	Yes	Yes	LM EMS SharePoint site
Guiding Principles	Tab 3.4	Yes	Yes	LM EMS SharePoint site
Square Footage	Tab 3.4	Yes	Yes	LM EMS SharePoint site

[5] HPSB targets cited in this SSP Guidance correlate with previous Executive Orders. Revised Guiding Principles will be published in the near future that will amend these targets through 2025. Until those updates are completed and distributed, report progress in this goal area will use the previously established targets.

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

Four Sustainable Buildings Team members increased their competency and awareness of the HPSB GP process by becoming Guiding Principles Compliance Professionals (GPCPs). The 2015 target was to have at least two or three team members become certified GPCPs. The training, materials, and examination were offered at no cost through the Green Building Initiative.

As a success story showing management's commitment to complying with GPs, during this year's EMS Annual Management Review senior management requested the following actions:

- Develop a list of lease considerations in EO 13693 for current and future leased facilities.
- Develop a process for evaluation of listed lease considerations for LM leases.

HPSB assessment checklists for all owned and leased buildings greater than 5,000 GSF are updated annually, and any changes affecting a building's compliance score are noted. These checklists and accompanying documentation are maintained and updated regularly on LM's EMS SharePoint site and in the Energy Star Portfolio Manager.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

2.4.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

To pursue meeting 100 percent of the GPs, LM will continue to monitor its existing building inventory, and will identify and evaluate owned or leased buildings that measure greater than 5,000 GSF and are transitioning to LM in 2016 and beyond. HPSB surveys will be conducted on these facilities relative to EO 13693 and the revised GPs. The impact of these planned activities will assist in the decision-making process for prioritizing future sustainability measures to take in order to meet this goal.

b. Expected site contribution to the DOE goal(s)

LM has met and exceeded the 2015 goal and is exceeding the 2025 goal. In accordance with Council on Environmental Quality Implementing Instructions for EO 13693, existing buildings

that were certified as meeting the GPs on or before September 30, 2015, are grandfathered in and are considered to be in compliance and can be counted towards the 2025 goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Conduct HPSB surveys of LM facilities greater than 5,000 GSF relative to EO 13693 and the revised GPs in 2016.
- Continue to proactively support energy-efficiency and water saving improvements for buildings that, based on square footage and/or construction costs, do not require adherence to either the HPSB GPs or third-party certifications.
- Continue tracking utilities in Energy Star Portfolio Manager and make comparisons to baseline figures to demonstrate improvements in energy and water usage or, if necessary, address areas needing improvement.
- Continue collaborative efforts to support energy and water conservation measures. See Section 2.1.2 for a description of the smart power strips/Kill-A-Watt meters project.
- Continue to pursue achieving 100 percent of the GPs in the remaining buildings greater than 5,000 GSF. HPSB assessment checklists will be updated annually, and any changes affecting a building's alignment with GPs status will be noted. These checklists, utilities, and supporting documentation will be maintained and updated regularly in Energy Star Portfolio Manager. Data from these checklists will be used for FIMS reporting purposes (e.g., data calls) and to respond to requests from DOE Headquarters.
- Train one Sustainable Buildings Team member to become an alternate account manager for Energy Star Portfolio Manager.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

In addition to information provided in Section 1.1.2.f., Sustainable Buildings Team members will broaden their knowledge base of the upcoming revised Guiding Principles, Climate Resilient Design and Management, Net Zero Buildings, and Energy Star Portfolio Manager through online training and webinars.

2.4.3 Response to additional SSP guidance questions

[a.] LM met the 15 percent GP goal in 2013 under EO 13514, "Federal Leadership in Environmental, Energy, and Economic Performance." In accordance with the Implementing

Instructions for EO 13693, existing buildings that were certified as meeting the GPs on or before September 30, 2015, are grandfathered in and are considered to be in compliance and can be counted towards the 2025 goal. Remaining buildings in inventory will be reassessed relative to EO 13693 and the revised GPs in 2016. Status is tracked in Energy Star Portfolio Manager and FIMS.

[b.] In order to make progress toward 100 percent GP compliance, LM will continue to monitor its existing building inventory, and will identify and evaluate owned or leased buildings that measure greater than 5,000 GSF and are transitioning to LM in 2016 and beyond. The existing building inventory and any new facilities transitioning in will be reassessed relative to EO 13693 and the revised GPs.

[c.] Desktop assessments for the GPs for the two remaining buildings, the Interpretive Center at the Weldon Spring site and the LM office building at Westminster, are performed annually and any changes affecting a building's alignment with GPs status are noted.

[d.] The GPs and related assessment processes have been incorporated into LMS's *Environmental Management System Sustainability Teams Manual* (LMS/POL/S11374), also called the EMS Sustainability Teams Manual. These will be updated to include the revised GPs and EO 13693 sustainable buildings goals.

[e.] Climate-resilient design and management elements shall be considered in future operations, repairs, and renovations of existing agency buildings. Plans to accomplish this will include no-cost, on-line training and webinars, as they become available. Attendance at national meetings/conferences will be considered if cost-effective. In addition, the Sustainable Buildings Team will work with other LMS EMS sustainability teams, such as the Energy Efficiency and Climate Change Adaptation teams, on climate-resilient design and management.

To address extreme weather events, two storm shelters (560 GSF each) were added to the Weldon Spring site. Solar panels provide power to lights inside the shelters.

2.5 Regional and Local Planning

Increase regional and local planning coordination and involvement efforts.

2.5.1 Performance Status—Discuss FY 2015 performance by:

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

None

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

Because LM's 90 sites and personnel are dispersed across the United States with wide geographic separation and, typically, remoteness away from town/city infrastructures, LM expends only nominal effort on coordination of transportation and infrastructure planning. Most

of LM's local and regional planning efforts are focused on ecosystem, watershed, and environmental management.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

The following success stories occurred in 2015:

- LM dispositioned a portion of the Spook, Wyoming, Disposal Site to an adjacent landowner. LM determined that approximately 6 acres was unneeded for the long term care and allow the prior landowner to acquire the property. LM manages the Uranium Leasing Program (ULP), which contains 31 lease tracts that are all located within the Uravan Mineral Belt in southwestern Colorado. In fall 2014, the Dolores River Restoration Partnership (DRRP) approached LM about furthering its support of conservation efforts along the Dolores River corridor. LM works with many DRRP partners to remove invasive plant species in ULP lease tract C-SR-13. LM signed a Memorandum of Understanding with other agencies in April 2015, formalizing LM's involvement in DRRP. This demonstrates LM's commitment to controlling noxious weeds and restoring habitat along the corridor as well as promoting goodwill with other agencies and private landowners.

The following best management practices are utilized to promote reuse of assets:

- When sites are transferred to LM for long-term custody, every effort is made to accept only the real property assets necessary to perform the LM mission. Reuse possibilities are then evaluated following an LM formal process for transferring property.
- LM implements reuse of its real property assets taking into account economic, ecological, social, and cultural factors surrounding each site or particular asset. The preferred reuse option is disposition.

LM recognizes that long-term care activities are local and that stakeholder involvement is integral to the success of LM operations. LM also makes considerable effort to educate future generations on the historical aspects of the Cold War activities, the enduring environmental impacts of those activities, and how site cleanup can be performed sustainably. A few examples of LM stakeholder communications, from local to international, are described below.

- LM maintains educational outreach activities, such as seminars, classes, and tours for local colleges, including Diné College associated with the Navajo Nation and Colorado Mesa University in Grand Junction.
- LM works closely with tribal representatives to ensure that the four uranium mill tailings disposal sites on the Navajo Nation (Monument Valley and Tuba City, Arizona; Mexican Hat, Utah; and Shiprock, New Mexico) are well managed and maintained.
- In June 2015, LM teamed with the International Atomic Energy Agency's (IAEA) Technical Cooperation Program for the Europe Region to host a workshop on former uranium site cleanups and long-term care programs. Representatives from nations in Eastern Europe, Russia, and Central Asia who are addressing their legacy sites were selected by the IAEA to participate. The main objective of the workshop was to exchange information and experience relating to remediating uranium production legacy sites, including long-term care programs. DOE briefed the participants on the remediation and long-term care activities required at each site and demonstrated examples of the technology and groundwater

treatments systems used to ensure the protectiveness of the environmental remedies at each site.

- LM continued to contribute to an IAEA effort to develop training modules for site regulators in African Member State countries for the development and review of Remediation Plans and Activities for Uranium Mining and Milling Sites. LM participated in an independent review of the training modules in Vienna, Austria, on March 9–13, 2015. The IAEA initiated use of the training modules at a workshop in South Africa in May 2015.
- LM participated in WISSYM 2015 in Bad Schlema, Germany. This symposium was hosted by the German company Wismut GmbH, who invited mining and mine reclamation companies, scientists and officials from government and administrative departments with the purpose of discussing the prospects and problems of post-remediation care and reuse of former mining and milling sites. LM had the opportunity to share the unique aspects of the U.S. program and experiences with legacy sites.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating, and justifying any changes to previously reported data, including the baseline year in the appropriate CEDR tab. Major changes are subject to approval by program and SPO

None

2.5.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

Regional and Local Planning Coordination and Community Involvement

LM has initiated conceptual work on facilities that will be open to the public to help inform them of the important work that was done by workers at various sites across the United States. Here is a brief summary of these proposed facilities:

- At the Rocky Flats site, LM has partnered with the U.S. Fish and Wildlife Service (USFWS) to plan/design a multi-purpose facility for visitors to the Wildlife Refuge.
- In Ohio, LM is working with the Dayton History, Mound Development Corporation and Mound Science and Energy Museum organizations to remodel and update the existing Mound Science and Energy Museum space to house new exhibits that will showcase the legacy of the Mound workers, the environmental cleanup and the ongoing stewardship of LM.
- The Weldon Spring site in Missouri that already has an interpretive center is being looked at for needed facility improvements that might include new construction.
- Finally, in Grand Junction, LM is hoping to partner with the Museum of Western Colorado to renovate a historic log cabin at the LM office in Grand Junction that will inform the public about Western Colorado's important connection to the Manhattan Project.

As LM moves forward with these efforts, LM will address the following planning considerations:

- In accordance with U.S. Office of Management and Budget (OMB) Memorandum M-12-12, "Promoting Efficient Spending to Support Agency Operations," Section 3, "Real Property," LM will review existing underutilized federal facilities when assessing current and future space needs. If additional office space is needed to handle the future activities and employees, LM will consider the attributes in the OMB memo when locating additional office spaces.
- As required by the DOE *Real Estate Desk Guide,* a Preliminary Real Estate Plan (PREP) must be prepared whenever there is a requirement to acquire additional realty interest. As referenced in the DOE *Real Estate Desk Guide,* the requirements and principles for sustainable federal location decisions will include (1) consulting with GSA about locating on an existing federal facility and (2) consulting with and informing local communities and considering their existing and future transportation infrastructure and their planned transportation investments when preparing the PREP for any future expansions or acquisition of office space.

Ecosystem Management, Watershed and Environmental Management

An ecological restoration project is planned for the northern forested portion of the Fernald site. This project involves wetland creation within a 3-acre upland old field, as well as extensive tree and shrub plantings. Revegetation efforts are designed to offset canopy loss from ash trees impacted by the emerald ash borer. This project is funded by the Fernald Natural Resource Trustees.

Stakeholder and Community Involvement

- LM is collaborating and sharing costs with the University of Arizona on two graduate research projects that support the LM Applied Studies and Technology program.
  - — Investigating the long-term value of revegetation and grazing management practices that support the LM goals to improve land and ecosystem management.
  - — Investigating the long-term resilience of disposal cell covers considering changes in regional and local climate, to support goals to maintain the long-term protectiveness of LM remedies and to comply with Executive and DOE Orders with respect to climate change impacts and adaptation.
- LM will be participating in the 2016 IAEA "Advancing the Global Implementation of Decommissioning and Environmental Remediation Programmes" conference. Fostering international discourse on remedial approaches, achievements, and remedial challenges at LM uranium legacy sites will be LM's contribution.
- LM continues to serve as part of the steering group for the IAEA Regulatory Supervision of Legacy Sites (RSLS) Initiative. The focus on the first phase of RSLS has been uranium legacy sites such as abandoned mines and mills because the vast majority of member state countries participating in the Initiative have such sites. LM leads Working Group 2 of RSLS, which addresses conducting safety assessments, environmental impact assessments, and post-closure monitoring and maintenance at uranium legacy sites. In addition, Work

Group 2 is addressing "phased remediation" of legacy sites where there are insufficient resources to complete the remediation of a site at one time. A Technical Document summarizing Phase II is scheduled to be completed for the annual meeting of the initiative in early 2016.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Continue ecosystem, watershed, and environmental management, and management as part of site operation activities at legacy sites.
- Continue to hold meetings with the Hopi, Northern Arapaho, and Eastern Shoshone Tribes; the Navajo Nation; and the Aleutian Pribilof Islands Association Inc. as needed to work cooperatively in protecting human health and the environment.
- Continue to encourage public participation and offer educational programs at LM sites with visitors and interpretive centers.
- Strive to adhere to the "Reduce the Footprint" guidelines by adhering to standards for office size and/or configuration, reconfiguring current office space, considering the sharing of office space, and housing employees in office space that costs less to maintain.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

2.5.3 Response to additional SSP guidance questions

[a.] As required by the DOE *Real Estate Desk Guide,* a PREP must be prepared whenever there is a plan to acquire additional realty interest. As referenced in the DOE *Real Estate Desk Guide,* requirements and the principles for sustainable federal location decisions include (1) consulting with GSA about locating on an existing federal facility and (2) consulting with and informing local communities and considering their existing and future transportation infrastructure and their planned transportation investments when preparing the PREP for any future expansions or acquisition of office space.

[b.] Because LM's 90 sites and personnel are dispersed across the United States with wide geographic separation and, typically, remoteness away from town/city infrastructures, LM expends only nominal effort on coordination of transportation and infrastructure planning. Rather, most of LM's local and regional planning efforts are focused on ecosystem, watershed, and environmental management.

[c.] A 12-acre wetland creation project was undertaken within a former agricultural field at the Fernald site in July 2015. The project involved plugging abandoned agricultural drain tiles and restoring wetland hydrology, similar to an adjacent off-property forested wetland. A 1,700-foot key trench was installed to block seepage from the abandoned tiles and natural sandy areas as part of this effort. Design and construction was funded by the Fernald Natural Resource Trustees (DOE, Ohio EPA, and USFWS).

Fifty-three pairs of the American burying beetle were introduced to the Fernald site in 2015. USFWS partnered with DOE to develop a cooperative agreement for the beetle's reintroduction at the site. 2015 is the third year of a 5-year cooperative agreement with USFWS to reintroduce the federally endangered species on site.

In spring 2015, 45 plants (15 each) of four-wing saltbush, skunkbush, and Rocky Mountain juniper were planted at the Rocky Flats site as a habitat enhancement project to increase the vegetation diversity at the site and to provide for additional wildlife habitat. An irrigation system was installed and the plants were watered during the first growing season to help them get established. Their survival will be monitored to evaluate the potential for future plantings.

DOE and community volunteers collaborated on providing local ecotype seed for wildflowers and grasses to support revegetation at the Rocky Flats site. The Jefferson County Nature Association sponsors seed-picking events to help with this effort. Seed is hand-collected by volunteers on nearby open space properties and from the adjacent Rocky Flats National Wildlife Refuge. Sixteen wildflower "nurseries" were established at the site and interseeded into a delineated "patch" that is not treated with herbicides. Over time, seed from these plants is expected to spread downwind and further increase the forb diversity in the revegetation areas at the site.

[d.] Respective sections of this document explain (1) regional transportation planning, ecosystem, watershed, and environmental management initiatives affecting sites; (2) any opportunities to work with local authorities to align energy policies; (3) the siting of renewable energy infrastructure; (4) and climate preparedness.

[e.] LM's unique mission (with dispersed and often remote legacy sites) drives planning for new facilities locations. Whenever the mission allows for locating facilities at sites that are pedestrian friendly, near existing employment centers, or accessible to public transit, it will be an LM priority to consider such sites. This includes sites in central cities, rural communities, and existing or planned town centers.

2.6 Net-Zero Buildings

2.6a Existing Buildings: Energy, Waste or Water Net-Zero

Agencies shall identify a percentage of the agency's existing buildings above 5,000 GSF intended to be energy, waste, or water net-zero buildings by 2025.

2.6a.1 Performance Status

This is a newly identified goal and the percentage has not been established, thus performance related to this goal is limited.

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Energy Use	Tab 11	Yes	Yes	LM Energy Utilities spreadsheet
Water Use	Tab 11	Yes	Yes	LM Water Utilities spreadsheet

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

None

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

2.6a.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

Assess and prioritize existing buildings >5,000 GSF for potential to become net-zero buildings. The expected impact of this activity is to identify which buildings have the potential to become energy, water, or waste net-zero buildings.

b. Expected site contribution to the DOE goal(s)

DOE is still determining interim goals. LM will evaluate its ability to hit the interim goals once they are established.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

Additional funding requests, if any, will be evaluated once interim goals are established.

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Evaluate definitions and criteria for net-zero buildings.
- Update the Sustainable Buildings chapter in the EMS Sustainability Teams Manual to include EO 13693 requirements and revised GPs.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

In addition to information provided in Section 1.1.2.f, attend net-zero training when available and cost effective.

2.6a.3 Response to additional SSP guidance questions

[a.] Using information from energy and water audits, Energy Star Portfolio Manager, and documentation on buildings that have undergone recent sustainable improvements, the Sustainable Buildings Team will work in conjunction with other EMS sustainability teams to identify and prioritize which existing buildings could be moved forward toward net-zero energy, waste, or water status.

2.6b New Buildings: Energy Net-Zero and Waste, or Water Net-Zero

Agencies shall identify a percentage of new buildings greater than 5,000 GSF entering the planning process designed to achieve energy net-zero beginning in fiscal year (FY) 2020.

2.6b.1 Performance Status

This is a newly identified goal and the percentage has not been established, thus performance related to this goal is limited.

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

None

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

None

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

2.6b.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM has no new building construction entering the planning process in 2020 or thereafter.

b. Expected site contribution to the DOE goal(s)

LM has no new building construction entering the planning process in 2020 or thereafter, and so LM is not expecting to contribute to the DOE goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Evaluate definitions and criteria for net-zero buildings
- Update the Sustainable Buildings chapter in the EMS Sustainability Teams Manual to include EO 13693 requirements and revised GPs.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

In addition to information provided in Section 1.1.2.f, attend net-zero training when available and cost effective.

2.6b.3 Response to additional SSP guidance questions

[a.] LM has no building entering the planning process in 2020. If LM enters the planning process in 2020 or thereafter, LM will design buildings greater than 5,000 GSF to achieve energy net-zero and, where feasible, water or waste net-zero.

2.7 Data Center Efficiency

Establish a power usage effectiveness (PUE) target in the range of 1.2–1.4 for new data centers and less than 1.5 for existing data centers.

2.7.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
PUE	No	No	No	FDCCI Worksheet

Abbreviations:
FDCCI = Federal Data Center Consolidation Initiative

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

A separate metering system that monitors power use in real-time has been instrumental in reducing power use at all locations.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM exceeded the PUE 2015 interim target of 1.4 with a score of 1.32. This is attributed to LM's use of top-of-the-line racking and cooling infrastructure in conjunction with following manufacturer's recommended maintenance program.

LM maintains two standard data centers and three smaller data centers, as defined by the Federal Data Center Consolidation Initiative (FDCCI) at satellite offices.

LM has 26 virtualized hardware servers doing the work of 248 individual hardware servers. Server virtualization allows a single PC server, using specialized software, to mimic the functionality of what once took many PC servers. The result of server virtualization is lower power and cooling requirements and costs and reduced space requirements than would be required with traditional server hardware.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

2.7.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM will continue to optimize the configuration of LM's data centers by monitoring data center power consumption in accordance with FDCCI standards and through LM's ongoing server virtualization effort.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet the 2016 goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- LM will observe and follow all guidance and metrics as determined by the FDCCI.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

2.7.3 Response to additional SSP guidance questions on Data Center Efficiency

[a.] LM will submit information when requested on sustainability requirements of EO 13693 in accordance with the Federal Information Technology Acquisition Reform Act and the Department's Data Center Optimization Initiative.

[b.] LM will report site data center inventories and sustainability performance metrics will be reported to the Chief Information Officer via the Integrated Data Call process.

[c.] LM will the follow the DOE Chief Information Officer's guidance to achieve sustainability goals.

3 Clean and Renewable Energy

3.1 Renewable Energy – Total Electric and Thermal Energy

"Clean Energy" requires that the percentage of an agency's total electric and thermal energy accounted for by renewable and alternative energy shall be not less than 10 percent in 2016–2017, working towards 25 percent by 2025.

3.1.1 Performance Status

This is a newly identified goal, so performance related to this goal is limited.

