## Environmental Compliance

All EC activities are performed in such a manner that the safety of workers and the public and the protection of the environment are given the highest priority. EC is committed to complying with all applicable environmental regulations and using best management practices as deemed necessary to achieve adequate protection of the environment and to ensure conformance with both the letter and spirit of regulatory requirements.

The EC team has consistently met regulatory-compliance permitting and reporting requirements and provided regulatory updates and expertise as requested.

During this reporting quarter, the EC team completed EC deliverables and regulatory reports on or ahead of schedule, including the quarterly regulation review report. The EC team submitted the annual report on pollution prevention and EPP.

EC is working with the Training department to develop general environmental compliance awareness training and shipping and transportation general awareness training.

The 5-year Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) review is underway at the Fernald Preserve Site and at the Weldon Spring Site. Planning for the 5-year CERCLA review at Mound was initiated.

Pinellas submitted a Notification of Offsite Contamination to the Florida Department of Environmental Protection for contamination discovered across Bryan Dairy Road onto Rally Properties. This is the third off-site notification for off-site properties across Bryan Dairy Road in the attempt to delineate the Building 100 groundwater plume.

EC provided support for removing the permeable reactive barrier at the Durango Disposal Site. Field controls were developed, and EC field oversight was provided to ensure that storm water was properly managed and that the total area of land disturbance did not expand beyond the 1-acre threshold that would have triggered the need for a storm water discharge permit and storm water management plan. Transportation requirements were evaluated, and field support was provided to ensure that all waste shipments were conducted in a compliant manner and that all shipments were accompanied by the proper paperwork.

To assess LMS applicability, EC completed an LM-property-wide pesticide application assessment to determine the sites that may be affected by the final U.S. Environmental Protection Agency regulation concerning National Pollutant Discharge Elimination System (NPDES) permit changes.

Rocky Flats began developing an Adaptive Management Plan that may be implemented to address community concerns concerning the Proposed Action in the draft *Rocky Flats Surface Water Configuration Environmental Assessment* (EA). The EA Proposed Action is to breach the dams for the remaining retention ponds at Rocky Flats.

Rocky Flats finished shipping 384 cubic feet of low-level radioactive waste generated from the replacement of spent zero-valent iron media from the Solar Ponds Plume Treatment System to the Energy Solutions, Inc., facility in Clive, Utah.

Following the new designation of critical habitat at the Rocky Flats Site, EC requested that the consultation procedure be initiated, to begin under Section 7 of the Endangered Species Act, and forwarded a proposed outline for the Amended Programmatic Biological Assessment (APBA) to the U.S. Fish and Wildlife Service. The APBA will address the new expanded critical habitat for LM-retained lands to reflect the post-closure configuration, as well as LM long-term stewardship activities, including requirements for remedy implementation monitoring and maintenance work.

LMS managed approximately 1989 well and 26 other permits during this quarter.

Table 2 summarizes the progress that LMS has made toward meeting significant environmental-aspect targets.

*Table 2. Progress on Significant Environmental-Aspect Targets*

| Significant Environmental Aspects | Targets | Status |
|---|---|---|
| 1. Land Use | Perform Institutional Control (IC) surveillances and quarterly or annual site inspections to ensure that site access controls are implemented and IC prohibitions are followed at 20 sites. | IC surveillances and site inspections were performed at Fernald, Mound, Maxey Flats, Burrell, Canonsburg, Parkersburg, and Weldon Spring. Site-access physical controls inspection was performed at Rocky Flats. |
| 2. Releases to the Environment | Continue to treat and monitor groundwater at Fernald, Tuba City, and Monticello. | 1,878,371 gallons of groundwater were treated at Fernald.<br>891,065 gallons of groundwater were treated at Tuba City.<br>1,045,000 gallons of groundwater were treated at Monticello.<br>4,641,600 gallons of groundwater were treated at Mound.<br>685,205 gallons of groundwater were treated at Pinellas.<br>837,162 gallons of groundwater were treated at Rocky Flats. |
| 3. Resource Consumption, Use, and Storage | Complete evaluation of the reverse osmosis process at Tuba City. | Testing is on hold because the treatment system is not in operation. |
| 4. Waste Generation and Minimization | Perform a Pollution Prevention Opportunity Assessment (PPOA) on one radioactive waste generation activity. | Site selection for this assessment is under consideration. |

Table 3 summarizes some key activities and accomplishments.

