Proposed 2010 Modifications to Attachment 2—Legacy Management Requirements of the Rocky Flats Legacy Management Agreement (RFLMA)

Common Concern Statements

Many of the comments received in response to the Proposed 2010 RFLMA Modifications presented similar concerns. Each comment has been addressed individually in the Comment Response table. This document presents a set of paraphrased Common Concern Statements that reflects the intent of the similar comments with a corresponding response from RFLMA Parties (The U.S. Department of Energy Office of Legacy Management [DOE], the U.S. Environmental Protection Agency, Region 8 [EPA], and the Colorado Department of Public Health and Environment [CDPHE]). The Common Concern Statements are numbered for easy identification, and the sequence does not represent an assigned hierarchy.

Common Concern Statement 1

Common Concern:
Commenters expressed concern that the proposed excavation to install new flumes for the proposed new Walnut Creek and Woman Creek Point of Compliance (POC) monitoring locations is prohibited by Institutional Control (IC) 2. Concern was expressed that Contact Records (CRs) 2010-02 (dam breach) and 2010-04 (revision of monitoring points) each include provisions requiring excavation below 3 feet for purposes that are not remedy-related, and that any proposal to modify the ICs requires amending the Corrective Action Decision/Record of Decision (CAD/ROD), the Environmental Covenant (EC), and the RFLMA.

Response:
The proposed modification to POC locations would require the installation of new flumes in Walnut Creek and Woman Creek. The CAD/ROD, the EC, and RFLMA Attachment 2, Table 4, include IC 2, which is as follows:

> *"Excavation, drilling, and other intrusive activities below a depth of three feet are prohibited, except for remedy-related purposes and routine or emergency maintenance of existing utility easements, in accordance with pre-approved procedures."*

The modification of monitoring locations is remedy related and thus not prohibited by IC 2.

Note that U.S. Department of Energy's (DOE's) proposal to breach the remaining dams is not part of the 2010 Proposed RFLMA Modifications. While CR 2010-02 provides the evaluation to demonstrate that the objective for IC 2 is met for excavation areas described in the CR, because of questions concerning the interpretation of the IC, Colorado Department of Public Health and Environment (CDPHE) withdrew approval of CR 2010-02 (October 15, 2010) regarding the evaluation of the areas that would be excavated to accomplish breaching dams.

The RFLMA Parties are considering clarifying the ICs to include appropriate consideration of the objective and rationale for the control as stated in the CAD/ROD. The objective of IC 2 regarding excavations that exceed 3 feet is to maintain the current depth to subsurface

contamination or contaminated structures. This IC also results in achieving compliance with the CDPHE risk management policy of ensuring that residual risks to the site user are at or below a 1 x 10^{-6} excess lifetime cancer risk.

Common Concern Statement 2

Common Concern:

Commenters are concerned that the DOE Office of Legacy Management (LM) proposal appears to disregard state regulations and U.S. Environmental Protection Agency (EPA) guidance documents for Applicable or Relevant and Appropriate Requirements (ARARs) by eliminating upstream surface water POCs located at the terminal ponds and moving them further downstream from the source of contamination. The existing Indiana Street POCs, GS01 and GS03, have a long and rigorous water quality record and, historically, these POCs have been used to confirm that all relevant water quality standards are being met. Commenters are concerned that the regulatory justification for moving the POCs to the National Priorities List (NPL) boundary is not given.

Response:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) policies specify groundwater monitoring as appropriate to determine remedy effectiveness and performance. However, there is no ARAR that specifies the location for surface water POCs. RFLMA surface water POCs and surface water Points of Evaluation (POEs) are required by the remedy decision.

CERCLA guidance for locating points of compliance is contained in the preamble to the final National Contingency Plan rule (40 CFR 300), 46 Federal Register 8666-8813, March 8, 1990. The preamble provides the following in relation to the requirements for the selection of the remedy in 40 CR 300.430.(f)(iii)(A), "... Performance shall be measured at appropriate locations in groundwater, surface water..." :

> "While points of compliance attaining [remediation goal levels] are established on a site specific basis, as suggested by some commenters [to the proposed NCP rule] there are general policies for establishing points of compliance. For groundwater, remediation levels should generally be attained throughout the contaminated plume, or at and beyond the edge of the waste management area when waste is left in place. ... For surface waters, the selected levels should be attained at the point or points where the release enters the surface waters (p. 8713). ...
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> In particular, there may be circumstances where a plume of groundwater contamination is caused by releases from several distinct sources that are in close geographical proximity. In such cases, the most feasible and effective groundwater cleanup strategy may be to address the problem as a whole, rather than source-by-source, and to draw the point of compliance to encompass the source of the release (p. 8753)."

