

## 1.0 Introduction

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) is responsible for implementing the final response action selected in the final *Corrective Action Decision/Record of Decision for Rocky Flats Plant (USDOE) Peripheral Operable Unit and Central Operable Unit (CAD/ROD)* (DOE 2006a) issued September 29, 2006, for the Rocky Flats, Colorado, Site (Site). Prior to the CAD/ROD, cleanup and closure activities were completed in accordance with the requirements of the *Final Rocky Flats Cleanup Agreement (RFCA)* (CDPHE et al. 1996). Under the CAD/ROD, two Operable Units (OUs) were established within the boundaries of the Rocky Flats property: the Peripheral Operable Unit (POU) and the Central Operable Unit (COU). The COU consolidates all areas of the Site that require additional remedial or corrective actions while also considering practicalities of future land management. The POU includes the remaining, generally unimpacted portions of the Site and surrounds the COU. The response action in the Final CAD/ROD is no action for the POU and institutional and physical controls with continued monitoring for the COU. The Offsite Areas at Rocky Flats, known as OU 3, were addressed under a separate no-action CAD/ROD dated June 3, 1997.

The CAD/RODs for OU 3 and the POU determined that conditions in those OUs were suitable for unrestricted use. As a result, the U.S. Environmental Protection Agency (EPA) published a Notice of Intent for Partial Deletion (NOIPD) of the Rocky Flats Site (also known as the Rocky Flats Plant) from the National Priorities List (NPL) on March 13, 2007 (Volume 72 *Federal Register* page 11313 [72 FR 11313], March 13, 2007) to delete the POU and OU 3 from the NPL. The NOIPD was based on the results of the remedial investigations leading to the CAD/ROD no-action remedies being selected for these OUs. The NOIPD stated that because no hazardous substances occur in the OUs above levels that allow for unlimited use and unrestricted exposure, no five-year review was required for these OUs. EPA subsequently published a Notice of Partial Deletion from the NPL for the POU and OU 3 on May 25, 2007 (72 FR 29276, May 25, 2007).

On July 12, 2007, most of the property outside the COU was transferred to the U.S. Department of the Interior for establishment of a national wildlife refuge managed by the U.S. Fish and Wildlife Service (USFWS). EPA certified that cleanup and closure of Rocky Flats was complete and that the COU remedy was operating properly and successfully, in accordance with requirements for DOE to transfer land to USFWS for establishing the refuge. DOE retained the COU and is responsible for implementing the CAD/ROD final response action and for ensuring that it remains protective of human health and the environment. The monitoring, surveillance, and maintenance activities—for which quarterly, annual, and five-year review reports are issued—are included in the *Rocky Flats Legacy Management Agreement (RFLMA)* (CDPHE et al. 2012).

RFLMA, signed March 14, 2007, superseded the RFCA. RFLMA is a Federal Facility Agreement and Consent Order under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and the Colorado Hazardous Waste Act, between DOE, EPA Region 8, and the Colorado Department of Public Health and Environment (CDPHE). The purpose of RFLMA is to establish the regulatory framework for Attachment 2, “Legacy Management Requirements.”

RFLMA Attachment 2, Section 7.0, requires DOE to provide reports pertaining to the surveillance and maintenance of the remedy prescribed in the CAD/ROD on a calendar quarter and annual basis. The fourth-quarter report information is to be included in the annual report.

RFLMA Attachment 2, Section 7.2, specifies that the annual reports may include a summary for the previous quarter and shall include the following:

- A discussion of surface-water monitoring data
- A discussion of groundwater monitoring data
- A discussion of groundwater treatment system monitoring data
- A discussion of ecological sampling data
- A description of any adverse biological conditions
- A summary of actions taken in response to reportable conditions
- A summary of maintenance and repairs
- Inspection reports
- Verification of the Environmental Covenant and evaluation of the effectiveness of institutional controls (ICs)
- The Original Landfill (OLF) Monitoring Report (see Table 3 and Section 6.1 of the final *U.S. Department of Energy Rocky Flats Site, Original Landfill Monitoring and Maintenance Plan* [OLF M&M Plan] [DOE 2009a])
- The Present Landfill (PLF) Monitoring Report (see Table 3 and Section 6.1 of the *Present Landfill Monitoring and Maintenance Plan and Post-Closure Plan, U.S. Department of Energy Rocky Flats Site* (PLF M&M Plan) [DOE 2008a])
- Assessments of analytical data, including laboratory audits
- Other conditions or actions taken that are pertinent to the continued effectiveness of the remedy

This calendar year (CY) 2012 Annual Report contains the summary for the fourth quarter of CY 2012.