*Table 3. Summary of Key Activities and Accomplishments*

| Type of Activity | Number | Sites Where Activities Were Performed |
|---|---|---|
| Monitoring (# of samples/# of analyses performed by offsite labs) | 1,422/3,467 | Ambrosia Lake (3/30), AS&T (42/126), Bluewater (10/105), Canonsburg (7/7), Durango (33/61), Fernald (428/783), L-Bar (11/55), Monticello (95/447), Monument Valley (50/254), Mound (143/184), Pinellas (110/124), Old Rifle and New Rifle (77/367), Rio Blanco (1/4), Riverton (33/103), Rocky Flats (245/527), Rulison (10/36), Shirley Basin South (2/18), Slick Rock (5/15), and Weldon Spring (117/221) |
| Report Related to Permitting | 23 | Fernald (3, NPDES), Grand Junction Disposal Site (1, air), Monticello (1, CERCLA), Mound (3, NPDES; 3, ER; 3, RadEffluent; 3, dispute resolution), Pinellas (3, NPDES), Rocky Flats (9, RFLMA), and Weldon Spring (1, NPDES; 1, MSD) |
| Controlled Documents (revised or issued) | 6 | *Environmental Instructions Manual*, *FUSRAP Historical Records*, *Sampling and Analysis Plan for Office of Legacy Management Sites*, *Fernald Preserve Environmental Monitoring*, *Fernald Preserve Qualification Plan*, and *Long-Term Surveillance and Maintenance Plan for the Pinellas Site* |
| Recycling | | National Recycling Week observed in November in Grand Junction. Partnered with RTC to collect over 300 pounds of recyclable materials, including batteries. Recycling continued at manned locations.<br><br>The LMBC received a recycling award from the Monongalia County Solid Waste Authority for keeping a large amount of waste out of West Virginia landfills. |

## Environmental Management System

The LMS contractor continued to collaborate with LM to more fully implement the joint EMS in accordance with the requirements of the DOE Strategic Sustainability Performance Plan, Executive Order 13514, Executive Order 13423, DOE Order 450.1A, and DOE Order 430.2B. To accomplish this, most EMS efforts this quarter were directed toward the following: annual energy reporting, preparing the Site Sustainability Plan, revising greenhouse gas emissions, and finalizing cost estimates.

The LMBC was presented with a recycling award by the Monongalia County Solid Waste Authority for keeping a large volume of waste out of West Virginia landfills.

LM was nominated for a pollution prevention award for reusing the Mound Sanitary Wastewater Treatment Facility. This reuse opportunity diverted over 70 tons of material from municipal and low-level radioactive landfills.

The fall issue of *ECHOutlook* was distributed through the LM Intranet. This electronic newsletter provides current information on the environment, health and safety, and quality assurance programs and activities. Several *E-news* articles were published during this past quarter regarding EMS programs, revised documents, and EMS initiatives.

See Table 4 for a summary of performance toward obtaining DOE FY 2020 goals and selected LM FY 2011 EMS targets and initiatives.

*Table 4. DOE Goal Summary Table*

| DOE Goal | Long-Term Status | FY 2010 Site Performance Status | FY 2011 Targets | Actions Taken This Quarter | Current Performance Status |
|---|---|---|---|---|---|
| 28 percent Scope 1 and 2 greenhouse gas (GHG) reduction by FY 2020 from a FY 2008 baseline (related goals indented below) |  | 7 percent reduction to date | Continue to reduce electricity consumption. | Revised FY 2008 baseline. Calculated FY 2010 Scope 1 and 2 GHG emissions and submitted info to PPTRS and FY 2010 Site Sustainability Plan. |  |
| 30 percent energy intensity reduction by FY 2015, from a FY 2003 baseline |  | 21 percent reduction to date | Safely modify treatment operations at the Fernald and Tuba City treatment facilities to reduce electricity consumption. | Calculated energy intensity reduction for FY 2010 and provided input for FY 2010 Site Sustainability Plan.<br><br>Upgraded electrical equipment at Fernald, including the replacement of electrical transformers. |  |

Stop light status = Excellent, Satisfactory, Requires Improvement

*Table 4 (continued). DOE Goal Summary Table*

| DOE Goal | Long-Term Status | FY 2010 Site Performance Status | FY 2011 Targets | Actions Taken This Quarter | Current Performance Status |
|---|---|---|---|---|---|
| 7.5 percent of a site's annual electricity consumption from renewable sources by FY 2010 (2x credit if the energy is produced on site) |  | EPAct goal met. Did not meet accelerated goal in DOE Order 430.2B, but requested a waiver last year.<br><br>5 percent from onsite renewables and purchased renewable energy credits. | Evaluate the installation of photovoltaic systems at western LM sites. | Received authorization to increase amount of renewable energy credits purchased at the Fernald Preserve Site by an additional 140 blocks per month. |  |
| Every site to have at least one onsite renewable energy generating system by FY 2010 |  | Met | Continue to pursue onsite projects where feasible. | This goal has been met. LM reports as one site and has more than one on-site renewable-energy generating system. LM will continue to pursue on-site projects where feasible. |  |
| 10 percent annual increase in fleet alternative fuel consumption by FY 2015 relative to a FY 2005 baseline |  | Met | Increase the ratio of alternative fuel use to conventional fuel use by 20 percent compared to the FY 2009 ratio. | This goal has been met. Alternative fuel purchased for the first quarter of 2011 was 816 gallons. As there was no alternative fuel purchased in the baseline 2005 year, the goal is met. |  |
| 2 percent annual reduction in fleet petroleum consumption by FY 2015 relative to a FY 2005 baseline* |  | Not scheduled to meet. | Increase the ratio of alternative fuel use to conventional fuel use by 20 percent compared to the FY 2009 ratio. | Total petroleum use in the first quarter was 6,962 gallons with a projection to be 27,000 by year's end (approximately the same as last year, when 27,262 gallons were used). In the baseline year, 2005, 30,291 gallons were used. The goal for 2011 is, therefore, a 12 percent reduction, or a reduction of 3,635 gallons for a total use of 26,657 for 2011. Projections indicate that this goal will not be met. |  |