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

None

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

Over 97 percent of energy used by LM is electrical. Thermal energy is a very small part of LM's energy use, so if LM meets the renewable energy goals, it will meet the clean energy goals. In addition, 34.4 percent of LM's total energy is from clean energy sources. LM continues to be successful in exceeding the renewable energy goal through the combined efforts of generating renewable energy onsite, retaining the RECs that are generated, double counting those RECs because they are generated and used on federal and tribal lands, and purchasing additional RECs.

In 2015, a full-scale battery-powered air stripper was installed at the Rocky Flats site to remove volatile organic compounds from groundwater. Because the Rocky Flats site is not supported by any line power or other utilities, the source of the power for the air stripper is an innovative, cargo-container-mounted solar 8 kW photovoltaic/battery facility. The air stripper vendor has

stated this application is the only fully off-grid, solar/battery-powered air stripper of which the vendor was aware. The air stripper worked extremely well through a very wet spring in 2015 and has continued to operate well. As a side note, the design of this power facility was shared with the U.S. Department of the Navy, at the Navy's request; they have since installed a much larger, multi-container-based power facility using the same concepts, and they plan to install several more.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

3.1.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

With the following activities LM expects to continue meeting renewable energy/clean energy goals:

- In 2016 and later years, LM will research adding additional renewable energy/clean energy installations at LM sites or purchasing additional green energy in order to continue meeting the 2020 goal that 20 percent of LM electrical energy comes from renewable sources and 16 percent of total energy comes from clean sources. With continued efforts to add RE or clean energy and purchase RECs, it is expected that LM will achieve these goals.

b. Expected site contribution to the DOE goal(s)

LM is exceeding the 2025 goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Update 2009 renewable energy feasibility evaluations on selected LM sites by the end of 2016. This will provide current information on the status of LM sites as to the feasibility of installing renewable and clean energy generation units.
- Investigate new renewable energy options to make certain that the renewable energy claimed was generated at either federal or tribal facilities or non-federal or non-tribal facilities that are 10 years old or less, in order to comply with EO 13693. Specifically,

review all LM renewable energy generators and determine their ages and land ownership status.

- In FY 2016 and later years, better integrate LM's Renewable Energy Team planning and implementation of actions with the site operations, projects and programs, and engineering teams. Be sure to communicate EMS and sustainability goals to those teams, and help those teams collaborate in achieving those goals. Specifically, make a general presentation of EO 13693 renewable energy goals at an LM Senior Management meeting (with an open invitation to all LM personnel), at an LMS All-Hands meeting, and at a combined Projects and Programs meeting with site leads/managers, task managers, and engineering personnel with more specific discussion of the goals and needed actions. Repeat each year.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

3.1.3 Response to additional SSP guidance questions

[a.] LM will revisit renewable energy feasibility studies done in 2009 and update information on the feasibility of installing renewable energy generation and alternative thermal generation capability at its sites. LM meets the 2025 goal for clean energy use, and expects to continue to do so.

[b.] No RECs from onsite renewable sources were sold.

[c.] No renewable or alternative energy assessments of current installations were conducted in 2015. They will be included in future quadrennial site energy assessments. As stated above, the 2009 renewable energy feasibility studies will be revisited to determine where new clean energy projects might be installed.

[d.] LM has purchased RECs at four sites. Locations and additional system information are shown in the chart below:

Site	RE [kWh/yr]	Costs [$/yr]	Type	Installation Year	Provider
Fernald Site	423,600	$4,236.00	solar photovoltaic	2012	Duke Energy
Grand Junction Disposal Site	14,400	$360.00	wind	2001	Grand Valley Power
Monticello Site	36,000	$36.72	solar photovoltaic	2011	Empire Electric
Weldon Spring Site	48,000	$480.00	solar photovoltaic	2012	Ameren Missouri

Abbreviations:
kWh/yr = kilowatt-hours per year

[e.] As the current sources for purchase of RECs age out, purchase from Indian Tribes will be investigated. LM has 336 kW of solar panels installed at the Tuba City site, which is in the Navajo Nation.

[f.] The Renewable Energy and Sustainable Buildings teams will work with other EMS sustainability teams, engineers, and design professionals as part of an integrated team to ensure renewable energy, especially solar hot water heaters (in accordance with EISA Section 523), is considered in new buildings, when cost effective.

3.2 Renewable Energy Total Agency Consumption

"Renewable Electric Energy" requires that renewable electric energy account for not less than 10 percent of a total agency electric consumption in 2016–2017, working towards 30 percent of total agency electric consumption by 2025.

3.2.1 Performance Status

This is a newly identified goal, thus performance related to this goal is limited.

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Operating Onsite RE	Tab 3.2a	Yes	No	No
Purchased RE	Tab 3.2b	No	No	No

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM gets 38.8 percent of its electrical energy from renewable sources, thus exceeding the renewable energy goals. LM's goal last year was to compare current LM renewable energy produced onsite against the current inventory of RECs purchased. Additionally, LM investigated possible renewable energy projects on LM sites that could replace the purchased RECs.

In 2015, a full-scale battery-powered air stripper was installed at the Rocky Flats site. Please see Section 3.1.1c for a full description of this system.

LM purchased electrical use has decreased more than 41 percent since 2008 and more than 12 percent since last year. This decrease results in an increase of the percentage of electricity that comes from renewable energy.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

3.2.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

With the following activities LM expects to continue meeting renewable energy/clean energy goals:

- In 2016 and later years, better integrate Renewable Energy Team planning and implementation of actions by the site operations, project and programs, and engineering teams. Communicate EMS sustainability goals to those teams, and help the teams collaborate in achieving those goals. Present EO 13693 renewable energy goals at an LM Senior Management meeting (with an open invitation to all LM personnel), at an LMS All-Hands meeting, and at a combined Projects and Programs meeting with site leads/managers, task managers, and Engineering personnel with a more specific discussion of the goals and needed actions.

b. Expected site contribution to the DOE goal(s)

LM is exceeding this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Review all LM renewable energy generators and determine their ages to make certain that the renewable energy claimed was generated at facilities less than 10 years old or on federal or tribal land in order to comply with EO 13693.
- Evaluate the continued purchase of RECs since LM expects to exceed the 2025 goals in the EO 13693 for RE.
- Update 2009 renewable energy feasibility evaluations on selected LM sites. This will provide up-to-date information on the status of LM sites as to the feasibility of installing renewable energy generation units.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

3.2.3 Response to additional SSP guidance questions on Renewable Energy

[a.] LM exceeds the EO 13693 renewable energy goals. LM conducted renewable energy feasibility studies of its sites in 2009. LM plans to revisit these and upgrade them to current conditions.

[b.] No RECs from onsite renewable sources were sold.

[c.] No renewable or alternative energy assessments of current installations have been conducted. They will be included in future quadrennial site energy assessments. As stated above, the 2009 renewable energy feasibility studies will be revisited to decide where new renewable energy projects may be installed.

[d.] LM has purchased RECs at four sites, as shown in the chart below.

Site	RE [kWh/yr]	Cost [$/yr]	Type	Installation Year	Provider
Fernald Site	423,600	$4,236.00	solar photovoltaic	2012	Duke Energy
Grand Junction Disposal Site	14,400	$360.00	wind	2001	Grand Valley Power
Monticello Site	36,000	$36.72	solar photovoltaic	2011	Empire Electric
Weldon Spring Site	48,000	$480.00	solar photovoltaic	2012	Ameren MO

Abbreviations:
kWh/yr = kilowatt-hours per year

[e.] As the current sources for purchase of RECs age out, purchase from Indian Tribes will be investigated. LM has 336 kW of solar panels installed at the Tuba City site, which is in the Navajo Nation.

[f.] The Sustainable Buildings Team will work with other EMS sustainability teams, engineers, and design professionals as part of an integrated team to ensure renewable energy, especially solar hot water heaters (in accordance with EISA Section 523), is considered in new buildings and major renovations, when cost effective.

4 Water Use Efficiency and Management

4.1 Potable Water Intensity Reduction Goal

Reduce potable water intensity (gallons per gross square foot) 36 percent by 2025 from a 2007 baseline (2015 target: 16 percent).

4.1.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information.

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Goal 4.1 Potable Water Intensity	Tab 1.2a	Yes	No	Compliance Tracking System
Potable Water Use	Tab 3.1	Yes	No	Compliance Tracking System
Facility size	Tab 1.2a	Yes	Yes	No

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

In April 2015, the LM Grand Junction disposal site staff installed a small, solar-powered irrigation pilot system at the site's Enhanced Cover Assessment Project test cover. The irrigation system supports soil manipulation and revegetation tests related to LM's study of converting conventional Uranium Mill Tailings Radiation Control Act disposal cell covers into water balance covers. Potable water is trucked into the site to fill a 1,500-gallon water tank that provides water for the system through a solar-powered pumping control system. To date, the project has used 45,238 gallons of water.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

In 2015 LM tracked potable water use at all LM goal subject sites. Table 3 shows LM's goal for subject sites' water use performance since 2007. As shown in Table 3, in 2015 LM reduced potable-water water use intensity (WUI) by 53.8 percent compared to the baseline year of 2007, exceeding the minimum water intensity goal of reducing WUI by 16 percent by the end of 2015.

LM Water Conservation Team staff audited the Tuba City site in 2015; during the audit, staff evaluated meters and looked for leaks. There were no findings during the audit. Due to minimal activity at the site, there are no water efficiency improvements scheduled.

LM considers ways it can reduce, reuse, and/or recycle potable and non-potable water with project-planning tools (Project Activity Evaluation, Statement of Work, etc.). LM did not have any major, water-using projects in 2015; however, Water Conservation Team staff reviewed Statements of Work for opportunities to conserve water during projects.

Table 3. LM Combined-Sites Water Use Since 2007

Fiscal Year	GSF[a]	Water Use (gallons)		Potable-Water WUI (gallons/GSF)	Potable-Water WUI Percent Change	Non-potable Fresh Water ILA Use Percent Change (gallons)
		Potable Water	Non-potable Fresh Water ILA			
2007	10,992	1,497,098	N/A	136.20	N/A – Baseline year	**N/A**
2008	11,712	1,070,768	N/A	91.42	32.9% reduction	**N/A**
2009	22,512	549,462	N/A[c]	24.41	82.1% reduction	**N/A**
2010	22,464	80,358	503,336[d]	3.58	97.3% reduction	**N/A—Baseline year**
2011	69,157	1,112,688	456,093	16.09	88.2% reduction	**9.4% reduction**
2012	69,157	392,791	459,729	5.68	95.8% reduction	**8.7% reduction**
2013	38,422[b]	904,953	397,082	23.55	82.7% reduction	**21.1% reduction**
2014	38,422	381,952	458,530	9.94	92.7% reduction	**8.9% reduction**
2015	38,422	416,838	20,869	10.85	92.0% reduction	**95.9% reduction**
2015 combined-sites potable-water WUI = (416,838 ÷ 38,422) = 10.85						
2015 combined-sites percent potable-water WUI Reduction: **= [(2007 WUI – 2015 WUI) ÷ 2007 WUI] × 100%** **= [(136.20 – 10.85) ÷ 136.20] × 100%** **= 92.0% reduction**						
2015 combined-sites percent non-potable fresh water ILA Reduction: **= [(2010 ILA – 2015 ILA) ÷ 2010 ILA] × 100%** **= [(503,336 – 20,869) ÷ 503,336] × 100%** **= 95.9% reduction**						

Notes:

[a] Table 4 compares LM's water use intensities (based on water and energy use square footages).

[b] LM demolished its Weldon Spring Site Administration Building in September 2012. Therefore, the LM Water Conservation Team did not include that building's square footage in the combined-sites GSF for 2013; (that building's square footage was in the 2012 GSF).

[c] SPO redefined fresh water in mid-2009 to include non-potable fresh water, so LM included non-potable use in the overall, water use category. In 2010, SPO directed LM to not include non-potable water in its EO 13514 potable water reduction goal, but SPO also said that LM should not eliminate the 2009 non-potable use values from past reported potable use data.

[d] LM defined Non-potable, industrial, landscaping, and agricultural (ILA), fresh water use with its own goal, for which 2010 is the baseline year.

Abbreviations:

ILA = industrial, landscaping, and agricultural
N/A = not applicable
WUI = water use intensity

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

The gross square footage LM used to determine potable water use intensity values is different from the gross square footage in LM's FIMS snapshot, because LM does not use water in all the included FIMS square footage (see Attachment F). Therefore, the potable-water WUI values in the CEDR and this SSP are not the same. The values in Table 3 are LM's correct potable-water WUI values. Table 4 illustrates WUI values when using the square footages associated with energy and water, respectively.

Table 4. Water Use Intensity Comparison Using Water and Energy Use Square Footage

Fiscal Year	GSF (water)	GSF (energy)	Potable Water Use (gallons)	Potable-Water WUI (gallons/GSF)		Potable-Water WUI Percent Change	
				Using Water GSF	Using Energy GSF	Using Water GSF	Using Energy GSF
2007	10,992	26,374	1,497,098	136.20	56.76	N/A—Baseline year	N/A—Baseline year
2015	38,422	37,400	416,838	10.85	11.17	92.0% reduction	80.3% reduction

Abbreviations:
N/A = not applicable
WUI = water use intensity

4.1.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM will continue to track and monitor its potable water use for 2016 and beyond to identify opportunities where it can reduce its potable water consumption.

LM expects to have moderate potable water use in 2016 as compared to previous reporting years. At the Fernald site, LM expects lower-than-normal annual precipitation. This may result in the necessary use of potable water to both irrigate the restored area/bio-wetland and fill the "skillet" pond that houses a ground-source heat exchange pump.

LM expects minimal impacts from planned 2016 activities.

b. Expected site contribution to the DOE goal(s)

LM estimates that it will reduce its potable water use intensity 83 percent by the end of 2016, compared to the 2007 baseline.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Reduce potable water use intensity by 18 percent by the end of 2016, as compared to the 2007 baseline.
- Reduce potable water use intensity by 22 percent by the end of 2018, as compared to the 2007 baseline.
- Continue to investigate ways to reuse and recycle water, The LM Water Conservation team rotates audited sites so it will audit all sites at least once every 4 years in compliance with EISA Section 432. LM will audit its water use at the Fernald and Monticello sites in 2016.

- Maintain, update as needed, and follow a water management plan described in the EMS Sustainability Teams Manual, Section 4.0, "Water Conservation Plan." LM will update the plan in 2016 with new EO requirements.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

4.1.3 Response to additional SSP guidance questions on Potable Water

[a.] Potable water use information is provided below:

[i.] The following chart describes potable water supply sources at each Goal Metric Site.

Goal Metrics Site	Water Supply Source
Fernald, Ohio, Site	Outside municipality
Grand Junction, Colorado, Disposal Site	Outside municipality (hauled onsite)
Monticello, Utah, Site	Outside municipality
Old Rifle, Colorado, Site	Outside municipality (hauled onsite)
Tuba City, Arizona, Site	Produced onsite (onsite well)
Weldon Spring, Missouri, Site	Outside municipality

[ii.] Major water consuming end-uses include sinks, toilets, drinking fountains, equipment used for decontamination and dust suppression, emergency eyewash and showers, and a pond supporting the ground source heat exchange system.

[iii.] Water balance tracking is new guidance in EO 13693; therefore, LM did not calculate water balances in 2015. LM hasn't yet planned to analyze water balance in FY 2016, but will gather more information about how to meet the requirement.

[iv.] LM did not have any operational issues. However, LM lost 24,940 gallons of potable water at the Monticello site when a break occurred in a buried water-supply line between the City water utility meter at the highway and LM's building meter. The Monticello site staff discovered the leak after noticing higher than normal water use/costs on their water utility invoices. The pipe likely broke in December 2014, and leaked until March 2015 when the Monticello site staff shut off the water supply. The Monticello site staff replaced the water line in May 2015.

[b.] LM's potable water reduction strategies are listed below:

[i.] LM did not have any water efficiency projects during 2015.

[ii.] LM does not have any current projects on which to report capital cost, water savings, and cost savings.

[iii.] LM did not install any Federal Energy Management Program (FEMP)-designated products in 2015.

[c.] With the exception of the Old Rifle processing site, LM measures its potable and industrial, landscaping, and agricultural (ILA) water use at all Goal Metrics sites with standard water meters. The Rifle site does not have a meter because LM does not use piped municipal water there, but rather delivered potable water. Subsequently, LM determines its water use at the Rifle site by tracking delivery volume. LM does not permanently occupy the Rifle site, and visits it infrequently; hence LM uses only a small amount of water there.

[d.] LM hasn't identified alternative water sources, partially because of LM's minimal water use, and the availability, suitability, practicality, and cost of alternative water sources. LM will continue to evaluate future projects for the potential to use alternative water sources.

[e.] LM maintains and follows a water management plan found in the LMS *Environmental Management System Programs Manual*, Section 3.0, "Water Conservation." See Attachment C.

[f.] LM does not replenish water supplies.

[g.] LM does not have Goal Metrics sites in California.

4.2 Non-Potable Fresh Water ILA Use Reduction Goal

Reduce ILA water consumption 30 percent by FY 2025 compared to the FY 2010 baseline (2015 target: 10 percent).

4.2.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Goal 4.2 ILA Use	Tab 1.2a Tab 3.1	Yes	No	No

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM tracked 2015 non-potable ILA freshwater use data at all LM goal subject sites. As shown in Table 3, LM reduced its ILA water use by 95.9 percent compared to the baseline year of 2010, which exceeds the interim ILA target to reduce use 10 percent by the end of 2015.

LM identified budgeting needs for 2017 through 2021.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

4.2.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM will continue to track and monitor its ILA water use and identify opportunities to reduce its ILA water use.

LM expects minimal impact from planned 2016 activities.

b. Expected site contribution to the DOE goal(s)

LM estimates it will reduce its ILA water use intensity 12 percent by the end of 2016, compared to the 2010 baseline.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Reduce ILA water use 14 percent by the end of 2017, as compared to the 2010 baseline.
- Reduce ILA water use 18 percent by the end of 2019, as compared to the 2010 baseline.
- Implement ILA water efficiency improvements as opportunities and funding become available.
- Continue to use low-water-use landscaping technologies and practices, such as xeriscaping recently done at the Grand Junction site after the demolition and remediation of Building 12A. Investigate additional alternative water sources to offset the use of ILA water and help achieve ILA water reduction goals.
- Continue to audit water use at goal subject sites in accordance with EISA Section 432. LM will rotate site audits so it audits each site every 4 years.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

4.2.3 Response to additional SSP guidance questions on ILA Water

[a.] Current ILA water uses include toilets, sinks, safety showers, eyewash stations, and occasionally filling contaminated groundwater treatment system vessels. The ILA water supply source is an onsite well at the Tuba City site. LM also watered newly planted trees and vegetation with ILA water at the Fernald site; the ILA water supply source for this use was an onsite pond.

[b.] LM's efforts to measure and reduce ILA are listed below:

[i.] LM did not install ILA water-efficient equipment or implement ILA best practices in 2015.

[ii.] LM's ILA water use is minimal. When auditing LM sites that use ILA water, Water Conservation Team staff will try to identify alternative ILA water sources.

[iii.] LM does not have any current projects using ILA water that require reporting capital cost, water savings, and cost savings.

[iv.] LM has not planned to use/install any ILA water-efficient equipment in 2016.

[c.] LM has adopted and incorporated federal management practices, such as landscape management, storm water runoff, siting for facilities, and identified unnecessary real property for disposal. For example, the Monticello site staff and LM Water Conservation Team created a Storm Water Pollution Prevention Plan while replacing a main water line at the Monticello site, to help minimize storm water runoff during and after the project.

5 Fleet Management

5.1 Reduce Departmental Fleet Petroleum Use by 2 Percent Annually

Reduce fleet petroleum consumption reduction 20 percent by 2015, and each year thereafter, relative to a 2005 baseline (2015 target: 20 percent).

5.1.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Petroleum Consumption Reduction	Tab 1.2a	No	No	No
Conventional Fuel Use	Tab 10	No	No	Federal Automotive Statistical Tool

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

LM's mission is to manage post-closure responsibilities and ensure the future protection of human health and the environment. As more sites move into post-closure and legacy management, LM's number of sites and associated use of vehicles will continue to increase, making it difficult for LM to meet the reduction goal. Additionally, the lack of alternative fueling infrastructure near to these sites makes it increasingly difficult to address reduction of conventional fuels.

LM's current strategy is to replace all light-duty vehicles with alternative fuel vehicles (AFVs) if reasonable at the time of replacement. The availability of E85 vehicles will allow more opportunities to use E85 fuel and reduce the use of petroleum fuel. However, some locations do not have E85 fueling infrastructures available to accommodate an E85 capable vehicle. For these locations, only low greenhouse gas dedicated gasoline vehicles are recommended to be purchased in attempts to save additional costs incurred by the government for fueling capabilities that are not available at the locations.

Due to increasing growth in the number of LM sites that must be supported by the LM Fleet, LM expects to meet this goal only through the use of normalized figures.