Several examples of appropriate locations for groundwater points of compliance based on site-specific conditions of a release can be found in EPA's "Handbook of Groundwater Protection and Cleanup Policies for RCRA Corrective Action", EPA530-R-04-030, April 2004.

The process for the proposal and approval of changes to RFLMA monitoring locations follows the requirements in RFLMA paragraph 66. The modification of RFLMA Attachment 2 does not change the remedy. The CAD/ROD, section 17, Selected Remedy/Corrective Action for the Central OU, *Description of the Selected Remedy/Corrective Action*, provides:

> The selected remedy/corrective action consists of environmental monitoring and continued operation and maintenance of engineered structures such as landfill covers and groundwater treatment systems. The requirements of this remedy will be implemented through RFLMA, as well as through an environmental covenant for the Central OU that will be granted by DOE to CDPHE. Individual components of the remedy are discussed in more detail below….
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> DOE will continue to perform environmental monitoring for surface water and groundwater….Surface water monitoring will be conducted, at a minimum, at POCs and POEs.

The rationale for the new locations for surface water POCs is explained in CR 2010-04. The new POC locations in the final approved modification will provide monitoring data that allow for determination of the continuing protectiveness of the remedy and to demonstrate compliance with RFLMA surface water standards before the water leaves the NPL boundary. These locations are close to the waste management area boundary and will allow appropriate evaluation of any impacts from groundwater and surface soil contaminants to surface water quality in accordance with guidance and requirements.

While the new Walnut Creek POC (WALPOC) is up to several hundred yards downstream from the former POCs at the outlets of Terminal Ponds A-4 (GS11) and B-5 (GS08), the new POC also monitors the No Name Gulch portion of water in Walnut Creek before it leaves the Central Operable Unit (COU). Previously, the No Name Gulch contribution was not monitored in Walnut Creek until it reached the POC located at Indiana Street (GS03). No changes are proposed to the surface water POEs or the groundwater monitoring wells upstream of the terminal ponds and closest to sources of residual contamination, which serve as an early warning of possible impacts to surface water quality at the POCs.

The new Woman Creek POC (WOMPOC) replaces the former POC at Indiana Street (GS01). This new location is within the NPL boundary and is about two-thirds of a mile upstream of the former Indiana Street POC location. The new Woman Creek POC is about 90 yards downstream from the former Terminal Pond C-2 POC (GS31), but again, no change is proposed to the surface water POEs and the groundwater monitoring wells upstream of this terminal pond and closest to sources of residual contamination.

The Proposed 2010 RFLMA Modifications deleted the Indiana St. POCs (GS01 and GS03), but to address the common concerns, the approved modification retains these locations as POCs for two years after WALPOC and WOMPOC replace POCs GS08, GS11 and GS31. This approach will provide two years of RFLMA required monitoring at GS01 and GS03 during flow through operation of the terminal pond dams. The RFLMA Parties believe that two years of water monitoring data is generally considered sufficient to provide adequately representative data, and

is consistent with the CDPHE Water Quality Control Division's March, 2011 *Section 303(d) Listing Methodology 2012 Listing Cycle* guidance for representative data. EPA or CDPHE may extend the two-year period by requiring DOE to submit a modification to this attachment in accordance with RFLMA paragraph 65 if either determines that such modification is necessary to ensure protection of human health and the environment.

Common Concern Statement 3

Common Concern:
Many commenters recommended that LM, EPA, and CDPHE consider an incremental implementation strategy to changing POCs and dam breaching which would provide for greater community involvement. It was suggested that a working group representing downstream communities, the U.S. Fish and Wildlife Service (USFWS), and the regulators be established to discuss issues. Furthermore, it was recommended that no approvals or final decisions on the dam breachings or RFLMA amendments be made until the working group has had the opportunity to reach a consensus on purpose, need, timing, and scope of the proposed changes.