Stop light status = Excellent, Satisfactory, Requires Improvement

* Status on the goal of a 2 percent annual reduction in fleet petroleum consumption by FY 2015 relative to a FY 2005 baseline is red because in 2005, the LMS contractor had fewer employees, offices, and sites to manage than in 2010. LM's scope has grown and will continue to grow as DOE sites are added to the legacy management mission. In 2005, total petroleum use was only 30,291 gallons, and in 2010, it was 31,462 gallons. At a 2 percent reduction per year, the goal in 2011 is 26,657 gallons. Mostly likely, this goal will not be achievable.

*Table 4 (continued). DOE Goal Summary Table*

| DOE Goal | Long-Term Status | FY 2010 Site Performance Status | FY 2011 Targets | Actions Taken This Quarter | Current Performance Status |
|---|---|---|---|---|---|
| 75 percent of light duty vehicle purchases must consist of alternative fuel vehicles by FY 2015 |  | Scheduled to meet. | Continue acquiring alternative fuel vehicles. | Four vehicles were obtained in the quarter. All 4 were alternative fuel E 85 vehicles. |  |
| To the maximum extent practicable: advanced metering for electricity (by October 2012), steam, and natural gas (by October 2016); standard meters for water |  | Installing advanced electric metering. Installation will be complete by FY 2012. | Install three advanced electrical meters at the Weldon Spring Site. | No action this quarter |  |
| Cool roofs, unless uneconomical, for roof replacements unless project already has CD-2 approval. New roofs must have thermal resistance of at least R-30 |  | One building with a cool roof | Perform a life-cycle cost analysis of cool roofs and identify LM-owned and LM-leased buildings on which it may be economically feasible to install a cool-roof coating (rather than maintaining the roofs in their existing condition). | This target has been met. Performed a life-cycle cost analysis of cool roofs and identified LM-owned and LM-leased buildings on which it may be economically feasible to install a cool-roof coating (rather than maintaining the roofs in their existing condition). |  |
| Training and outreach. DOE facility energy managers to be Certified Energy Managers by September 2012 |  | Identified personnel to pursue becoming certified energy managers | Pursue energy manager certification for identified personnel. | Researched certified energy management training courses and requirements. |  |
| 13 percent Scope 3 GHG reduction by FY 2020 from a FY 2008 baseline |  | Data collection/ calculation ongoing | Develop an incentive program to encourage car sharing for employees attending out-of-town meetings. | Revised FY 2008 Scope 3 GHG baseline. Calculated FY 2010 Scope 3 GHG emissions and submitted information to PPTRS and FY 2010 Site Sustainability Plan. |  |

Stop light status =  Excellent,  Satisfactory,  Requires Improvement

*Table 4 (continued). DOE Goal Summary Table*

| DOE Goal | Long-Term Status | FY 2010 Site Performance Status | FY 2011 Targets | Actions Taken This Quarter | Current Performance Status |
|---|---|---|---|---|---|
| All new construction and major renovations greater than $5 million to be LEED® [Leadership in Energy and Environmental Design] Gold certified. Meet high-performance and sustainable building (HPSB) Guiding Principles if less than or equal to $5 million |  | One new building met or exceeded the requirement of LEED® gold. | None. No buildings are planned. | N/A | N/A |
| 15 percent of existing buildings larger than 5,000 gross square feet to be compliant with the five HPSB Guiding Principles by FY 2015** |  | 10 percent of existing buildings comply with principles. | Identify and evaluate sites transitioning to and from LM by 2015. | Performed Guiding Principles assessments on two leased buildings at the Grand Junction Office to determine probability of meeting Guiding Principles. |  |
| 2 percent annual and 26 percent potable water intensity reduction by FY 2020 from a FY 2007 baseline |  | 97 percent reduction in FY 2010 | Continue to monitor potable water intensity and achieve at least a 2 percent annual reduction. | Compiled information for Consolidated Energy Data Report and Site Sustainability Plan. |  |
| 2 percent annual and 20 percent water consumption reduction of non-potable industrial, landscaping, and agricultural water by FY 2020 from a FY 2010 baseline |  | A baseline was established for this goal in FY 2010.<br><br>A standard water meter was installed at the Tuba City Site in FY 2010 to track water use. | Implement two non-potable freshwater water efficiency improvements at the Tuba City Site, and achieve at least a 2 percent annual reduction. | Implemented one efficiency improvement (at the Tuba City Site). This improvement consisted of replacing a high-water-use toilet with a water-efficient toilet. |  |