If the program grows as expected, the number of LM sites will grow to approximately 117 by 2020. It will be a major challenge for LM to decrease fleet petroleum consumption by 2 percent annually through 2020 compared to the 2005 baseline while maintaining the site support efforts and accomplishing the LM mission. In 2005, LM had significantly fewer sites than at the end of 2015.

Additionally, it will be unlikely to conventionally meet this goal due to an increase in the number of vehicles that are waived from the requirement to fuel with E85 based on the EPAct 2005 Section 701 waiver process. As stated in the EPAct 2005 Section 701, dual-fueled vehicles may be waived from the requirement of fueling with E85 alternative fuels if the alternative fueling station is not located within a 5 miles radius or is greater than 15 minutes travel time from the garaging location, or if the cost per gallon of E85 is more expensive than gasoline. In 2015, 8 of LM's 26 dual-fuel-capable vehicles were approved for waivers from the requirement to fuel with E85 fuel based on these requirements.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM's petroleum fuel use in 2015 indicates a 0.6 percent annual increase in consumption compared to 2014. Using the CEDR reported LM 2005 baseline of 27,213 gallons indicates a 21.5 percent decrease in consumption since the baseline year of 2005. To determine the effects of LM's expanding mission, LM calculates normalized values for fuel use based on the number of sites supported. For the normalized evaluation, the fuel consumption, in gallons, is divided by the number of LM sites in the current year. Based on the normalized values, LM's petroleum fuel use in 2015 indicates a 42.8 percent decrease in consumption since the baseline year of 2005. A comparison of the petroleum fuel consumption changes using both data sets are shown in Table 5.

Table 5. LM Petroleum Fuel Use

Data Set	Baseline–2005 (gallons)	2014 (gallons)	2015 (gallons)	Annual % Change	Total % Change
Using LM Baseline[a]	31,488	24,557.36	24,721.24	+0.6%	-21.5%
Normalization of data to reflect increase of mission					
Number of LM Sites	67	90	92	2.2%	37.3%
Fuel Use/Site (gallons)	470.0	272.9	268.7	-1.5%	-42.8%

Notes: The CEDR reported LM 2005 baseline values as 27,213 gallons of conventional petroleum and 4,275 gallons of E85 fuel. This occurred because, for all E85-capable vehicles in 2005, 100 percent of fuel was reported as E85 fuel. However, E85 fueling infrastructure was not in place in 2005, and all reported E85 was actually conventional petroleum fuel. The new correct 2005 baseline amount for conventional petroleum fuel consumption is 31,488 gallons (i.e., 27,213 + 4,275).

Methods of reducing conventional fuel use while including newly acquired sites as LM's support scope increases include: acquiring more E85-capable vehicles, tracking and updating E85 station locations for vehicle users, and promote ride-sharing, trip consolidation, and videoconferencing whenever possible. LM has established videoconferencing capabilities at its eight staffed sites around the country. In addition, virtual-presence meeting software appears to be used more frequently, which helps reduce travel and conventional fuel use.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

In accordance with the CEDR Technical Support Document, the CEDR reports these changes in terms of gasoline gallon equivalent units instead of natural units. The percent changes and quantities of fuel will not appear to match correctly with this report since this report utilizes the natural units.

LM has identified a more accurate 2005 baseline value for conventional petroleum usage, in regards to this goal. Originally, for all E85-capable vehicles in 2005, 100 percent of fuel consumed was reported as E85 fuel. Accordingly, the CEDR previously reported the 2005 baseline for conventional petroleum as 27,213 gallons and for E85 as 4,275 gallons, and those values resulted in a calculated 9.2 percent decrease in conventional petroleum consumption for 2015 compared to the 2005 baseline. However, in reality, in 2005 an E85 fueling infrastructure was not in place and all reported E85 fuel consumed was actually conventional petroleum fuel. This fact requires a new 2005 baseline value of 31,488 gallons of conventional petroleum fuel consumed (see Table 5) and that new baseline results in a calculated 21.5 percent decrease in conventional petroleum fuel consumption for 2015 compared to the 2005 baseline.

5.1.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

Planned activities and their associated expected impact are in the *Fleet Management Plan* (see Attachment D).

b. Expected site contribution to the DOE goal(s)

LM has met and exceeded the 2015 interim target but is not expecting to annually meet this goal due to increasing growth in the number of LM sites that must be supported by the LM Fleet.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Continue to maintain a list of vehicles, monitor the monthly fuel consumption, monitor vehicle and fuel type, and take appropriate action to meet sustainability goals for vehicle and fuel use.
- Increase the overall fuel economy of the fleet by continually working with GSA to acquire smaller more appropriate vehicles or other advanced-technology vehicles.
- Identify the most fuel-efficient vehicle for a given task by taking into account miles driven, fuel used, vehicle use, and road types traversed such as off-road rocky conditions.
- Continue to (1) encourage the use of videoconferencing and virtual-presence meeting and (2) reduce miles through methods such as trip consolidation and carpooling.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

5.1.3 Response to additional SSP guidance questions on Petroleum Use

[a.] LM is continuing to promote programs that will lower LM's dependence on foreign oil such as trip consolidation and videoconferencing capabilities. The main inhibitors of LM's success are a lack of fueling infrastructures near the sites that LM supports and the restrictive verbiage that impacts LM's EPAct 2005 Section 701 waiver approvals. The waiver policy language states that if E85 infrastructure is located within 5 miles radius of the garaging location then a waiver from having to fuel with E85 will not be allowed. Oftentimes the sites LM supports and where LM garages its fleet are remote from one another with limited available E85 infrastructure. As an example, Grand Junction has two E85 fueling stations within a 5 mile radius of the garaging location. However, a majority of the sites that are supported out of the Grand Junction location require overnight travel and fueling at stations that do not have E85 infrastructure available. LM has not been granted waivers for a number of LM's fleet vehicles.

5.2 Increase Alternative Fuel Use by 10 Percent Year-Over-Year

Increase annual alternative fuel consumption 10 percent from a 2005 baseline (2015 target: 159 percent).

5.2.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Scope 1 GHG Mobile Emissions	Tab 1.2a	No	No	Federal Automotive Statistical Tool
GHG Emissions summary	Tab 1.2b	No	No	No
Alternative Fuel Use	Tab 10	No	No	Federal Automotive Statistical Tool
E85 fuel stations	No	No	No	DOE's Energy Efficiency and Renewable Energy web

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM has consistently exceeded the annual goal of a 10 percent increase in alternative fuel consumption.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

LM believes that the Federal Automotive Statistical Tool (FAST) data for the E85 baseline is an overestimate when compared to LM tracking data (see Attachment F).

5.2.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM is tracking and will continue to track the locations of E85 stations relative to the work being performed as part of LM's mission. See Attachment D, "*Fleet Management Plan*."

b. Expected site contribution to the DOE goal(s)

LM is exceeding this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Submit needed AFV waivers for 2016 where E85 fueling stations are unavailable or located further than is feasible, in accordance with the EPAct Section 701 process.
- Continue tracking E85 fuel use by each non-waivered vehicle in 2016 for reporting purposes.
- Continue to monitor DOE's Energy Efficiency and Renewable Energy website to determine E85 fuel infrastructure availability by garaging location.
- Continue to place maps and station listings showing E85 fuel stations in all E85-fuel-capable vehicle logbooks for easy reference by drivers.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

5.2.3 Response to additional SSP guidance questions on Alternative Fuel Use

[a.] E85 alternative fuels, which are the predominant alternative fuel used at LM, are slowly diminishing in popularity and infrastructure. Since not being a highly efficient fuel for consumers, there is not a high demand or incentive for stations to provide this fuel or provide accuracy in reporting this fuel on LM's fuel receipts. LM has found that receipts are showing up as gasoline when they were indeed E85. This misidentification can skew the data. There is no way for LM to track the accuracy of data from the pump without a labor-intensive step backward. LM has a policy and goal to acquire 100 percent of vehicles as AFVs, with the first acquisition method being low greenhouse gas vehicles and then E85 capable vehicles. LM evaluates the need to meet LM's AFV requirements with the infrastructure and added cost associated with that AFV through cost benefit analysis means and direction from the federal client. The Alternative Fuels Data Center webpage at www.afdc.energy.gov is a useful tool that LM uses to identify fueling infrastructure for AFVs near locations that LM operates.

5.3 Fleet-wide per-mile Greenhouse Gas Emissions Reduction

Reduce fleet-wide per-mile greenhouse gas emissions 30 percent by 2025 from a 2014 baseline (2015 target: not applicable (N/A); 2017 target: 4 percent).

5.3.1 Performance Status

This is a newly identified goal, so performance related to this goal is limited.

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

None

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

This is a new requirement based on EO 13693. GSA provides a limited selection of low greenhouse gas vehicles in the class that is needed for LM to achieve its post-closure responsibilities and ensure the protection of human health and the environment. It has already been indicated by GSA that there will be only a small quantity of low GHG vehicles available each year. LM's policy is to obtain E85 AFVs as alternatives when low greenhouse gas vehicles are not available.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

None

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

5.3.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM will continue to request low GHG vehicles to replace any vehicle in LM's current fleet as a first request and as the mission allows. LM's secondary approach will be to obtain E85 capable flex-fuel vehicles when low GHG vehicles are not available to support the LM EMS sustainability goals. A policy of acquiring low-GHG-emitting vehicles will reduce the agency-wide per-mile GHG emissions.

LM will strive to establish efficiencies and improve its processes whenever possible and in the best interest of the federal government for management of its assets. LM will evaluate possible solutions and current site-specific dynamics involved in vehicle idling practices. LM will use this data to identify if there is an opportunity to improve LM's processes and reduce the amount of idling time for LM vehicles, which could reduce GHG emissions and extend the overall useful life of the vehicle assets. The evaluation was directed following oversight reviews by LM Site Managers and LM Fleet Manager.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Look for opportunities to trade in LM vehicles for smaller more appropriate low greenhouse gas vehicles that can help right size LM's fleet and increase progress towards LM's low greenhouse gas initiative.
- Communicate the need to fill up with alternative fuels when possible while operating alternative fuel capable vehicles.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

5.3.3 Response to additional SSP guidance questions on Fleet-wide greenhouse gas emissions

[a.] In compliance with the Council on Environmental Quality Implementing Instructions, LM's 2014 baseline fleet-wide per-mile GHG emissions as identified in FAST is 629.45 grams of CO_2 equivalent per mile.

[b.] This will be a difficult goal to achieve based on LM's mission and the sites that LM supports. Most of the sites LM supports are located in remote areas that require 4-wheel drive low capability. As such, most SUVs will be only capable of all-wheel drive technology and will no longer offer the 4-wheel low as an option. The bigger SUVs and pickup trucks will still have 4-wheel low options but are rarely available as an option in a low GHG vehicle. Electric, hybrids, and sedans are not conducive to LM's mission accomplishment due to elongated engine

on times, remote nature of sites, and weather concerns that impact the safety of LM's fleet customers.

5.4 AFV Purchases

75 percent of light-duty vehicle acquisitions must consist of AFVs (2015 target: 75 percent).

5.4.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Alternative Fuel Vehicles	No	No	No	FAST

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM's light-duty fleet is 77 percent AFVs, which exceeds the Energy Policy Act of 1992 (EPAct 1992) requirement for AFV acquisitions. This exceeds the EPAct 1992 requirement that 75 percent of retired light-duty vehicles be replaced with AFVs. Additionally, a gasoline dedicated low greenhouse gas vehicle is considered an AFV when using conventional gasoline fuel.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

5.4.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM's current strategy is to replace 100 percent of all light-duty vehicles, at the end of their lifecycle, with AFVs, when it doesn't negatively impact the mission. Some locations do not have E85 fueling infrastructures available to accommodate an E85 fueled vehicle. As such, it would

not be cost-effective for LM to lease E85 vehicles at an added incurred monthly cost to the government. See the *Fleet Management Plan* (Attachment D). LM's first approach will be to always acquire low GHG vehicles when available (which are considered AFV even if operated with conventional gasoline fuels). These are ongoing planned activities that were implemented previously and shown to be an effective strategy for meeting LM's AFV acquisition goals.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- The Vehicle and Fuel Use Team will continue to record and track vehicle-related data and produce monthly summary reports that include information regarding AFVs.
- In addition, data in the FAST report will continue to project a 3-year vehicle acquisition forecast that will include AFV acquisitions for all light-duty vehicles when possible and depending on alternate fuel availability.
- LM will continue to acquire AFVs for all light-duty replacements when possible and depending on alternative fuel availability.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

5.4.3 Response to additional SSP guidance questions on light-duty vehicle acquisitions

[a.] LM's policy is to acquire low greenhouse gas, E85, or other AFVs when replacing light-duty vehicles in LM's fleet. LM will continue to practice this for all of LM's applicable light-duty fleet, but LM will focus on acquiring low greenhouse gas vehicles as the preferred option, with E85 FF vehicles being secondary.

[b.] Due to the lack of biofuel availability around the sites supported by LM, biodiesel is not a significant contributor of fuels for the LM program. Additionally, LM's small amount of diesel-capable vehicles makes it extremely costly to provide onsite infrastructure for biodiesel. LM doesn't have any plans for making biodiesel a strong competitor to some other alternative fuels.

[c.] Alternative-fuel vehicles will not be acquired if it is not in the best interest of the U.S. government and its taxpayers. LM maintains a balance of focus between mission accomplishment and fiscal responsibility. LM will always first try to obtain low greenhouse gas vehicles, which are considered alternative-fueled vehicles if fueled in the conventional gas configuration.

5.5 Zero-Emission or Plug-In Hybrid Vehicles

Ensure 20 percent of passenger vehicle acquisitions consist of zero-emission or plug-in hybrid electric vehicles by 2020 (2015 target: N/A; 2020 target: 20 percent; 2025 target: 50 percent).

5.5.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Zero-Emission Vehicles	No	No	No	FAST
Plug-in Hybrid Vehicles	No	No	No	FAST

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM's mission requires extensive engine-on time in locations that are remote to the vehicle garaging location. Additionally, LM has a policy to protect its users from weather hazards. Examples of these protections are using the GSA vehicles to keep employees warm or cool while performing their work. Keeping the air conditioning and heater running at an idle, even for short periods of time, can drain batteries in an electric or hybrid vehicle. The sites LM supports do not have vehicle plug-in stations. As such, hybrid or plug-in technology is not conducive to LM activities. LM doesn't have a policy to acquire plug-in or hybrid passenger vehicles nor is it expected to adopt a policy in the near future. LM does not have any passenger vehicles in their fleet.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating, and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

5.5.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

When passenger vehicles are needed LM will evaluate the use of zero-emission electric or hybrid vehicles to accommodate the need.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Evaluate the need for passenger vehicles on an annual basis to determine if there is an opportunity to acquire electric or hybrid vehicles.
- Annually evaluate the need and cost effectiveness of providing onsite charging infrastructure for electric or hybrid passenger vehicles.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

5.5.3 Response to additional SSP guidance questions on zero-emission or plug-in hybrid electric vehicle acquisitions

[a.] As plug-in or hybrid vehicles are not conducive to accomplishing the LM mission, LM will not be acquiring plug-in or hybrid vehicles. The nature of LM is to monitor post cleanup sites for public health and safety. This work requires a large amount of time in the field away from electrical or environmental infrastructure. The large extent of engine-on time and the need for climate control prevents this vehicle technology from being useful for LM. This goal is for passenger vehicles only, and the LM fleet doesn't include any passenger vehicles.

[b.] Due to the lack of passenger vehicles in LM's fleet, pursuing onsite charging infrastructure would not be in the best interest for the taxpayer and LM at this time. When LM has a demand for passenger vehicles, then LM can further evaluate the need for a charging infrastructure.

6 Sustainable Acquisition

6.1 Procurements Meet Requirements by Including Necessary Provisions and Clauses (Sustainable Procurements/Biobased Procurements)

Meet Contract Actions requirements by including BioPreferred and biobased provisions and clauses in 95 percent of applicable contracts.

6.1.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
New Contract Actions	Tab 2.2	No	No	LM JAMIS Data Warehouse
Electronic Purchases	Tab 5.1	No	No	FedCenter – GreenBuy Award submittal process

Abbreviations:
JAMIS = Job Cost Accounting Management Information System

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

The bulk data for products and services is included in the LMS contractor *Quarterly Performance Assurance Report*.

Ninety-nine percent of products and services purchased during 2015 were sustainable (where recycled and biobased products are identified as available by the U.S. Department of Agriculture and EPA).

In 2015, 100 percent of new contract actions, under new and existing contracts, met these requirements, as reported on the CEDR.

The current procurement process allows for review by a subject matter expert to identify applicable sustainable acquisition requirements.

Using data in the JAMIS (Job Cost Accounting Management Information System) data warehouse, the LMS Contractor Enterprise Architecture department has created electronic reports that provide information for products and services used by the LMS contractor. Information for new contract actions is collected manually, and all actions are reviewed. In 2015, 100 percent of new contract actions, under new and existing contracts, included requirements for products and services (1) to be energy efficient (Energy Star or FEMP-designated), water efficient, biobased, environmentally preferable (including Electronic Product Environmental Assessment Tool [EPEAT]-registered products), non-ozone-depleting, and nontoxic or less toxic, and (2) to contain recycled content.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

6.1.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

Sustainable Acquisition Team personnel will continue to attend the DOE bimonthly sustainable acquisition teleconference/webinar to stay abreast of what other DOE programs and contractors are doing to purchase sustainable products and services. LM is meeting sustainable acquisition goals and plans to continue meeting these goals.

The LMS contractor Terms and Conditions for all commodities and services will continue to include the required language that products and services be green/sustainable.

LM will continue to promote sustainable acquisitions and procurement to the maximum extent practical and ensure that 95 percent of new contract actions, under both new and existing contracts, contain language that requires the supply or use of products and services that are the following:

- Energy efficient
- Water efficient
- Biobased
- Environmentally preferable
- Non-ozone depleting chemicals or other alternatives to ozone-depleting substances and high global warming potential hydrofluorocarbons
- Recycled content, including paper containing 30% post-consumer fiber
- Non-toxic or less toxic alternatives products
- Fuel efficient products and services

LM will continue to ensure that 95 percent of EPA and U.S. Department of Agriculture listed products and services purchased, but excluding all credit card purchases, are environmentally preferable/sustainable in accordance with EO 13693 and as subject to certain qualifications.

The expected impact of the planned activities is to continue to meet or exceed the DOE goal.

b. Expected site contribution to the DOE goal(s)

LM has met this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Track compliance with the goal of purchasing 95 percent sustainable products and services (includes tracking for the performance assurance summary and LM's annual reporting on FedCenter and CEDR Tab 2.2).
- Continue to strengthen the requirement for federally mandated, designated products in all procurement actions as necessary.
- Continue to require that purchases of noncompliant energy-efficient products have written preapproval from a subject matter expert.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

6.1.3 Response to additional SSP guidance questions on sustainable acquisitions

[a.] In an effort to reach 100 percent compliance for biobased and construction contracts by 2020, all new solicitations and contracts contain requirements for products and services (1) to be energy efficient (Energy Star or FEMP-designated), water efficient, biobased, environmentally preferable (including EPEAT-registered products), non-ozone-depleting, and nontoxic or less toxic, and (2) to contain recycled content.

[b.] The current LM affirmative procurement plans, policies, and programs ensure that all federally mandated designated products (e.g., BioPreferred or biobased) and services are included in all relevant acquisitions.

[c.] LM does not purchase any commodity in large enough quantity to pursue monitoring or improving supply chain GHG emissions management.

[d.] LM strives to achieve 100 percent compliance for acquisition of sustainable products. The "Sustainable Acquisition" webpage on the LM Intranet contains links that help employees locate EPA recommendations for environmentally preferable specifications, products, and product vendors and service providers that meet green standards.

7 Pollution Prevention and Waste Minimization

7.1 Non-Hazardous Municipal Solid Waste

Divert at least 50 percent of non-hazardous solid waste, excluding construction and demolition debris.

7.1.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Offsite Municipal Solid Waste Landfill	Tab 9.1b	No	No	LM Waste and Recycling Spreadsheet
Municipal Solid Waste and Construction Debris Diversion	Tab 9.1c	No	No	LM Waste and Recycling Spreadsheet

LM disposal cells and onsite landfills do not fall within the definitions and criteria in the CEDR Technical Support Document guidance for onsite solid waste disposal. Therefore there are no data to report for onsite waste disposal in CEDR Tab 9.1a.

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

To facilitate pollution and waste prevention in the job planning process, the WMP2 Team developed *Guidance for Implementing Solid Waste and Construction Debris Diversion Strategies.* This document provides project managers with specific recycling and waste reduction measures to consider in planning and implementing their projects. This is a relatively new resource so the initiative is to continue to promote the guidance and provide support to project managers in their decision-making process.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

As a best management practice, LM maintains Excel spreadsheet inventories for recycled materials, chemicals, universal wastes, and solid, hazardous, and radioactive wastes. These tracking spreadsheets are maintained and updated twice a year with data compiled by the environmental compliance points of contact for each LM site.