LM prepared the *Rocky Flats Site Operations Guide* (RFSOG) (DOE 2011a) as a document to guide work at the Site. The RFSOG provides details on the surveillance and maintenance needed to satisfy the requirements of the CAD/ROD as well as best management practices (BMPs) at the Site. As a “desktop procedure,” the RFSOG explains how DOE will fulfill its long-term surveillance and maintenance obligations at the Site.

While the specific BMPs are not subject to regulation under RFLMA, this annual report includes a discussion of activities related to implementing BMPs to document the information for future reference and to provide a perspective of the work conducted over the year.

## 1.1 Purpose and Scope

The purpose of this report is to inform the regulatory agencies and stakeholders of the surveillance, monitoring, and maintenance activities being conducted at the Site. LM provides

periodic communications such as this report and communicates through other means such as Web-based tools and public meetings.

Topics covered in this annual report include Site operations and maintenance (Section 2.0) and environmental monitoring, including water and ecological monitoring (Section 3.0). Data management, data validation, and an assessment of data quality are also included in Section 3.0. References cited in this report are included in Section 4.0.

Supporting information is provided in a series of appendixes. Appendix A provides the hydrologic data and Appendix B provides the water quality data. The fourth quarter of CY 2012 landfill inspection forms for the PLF and OLF are included in Appendix C. RFLMA and RFSOG data evaluation flowcharts are provided in Appendix D. Appendix E contains the *Technical Memorandum Regarding Instrumentation and Monitoring at the Rocky Flats OLF*. Appendix F contains the RFLMA contact records issued during CY 2012.

## 1.2 Background

Surveillance, maintenance, and monitoring activities are conducted according to RFLMA. RFLMA incorporates the following plans:

- The OLF O&M Plan (DOE 2009a)
- The PLF M&M Plan (DOE 2008a)

RFLMA Attachment 2 stipulates that DOE employ administrative procedures to control activities in accordance with the ICs and to meet quality assurance and quality control program requirements. Other Site procedures are established to guide work and implement BMPs. These procedures are referenced in the RFSOG and include:

- *The Operations and Maintenance Plan for Rocky Flats Surface Water Control Project* (DOE 2010a);
- *The Operations and Maintenance Manual for the Rocky Flats Groundwater Treatment Systems* (DOE 2010b);
- *The Rocky Flats, Colorado, Site Revegetation Plan* (DOE 2009b);
- *The Erosion Control Plan for the Rocky Flats Property Central Operable Unit* (DOE 2007a);
- *The Rocky Flats, Colorado, Site Vegetation Management Plan* (DOE 2009c);
- *The Ecological Monitoring Methods Handbook for the Rocky Flats, Colorado, Site* (DOE 2008b); and
- *The Legacy Management CERCLA Sites Quality Assurance Project Plan* (LMS/PLN/S04353).

## 1.3 RFLMA Contact Records

This section provides a summary of the status of activities addressed by RFLMA contact records issued during 2012. RFLMA references the use of contact records to document CDPHE oral approvals of field modifications to implement approved response actions (see RFLMA

paragraph 34). Excavation or soil disturbance activities that are subject to ICs must have prior regulatory review and approval pursuant to the Soil Disturbance Review Plan in RFLMA Attachment 2, Section 4.1, and results of consultation will be documented in contact records or written correspondence. RFLMA Attachment 2 also references the use of contact records to document the outcome of consultation related to addressing any reportable conditions (see RFLMA Attachment 2, Section 6.0). Finally, the *Rocky Flats Site Legacy Management Public Involvement Plan* (PIP), in RFLMA Appendix 2, also provides that a contact record of consultative process discussions between the RFLMA Parties will be made available to the Rocky Flats Stewardship Council and other interested stakeholders as early in the process as is practicable following signature approval by the parties. The PIP process to make contact records available is implemented by posting contact records on the Rocky Flats public website and by promptly notifying stakeholders (by e-mail) that the contact record is posted.