Stop light status = Excellent, Satisfactory, Requires Improvement

** Status on the goal of 15 percent of existing buildings larger than 5,000 gross square feet to be compliant with the five Guiding Principles by FY 2015 is red. It will not be achievable without significant funding to upgrade Weldon Spring Interpretive Center.

*Table 4 (continued). DOE Goal Summary Table*

| DOE Goal | Long-Term Status | FY 2010 Site Performance Status | FY 2011 Targets | Actions Taken This Quarter | Current Performance Status |
|---|---|---|---|---|---|
| **EO 13514 (2)(e)** promote pollution prevention and eliminate waste by:<br>(i) minimizing the generation of waste and pollutants through source reduction;<br>(ii) diverting at least 50 percent of non-hazardous solid waste, excluding construction and demolition debris, by the end of fiscal year 2015;<br>(iii) diverting at least 50 percent of construction and demolition materials and debris by the end of fiscal year 2015; |  | LM recycled 330,257 pounds of material (a diversion of 56 percent of solid waste) by the end of FY 2010.<br><br>LM diverted 79 percent of construction and demolition materials and debris by the end of FY 2010. | Achieve 50 percent waste diversion for the combined total of construction and demolition debris and non-hazardous solid waste. | Determined that a PPOA will be performed on a radioactive waste activity.<br><br>Recommended two small composters for purchase at the Rocky Flats and Grand Junction Sites. |  |
| Implementing best management practices for energy-efficient management of servers and federal data centers |  | The job planning process considers the implementation of integrated pest management and other appropriate landscape management practices. | Complete actions that conserve energy in the Morgantown and Grand Junction data centers. | Based on a response from DOE Headquarters in regard to the Federal Data Center Consolidation Initiative, raised the allowable temperature in the Morgantown Data Center, which means that less energy is needed for cooling the server room.<br><br>Requested and received a quote to retrofit the Morgantown Data Center to allow for separate power-metering, which will, in turn, reduce power consumption at the Data Center. |  |

Stop light status = Excellent, Satisfactory, Requires Improvement

*Table 4 (continued). DOE Goal Summary Table*

| DOE Goal | Long-Term Status | FY 2010 Site Performance Status | FY 2011 Targets | Actions Taken This Quarter | Current Performance Status |
|---|---|---|---|---|---|
| Advance sustainable acquisition to ensure that 95 percent of new contract actions including task and delivery orders, for products and services with the exception of acquisition of weapon systems, are energy-efficient (Energy Star or Federal Energy Management Program designated), water-efficient, biobased, environmentally preferable (e.g., Electronic Product Environmental Assessment Tool certified), non-ozone depleting, contain recycled content, or are non-toxic or less-toxic alternatives, where such products and services meet agency performance requirements. |  | 100 percent of purchase orders and credit card transactions were given green alternative consideration. | Advance sustainable acquisition by striving for 95 percent of new contract actions, including task/release and blanket orders, but excluding all credit card purchases, for products and services to be environmentally preferable, in accordance with Executive Order 13514 (subject to certain qualifications and limitations). | 100 percent of products and services purchased by the LMS contractor were environmentally preferable/advanced Sustainable Acquisition.<br><br>The Sustainable Acquisition cost elements (3800 Series) have been updated and posted to the LMS Finance Web page. They will be sent to LM this month.<br><br>Compiled the sustainable acquisition information and submitted it for inclusion in PPTRS.<br><br>In response to a customer suggestion, IT is now purchasing laptop cases made from 100 percent recycled plastic bottles. Unlike many other environmentally friendly items, these cases have been made available at approximately the same price as normal laptop cases. |  |
| Protect human health and the environment through effective and efficient long term surveillance and maintenance |  | Documented 48 ecosystem improvements at LM sites in the project tracking log, including improvements in ecosystem health, land management, and remedy performance. | Identify an opportunity to improve land stewardship at two LM sites. | Proposed temporary use of elk from nearby ranch to graze surface of disposal cell to control vegetation at the Monticello Disposal Site.<br><br>Proposed evaluation of Shirley Basin South for possible site improvements. |  |

Stop light status = Excellent, Satisfactory, Requires Improvement