A success story reported through the spreadsheet inventory was the reuse of materials at the Rocky Flats site. In the third quarter of FY 2015, Rocky Flats staff recycled 136 tons of pea gravel and zero-valent iron (ZVI) filings (collectively called ZVI media) that were previously used in the East Trenches Plume Treatment System to treat volatile organic compounds in the groundwater. The ZVI media was contained in two 12-foot-diameter, cylindrical, high-density polyethylene tanks buried in the ground. The ZVI media was excavated out of the tanks, sampled, and packaged in late 2014. The sample results indicated the ZVI media could be free-released. Rocky Mountain Metal Recycling picked up the ZVI media for processing and recycling. The ZVI media components were reclaimed together, but separated at the facility and processed for recycling.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

7.1.2 Plans and Projected Performance

LM will be supporting the DOE target of 50 percent diversion of non-hazardous solid waste.

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

In addition to activities discussed in paragraph "a." above, LM will continue doing the following:

- Re-evaluating waste streams and chemical inventories at staffed sites
- Identifying opportunities for increased recycling or reuse, primarily at staffed sites
- Investigating net-zero strategies that would help LM begin developing a path to achieving the 2025 goal
- Implementing actions or projects at LM designated buildings to advance the goal of making them net-zero buildings

The expected impact of these planned activities is identification of gaps in LM's current waste minimization efforts that will lead to improved prioritization and implementation of initiatives.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Promote pilot testing of 50 percent or more recycled content paper at the Fernald site and at the Grand Junction and Westminster LM offices.
- Share and encourage the use of the Sustainable Facility Tool with site environmental compliance points of contact and project leads to promote use of appropriate and effective environmentally preferable products.
- Incorporate references for *Guidance for Implementing Solid Waste and Construction Debris Diversion Strategies* in relevant manuals as they are revised.
- Share a complex-wide pollution prevention message during Pollution Prevention Week.
- Evaluate updates to non-hazardous waste recycling stations designed to increase participation.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

7.1.3 Response to additional SSP guidance questions on municipal solid waste

7.1 & 7.2 Municipal Solid Waste and Construction & Demolition recycling and waste diversion (50 percent)

[a.] LM's pollution prevention, waste reduction efforts, and recycling efforts include federal and contractor policies for pollution prevention; employee messaging through various forms of media at least once a year; promotion of diversion strategies with project teams; and recycling receptacles at staffed office sites.

[b.] LM's efforts to meet diversion goals of 50 percent for both non-hazardous solid waste diversion and construction and demolition waste are achieved through project planning and decision-making with support from environmental compliance representatives who help with data collection, tracking and status reporting.

[c.] LM staffed sites are primarily leased facilities with limited options for composting. LM does not have any cafeterias, so the organic waste stream is limited to small amounts of food or beverage waste. Some staffed sites have investigated options or tried collecting compostable material but have encountered obstacles that greatly impeded efforts. Those efforts have been discontinued. Only one office site is collecting compostable material on a volunteer basis. Sites that have larger amounts of outdoor organic material waste are not necessarily composting them, but are reusing the materials onsite. Discontinuing composting at staffed sites affects a small percentage of LM's overall waste stream.

[d.] LM's site population is anticipated to increase. Slight changes in site populations do not significantly impact solid waste or construction or demolition activities. Waste generation rates and volumes are expected to remain generally the same. Improved recycling receptacles may help increase waste diversion. LM construction and demolition activities are generally project- and mission-driven and are not significantly impacted by employee populations.

[e.] LM does not use waste-to-energy systems.

[f.] LM has increased the use of acceptable non-toxic or less toxic alternative chemical processes and minimized acquisition of hazardous chemicals and materials by incorporating sustainable purchasing requirements and resources into the purchasing and procurement system. LM reviews all chemical procurement requests to ensure that chemicals regulated under the Emergency Planning and Community Right-to-Know Act of 1986 are tracked, reduced, or undergo a sustainable-alternatives review. Acceptable alternative chemicals are approved through the procurement and job-planning processes. Sustainability codes are used to code purchases for tracking and evaluation. Ozone-depleting substances and fluorinated gases are a relatively small part of LM' s overall operations and represent a small fraction of overall anthropogenic carbon-dioxide-equivalent emissions for the organization.

[g.] LM applies the concepts of Integrated Pest Management when a "pest issue," typically involving the control of one or more state-listed noxious weeds, occurs on one of its sites. LM uses a combination of biological, cultural, mechanical, and chemical methods to control weed infestations. At several sites, LM has employed biological control methods by releasing insects that specifically target and damage the noxious plant species. At the Sherwood, Washington, Disposal Site and the Lowman, Idaho, Disposal Site, infestations of the noxious plant Dalmatian toadflax have been successfully controlled by releases of *Mecinus janthinus*, a stem-boring weevil. Cultural methods implemented at other sites have included (1) reseeding an area with native plant species that could outcompete the weeds, and (2) coordinating treatment efforts with adjacent landowners to ensure that everyone in the watershed was working together to control the noxious weeds. Mechanical methods have included hand-pulling, discing, and mowing. When biological, cultural, or mechanical methods are ineffective or cannot be used (e.g., when no biological or cultural method exists, when the terrain is too rough for equipment access), LM uses chemical methods to control infestations. In most situations, LM uses a selective herbicide that targets the invasive species only, not the desirable surrounding vegetation. The only time a selective herbicide is ***not*** used is when bare ground, such as within a fenced waste storage area, is desired. Recently, a former herbicide of choice was replaced with a new herbicide that was just as effective and less toxic to the environment and applicator. Efforts were made to

encourage subcontractors to make the change as well. LM maintains an ecosystem improvement log that includes the results of weed control and ecosystem management activities.

[h.] LM's procedure review for materials that cannot be cleared for unrestricted release include Personal Property procedure reviews at least once every 2 years to ensure alignment with all guidelines in DOE Order 580.1A Admin Chg 1, Federal Acquisition Regulation policies and procedures, the *Code of Federal Regulations,* and the LMS *Personal Property Management Manual* (LMS/POL/S04336). The definitions and descriptions of property that cannot be cleared for unrestricted release are defined in DOE Order 580.1A Admin Chg 1 and in the *Personal Property Management Manual*. When any high-risk personal property (HRPP) or sensitive items property cannot be cleared for unrestricted release, the Personal Property department engages the Health and Safety Team in all cases and follows all guidance provided by that team. The Personal Property department is required to conduct annual inventories of all HRPP and sensitive items. LM does not have any HRPP or sensitive items.

7.2 Construction and Demolition Debris

Divert at least 50 percent of construction and demolition materials and debris.

7.2.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Construction and Demolition Debris	Tab 9.1c	No	No	LM Waste and Recycling Spreadsheet
Recycled Construction and Demolition Waste	Tab 9.1c	No	No	No

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

As a way of furthering public engagement and showcasing the historical importance of legacy sites, LM is undertaking an initiative to develop visitor centers at select sites. The proposed upgrades to the interpretive center for the Weldon Spring site might include new construction and potentially replace the current interpretive center at the site. Considerations for a new multi-purpose facility at the Rocky Flats site are also in process. Renovation of a historical structure into a visitor center at the Grand Junction site is also in the planning stages. These activities would provide the most significant contributions to construction and demolition debris goal performance in the next few years.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM's 2015 success story for construction and demolition debris is the recycling and reuse of the administration building foundation at the Weldon Spring site. In 2012, LM demolished the 32,625 square-foot administration building but left the concrete foundation slab in place until a decision for its removal could be made and disposal concerns addressed. In 2015, LM removed and processed the concrete slab using an onsite rock crusher. This enabled the site to process for recycling and reuse the concrete foundation as well as concrete from past projects stored on site. Approximately 2,157 cubic yards (yd^3) of gravel were produced and reused onsite as backfill for the concrete slab removal area. A total of 54,640 pounds of metal rebar was automatically separated from the concrete by the rock crusher and sent offsite for recycling.

During Phase II of the electrical upgrades at the Fernald Site to replace overhead lines with underground lines and downsize transformers a total of 160, 285 pounds of materials where recycled or salvaged, including 61.8 tons (136,246 pounds) of telephone poles. In addition at Fernald site, the Paddy's Run Streambank Stabilization project reused 1,594,418 pounds of materials. These materials included common barrow material (200 yd^3), topsoil (900 yd^3) and wood chips (35 yd^3).

LM considers ways it can reduce, reuse, and/or recycle materials with project-planning tools (Project Activity Evaluation, Statement of Work, etc.).

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

7.2.2 Plans and Projected Performance

LM will be supporting the DOE target of 50 percent diversion of construction and demolition debris.

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM will continue doing the following:

- Work with site leads/managers in identifying 2016 construction and demolition activities.
- Encourage use of the *Guidance for Implementing Construction Debris and Solid Waste Diversion Strategies* to identify site-specific source reduction and diversion opportunities.

The expected impact of the planned activities is the maximized awareness and implementation of diversion strategies on more projects.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Review the site activities list for upcoming construction or demolition projects from which waste could be diverted.
- Test and evaluate the *Guidance for Implementing Solid Waste and Construction Debris Diversion Strategies* for at least two new proposed construction or demolition projects.
- Incorporate diversion guidance references into the construction manual.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

In addition to information provided in Section 1.1.2.f, request the opportunity to present the guidance at applicable task assignment meetings.

7.2.3 Response to additional SSP guidance questions on Construction & Demolition recycling and waste diversion (50 percent)

Responses are combined with non-hazardous solid waste responses and are provided in Section 7.1.3.

8 Energy Performance Contracts

Annual targets for performance contracting to be implemented in 2017 and annually thereafter as part of the planning of Section 14 of EO 13693.

8.1 Energy Performance Contracts

8.1.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

None

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

None

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

8.1.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM will evaluate new projects for ESPC ENABLE initiatives during the planning process.

b. Expected site contribution to the DOE goal(s)

LM doesn't typically have big enough projects on LM's own facilities to warrant use of an ESPC. Therefore, LM doesn't expect to make any contribution towards this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- A member of an EMS team will attend an ESPC webinar or course.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

8.1.3 Response to additional SSP guidance questions on energy performing contracts

[a.] FEMP's ESPC ENABLE initiative was investigated as a source of funding for energy-efficiency improvements at the Interpretive Center at the Weldon Spring site. After further research, it was decided that any improvements made would not achieve the paybacks necessary to make this a viable ENABLE project.

[b.] LM evaluates new projects for potential for ESPC ENABLE initiatives during the planning process. So far, LM has not identified any viable energy-performance contract projects for 2016. LM will evaluate future projects for energy-performance project viability.

[c.] Many of the LM sites are in remote locations. In addition, their projects are usually small in scale and are not viable for an energy performance contract.

9 Electronics Stewardship

Require and ensure that 95 percent of eligible acquisitions each year are EPEAT-registered products.

9.1 Purchases

9.1.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Electronic Acquisition	Tab 5.1	No	No	No

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

LM's IT group has developed and, over the years, refined the process of evaluating electronic equipment for purchase. IT personnel check vendor descriptions as well as the EPEAT website (http://www.epeat.net) to ensure that electronic equipment selected for purchase is EPEAT, Energy Star, and FEMP compliant before sending the request to Purchasing/Contracts, where EPEAT compliance is confirmed. This process includes the IT group confirming that electronic equipment purchases are Trade Agreements Act (TAA)-compliant when searching for solutions to equipment needs, and then the Purchasing/Contracts group separately verifying TAA compliance.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

One hundred percent of eligible acquisitions in 2015 were EPEAT-registered products, exceeding the requirement to purchase at least 95 percent EPEAT-registered products. Table 6 below shows detailed information on EPEAT purchases.

Table 6. 2015 EPEAT Purchases

Electronics	Total Number Acquired	EPEAT Acquired				EPEAT Compliance
		Bronze	Silver	Gold	Silver or Gold	
Desktop Computers	0	0	0	0	0	N/A
LCD Monitors	76	0	0	76	76	100%
Notebook Computers	74	0	0	74	74	100%
Tablets	24	0	20	4	24	100%
Copiers	0	0	0	0	0	N/A
Printers	10	0	4	6	10	100%
Multifunction Devices	16	0	0	16	16	100%
Televisions	0	0	0	0	0	N/A
All Eligible Electronics	**200**	**0**	**24**	**176**	**200**	**100%**

LM was the recipient of a 2015 *EPEAT Purchaser Award* in recognition of:

- LM's policy of procuring environmentally preferable electronic equipment.
- LM's use of EPEAT-required purchasing language on all contracts, solicitations, and Requests for Proposals.
- LM's ongoing record of EPEAT purchases.
- LM's overwhelming selection of EPEAT Gold rated computers and multifunction devices.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

9.1.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM will continue procuring EPEAT-registered products at current compliance levels in accordance with EO 13693. The expected impact will be to achieve the 2016 goal.

b. Expected site contribution to the DOE goal(s)

LM met the 2015 target and is expected to meet the 2016 goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Continue to manage purchases of electronic products in an environmentally responsible manner.
- Continue to require that purchases of noncompliant products have written approval from a subject matter expert.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

9.1.3 Response to additional SSP guidance questions on EPEAT-registered products

[a.] LM policies and procedures require the procurement of EPEAT registered products.

9.2 Power Management

Ensure 100 percent of eligible PCs, laptops, and monitors have power management enabled.

9.2.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Power Management	Tab 5.2	No	No	No

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

Power management on all desktop and laptop systems, which extends to digital displays and printers, is administered via network group policy and cannot be altered by users. Systems running mission-critical processes requiring exemption from the standard power management configuration are documented as exceptions and controlled by separate group policy.

A separate metering system monitors data center and server room power use in real-time and has been instrumental in reducing power usage at all LM locations.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

Simultaneous with the Windows 7 rollout, LM was able to recover 53 redundant PCs held by individuals who also held laptops, representing an overall 8 percent reduction in the number of workstations. This effort has continued with functionality of multiple systems merged into a single system whenever possible. As part of this initiative, any user with a desktop system is offered a laptop at the time of system replacement to reduce the need for loaner laptops in the LM environment. This effort became feasible as the difference in cost for a laptop and desktop has become essentially negligible.

LM makes use of electricity-monitoring and Uninterruptible Power Supply management utilities to measure and evaluate electricity consumption of data center facilities. Additional discrete, quantifiable data is collected and referenced via a Virtual Machine and the Help Desk trouble-ticketing system for details regarding desktops, laptops/notebooks, and print-related devices.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

9.2.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM plans to continue the virtualization process where applicable. Virtualization allows for one server to perform the function of up to 100 individual servers, which results in a reduction in direct power usage and, in particular, a reduction in cooling needs.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Continue to take action to conserve energy usage at all LM data centers.
- Continue progress in phasing out physical hardware servers for the more electronically efficient virtual-machine technology whenever possible. A variety of benefits are realized including a smaller footprint, reduced cooling and overall power requirements, as well as scaling back on the pervasiveness of electronic components in operation.
- Continue in the efficient use of desktop and notebook/laptop systems, merging use where possible to reduce the number of devices in operation. Minimize the number of systems that exist in general office space, including the number of duplicate desktop and laptop systems.
- The electronic efficiency of these systems is progressing rapidly with successive model enhancements. LM will remain vigilant in the awareness of these improvements and incorporate them as they become available.
- Continue the phase-out of locally attached, personal-use printers facilitated by the secure printing option now available on all network-managed multi-function devices at all locations. The growing use of shared network devices will contribute to the ongoing reduction of paper, printing supplies, and power usage.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

In addition to the information provided in Section 1.1.2.f, users receive periodic notification via the Intranet or email that the LM policy is to power systems down at the end of the business day. This information is also posted to the LM Intranet on the "Legacy Management Help Desk Frequently Asked Questions (FAQs)" webpage.

9.2.3 Response to additional SSP guidance questions on power management

[a.] LM has established and implemented policies, guidance, and tools to ensure the use of power management on all eligible electronic products.

[b.] LM's implementation of power management on all desktop and laptop systems, which extends to digital displays and printers, is administered via network group policy and cannot be altered by users. Systems running mission-critical processes requiring exemption from standard power management configuration are documented as exceptions and controlled by separate group policy.

[c.] Power management has been fully implemented.

9.3 Automatic Duplexing

Ensure 100 percent of eligible computers and imaging equipment have automatic duplexing enabled.

9.3.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Electronics O&M	Tab 5.2	No	No	No

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

All desktop and laptop systems in LM are imaged with power management settings configured in accordance with the government standards. The controls for power management on all LM systems are locked, which prohibits users from changing these controls.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

All network printer and copier paper acquired by LM is made from recycled product.

LM implemented the "Locked Output" feature on all network printers. When activated on a user's computer, a PIN (of 4 to 8 digits) must be entered at the printer's console panel to produce printed output. This system has the following benefits:

- Decreased paper and toner waste
- Mistaken print jobs can be deleted before printing
- Forgotten output is deleted from printer memory after 8 hours
- Only the originator can retrieve output from printer memory, eliminating need for "personal printers"

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

9.3.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM will continue to evaluate efficient and environmentally sustainable printing capabilities in accordance with EO 13693.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Measure reduction of paper, toner cartridges, and power consumption after implementation of code-required printouts.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.2.1.f.

9.3.3 Response to additional SSP guidance questions on automatic duplexing

[a.] LM has policies and procedures that require and ensure that automatic duplexing be enabled on all eligible electronic products.

[b.] Automatic duplexing is in place.

[c.] LM implements best practices from the *DOE Sustainable Print Management Guide.*

9.4 End of Life

Ensure 100 percent of used electronics are reused or recycled using environmentally sound disposition options each year.

9.4.1 Performance Status

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

Refer to the chart below to locate LM quantitative data related to this goal.

Related Data	CEDR (Identify related tabs)	Energy Star Portfolio Manager	FIMS	Other (Identify)
Electronic Disposition	Tab 5.1	No	No	No

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

None

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM's IT group has developed and, over the years, refined the process for disposal of old equipment. When disposition of equipment occurs, IT coordinates with LM's personal property group to provide pictures for posting to the GSAXcess site. For equipment not appropriate for sale, local donation avenues have been established appropriate for the location to facilitate reuse of equipment no longer useful to LM. Recycling is viewed as a last resort if sale or reuse are not viable options.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

9.4.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

Increase or maintain the percentage of electronic assets that are disposed of through sound disposition practices.

b. Expected site contribution to the DOE goal(s)

LM is expected to meet this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Continue to surplus or excess electronic products in an environmentally responsible manner.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

See information provided in Section 1.1.2.f.

9.4.3 Response to additional SSP guidance questions on electronics end-of life

[a.] The DOE LM procedures identified in the LMS *Personal Property Management Manual* require that all personal property excess actions involve personal property personnel. Specific to electronics recycling, for all electronics that can be reused, LM uses GSAXcess to disposition electronics through interdepartmental transfers, GSA Exchange/Sales, and the Computers for Learning Program. For all electronics that cannot be reused and or that have been identified as waste, LM utilizes the services of an R2-Certified recycler to collect and dispose of all electronic waste.

In addition to using GSA and R2-certified recycling services, LM began participating in the USPS BlueEarth recycling event in FY 2015 to help all federal and contractor employees dispose of personal electronics waste. USPS BlueEarth is a group of federal recycling programs coordinated by the U.S. Postal Service to support sustainability initiatives that make it easy for federal agencies and their employees to properly dispose of items like empty ink cartridges and unwanted small electronics. For FY 2015, 687.5 pounds of personal electronics waste from LM federal and contractor personnel were recycled.

10 Climate Change Resilience

10.1 Policies

Update policies to ensure planning for, and addressing the impacts of, climate change.

10.1.1 Performance Status

This is a newly identified goal, thus performance related to this goal is limited.

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

None

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance.

The LM 2016–2025 Strategic Plan is being updated to include climate change considerations as a long-term surveillance and maintenance consideration within Goal 1, Protect Human Health and the Environment.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

The LM Climate Change Adaptation Team advocate has provided annual presentations to management identifying the evolution of Executive- and agency-level climate adaptation and resilience policies and initiatives.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

10.1.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

The LM 2016–2025 mission statement was in draft form in December 2015. As soon as it is finalized it will serve as the foundation upon which additional policy development can be considered.

LM will update LM's *Environmental Policy* to reflect consideration of climate change in LM's activities.

b. Expected site contribution to the DOE goal(s)

Including climate change considerations as part of the strategic plan provides direction to organizational leadership, and it will move LM forward on the path to fully incorporating these concepts into operations.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Finalize the LM 2016–2025 Strategic Plan.
- Determine whether other LM climate-specific policies are necessary and make updates accordingly.
- Begin incorporating the strategic goal and updated policy language into other documents.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

In addition to information provided in Section 1.1.2.f, the LM Climate Change Adaptation Team will identify training steered towards executives so that LM managers can better understand the impacts of climate change and implement resilient safeguards.

10.1.3 Response to additional SSP guidance questions on climate change policies

[a.] Attachment E in this document has LM's response to the objectives identified in SSP Guidance Appendix C for identifying risk, building resilience, and establishing regional and local coordination.