The RFLMA Parties agreed, as documented in RFLMA Contact Record 2007-08, that DOE will document the status of actions or activities in RFLMA contact records from time to time and will include the documentation in RFLMA quarterly and/or annual surveillance and maintenance reports for tracking purposes. The RFLMA Parties also agreed that to facilitate the status reporting, contact records should include a short discussion of the anticipated actions or activities to close out the RFLMA contact record. Thus, RFLMA Contact Record 2007-08 and subsequent contact records will include the closeout discussion.

Under certain situations, activities previously approved in a contact record that has been closed out will need to be performed. A simple notification and approval process has been developed for these situations, which is documented in RFLMA Contact Record 2009-05. CDPHE may receive notification of and approve the activities over the phone or in person, with e-mail follow-ups. The notification and approval of such work shall be reported in the next RFLMA annual report, in relation to the contact record that originally covered the work. This protocol is consistent with RFLMA paragraph 34.

Table 1 lists the RFLMA contact records issued in 2012 and their status at the end of 2012. The table also lists contact records that were issued from 2007 to the end of 2011, were discussed in the 2011 Annual Report, and were not closed by the end of 2012, and shows their status at the end of 2012. The table also lists e-mail approval of activities previously covered by closed out contact records. Appendix F contains copies of the 2012 contact records.

## **1.4 RFLMA Modifications**

A minor modification to RFLMA Attachment 1, “Site Map,” and Attachment 2, “Legacy Management Requirements,” was submitted for approval to CDPHE and EPA on December 7, 2012. The proposed minor modifications are described in Contact Record 2012-03, which is included in Appendix F.

Table 1. Status of RFLMA Contact Records

Contact Record No.	Purpose	Approval Date	Status as of December 31, 2012
2012-01	Soil Disturbance Review Plan—Roads maintenance, including grading the road to the former A-3 Pond to convert the road to two-track vehicle use.	5/31/12	Actions completed—closed.
2012-02	Improving treatment at the East Trenches Plume Treatment System (ETPTS) by adding an air stripper component	10/25/12	Contact record will be closed when the ETPTS air stripper and photovoltaic system installation work is completed allowing performance testing and optimization to begin.
2012-03	Minor Modification of <i>Rocky Flats Legacy Management Agreement</i> (RFLMA) Attachment 1, "Site Map," and of RFLMA Attachment 2, "Legacy Management Requirements"	12/7/12	Contact record will be closed when the minor modifications to RFLMA Attachment 1 and RFLMA Attachment 2 are approved.
2011-04	Reportable Condition for Uranium at Point of Evaluation GS10	7/8/11	Contact record serves as the plan and schedule for the evaluation of the reportable condition and will be closed when the evaluation is completed.
2011-05	Update for Reportable Condition for Uranium at Point of Evaluation GS10	10/4/11	Contact record serves as the plan and schedule for the evaluation of the reportable condition and will be closed when the evaluation is completed.
2011-07	Soil Disturbance Review Plan—Pond A-3 and Present Landfill Pond Dam Breach Project	12/5/11	Actions completed—closed.
2011-08	Reportable Condition for Americium-241 at Point of Evaluation GS10	12/23/11	Contact record serves as the plan and schedule for the evaluation of the reportable condition and will be closed when the evaluation is completed.
2010-03	Non-Rocky Flats Legacy Management Agreement (RFLMA) Surface Water Monitoring Project for North and South Walnut Creeks	3/15/10	Contact record will be closed after completion of the non-RFLMA sampling project described herein. After this contact record is closed out, additional non-RFLMA sampling activities may be performed, and CDPHE will be kept apprised of the additional sampling through the consultative process.
2009-01	Phase II and III Upgrades to Solar Ponds Plume Treatment System	2/17/09	Construction and post-construction revegetation and erosion controls are in place. Optimization of the upgrades and monitoring is ongoing. Contact record will be closed when testing is completed and as-built drawings are completed.
2008-06	Management of intercepted groundwater during SPPTS repair or maintenance activities	7/9/08	Actions continuing.
2007-06	Evaluation of elevated nitrate in groundwater samples from Area of Concern well B206989	10/16/07	Continuing monitoring and evaluation.

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