[b.] LM revised the screening level assessment survey that was provided in the 2015 SSP Guidance and will use the modified version to conduct assessments. Results from those assessments will be used to prioritize sites for additional consideration.

[c.] LM might construct a new interpretive center at the Weldon Spring site, which might be an opportunity for incorporating climate resilient design and management elements.

10.2 Emergency Response Procedures and Protocols

Update emergency response procedures and protocols to account for projected climate change, including extreme weather events.

10.2.1 Performance Status

This is a newly identified goal, thus performance related to this goal is limited.

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

None

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance.

LM will make further considerations of weather impacts in the face of climate change.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

The Weldon Spring site sustained damage from severe weather events in the past couple of years. Storm shelters were installed on site to accommodate staff and visitors in the event of a severe weather event.

As a best management practice, federal disaster determinations identified in the *Federal Register* for areas near LM sites are tracked in the *Quarterly Environmental Compliance Regulatory Review Report*. Any impacts to LM sites are confirmed and noted accordingly.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

10.2.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

Climate change adaptation and resilience information was provided to the Weldon Spring site project lead for consideration as plans are being considered for new building(s) at the site.

The CERCLA 5-year review for the Rocky Flats site will include consideration of the potential climate change impacts. The next CERCLA 5-year review will be final in 2017.

b. Expected site contribution to the DOE goal(s)

LM will initiate actions to achieve this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Continue to track severe weather impacts to LM sites and federal disaster determinations that are identified in the *Federal Register* for areas near LM sites.
- Review existing security risk and emergency protocols.
- Obtain regional predictions of climate change and evaluate potential impacts of these changes on the performance of remedies and facilities.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

In addition to information provided in Section 1.1.12.f, identify and share regional climate change prediction information with site leads/managers for consideration in site project planning and decision-making.

10.2.3 Response to additional SSP guidance questions on climate change emergency response procedures and protocols

[a.] LM identified an opportunity to incorporate climate resilience considerations into the *Comprehensive Emergency Management System* (LMS/POL/S04326). The document underwent revisions recently so these considerations would be developed and would most likely be included in the next set of revisions.

10.3 Projected Human Health and Safety Impacts

Ensure workforce protocols and policies reflect projected human health and safety impacts of climate change.

10.3.1 Performance Status

This is a newly identified goal, thus performance related to this goal is limited.

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

None

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

The Rocky Flats site's current procedures and policies allow the flexibility and controls to provide the necessary safety responses to quickly changing weather conditions. The weekly Plan of the Week reviews the weather forecast for the week and discusses any impact the weather might have on projects and personal safety, such as extreme temperatures, high winds, lighting, heavy rains or snows, insects and other wildlife. Similar activities take place at other LM sites.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

Storm shelters were installed on the Weldon Spring site to ensure staff and visitor safety in the event of a severe weather event.

LM has an incident reporting procedure in place for evaluating and addressing any incidents that impact human health and safety.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

Incorporating climate change projections into health and safety protocols is a new performance initiative for LM.

10.3.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

LM plans to perform structural analysis on the Comm Building at the Fernald site to see if it meets the criteria of and can serve as a potential storm shelter.

The Westminster office has reviewed tornado sheltering procedures and will be conducting drills.

b. Expected site contribution to the DOE goal(s)

LM will initiate actions to achieve this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Consider further the human health and safety impacts in the face of climate change.
- Continue to evaluate severe weather situations impacting LM sites.
- Review existing health and safety protocols.
- Obtain regional predictions of climate change and evaluate potential human health and safety impacts associated with LM sites.
- Consider climate resilient design measures for any new building plans.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

In addition to information provided in Section 1.1.2.f, identify and share regional climate change projection information with health and safety representatives for consideration in planning and decision-making.

10.3.3 Response to additional SSP guidance questions on climate change projected human health and safety impacts

[a.] Both LM and the LMS contractor have environmental policies affirming management commitment to identifying hazards and protecting people and the environment. There have been no specific changes to workforce protocols reflecting climate change over the past year. LM will be evaluating how this information could be incorporated into workforce protocols and policies.

10.4 Site Management Commitment

Ensure site/lab management demonstrates commitment to adaptation efforts through internal communications and policies.

10.4.1 Performance Status

This is a newly identified goal, thus performance related to this goal is limited.

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

None

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

LM has demonstrated commitment to adaptation efforts through the continued work of the Climate Change Adaptation Team as communicated through the team's employee messaging efforts and the team's implementation plan. The team reviews climate change requirements and then identifies tasks and metrics that help LM meet those requirements. The Climate Change Adaptation Team assists LM in compliance with DOE Order 436.1, the DOE Strategic Sustainability Performance Plan, EO 13693, and EO 13653.

The LM team advocate provides annual presentations to LM federal staff management, with an open invitation to all LM federal staff to attend the presentations.

The Applied Studies and Technology (AS&T) group works to a Five-Year Plan and provides a Year-End Summary Report each year that communicates management commitment to efforts that enhance the protection of human health and environment through the application of current and proven technology.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

LM team members attended the National Adaptation Forum in Missouri and the DOE Climate Change Training in Washington, D.C. As a best management practice, Climate Change Adaptation team members have participated in DOE Climate Change Adaptation Working Group calls and in Climate Adaptation Collaborative meetings. The Climate Change Adaptation Team took the initiative to transform the vulnerability survey that was provided in the 2015 SSP guidance into a format that would better serve LM sites. The LM advocate for the team also provided an annual briefing presentation to LM management.

Other examples of communication include the two articles the AS&T group provided in FY 2015 for the LM publication *Program Update*. The first quarter article, "Applied Studies and Technology, Stakeholder Outreach: Helping Native Students Heal the Land," showcased land stewardship efforts through higher education collaborations with students at the University of Arizona in Tucson and the Diné College of the Navajo Nation. The fourth quarter article, "The Third Dimension: Variation in Groundwater Aquifers," highlighted efforts to better understand increasing contaminant concentrations affecting groundwater cleanup. Both efforts are part of LM's goal to be proactive in better understanding land and water resources that can be affected by climate change.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

10.4.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

Climate Change Resilience will be the EMS third quarter media highlight topic. An article will be developed for the internal quarterly newsletter *ECHOutlook*.

Employee messaging and educational activities that will take place during the third quarter will help inform the LM audience and promote initiatives to meet 2016 Climate Change Resilience goals.

LM intends to update the environmental policy to include climate change considerations.

b. Expected site contribution to the DOE goal(s)

LM will achieve this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

In addition to activities discussed in paragraph "a." above, LM will pursue the following goals and milestones:

- Prepare and conduct a Climate Change Resilience presentation for LM Management.
- Develop and publish a Climate Change Resilience article for the internal quarterly newsletter *ECHOutlook*.
- Conduct site climate change vulnerability assessments.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

In addition to information provided in Section 1.1.2.f, present a Climate Change Resilience presentation to LM and LMS contractor management teams.

10.4.3 Response to additional SSP guidance questions on site management commitment on climate change

[a.] Management communication practices that encourage the adoption of adaptation policies include an annual climate change adaptation presentation to senior management, periodic articles

in a quarterly *Program Update* that reaches LM stakeholders, and awareness campaigns that are generally conducted as part of the EMS media platform. LM is aware of the DOE policy for climate change adaptation but has not initiated any adaptation-specific organizational level policies. LM will be evaluating management commitment to the adoption of new policies.

10.5 Best Available Science

Ensure that site/lab climate adaptation and resilience policies and programs reflect best available current climate change science, updated as necessary.

10.5.1 Performance Status

This is a newly identified goal, so performance related to this goal is limited.

a. Referencing pertinent databases and/or workbooks associated with the goal for quantitative information

None

b. Describing major initiatives or changes to missions or facilities that contribute in significant ways to goal performance

The AS&T Team is evaluating the potential impacts of climate change on remedy performance and the management of natural resources on LM sites. AS&T scientists seek to establish collaborations with state-of-the-science researchers, share costs, foster education with a focus on stakeholder communities, disseminate new knowledge through conferences and workshops, and defend through peer-reviewed publications.

c. Sharing success stories, accomplishments, lessons learned, and best management practices

AS&T projects are complex long-term study projects that include efforts such as long-term disposal cell cover performance studies, enhanced natural attenuation through bioremediation studies, and educational collaboration with regional colleges and universities. As a best management practice, information from these projects is used to improve understanding of remedy performance. A better understanding of remedy performance provides information that can be used to model potential future performance scenarios. Far-reaching educational outreach has been a successful way to gather and share information with other organizations.

d. Noting baseline changes, impacts, and justifications in the SSP. Identifying, updating and justifying any changes to previously reported data, including the baseline year in the appropriate reporting tool. Major changes are subject to approval by program and SPO [Sustainability Performance Office]

None

10.5.2 Plans and Projected Performance

a. Identify planned activities (e.g., mission changes, conservation measures, renewable energy systems, new construction or deactivation and decommissioning (D&D), policy and procedures updates, training) and expected impact of planned activities

The following AS&T technical task plans are expected to contribute to real-world application of best available science to LM initiatives and remedy performance evaluations. Additional information related to these activities is included in Attachment E.

Long-Term Cover Performance

Select AS&T projects are investigating the adaptability of disposal cell covers to climate change and are identifying natural analogs for clues about possible long-term changes in cover performance. AS&T projects also include monitoring the performance of alternative cover designs and evaluating techniques to enhance or transform conventional covers with the goal of maintaining protectiveness over the long term.

Pilot Studies

Continued work on passive remedies as alternatives to active pump-and-treat technologies. LM will continue to evaluate natural and enhanced phytoremediation using native desert plants, natural and enhanced microbial denitrification, and land farming, all as potential remedies for areas where there are continuing sources of groundwater contamination. These studies investigate sustainable remediation strategies for nitrogen-contaminated soil in arid and semiarid environments. The AS&T pilot studies are specific studies that help LM better understand natural processes that can lead to more resilient remediation.

Grow Higher Education Collaborations

The AS&T Educational Collaboration task plan supports the Secretary of Energy's commitment to Science, Technology, Engineering, and Math education for Native American students. For one of the projects, "Adaptation of Disposal Cell Covers to Climate Change," a University of Arizona PhD student developed a research plan to project the long-term performance and adaptability of LM disposal cells near Native American communities to climate change. This project will help LM satisfy executive and DOE directives related to potential effects of climate change on federal programs.

b. Expected site contribution to the DOE goal(s)

LM will achieve this goal.

c. Estimated additional funding needed beyond planned activities and typical operation costs for meeting the goal

None

d. Site specific measurable goals and milestones (3–5) for the next fiscal year

- Draft a monograph for publication on all components of the Monticello water balance cover study. Topics in the study include a small monolith lysimeter test of concept, a caisson lysimeter comparison of range of cover materials, embedded lysimeter monitoring of in-service cover performance, changes in soil engineering properties, plant succession on the cover, climate change scenarios, and natural analogs of long-term performance.
- Engage IAEA to share our experience with the international community s at the IAEA "Advancing the Global Implementation of Decommissioning and Environmental Remediation Programmes" conference.
- Provide continued graduate committee support to students working on climate change and resilient land stewardship studies through adjunct faculty appointments with the University of Arizona.

e. Request for technical assistance with reference to CEDR project number, if needed

None

f. Planned or needed training to increase awareness and encourage behavior change

In addition to information provided in Section 1.1.2.f, LM AS&T scientists will continue to attend trainings and conferences as needed to support their study projects. The group will be implementing a new communications plan as well as new program guidance titled *Applied Studies and Technology (AS&T) Program Guidance to Identify, Select, and Monitor Applied Studies.*

10.5.3 Response to additional SSP guidance questions on climate change best available science

[a.] LM is in the process of considering climate change science as it specifically relates to LM sites through the modified Screening Vulnerability Assessment and through AS&T activities. LM will revise current policies to include climate change adaptation and resilience and will evaluate the implementation of climate adaptation and resilience initiatives.

11 Budget and Funding

11.1 Overall Status

LM funds long-term sustainability projects in the normal budget process. EMS Coordinators submit costs to LM Budget Specialists in the Sustainability Crosscut budget and other related budget calls, when requested.

LM utilizes a multi-year sustainability budgeting plan to identify funds needed to approve projects in a timely manner and to improve ease of data collection for the multiple budget requests. With a 5-year look-ahead, LM identifies the major sustainability goals and related activities (e.g., water audits or annual reporting events) and the projects that will be necessary to achieve and track the goals. LM funds long-term sustainability projects in its site-specific budgets. The EMS staff identifies project costs for the Sustainability Crosscut budget and other related budget calls.

A cutout from the spreadsheet is shown below:

Goal	FY17 [$K]	FY18 [$K]	FY19 [$K]	FY20 [$K]	FY21 [$K]
GHG	501.6	508.1	515.0	513.5	519.6
HPSB	169.6	169.6	171.3	173.1	174.9
VF	55.1	55.1	56.9	56.3	56.9
Water	58.6	70.9	72.9	73.6	73.2
P2	92.6	92.6	93.5	94.5	95.6
SA	83.1	83.1	84.0	84.9	85.9
ES	66.0	66.0	66.7	67.4	68.2
RE	76.6	76.6	77.4	78.2	79.1
CCA	84.1	84.1	84.9	85.8	86.8

LM's major sustainability efforts and funding have been related to energy efficiency and renewable energy. LM plans to implement energy efficiency projects through 2025 that could significantly reduce energy intensity compared to the 2015 baseline and Scope 1 and Scope 2 GHG emissions. LM selects projects primarily by evaluating life-cycle costs. The projects' initial goals include having a payback time that is 25 years or less. Based on (1) the return-on-investment criteria and (2) the level of development of scope and implementation cost estimates of the projects listed in CEDR Tab 3.3a, "Active ECM & RE Measures," which includes a worksheet that addresses energy conservation measures (ECMs), water conservation measures, and RE measures. Energy Efficiency or Renewable Energy Team members will coordinate with task managers, site leads/managers, and engineering staff to develop projects. LM accounting and technical staff will review in-depth the most promising proposals.

LM will continue to accomplish deferred maintenance tasks identified for energy-consuming buildings/facilities annually, as funding allows. DOE Order 430.1B Chg 2 requires a CAS every 5 years of all buildings/facilities owned/leased by DOE. Deferred maintenance tasks identified in these assessments will be accomplished prior to the end of 2018, depending on funding availability.

11.2 Site-Specific Measurable Goals and (3–5) Milestones

LM will do the following:

- Determine the cost-effectiveness of projects but also consider the implementation of new technologies for demonstration purposes, the facilitation of technology transfer, and the accomplishment of deferred maintenance tasks.
- LM continues to evaluate the groundwater compliance strategy at the Tuba City site to determine which remediation activities suit the site conditions. This evaluation includes completion of the groundwater flow model and environmental assessment activities in 2016. The current pump-and-treat system is operationally challenging and several concerns have led LM to put the system into standby mode. It has not operated throughout most of 2015 and is not expected to operate throughout 2016. DOE has also engaged appropriate regulatory authorities and stakeholders during 2015 and will continue this activity through 2016.

- Continue to refine the scope and estimated implementation costs, evaluate funding sources for financial and technical rigor, and seek appropriate funding sources over the next 3 years for those projects that are life-cycle cost-effective. LM's next budget request will be updated to include projects that will allow sustainability goals to be met.
- Pursue additional training on costs, scheduling, estimating, and preparing return-on-investments and simple paybacks in 2016.
- Continue to examine reinvestment potential to utilize cost savings realized from sustainability efforts.

11.3 Success Stories, Accomplishments, Lessons Learned, and Best Management Practices

LM plans budgets for the EMS, including sustainability, and specific EMS projects for 5 outyears. During the process, LM identifies the major sustainability goals and related activities (e.g., water audits or annual reporting events) and specific projects. EMS staff coordinates with LM budget specialists during their life-cycle baseline budgeting, to include sustainability figures. To account for funding changes, EMS and LM budget staff identify tentative projects as well as selected projects beyond the 5-year window.

LM utilizes a multi-year sustainability budgeting plan to identify funds needed to approve projects in a timely manner and to improve ease of data collection for the multiple budget requests. With a 5-year look-ahead, LM identifies the major sustainability goals and related activities (e.g., water audits or annual reporting events) and the projects that will be necessary to achieve and track the goals. During the life-cycle baseline budget process, sustainability project spreadsheets are developed and utilized to report sustainability budget numbers. The spreadsheet includes a column that identifies projects that have not yet been scheduled or that extend beyond the 5-year window. This allows flexibility in moving projects from one fiscal year to another as available funding changes.

Return on investment reviews are conducted using the triple-bottom-line approach. This approach includes looking at not just payback period but also social responsibility, economic prosperity, and environmental stewardship. An example of a return-on-investment review for a project currently under evaluation is provided below:

Weldon Spring, MO, Site Interpretive Center - Potable Water Fixture Replacement

Year	Inflation Rate, %	Yearly Cost, $	Yearly Savings, $	Inflated Yearly Savings, $	Discount Factor	Present Value of Costs, $	Present Value of Savings, $	Water Savings, gal/yr
1	2%	21,935	-		0.9346	20,500	-	
2	2%		1,284.3	1,336	0.8734	-	1,167	134892
3	2%		1,284.3	1,363	0.8163	-	1,113	134892
4	2%		1,284.3	1,390	0.7629	-	1,061	134892
5	2%		1,284.3	1,418	0.7130	-	1,011	134892
6	2%		1,284.3	1,446	0.6663	-	964	134892
7	2%		1,284.3	1,475	0.6227	-	919	134892
8	2%		1,284.3	1,505	0.5820	-	876	134892
9	2%		1,284.3	1,535	0.5439	-	835	134892
10	2%		1,284.3	1,566	0.5083	-	796	134892
11	2%		1,284.3	1,597	0.4751	-	759	134892
12	2%		1,284.3	1,629	0.4440	-	723	134892
13	2%		1,284.3	1,661	0.4150	-	689	134892
14	2%		1,284.3	1,695	0.3878	-	657	134892
15	2%		1,284.3	1,728	0.3624	-	626	134892
16	2%		1,284.3	1,763	0.3387	-	597	134892
17	2%		1,284.3	1,798	0.3166	-	569	134892
18	2%		1,284.3	1,834	0.2959	-	543	134892
19	2%		1,284.3	1,871	0.2765	-	517	134892
20	2%		1,284.3	1,908	0.2584	-	493	134892
Total Present Value						20,500	14,914	
Net Present Value							(5,586)	
Total Gallons of Water								2,562,948
Years to pay back investment							17.08	

Assumptions:

7%		Nominal discount rate per OMB Circular A-94
2%		Inflation rate per Federal Reserve

Comments:

Sustainability Return on Investment (SROI): Measures cash and non-cash benefits to society as a whole and looks at economic, social, and environmental performance.

The Economic Return On Investment shows a relatively low Present Value of Savings; however, the amount of water savings in terms of gallons per year is substantial to the Weldon Spring, Missouri site. The Weldon Spring, MO Site is the third largest potable water consumer LM-wide (in terms of the Water Conservation Program Goal Metrics Sites).

The decrease in potable water consumption simultaneously provides a decrease in heating costs of providing hot water, and potentially decreases the costs associated with the onsite waste water treatment system, as well.

The Environmental Return on Investment is positive in that the project will decrease consumption of water (a natural resource); decrease energy required to heat water for hot water usage, with a subsequent decrease in greenhouse gases and air contaminates associated with energy production and supply; and a decrease in wastewater to the environment.

The Social Return on Investment is positive in that the project will provide valuable information on the water conservation benefits to the employees and the public. At the Weldon Spring, Missouri, Site, an Interpretive Center is open to the general public and is visited by approximately 24,000 visitors per year. Customized field trips are provided for students in kindergarten through 12th grade. Additionally, the staff conducts outreach presentations for organizations that do not have funding to travel to the Interpretive Center. The upgrade will provide the Weldon Spring site personnel the opportunity to educate the many people on the benefits of water reduction.

12 LM's People and Processes

12.1 Environmental Management System

LM's EMS comprehensively incorporates life-cycle environmental considerations into all aspects of the LM mission. The EMS helps LM use its finite resources wisely, minimize wastes and adverse environmental impacts, and comply with the laws, regulations, DOE requirements, and other applicable requirements that protect the environment, public and worker health, and

resources. EMS enables LM to implement sustainable environmental stewardship practices that enhance the 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 in environmental stewardship.

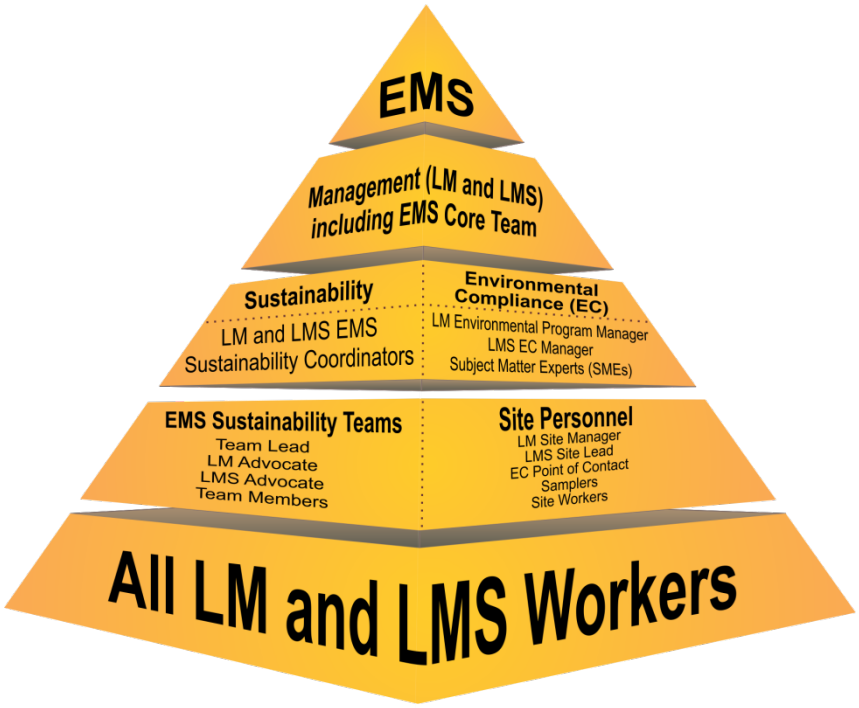

Figure 5. EMS Structure

LM's EMS is graphically displayed as a pyramid in Figure 5 above. It is a joint program between LM and its prime contractor for the LMS contract and has two areas of focus: environmental compliance and environmental sustainability. The EMS is an established structure with senior management sponsorship, coordinators, sustainability team involvement, and the environmental compliance group. The EMS activities are co-orchestrated by EMS sustainability coordinators, one from LM and one from the LMS contractor. Responsibilities of the EMS sustainability coordinators include overseeing the implementation and continual improvement of the EMS, actively participating in the EMS Core Team, reporting progress to management, conducting management reviews, facilitating management involvement in EMS, and generating end-of-year reporting.

The EMS Core Team includes representatives from applicable programs and projects from LM and LMS contractor management. Their responsibilities include the following:

- Overseeing the development and implementation of the EMS sustainability teams related to sustainability requirements)
- Approving EMS sustainability goals and targets
- Functioning as the steering committee for management-level decisions

In 2015, the LM EMS team continued applying DOE regulations and EOs. Progress on activities related to environmental, energy, and transportation management is evaluated and reported quarterly.

Each EMS sustainability team consists of a team lead, an LM advocate, an LMS contractor senior management advocate, and several other LM and LMS employees. Each team does the following:

- Is responsible for managing and implementing its individual sustainability initiatives and coordinating with other teams on crosscutting goals.
- Updates their respective sections within:
  - "EMS Sustainability Awareness" training
  - The EMS Sustainability Teams Manual
- Updates and presents goal-specific presentations to senior management once a year, with open invitations to others within LM.
- Provides awareness articles at least once every 2 years that are published in the internal quarterly newsletter *ECHOutlook*. Related posters, contests, and activities sometimes accompany the articles.

The EMS Training Team provides and coordinates the EMS Sustainability Awareness training updates within the 2-year refresher period. The EMS Media Team works with the other sustainability teams to produce the awareness articles, which are published in the internal quarterly newsletter *ECHOutlook* at least once every 2 years. Related posters, contests, and activities sometimes accompany the articles to encourage behavioral changes.

The environmental compliance aspect of the EMS consists of regulatory compliance and monitoring programs that implement federal, state, local, and tribal requirements, agreements, and permits. The LMS Environmental Compliance group is integrated into program/project implementation from planning through completion to help ensure activities are performed so that the safety of the public and protection of the environment is maintained.

The LM Sustainability side, with its comprehensive approach to fulfilling sustainability goals, advances the DOE sustainability mission with a diverse approach and a concentrated effort toward the goals of 2016 and beyond. To achieve the goals, LM will work with its EMS Core Team, EMS sustainability teams, the environmental compliance group, and the LM operations and maintenance staff. In addition, LM will enlist the technical expertise of its scientists and engineers to enable LM to operate sustainably and in compliance. This fostering of sustainable operations will include continued emphasis on behavior change.

EMS sustainability team members provide updates via presentations to management, and the Core Team meets as needed. The EMS Environmental Compliance group meets weekly, provides monthly status reports, provides quarterly reports on changing requirements, and annually assembles the *Office of Legacy Management's Summary of Annual Site Environmental Reports*. The annual EMS Management Review allows upper management to assess the strengths and weaknesses of EMS, and provides them with information that helps them make decisions affecting the future of the program. LM uses this SSP to report on the status of planned activities to meet sustainability goals.

The LMS contractor *Quarterly Performance Assurance Report* encompasses the sustainability teams and compares the status of their activities against the goals LM established in accordance with the requirements and directives. The report includes both environmental sustainability and environmental compliance information on significant activities that have occurred during the preceding 90 days, the status of projects compared to identified target dates, and activities planned for the next 90 days.

12.2 Sustainability Regulatory Reporting Adherence

The purpose of this SSP is to outline the strategies for managing, funding, 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:

- EO 13653, *Preparing the United States for the Impacts of Climate Change,* November 1, 2013.
- EO 13693, *Planning for Federal Sustainability in the Next Decade*, March 19, 2015.
- DOE Order 430.1B Chg. 2, *Real Property Asset Management*, April 25, 2011.
- DOE Order 436.1, *Departmental Sustainability*, May 2, 2011.
- Energy Independence and Security Act of 2007 (EISA) Section 432, Title 42 *United States Code* Section 8253[f] (42 USC 8253[f]).
- Energy Policy Act of 2005 (EPAct 2005), Public Law (PL) 109-58.
- Energy Policy Act of 1992 (EPAct 1992), PL 102-486.
- National Energy Conservation Policy Act of 1978 (NECPA), PL 95-619.
- DOE Strategic Sustainability Performance Plan, multiple years.
- Former Secretary of Energy Dr. Steven Chu, "Management of Fleet Inventory," Memorandum for Under Secretaries, Office of Management (Headquarters Fleet), PMAs and Headquarters Fleet Managers, Sustainability Performance Office, January 27, 2011.
- DOE Policy 450.4A, *Integrated Safety Management Policy*, April 25, 2011.
- LM Policy 436.1A, *Environmental Policy*, February 18, 2015.
- LM *Site Management Guide (Blue Book),* January 2015.
- LM *2011–2020 Strategic Plan,* DOE/LM-0512*,* January 2011.

III. Fleet Management Plan

To address recommendations in the pending DOE Inspector General Audit report, *The Department's Fleet Vehicle Sustainability Initiatives*, LM has summarized its site-level policies and procedures for the management of its fleet inventory, including fuel and vehicle acquisition and fleet inventory optimization. LMS's *Fleet Management Plan* is provided in Attachment D.

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Attachment A

Environmental Policy

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U.S. DEPARTMENT OF ENERGY

Legacy Management

POLICY: 436.1a

Effective: 02/18/2015

SUBJECT: ENVIRONMENTAL POLICY

1. OBJECTIVE. This policy reaffirms the Department of Energy (DOE), Office of Legacy Management's (LM) commitment to protect and respect the environment through our environment, safety, health and quality (ESH&Q) programs.

2. CANCELLATION. This policy cancels LM P 450.9, Environment, Safety, and Health Policy, dated 11-29-11.

3. APPLICABILITY. This Policy applies to all LM federal employees.

4. REQUIREMENTS. Not Applicable

5. RESPONSIBILITIES. It is the responsibility of all LM personnel to support the environmental policy to the utmost of their abilities. This policy, as set forth and supported by all members of senior management, will be reviewed annually and updated as necessary. Senior management will ensure that these expectations are made clear and available to all LM personnel, including DOE-LM employees and contractors, research associates, LM stakeholders, and the public.

6. POLICY. It is DOE policy that work be conducted safely and efficiently and in a manner that ensures protection of workers, the public, and the environment. LM has a number of goals and objectives, which support our mission "To fulfill the Department's post-closure responsibilities and ensure the future protection of human health and the environment." In support of our mission, goals, and objectives, proper management of the impacts of our operations and facilities on the environment is essential.

   With this policy, LM is pledging to protect the environment by complying with all applicable requirements, committing to prevent pollution, and to seek continual improvement in our

operations and processes. LM continues to make environmental protection and sustainability an integral part of our day-to-day decision-making and long-term planning processes across all goals, activities, and functions by administering our Environmental Management System (EMS), which is integrated with the Integrated Safety Management System to the fullest extent practicable. LM will strive to improve our EMS and sustain compliance through the concerted process of continuous performance improvements using performance measurements such as objectives and targets.

7. REFERENCES.

a. DOE Order 436.1, Environmental Sustainability.
b. DOE P 450.4A, Integrated Safety Management Policy.

David W. Geiser
Director
Office of Legacy Management

INITIATED BY: Environmental Program Manager
NO. OF PAGES/ATTACHMENTS: 2 pages, 0 attachments

Attachment B

FIMS Excluded Building List and Certification Letter

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Department of Energy
Washington, DC 20585

DOE BUILDING EXCLUSION
SELF-CERTIFICATION FORM
FY 2015

FROM: Office of Legacy Management

TO: Sustainability Performance Office

SUBJECT: SELF-CERTIFICATION FORM FOR THE ENERGY INTENSITY GOAL OF EISA 2007

Each building, or group of buildings, excluded under the criteria for Part B, C and D exclusions are metered for energy consumption and their consumption is reported annually.

I certify that the buildings listed on the Excluded Buildings List produced by FIMS as Report 063 dated November 12, 2015, for Office of Legacy Management (attached) meet the exclusion criteria in *Guidelines Establishing Criteria for Excluding Buildings* published by FEMP on January 27, 2006.

David S. Shafer, Ph.D.
DOE Office of Legacy Management Official

David S. Shafer
2015.11.23 10:39:13 -07'00'

DOE Office of Legacy Management Official (signature) Date

Contact Information for Office of Legacy Management building exclusions:

Name: Tracy Ribeiro
Title: Environmental Program Manager
Phone: (303) 410-4817
E-mail: tracy.ribeiro@lm.doe.gov

cc:
T. Ribeiro, DOE-LM (e)
File: ADM 0030.10 (rc grand junction)

LM20\Ribeiro\11-20-15 2015 SSP Guidance Memo.docx

U.S. Department of Energy
Facilities Information Management System
Energy Consuming Excluded Buildings and Trailers List

Program Office **LM**

Site **08024** **Monticello, UT, Disposal and Processing Sites**

Property ID Justification Comments:	Real Property Unique ID	Property Name	Exclusion Part	Property Type	Gross SQFT	Excluded Facilities (GSF)
MNT-BLDG-STORSHED	208390	STORAGE SHED	D - Essentially only lighting	Building	260	260
Shed only uses minimal lighting. Shared meter.						

This report qualifies DOE Owned, DOE Leased, Contractor Leased, Contractor License and Permit buildings and trailers where the Excluded Facilities (GSF) is greater than zero.

U.S. Department of Energy
Facilities Information Management System
Energy Consuming Excluded Buildings and Trailers List

Program Office **LM**

Site **08031** **Pinellas County, FL, Site**

Property ID Justification Comments:	Real Property Unique ID	Property Name	Exclusion Part	Property Type	Gross SQFT	Excluded Facilities (GSF)
PIN-BLDG-OFFICE Fully serviced lease	143457	STAR CTR OFFICE PORTION OF LEASE	C - Fully serviced lease	Building	1,330	1,330

This report qualifies DOE Owned, DOE Leased, Contractor Leased, Contractor License and Permit buildings and trailers where the Excluded Facilities (GSF) is greater than zero.

U.S. Department of Energy
Facilities Information Management System
Energy Consuming Excluded Buildings and Trailers List

Program Office **LM**

Site **08034** **Rocky Flats, CO, Site**

Property ID Justification Comments:	Real Property Unique ID	Property Name	Exclusion Part	Property Type	Gross SQFT	Excluded Facilities (GSF)
RFS-BLDG-EQUIPSTOR	140115	EQUIPMENT STORAGE SHED	D - Essentially only lighting	Building	1,118	1,118

Solar panels provide power to lights only inside structure.

This report qualifies DOE Owned, DOE Leased, Contractor Leased, Contractor License and Permit buildings and trailers where the Excluded Facilities (GSF) is greater than zero.

U.S. Department of Energy
Facilities Information Management System
Energy Consuming Excluded Buildings and Trailers List

Program Office **LM**

Site **08035** **Rifle, CO, Disposal/Processing Site**

Property ID Justification Comments:	Real Property Unique ID	Property Name	Exclusion Part	Property Type	Gross SQFT	Excluded Facilities (GSF)
RFO-TRLR-ERSP	207375	SINGLE WIDE TRAILER - ERSP	B - Privately owned	Trailer	672	672
Rental Agreement						

This report qualifies DOE Owned, DOE Leased, Contractor Leased, Contractor License and Permit buildings and trailers where the Excluded Facilities (GSF) is greater than zero.

U.S. Department of Energy
Facilities Information Management System
Energy Consuming Excluded Buildings and Trailers List

Program Office **LM**

Site **08052** **Fernald, OH, Site**

Property ID Justification Comments:	Real Property Unique ID	Property Name	Exclusion Part	Property Type	Gross SQFT	Excluded Facilities (GSF)
FER-BLDG-OFFICE	203707	DELTA BUILDING	C - Fully serviced lease	Building	10,408	10,408
Lessor pays all utilities						

This report qualifies DOE Owned, DOE Leased, Contractor Leased, Contractor License and Permit buildings and trailers where the Excluded Facilities (GSF) is greater than zero.

U.S. Department of Energy
Facilities Information Management System
Energy Consuming Excluded Buildings and Trailers List

Program Office **LM**

Site **08066** **Grand Junction, CO, Site**

Property ID Justification Comments:	Real Property Unique ID	Property Name	Exclusion Part	Property Type	Gross SQFT	Excluded Facilities (GSF)
GJO-BLDG-STORSHED	207408	STORAGE SHED BUILDING 2A	D - Essentially only lighting	Building	336	336
Building is DOE-owned; however, power source comes from utility line from other leased facilities and is paid through fully serviced leased contract on other leased buildings. Shared meter.						
GJO-BLDG-B46	211272	RTC LEASE-BULDING 46	C - Fully serviced lease	Building	3,890	3,890
Full Serviced Lease						
GJO-BLDG-B32	208137	RTC LEASE-BUILDING32	C - Fully serviced lease	Building	4,741	4,741
Fully Serviced Lease						
GJO-BLDG-B810	204554	RTC LEASE-BUILDING810	C - Fully serviced lease	Building	23,206	23,206
Fully Serviced Lease						
GJO-BLDG-B938	208135	RTC LEASE-BUILDING938	C - Fully serviced lease	Building	19,182	19,182
Fully Serviced Lease						
GJO-BLDG-B2	208140	RTC LEASE-BUILDING2	C - Fully serviced lease	Building	2,263	2,263
Fully Serviced Lease						

This report qualifies DOE Owned, DOE Leased, Contractor Leased, Contractor License and Permit buildings and trailers where the Excluded Facilities (GSF) is greater than zero.

U.S. Department of Energy
Facilities Information Management System
Energy Consuming Excluded Buildings and Trailers List

Program Office **LM**

Site **08066** **Grand Junction, CO, Site**

Property ID Justification Comments:	Real Property Unique ID	Property Name	Exclusion Part	Property Type	Gross SQFT	Excluded Facilities (GSF)
GJO-BLDG-CABIN	216249	RTC LEASE-LOG CABIN	C - Fully serviced lease	Building	3,231	3,231
Fully serviced lease						
GJO-BLDG-B12	208138	RTC LEASE-BUILDING12	C - Fully serviced lease	Building	11,753	11,753
Fully Serviced Lease						

This report qualifies DOE Owned, DOE Leased, Contractor Leased, Contractor License and Permit buildings and trailers where the Excluded Facilities (GSF) is greater than zero.

U.S. Department of Energy
Facilities Information Management System
Energy Consuming Excluded Buildings and Trailers List

Program Office **LM**

Site **08068** **Westminster, CO, Office Site**

Property ID Justification Comments:	Real Property Unique ID	Property Name	Exclusion Part	Property Type	Gross SQFT	Excluded Facilities (GSF)
WST-BLDG-OFFICE Fully Serviced Lease	204031	WESTMINSTER OFFICE SPACE LEASE	C - Fully serviced lease	Building	19,010	19,010

This report qualifies DOE Owned, DOE Leased, Contractor Leased, Contractor License and Permit buildings and trailers where the Excluded Facilities (GSF) is greater than zero.

U.S. Department of Energy
Facilities Information Management System
Energy Consuming Excluded Buildings and Trailers List

Program Office **LM**

Site **08084** **Weldon Spring, MO, Site**

Property ID Justification Comments:	Real Property Unique ID	Property Name	Exclusion Part	Property Type	Gross SQFT	Excluded Facilities (GSF)
WEL-BLDG-STORMSHLTR2 Solar panels provide power only to lights inside structure.	216164	STORM SHELTER 2	D - Essentially only lighting	Building	560	560
WEL-BLDG-STORMSHELTR Solar panels provide power only to lights inside structure.	215411	STORM SHELTER	D - Essentially only lighting	Building	560	560

This report qualifies DOE Owned, DOE Leased, Contractor Leased, Contractor License and Permit buildings and trailers where the Excluded Facilities (GSF) is greater than zero.

Attachment C

Water Management Plan

This attachment is a chapter out of the EMS Sustainability Teams Manual and is scheduled to be updated to the new EO 13693 in first quarter calendar year 2016 along with the rest of the manual.

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4.0 Water Conservation Plan

The Water Conservation (WC) Team promotes the conservation of water resources through efficiency and reuse management at LM sites and office locations.

4.1 Purpose

The purpose of this EMS WC Team implementation plan is to establish a systematic approach for managing potable water and nonpotable freshwater conservation at applicable LM sites that is in compliance with EO 13423, EO 13514, DOE Order 436.1, and other applicable regulations (e.g., EISA, EPAct, and NECPA).

4.2 Scope

The scope addresses the management of water use, loss, waste, and reuse at applicable LM sites. This plan provides a system for (1) measuring and tracking potable water-use-intensity; (2) measuring and tracking industrial, landscaping, and agricultural nonpotable water consumption; (3) identifying and prioritizing efficiency improvement opportunities; (4) implementing approved efficiencies; (5) determining and reporting performance toward program goals and requirements; and (6) supporting numerous federally mandated data calls and report submittals.

EO 13423 and EO 13514 mandate that all federal agencies, beginning in 2008, reduce the intensity of potable water consumption relative to the baseline of the potable water use in FY 2007 by a minimum of 2 percent annually through the end of FY 2020, or a minimum of 26 percent by the end of FY 2020. EO 13514 mandates that all federal agencies reduce the consumption of nonpotable freshwater used for industrial, landscaping, and agricultural purposes relative to the baseline of the water use in FY 2010 by a minimum of 2 percent annually through the end of FY 2020, or a minimum of 20 percent by the end of FY 2020. Additionally, the identification, promotion, and implementation of water reuse strategies that reduce potable water consumption are required.

Applicable LM sites that are subject to compliance with these EO goal requirements are referred to as Goal Metrics sites, which include all LM sites or portions of sites that meet the following criteria:

- Water (either potable, nonpotable freshwater, or both) is used at the site; and
- The site is owned by the federal government under LM jurisdiction and control (owned by LM) and operated by LM or its prime contractor; or
- The site is owned by LM and, although the site is leased to another entity, LM or the LMS contractor directly pays the water utility bill; or
- The site is owned by another entity and leased by LM or its prime contractor, and LM or its LMS contractor directly pays the water utility bill.

The following areas are excluded from the scope of WC:

- Water management activities associated with groundwater and surface water monitoring and remediation
- Bottled water consumption
- The management and protection of surface water, including storm water, and groundwater quality; (this is addressed in the *Environmental Protection Manual*)

Guidance provided in (1) *Instructions for Implementing Executive Order 13423* (CEQ 2007), (2) *Establishing Baseline and Meeting Water Conservation Goals of Executive Order 13423* (DOE 2008), and (3) the water-efficiency best management practices published by DOE FEMP (DOE 2014) were used to prepare this procedure.

4.3 Procedure

4.3.1 Site Categorization

An initial evaluation was performed for each LM site to determine if it met the inclusion criteria identified in Section 4.2, to obtain relevant water-use data, and to identify how each site is categorized. The site category is used to determine the applicability of the WC requirements. Categories include the following:

- **Non-WC site:** This category designation applies to LM sites that do not use either potable or nonpotable water. Further application of the WC implementation plan is not relevant at non-WC sites.
- **General site:** This category designation applies to any LM site (or portions of a site) where water, either potable or nonpotable freshwater, is used, but where the site does not meet the Goal Metrics Program site-inclusion criteria identified in Section 4.2. The procedures identified in Section 4.3.2 may be relevant at these sites.
- **Goal Metrics site:** This category designation applies to any LM site (or portions of a site) that meets the Goal Metrics site-inclusion criteria identified in Section 4.2. The procedures identified in Section 4.3.3 are applicable at these sites.

A master list identifying how each LM site is categorized was generated and is maintained for reference. A review of the initial site determination will be performed if there are changes to the operations, activities, or programmatic objectives at an existing LM site. An initial evaluation will be performed for each newly transitioned LM site to determine the site's WC category.

4.3.2 General Sites

The following overarching WC components may be relevant at general sites as a best management practice.

- The preferential purchase of water-efficient products and services that use sustainable environmental practices is required. When applicable, WaterSense (EPA 2014b) products should be purchased, and irrigation contractors who are certified through a WaterSense-labeled program should be procured. EO 13514 requires that sustainable acquisitions be advanced to ensure that 95 percent of new contract actions (including task and delivery orders) are water-efficient. This requirement is implemented through the Sustainable Acquisition implementation plan (see Section 5.0).

- All new construction and existing building renovation activities must follow the water-use-efficiency criteria established by the EMS Sustainable Buildings Team. This applies to buildings and landscaping. This requirement is implemented through the EMS Sustainable Buildings implementation plan (see Section 7.0).
- To the greatest extent practicable, LM must include a preference for buildings that have attained Leadership in Energy and Environmental Design (LEED) Gold certification, with emphasis on water efficiency in the selection criteria for acquiring leased buildings. When entering into renegotiations or extensions of existing leases, LM must include lease provisions that support the guiding principles for sustainable buildings, as identified by the EMS Sustainable Buildings Team (see Section 7.0).
- The identification and implementation of other water-efficiency initiatives are potentially relevant at general sites, depending upon the site circumstances. Because LM's control over water use at non–Goal-Metrics sites is limited, and because efficiency improvements do not count toward LM's water reduction goals, such initiatives at non–Goal-Metrics sites are not generally considered a priority, and will be pursued on a case-by-case basis as appropriate and approved. Such initiatives might apply to the following subject areas:
  - Promote actions, as appropriate, to reduce the use of both potable water and nonpotable freshwater, including that used in industrial, landscaping, and agricultural activities, through the application of water-efficient equipment and practices.
  - Promote, as appropriate, the use of nonpotable water sources, such as reclaimed, recycled, and gray water, for appropriate application.
  - Participate in the EMS media campaign to communicate the water efficiency goals to the workforce to motivate employees to become more efficient in their use of water.
  - Network with other DOE programs, federal agencies, and private entities to facilitate the exchange of water conservation ideas and information, to share resources, and to promote continual improvement.
  - Participate in the LMS contractor employee incentive program to reward exceptional performance, by teams or individuals, associated with water conservation improvements.

4.3.3 Goal Metrics Sites

Six LM sites are categorized as Goal Metrics sites. These are the Fernald, Ohio, Site; the Rifle, Colorado, Processing (Old) Site; the Grand Junction, Colorado, Disposal Site; the Monticello, Utah, Disposal and Processing Sites; the Tuba City, Arizona, Disposal Site; and the Weldon Spring, Missouri, Site.

In addition to the components identified for general sites in Section 4.3.2, the following procedures apply at Goal Metrics sites.

4.3.3.1 Metrics Applicability

The metrics that are applicable to Goal Metrics sites, including baseline development, metrics tracking, performance assessment, and reporting, are discussed in Section 4.4.

4.3.3.2 Initial Water System Screening

The WC Team conducted an initial water system screening at each Goal Metrics site to gather the preliminary information necessary to identify metering needs, develop the metrics baselines, and prioritize future WC audits and efficiency improvement initiatives. The information obtained from the screening contains details on site contacts; current water use operations, activities, and practices; metering locations; the gross square footage of buildings (as applicable); maps; and information on water utility payment processes and contracts.

4.3.3.3 Metering

With the exception of the Rifle Old processing site, standard water use meters are used at all Goal Metrics sites to ensure the adequate collection of potable water use data. It was determined that the addition of a meter at the Rifle Old processing site would not provide an appreciable benefit because it would not improve the accuracy of the site's use data, which is tracked by volume of potable water delivered to the site, because the site is only used intermittently and is a minimum water user.

Water meters have been placed at all of the other Goal Metrics sites to measure volumes of potable water used. Potable water used at portions of sites that are not included in the Goal Metrics is not captured by the metering.

EISA 2007 requires that at the Tuba City site, the quantity of nonpotable water used is measured by the meter at the wellhead. Quantities of nonpotable freshwater used at other sites are tracked using different methods, such as tracking the volume of water hauled for use, depending upon the circumstance. Nonpotable freshwater use generally occurs for temporary construction projects.

4.3.3.4 Audits

EISA 2007 requires that 25 percent of the Goal Metrics site facilities be evaluated annually for water in a manner that ensures that an evaluation of each facility is completed at least once every 4 years. The WC Team maintains a schedule of planned audits and reports the status of the audits annually.

4.3.3.5 Water Management Plans

On the basis of results of a Goal Metrics site's initial water evaluation or WC audit, a water management plan may be developed to identify opportunities to improve water use efficiencies and to minimize water loss and waste, as necessary. The plan should be detailed and should identify specific implementation milestones necessary for achieving the overall EO goals. Proposed operational, maintenance, processing, and technological improvement options (including retrofitting or replacing equipment) will be evaluated using water-efficiency-opportunity assessments. The plan should use a variety of water management strategies and tools to meet the goals, and, at a minimum, it should include the water-efficiency best management practices published by DOE FEMP (DOE 2014) on their website.

Water-efficiency opportunities should fully assess the systematic scope, impacts, and benefits associated with any proposed improvements. The WC Team will recommend appropriate efficiency-improvement initiatives to LM for approval prior to implementation. Recommended water-efficiency initiatives should be life-cycle cost-effective. Initiatives with the greatest potential percentage of efficiency gain or circumstantial need will be given WC priority.

4.3.3.6 Efficiencies Implementation

The WC Team will implement approved efficiency measures as appropriate.

4.3.3.7 Efficiency Tracking and Reporting

The WC Team will track and report implemented performance improvements.

4.4 Metrics

Two WC metrics apply to Goal Metrics sites: (1) potable water use intensity (WUI) tracking and (2) industrial, landscaping, and agricultural use tracking of nonpotable freshwater.

4.4.1 Total Potable Water Use Intensity Tracking

4.4.1.1 Baseline Establishment and Data Tracking

The LM potable WUI metrics baseline was established using the cumulative total FY 2007 potable water use and cumulative building-size data from all Goal Metrics sites. Specifically, the baseline is defined as the cumulative-sites total gallons (Tgal) of potable water used per building square foot during FY 2007. The baseline potable WUI number was calculated by dividing the cumulative fiscal year annual potable water-use total from all Goal Metrics sites by the cumulative total building GSF from all Goal Metrics sites.

This is represented as:

$$B_{(GMPS)} = WUI_{(B)} = \frac{Tgal_{(GMPS-07)}}{SG_{(GMPS-07)}}$$

where:

$B_{(GMPS)}$ = LM cumulative Goal Metrics sites total potable water baseline for FY 2007 (i.e., gallons per building square foot)

$WUI_{(B)}$ = total potable WUI number (baseline)

$Tgal_{(GMPS-07)}$ = cumulative Goal Metrics sites total gallons of potable water used in FY 2007

$SG_{(GMPS-07)}$ = cumulative Goal Metrics sites total building gross square footage in FY 2007

The WUI number is used as a basis of comparison for determining future performance toward the minimum potable WUI reduction goal of 2 percent annually or 26 percent by the end of FY 2020.

Metered data was used to establish the baseline, when possible. In the absence of metered data, data from the local water suppliers were used. In instances where potable water data were not available, potable water-use data were estimated using significant factors such as the number of employees, the amount of irrigated acreage, and water processes. Assumptions and estimating techniques were documented to ensure consistency in data acquisition and comparison.

Relevant potable water-use data are collected from each site and managed in a Microsoft Excel spreadsheet. Tracked data include gallons of potable water used, water source locations, periods of use, sources of data, and changes to building gross square footage. The spreadsheet is used to manage data for both the baseline and performance periods.

Note *This information is maintained on the EMS Sustainability SharePoint site with limited access for control purposes.*

Table 2 provides an example of the database table used for a Goal Metrics site's potable water data tracking.

Table 2. Example Table for Tracking Potable Water Use by Site

LM Goal Metrics Site Name: _____						
Specific Potable Water Source Location[a]	**Total Amount of Potable Water Used in Reporting Period (Gallons)**	**Source of Use Data**	**Reporting Period Dates[b]**		**Any Changes to Square Footage of Buildings During This Reporting Period? (Yes/No– explain Yes)**	**Comment**
			Start Date (mm/dd/yy)[c]	**End Date (mm/dd/yy)[c]**		
Location #1:						
Location #2:						
Total Potable Water Use at Site in Fiscal Year from All Locations: Gallons						

[a] List all separate source locations for each specified Goal Metrics site (e.g., all meters or utility bills). Insert additional rows as needed.
[b] Ensure that data are represented for each day of the reporting period and that no date gaps occur between reporting periods.
[c] (mm/dd/yy) = month/day/year

The baseline data are not adjusted in outyears. The addition or removal of a large building or a site from the program in subsequent years is reflected in a change to that year's use intensity number.

Individual Goal Metrics site baseline WUI numbers can also be calculated to allow for separate site performance analysis.

4.4.1.2 Performance Determinations

Performance toward meeting the potable WUI reduction goal is based on an annual fiscal-year performance period and a cumulative performance period (from FY 2008 through FY 2020). A WUI number for LM Goal Metrics sites will be calculated for each performance period. The calculated change in percentage, as compared to the baseline, will be used to determine potable WUI improvement performance. The change in percentage will be calculated by dividing the difference between the baseline WUI and the performance period WUI by the baseline WUI, multiplied by 100.

This is represented as:

$$\Delta\% = \frac{WUI_{(B)} - WUI_{(P)}}{WUI_{(B)}} \times 100$$

where:

$\Delta\%$ = change in percentage (for performance period)
$WUI_{(B)}$ = potable WUI number (baseline)
$WUI_{(P)}$ = potable WUI number (during a set performance period)

The resulting percentage must be a positive value to indicate that potable WUI has improved (i.e., that a reduction has occurred).

The potable water reduction goal must be achieved at the DOE-complex–wide level. As necessary, corrective-action measures will be recommended and implemented to address deficiencies toward achieving the overall LM potable water-use-intensity reduction goal.

4.4.2 Nonpotable Freshwater Industrial, Landscaping, and Agricultural Use Tracking

4.4.2.1 Baseline Establishment and Data Tracking

This data tracks nonpotable freshwater, in gallons, used cumulatively at all the Goal Metrics sites for three categorical uses: industrial, landscaping, and agricultural. FY 2010 was the baseline period for this metric. This metric does not represent intensity, so building gross square footage does not factor into the metric's equation. The baseline number will be used for determining future performance toward the reduction goal.

Currently, these use categories are not separately metered at the Goal Metrics sites. If necessary, use per category is estimated as a percentage of the nonpotable water use by site. Significant factors such as periods of use, amount of irrigated acreage, and plumbing line diameters will be considered when determining the percentage of nonpotable water used by these categories at a site. Assumptions and estimating techniques will be documented to ensure consistency in data acquisition and comparison.

Relevant nonpotable freshwater-use data will be collected from each site and managed in a database. Tracked data include gallons of nonpotable freshwater by use category and source locations. The database will be used to manage data for both the baseline and performance periods. A database table similar to Table 2 will be used for a Goal Metrics site's nonpotable freshwater data tracking.

The cumulative Goal Metrics site baseline total nonpotable freshwater industrial, landscaping, and agricultural use was calculated to determine overall LM performance toward the reduction goal. Individual Goal Metrics site baseline nonpotable freshwater industrial, landscaping, and agricultural total use will also be calculated to allow for separate site performance analysis.

4.4.2.2 Performance Determinations

Performance toward meeting the total nonpotable freshwater use reduction goal for the industrial, landscaping, and agricultural use categories is based on an annual fiscal-year performance period and a cumulative performance period (from FY 2011 through FY 2020). The nonpotable water use for industrial, landscaping, and agricultural purposes for LM Goal Metrics sites will be calculated for each performance period. The calculated change in percentage, as compared to the baseline, will be used to determine water-use-improvement performance. The change in percentage will be calculated by dividing the difference between the baseline total and the performance period total by the baseline total, multiplied by 100. The resulting percentage must be a positive value to indicate that water use has improved (i.e., that a reduction has occurred).

The nonpotable freshwater reduction goal must be achieved at the DOE-complex wide level. As necessary, corrective-action measures will be recommended and implemented to address deficiencies toward achieving the overall LM water-reduction goal for these use categories.

Attachment D

Fleet Management Plan

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LMS/POL/S11157-2.0

Fleet Management Plan

Work performed under DOE contract number DE-LM0000421
for the U.S. Department of Energy Office of Legacy Management.

Fleet Management Plan
Document History

Version No./ Revision No.	Revised	Description of Change
2.0	December 2015	• Verbiage changes made to respond to new Executive Order and its mandates. • Performed a comprehensive review.
1.0	December 2014	• Document title was changed from *Fleet Management Site Sustainability Plan* to *Fleet Management Plan*. • Editorial changes were made throughout the document. • Section 1.1: removed text, simplified text, and added reference to the *Site Management Guide* (Blue Book). • Table 1: removed sites supported since that was not pertinent to the management of the LM fleet. • Under Notes, removed the specifics that are found in the table and changed home garage to garaging location for uniformity throughout the document. • Section 2.1: made reference to EPAct 2005 Section 701 waiver process for guidance in choosing replacement vehicles. • Section 2.2: added and removed text for clarity. • Section 3.1: added and removed text for clarity and inserted a reference to EPAct 2005 701 waiver process. • Section 4.1: removed and added text for clarity, especially in reference to training, which is covered in Section 4.3. • Section 4.3: added the training nomenclature of HS161, GSA101, and EC100 to better identify the trainings. Added definitional text to describe some training. • Performed a comprehensive review as required by contractor-controlled document procedure.
0.0	November 2013	Initial issue.

Approved:

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Contents

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Abbreviations

AFV	alternative fuel vehicle
CFR	*Code of Federal Regulations*
DOE	U.S. Department of Energy
E85	ethanol fuel blend
EMS	Environmental Management System
EPAct	Energy Policy Act
GSA	U.S. General Services Administration
LM	Office of Legacy Management
LMS	Legacy Management Support

Executive Summary

This *Fleet Management Plan* outlines the Office of Legacy Management's (LM) fleet management strategies. This plan, in conjunction with the *Environmental Management System Sustainability Teams Manual* (LMS/POL/S11374) and the 2016 LM Site Sustainability Plan, detail LM's planned activities for meeting sustainability goals defined in federal law, Executive Orders (e.g., Executive Order 13693, *Planning for Federal Sustainability in the Next Decade*), Presidential Memorandums, and U.S. Department of Energy guidance documents (e.g., Strategic Sustainability Performance Plan).

LM utilizes an Environmental Management System (EMS) as the framework to achieve regulatory compliance to meet sustainability goals. LM's EMS is a joint program between LM and its prime contractor for the Legacy Management Support contract. LM's EMS comprehensively incorporates life-cycle environmental considerations into all aspects of the LM mission. The EMS Vehicle and Fuel Use Team is one of nine sustainability teams established to develop and implement processes related to achieving sustainability goals and is responsible for fleet-related goals.


Note

In this document, a reference to LM represents both LM and the prime contractor (for data, personnel, etc.) unless specifically noted otherwise.

1.0 Fleet Management Structure

1.1 The U.S. Department of Energy (DOE) Office of Legacy Management (LM) Fleet Dynamic

The LM and Legacy Management Support (LMS) contractor's Fleet Management group is centrally located at the LM office in Grand Junction, Colorado. From this location, the group supports the mission tasks and manages fleet vehicles at eight occupied locations. These vehicles are used to accomplish the ever-increasing LM mission of long-term surveillance and maintenance of current legacy sites (i.e., those identified in Appendix A of LM's *Site Management Guide* [Blue Book]), future legacy sites (i.e., those identified in Appendix B of the Blue Book), and other LM-mission activities (i.e., maintenance of calibration models and the DOE Uranium Leasing Program).

LM's fleet consists predominantly of U.S. General Services Administration (GSA) leased vehicles, with the exception of two LM-owned vehicles at the Fernald, Ohio, Site that are only used to transport and operate truck bed–mounted GeoProbe drilling equipment. LM's current fleet structure is outlined below in Table 1.

Table 1. LM Fleet Structure

Fleet Garaging Location	Number of Vehicles[d]
Fernald, Ohio, Site	10[a] 2 owned[a,d]
Grand Junction, Colorado, Office	10[b] 3[a, e]
Monticello, Utah, Disposal and Processing Sites	1[c]
LM Business Center in Morgantown, West Virginia	1[c]
Pinellas County, Florida, Site	1[c]
Tuba City, Arizona, Disposal Site	1[c]
Weldon Spring, Missouri, Site	1[c]
LM Office in Westminster, Colorado	7[a, e]
Total	37[e]

Notes:
[a] These sites assign their vehicles to various teams in support of the LM mission. A team consists of two or more people devoted to individual tasks or common multiple tasks in support of a unified project or goal.
[b] Due to the large number of sites that the Grand Junction office supports, it is necessary to pool vehicles to allow for appropriate support using the minimum amount of vehicles possible.
[c] At all manned sites with only one assigned vehicle, the vehicles are needed to support the mission tasks of that site on a daily basis. These tasks cannot be effectively accomplished by the use of a pooled vehicle due to distance to the nearest garaging location. The garaging location is the place where the vehicle primarily resides when not in use.
[d] All vehicle counts are for leased vehicles only, unless specifically stated otherwise.
[e] This data is accurate as of September 30, 2015.

2.0 Vehicle Acquisition

2.1 Choosing a Vehicle

Vehicle replacements are chosen based on a like-for-like practice, or as mission changes dictate, and are based on GSA guidelines. LM plans for 100 percent of acquisitions of all new and replacement light-duty vehicles to be alternative fuel vehicles (AFV) by 2025 per Executive Order 13693. When LM leases new GSA vehicles, a list of minimum mission requirements for the requested vehicle is provided to GSA (with the LM fleet manager's approval). GSA obtains a vehicle that matches LM's request as closely as possible and also meets the requirements for safety and the LM mission.

If a rental vehicle is needed for less than 60 days and when not traveling more than 60 miles from the garaging location, LM could use the Short Term Rentals program offered by GSA. When leased vehicles are unavailable, the policy is to reach out to a local commercial rental facility to acquire a rental vehicle to offset project needs until another leased vehicle becomes available.

As stewards of government appropriations, and in accordance with the Section 701 waiver process from the Energy Policy Act (EPAct) of 2005, LM will make every effort to avoid excess costs for purchasing AFVs when there is no alternate fueling infrastructure within a reasonable distance of the garaging location. LM has a policy to acquire low greenhouse gas–emitting vehicles primarily and when available, and if one of these vehicles are not available, LM will acquire E85 (ethanol fuel blend) AFVs. Low greenhouse gas–emitting vehicles operated with conventional gasoline fuel are considered AFVs.

2.2 Approvals for Leased Vehicles

When leasing vehicles through GSA, approval by the local LM fleet manager, the LM fleet manager's senior approving manager, and the DOE Headquarters industrial fleet manager is required. When adding specialized accessory equipment to the leased vehicles, the only approval that is required is that of the LM fleet manager.

3.0 Fuel Infrastructure

3.1 Impact on Acquisition Strategy

Fueling infrastructure does not currently impact the LM vehicle acquisition strategy. Vehicles compatible with E85 flex fuel or that are low greenhouse gas emitting are obtained whenever possible for all light-duty use in accordance with Executive Order 13693. However, LM will maintain compliance with the EPAct 2005 Section 701 waiver process by identifying and preventing unnecessary costs for AFVs when there is no alternative fueling infrastructure within a reasonable distance of the vehicle's garaging location, which is often the case at LM's remote sites.

4.0 Vehicle Use and Policies

4.1 Education

GSA recommends that all GSA vehicle drivers take the one-time training course HS161, NSC (National Safety Council) Defensive Driver Training, before driving a GSA vehicle. In addition, all contractors are required to take the EC100, Environmental Management System (EMS) General Awareness, and GSA101, GSA Vehicle Use, training courses. The EMS training discusses ways that operators of GSA-leased vehicles or DOE-owned vehicles can help reduce petroleum consumption and increase the use of alternative fuels to help DOE meet their sustainability goals. Additionally, this training spells out the sustainability goals for petroleum reduction that LM strives to achieve on an ongoing basis. The GSA101 course defines the prerequisites for authorization to drive a GSA vehicle; the basic safety requirements associated with driving a GSA vehicle, rental vehicle, or other vehicle while on contract-related business; the accepted procedures for using GSA vehicles; the actions required in the event of an accident; the requirements for fuel purchases; basic vehicle maintenance requirements; and the basic EMS considerations associated with GSA vehicle selection, use, and fueling.

4.2 Check Out Process

The Grand Junction office procedures for pooled fleet vehicle use require personnel to schedule a GSA vehicle with the dispatcher 2 days or more in advance when the situation allows. All fleet vehicles are allocated on a first-come, first-served basis with the exception of mission-critical needs that supersede all other requests.

Locations that have only one vehicle—such as the Tuba City, Arizona, Disposal Site; the Monticello, Utah, Disposal and Processing Sites; the Weldon Spring, Missouri, Site; the Pinellas County, Florida, Site; and the LM Business Center in Morgantown, West Virginia—fall under the responsibility of the respective LM site managers. The LM site managers, who are critical to the LM mission being accomplished at the individual sites, can delegate decisions on vehicle assignment and appropriate use of government-furnished vehicles to contractor management. The contractor managers can implement additional policies and allocate vehicles as they deem fit. Personnel at the LM office in Westminster, Colorado, and the Fernald site check out vehicles as their project teams and the LM mission require.

LM encourages its entire staff, including contractor staff, to carpool whenever possible. Opportunities for carpooling include consolidating trips for site visits, inspections, and groundwater sampling.

All personnel driving a GSA vehicle are required, at a minimum, to provide a current driver's license, sign an authorization to perform a driver's background check, take the required training, and perform a pretrip inspection of the vehicle every time they operate it. This inspection helps to visually identify any possible safety, mechanical, or property concerns. Additionally, the pretrip inspection helps the driver become familiar with all of the operational functions of the vehicle (e.g., mirrors, tilt steering, climate controls) prior to departing.

4.3 Anti-Idling Policy

LM has an anti-idling policy that encourages personnel to be energy conscious and turn off the engine during longer-than-normal or unnecessary idle times. This policy is to be followed as long as it contributes to the accomplishment of LM's mission and does not affect the occupants' safety and health. Vehicles should be run at an idle when operating DC-powered equipment and drill assemblies or when employee health and safety is a concern, such as when keeping the cab of a vehicle warm when conducting fieldwork in extremely cold weather or keeping the cab cool when conducting work in hot weather.

4.4 Personal and Home-to-Work Use

LM's vehicle use policy for government-owned or leased vehicles only allows use for official activities that are for the accomplishment of the agency mission (41 *Code of Federal Regulations* [CFR] 102-34.220, "Federal Management Regulation"). This regulation applies to authorization for the federal employee's use of a government-furnished vehicle for home-to-work travel. Contractor use of a government vehicle for home-to-work travel is strictly prohibited unless that transportation has been approved in writing by the contracting officer for LM per 41 CFR 109-38.3, "Official Use of Government Motor Vehicles". This authorization will only be granted when it is in the best interest of the government agency and is not contingent on comfort of the employee. Greater reporting requirements will be enforced when authorizing home-to-work travel use of a government-furnished vehicle. This authorization must be renewed annually per LM.

5.0 Additional Policies and Activities

Additional fuel reduction, alternative fuel use, and vehicle reduction activities and policies are driven by changes in DOE goals and strategies. LM and LMS contractor Fleet Management uses a continual evaluation methodology (e.g., telematics, asset management system, and GSA tools) to achieve the LM mission, identify fueling infrastructure for alternate fuels in the areas where LM operates, analyze the cost of current vehicle usage, identify more feasible means for improving vehicle usage, and rightsize the number of unnecessary or oversized fleet vehicles. This methodology provides good stewardship of government assets while maintaining the highest level of public safety and health throughout LM.

LM can reduce petroleum usage and increase alternative fuel usage by encouraging carpooling to conferences or on site trips, educating drivers on the proper use of E85 fuel and how to locate fueling stations, and encouraging pretrip inspections of the vehicles to identify unsafe or inefficient defects that may negatively impact the goals of reducing conventional fuel use and increasing alternative fuel use. The LM and LMS contractor's Fleet Management group regularly monitors DOE's Office of Energy Efficiency and Renewable Energy website for updated information on alternative fueling infrastructures available at all of LM's sites. Additionally, LM could realize increased savings by encouraging the use of electric golf carts, gator utility vehicles, or other non-fleet electric vehicles when the environmental factors and mission tasks allow.

LM has been consistently vigilant in reducing unnecessary travel by encouraging videoconferencing and virtual presence technology for meetings whenever possible. Although LM has not eliminated the need to travel for all meetings and trainings, the staff has reduced the amount of travel by utilizing communication technology when it is available.

6.0 References

41 CFR 109-38.3, U.S. Department of Energy, "Official Use of Government Motor Vehicles," *Code of Federal Regulations*.

41 CFR 102-34.220, U.S. Department of Energy, "Federal Management Regulation," *Code of Federal Regulations*.

DOE Order 436, *Departmental Sustainability*, May 2011.

Strategic Sustainability Performance Plan, annually updated, U.S. Department of Energy.

Site Management Guide (Blue Book), U.S. Department of Energy Office of Legacy Management, Update 17, January 2015.

PL 109-58, Energy Policy Act (EPAct) of 2005, Section 701, Public Law.

EO (Executive Order) 13693, *Planning for Federal Sustainability in the Next Decade,* March 19, 2015.

Attachment E

Climate Change Resilience

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Climate Change Resilience

The following table summarizes LM performance to the previous Climate Change Adaptation goal objectives and provides conceptual plans to support DOE in meeting the requirements of Executive Orders 13653 and 13693 and the 2016 SSP goals/objectives for Climate Resiliency.

SSP Attachment C Objectives Requirements	FY 2015 Performance	Plans for FY 2016 and Beyond
Risks to Missions, Operations, and People		
DOE Climate Change Adaptation Screening Assessment		
Complete Voluntary Screening Assessment	• LM downloaded and reviewed the screening assessment provided in the 2015 SSP guidance and modified it to better fit LM's organizational framework.	• LM will conduct the site-specific screening assessments in conjunction with site personnel.
Objective 1: Determining Risk		
• Describe climate change related impacts and any associated risks that have been determined to affect site mission, operations, or personnel. • For each identified risk, sites should include: —— The impact, associated risks, and the affected policy, program, or operation —— A brief statement of the rationale for the risk determination • Sites should use this element to establish a framework to continually review and update impact assessments in future site-wide planning efforts, including: —— Addressing both near-term and long-term vulnerabilities —— Determining the scale of the risk —— Including regional or local vulnerabilities that affect the site mission • Identify how each site will assess and build needed capacity among site personnel, such as: —— Education and Awareness Training —— Internal working groups for identifying and addressing climate change adaptation —— Other related internal communications and education activities	• Attended via teleconference the Energy Facility Contractors Group (EFCOG) Environmental Management and Sustainability Technical Team meeting featuring a presentation from Dr. Denny Hjeresen from the Los Alamos National Laboratory (LANL) on how climate change is impacting LANL and what they are doing to adapt. • Attended the 2015 National Adaptation Forum, St. Louis, Missouri. • Select LM staff attended the *Climate Change for Federal Managers* webinar and provided slides and presenter information for team review. • Participated in DOE-sponsored Climate Change Adaptation training with the Association of Climate Change Officers to gain a better understanding of climate science and potential risks.	• Ongoing review of National Climate Assessment information and other climate science resources to further understand potential risks, especially with regard to manned sites, disposal cells, and groundwater remediation systems. • Review *Future Potential Risks for LM Sites* reports and consider augmenting them with climate change risk information. • Quarter 1 FY 2016: Provide Climate Change Adaptation presentation to LM Senior Management. • Quarter 3 FY 2016: Conduct another organization-wide Climate Adaptation/ Resilience awareness campaign. • Using the results of the screening assessment, LM will develop a plan to perform an LM-specific vulnerability analysis.

SSP Attachment C Objectives Requirements	FY 2015 Performance	Plans for FY 2016 and Beyond
Building Resilience		
Objective 2: Current Activities		
• Describe and outline ongoing plans designed to address climate impacts to missions, operations, and people as well as to policies and programs that include consideration of climate risks. Identify the following in the outline: —— The climate risk that is the driver for the action —— The desired outcome of the program, policy, or plan —— An indication of the maturity of the effort, such as "recently initiated" or "ongoing" —— The responsible component/office —— Any milestones or timelines used to determine progress and success • Use this exercise to evaluate current activities that might not explicitly call out climate change impacts but nonetheless are an integral part of resilience. The following are examples: —— Emergency planning operations, natural hazard assessments, and continuity of operations protocols • Sites should describe how climate change risk will influence these activities.	Completed revisions for modified vulnerability screening survey. Plan to conduct the surveys with site personnel. Continued ongoing activities, including the following: • Exploring and applying innovative ways to reduce long-term surveillance and maintenance (LTS&M) costs and risks to human health and the environment. • Improving knowledge and tools to move long-term stewardship strategies and methods into the "state of the practice" at LM sites. Focus areas include Surface Projects; Subsurface Projects; and Remote Monitoring and Analytics. Surface and subsurface changes resulting from a changing climate can impact the LM mission. The data and analysis lets LM track and evaluate these changes with regard to LM's long-term stewardship strategies. • **Surface Projects:** Natural soil-forming processes and ecological succession are changing the as-built engineering properties of Uranium Mill Tailings Radiation Control Act (UMTRCA) covers (and other surface remedies) in ways that could increase LTS&M costs and alter long-term protectiveness. LM is working on projecting the long-term performance and adaptability of disposal cell covers to climate change and related changes in cover ecology and soil morphology. • **Subsurface Projects**: One focus of the Subsurface Projects is to identify and evaluate the dominant subsurface processes that act to decrease the rate of groundwater remediation.	Proposed conceptual approach: • Test the modified screening survey with pilot sites and adjust it for use with other LM sites. Collect and analyze data. Compile and report. • **Climate Scenarios:** Identify climate change scenarios for UMTRCA disposal sites. Develop criteria and select a subset of UMTRCA sites to be investigated for a range of variables such as climates, ecology, cover designs, and risks. Develop scenarios of past, present, and future climate using paleoclimate data, meteorological data, and climate change models. Document climate change trends and extreme events for all three time frames. • **Conceptual Evaluation of Future Vulnerability and Risk:** Identify potential impacts of climate change on the function and performance of UMTRCA disposal cell covers and risks (e.g., risks to human health and the environment, and risks of not satisfying design and performance criteria). • **Conceptual Evaluation of Adaptability and Building Resilience:** Identify whether and how covers were designed to adapt to climate change, whether and how ongoing natural processes might actually increase cover resilience, and in what ways LM could enhance resilience. • **Tools for Projecting Long-Term Performance:** Assess current models and other tools for projecting the long-

SSP Attachment C Objectives Requirements	FY 2015 Performance	Plans for FY 2016 and Beyond
	• **Remote Monitoring and Analytics:** Support the need to conduct complex geochemical and ecological testing, collect large amounts of real-time data from remote locations, and rapidly interpret and visualize the data.	term performance of covers, and identify key performance parameters. For example, identify models and input parameters that are applicable for simulating cover soil water balance, ecological change, radon flux, and erosion. • **Annual Site Sustainability Plan (SSP) and Consolidated Energy Data Report (CEDR) -** Review Requested by Dec 1 Develop an approach for selecting and investigating natural analogs of the impacts of climate change on the soils and ecology of disposal cell covers. This would require recent climate data, along with soil and vegetation surveys, to find present-day settings that match selected future-environment scenarios. Characterize key soil and ecological parameters of analog sites for input to the cover performance models. • **Model Future Cover Performance and Risk:** Develop a framework to model future performance of covers. Document and interpret results with respect to cover performance, risks to human health and the environment, regulatory requirements, future site inspections and monitoring, and cover enhancement options (if warranted).

SSP Attachment C Objectives Requirements	FY 2015 Performance	Plans for FY 2016 and Beyond
Objective 3: Future Activities		
• Design plans that will address (1) climate impacts to missions, operations, and people, and (2) policies and programs that will be modified to include consideration of climate risks. • Outline the above plans and identify the following: —— The climate risk that is the driver for the action —— The desired outcome of the program, policy, or plan —— The responsible component/office —— Any milestones or timelines used to determine progress and success	• Participated in EPA webinar about climate change for superfund sites. • Reviewed and shared with other LM subject matter experts the April 2015 EPA Climate Change Technical Fact Sheet titled "Contaminated Sediment Remedies" • Discussed proposed plans for new hazard assessment with the UMTRCA safety and training team and discussed ideas on other potential site information sources provided by the site security officer. • During the review of the Comprehensive Emergency Response System, LM identified the opportunity to include climate resilience efforts into future revisions. • The Technology Deployment Strategic Planning (TDSP) initiative facilitates the investigation, evaluation, and deployment of promising environmental technologies for LM, focusing on technologies that improve groundwater remediation and characterization, disposal cell cover performance, and modeling. TDSP focuses on (1) Technologies Currently Deployed at LM Sites, (2) LM Future Needs, (3) Proven and Developing Technologies, (4) Direction for Technology Deployment for LM, and (5) the Applied Studies and Technology Program. The TDSP is an existing initiative that might be an appropriate avenue for climate resilience considerations.	• Develop a systematic approach for integrating climate change adaptation and resilience directives and orders into LM functions. • Engage other functional groups such as Safety and Health, Facilities, and Real Property. • Determine which LM documents would require climate change adaptation and resilience considerations and updates.

SSP Attachment C Objectives Requirements	FY 2015 Performance	Plans for FY 2016 and Beyond
Objective 4: Real Property and Supply Chain Resilience		
• Identify any existing or ongoing efforts where LM might include considerations of climate change adaptation and resilience into procurement, acquisition, real property, or leasing decisions. Determine whether: —— New-built or leased facilities are at risk of current or future flooding —— Critical systems are located within facilities that minimize risk of flooding or damage —— Infrastructure such as roads are built to withstand projected heat extremes —— Facilities have backup power systems and reliable access to necessary fuels • Where sites have not taken the opportunity to formally determine how climate adaptation and resilience efforts should be included in procurement, acquisition, and real property or leasing decisions, the sites should do the following: —— Identify plans for a process to conduct such a determination —— Identify any relevant milestones —— Identify responsible agency components or offices	• In an effort to engage other functional groups, the 2015 Climate Change Resiliency objectives and expectations were shared with the asset management team (facilities, real property, etc.) and the Business Services team. • Climate change objectives information was provided to the Project lead for consideration in the Weldon Spring new building project, if it proceeds.	• Consider the feasibility of incorporating climate considerations into facility condition assessments for all real property assets and other site facilities. Condition assessments are included as part of annual site inspections for regulatory framework sites.
Regional and Local Coordination		
Objective 5: Regional and Local Coordination		
• Describe regional and local partnerships with other federal agencies, municipalities, and local organizations that improve our understanding of the following: —— Climate change science —— Sharing best practices and data —— Establishing regional coordination in planning and policy	• Reviewed a National Renewable Energy Laboratory poster at the National Adaptation Forum and followed up with contacts to further discuss the pilot vulnerability assessment that was conducted there. • Attended the DOE Office of Environmental Management Compliance Community of Practice meeting AU-21 presentation on Climate Change Vulnerability and adaptation training, Executive Order 13693, and DOE-wide implementation. • Attended a DOE Climate Adaptation Collaborative teleconference and	• Participate in DOE Climate Adaptation Collaborative teleconferences. • Initiate U.S. Bureau of Land Management contacts for applicable sites. • Identify additional community contacts. Ongoing efforts: • LM scientists have established and will continue to establish collaborations with state-of-the-science researchers, share costs, foster education with a focus on stakeholder communities, disseminate new knowledge through conferences and workshops, and

SSP Attachment C Objectives Requirements	FY 2015 Performance	Plans for FY 2016 and Beyond
	presentation by the Office of Sustainable Environmental Stewardship on the proposed framework for Climate Adaptation Planning and Coordination. • Made contact with the North Central Climate Service Center in Fort Collins, Colorado, for webinar and additional resource information.	defend through peer-reviewed publications. • Continue monitoring lysimeters in collaboration with the University of Wisconsin and the Desert Research Institute, which is a project valued by DOE and other agencies (nationally and internationally) involved in the design and monitoring of disposal cells. • Continue collaboration (and cost sharing) with the University of Arizona to continue development of the Monticello, Utah, Disposal Site Water Balance Project components, as part of a student's PhD program. • A University of Arizona PhD student is working with LM scientists to implement a work plan demonstrating an approach for LM to investigate the long-term climate change adaptation of disposal cell covers near Native American communities. • Water balance is an area that might be impacted by a changing climate. EPA and DOE installed a large pan lysimeter in 2000 during construction of the disposal cell cover at the Monticello site. DOE, EPA, the Nuclear Regulatory Commission, and others are using the unique data from the large in-service lysimeter at the Monticello site to help guide decisions on the use of water balance covers at other sites.

SSP Attachment C Objectives Requirements	FY 2015 Performance	Plans for FY 2016 and Beyond
Modernization of Programs		
Objective 7: Removing and Reforming Barriers		
• Ensure that policies or programs do not unintentionally discourage or disallow investments by external partners or contract recipients that would improve their preparedness for climate impacts. • Examine programs to determine where such barriers exist and how they are being or could be addressed. • For any barriers identified, describe the following: —— The rationale (in a brief statement) for identifying the circumstance as the barrier —— The type of actions that the site believes are available to address the barrier and whether the action can be addressed exclusively by the site or if others will need to be involved —— The timing and expected timeframe for addressing the barrier —— Any resources that will be needed to address the barrier • Identify and reform policies or programs that might unintentionally increase vulnerability, such as the following: —— Systemic use of outdated information to assess climate related risks —— Policies that require building or rebuilding to outdated standards —— Policies based on outdated assumptions of climate vulnerability	• LM incorporated climate change considerations into the draft 2016–2025 Strategic Plan.	• Determine an appropriate complex-wide approach to achieving SSP objectives and the objectives identified in the LM Strategic Plan. • Update the LM Environmental Policy to include climate change considerations for LM activities.

Abbreviations:
LANL = Los Alamos National Laboratory
LTS&M = long-term surveillance and maintenance
TDSP = Technology Deployment Strategic Planning
UMTRCA = Uranium Mill Tailings Radiation Control Act

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Attachment F

Reporting Inconsistencies Between LM Data and Provided Data

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Reporting Inconsistencies Between LM Data and Provided Data

Energy

Baseline Data

FIMS and EMS4 data was pulled to determine the GSF for energy use in the baseline year (2003) for the CEDR data.

LM was created as an Office in DOE at the end of 2003. Most (if not all) of the sites that came to LM during that first year were previously owned by other DOE Offices. LM does not have pre-2003 data for some sites, so it is not clear whether the information for the buildings/sites used in the baselines is correct and complete.

Past Years Data

In past years, SPO/FEMP provided guidance that occasionally varied from year to year as to which buildings should be included in the GSF reporting. These variations have caused year-to-year differences in GSF reporting for the same buildings.

Water

Baseline Data

FIMS data is pulled for the CEDR/Dashboard to determine the GSF for annual reporting. According to DOE Supplemental Guidance, if a building or other facility is subject to both energy and water requirements, then LM will rely on the square footage value reported for the energy use of that facility.

The legacy sites that LM manages are atypical; there are buildings and other structures and facilities that contribute to the GSF values. Some of the structures may use:

- energy but not water,
- water but not energy,
- both water and energy, or
- neither water nor energy.

Therefore, the guidance to use the energy GSF for the water GSF can skew the data. For some sites, LM has been providing a GSF value associated with only the structures that actually use water, rather than simply copying the GSF reported for the energy use of that facility.

In 2007, DOE Headquarters used the HPSB square footage of 69,792 square feet for calculating energy usage. However, the FIMS data for 2007 noted the energy GSF to be 26,374 square feet for covered facilities. The discrepancies in these two square footages causes a significant difference in the WUI percent change each reporting year, as compared to the 2007 baseline. Consequently, the calculated WUI percent change noted in Tab 1.2a of the CEDR differs greatly from the percent change LM has calculated. LM entered the correct square footage of 26,374 square feet on CEDR Tab 3.1 cell L163 and entered a comment, so that now the percent change calculated on Tab 1.2a agrees with the LM percent change.

Past Years Data

Same as for baseline Data.

E85 Fuel Usage

Baseline Data

Fuel data is pulled from FAST for inclusion in the SPO-provided data (CEDR or Dashboard). In 2005 (i.e., the baseline year), the guidelines for FAST were as follows:

> Estimate the total amount of fuel used in your alternative fuel vehicle (AFV) Fleet for the listed year. Include conventional fuel and diesel and any alternative fuels in the estimate. All fuel consumed in E85 capable vehicles was reported in FAST as E85 fuel. This shows as 3,617 gallons of E85 in the SPO report.

Based on LM tracking data, LM consumed zero gallons of alternative fuels in the baseline year of 2005. Therefore, the FAST data for the 2005 baseline is a wrong overestimation, and comparison of subsequent years to the FAST baseline results in reduced increases. This occurs because when LM attempts to calculate changes in usage based on LM tracking data, the percentage calculations cannot be performed with zero as a denominator. To avoid this problem, LM utilizes a 2005 baseline of 1 gallon.

Past Years Data

No issues.