Response:
Issues related to the location of the monitoring points have been and will continue to be addressed in meetings within the context and processes described in the RFLMA public participation plan. The modifications have been approved by CDPHE and EPA in accordance with RFLMA requirements. It is not necessary to adopt an incremental approach to changing the POC locations because the new POC locations provide representative monitoring data to assess the protectiveness of the remedy. As discussed in the response to Common Concern Statement 3, GS01 and GS03 will remain as POCs for two years after WALPOC and WOMPOC become POCs. The POE configuration upstream of the POCs does not change.

The proposed dam-breaching project has been evaluated by DOE in accordance with National Environmental Policy Act (NEPA) requirements. The evaluation included consideration of the comments received from the downstream communities. DOE has been in communication with the downstream communities concerning the formation of an Adaptive Management Plan (AMP) group. Organizational meetings have been held, and issues including monitoring at former POCs under the AMP are currently being identified. EPA and CDPHE are participating in the AMP development meetings. The AMP process will address only issues connected with the NEPA proposed action to breach the remaining dams at the Site.

Common Concern Statement 4

Common Concern:
Commenters expressed concern about the basic premise of the proposal to relocate the POCs from the Indiana Street locations to the COU boundary. Commenters expressed disbelief that deletion of the Peripheral Operable Unit (POU) from the NPL requires moving the Indiana Street POCs to the COU boundary, and stated that modifying the monitoring locations is not required, as DOE retains the right to access the Indiana Street POCs.

Commenters stated that monitoring should be conducted at the boundary of federal property and not at the boundary of the NPL site.

Response:
The locations of the new POCs were selected to enable collection of samples representative of the water quality leaving the NPL site. These samples are to be used to verify that the water quality meets the RFLMA standards, which are based on the Colorado Water Quality Control Commission promulgated standards, and that the remedy remains protective of human health and the environment.

POC locations and compliance with remediation levels are established on a site-specific basis. However, CERCLA guidelines state that for surface water, POCs should be located at the point, or points, where the release enters the surface waters. As discussed in the response to Common Concern Statement 2, the RFLMA Parties have determined that the location of the POCs shall be close to the NPL boundary.

The POU was deleted from the NPL in May 2007 because it was determined that the POU poses no significant threat to public health or the environment and, therefore, no further remedial measures pursuant to CERCLA were appropriate. Because no hazardous substances, pollutants, or contaminants occur in the POU above levels that allow for unlimited use and unrestricted exposure, no five-year review is required. There is no further regulatory requirement to continue monitoring the POU. However, as discussed in the response to Common Concern Statement 3, GS01 and GS03 will remain as POCs for two years after WALPOC and WOMPOC become POCs.

Common Concern Statement 5

Common Concern:
Commenters are concerned that the Proposed 2010 RFLMA Attachment 2 Modifications presuppose the breaching of the dams because predischarge pond sampling has been eliminated in the RFLMA Attachment 2 Modification document. Commenters believe that to the extent the terminal dams are breached or operated in flow-through, the need for monitoring at Indiana Street as the water leaves federally controlled property is even greater.

Commenters are concerned that the release of the proposed RFLMA modification for public comment was premature, because they believe that in providing comments on the proposed RFLMA modification, the public had to make assumptions about the final Surface Water Configuration Environmental Assessment (EA) decision.

Response:
Although the proposal included elimination of predischarge sampling, the sampling and evaluation protocol has been retained in the final modifications. Predischarge samples will continue to be collected as long as the ponds are operated in batch and release mode. RFLMA and the CAD/ROD are subject to Resource Conservation and Recovery (RCRA) and CERCLA regulatory authorities, which are separate from the NEPA evaluation to breach the dams. The

dams are not part of the CAD/ROD requirements and are not included in Attachment 2 of RFLMA. Breaching the dams is subject to NEPA regulatory authority.

In accordance with the RFLMA regulatory approach (Part 5), the RFLMA Parties have consulted regarding changes to the locations of POCs as well as other changes to RFLMA required monitoring points. The RFLMA Parties have determined that relocating the POCs is appropriate because of the change in the NPL boundary. The CAD/ROD does not dictate the manner in which the ponds are managed (i.e., does not require batch-and-release versus flow-through) nor whether the dams are retained. These decisions are made by DOE following analysis pursuant to NEPA. Moving the POCs under RFLMA does not prejudge the outcome of the NEPA analysis. Approval of changes to monitoring points is not dependent on the decision to breach dams, and the Proposed 2010 RFLMA Modifications are being considered independently of any DOE decision regarding the dam breach EA.

Common Concern Statement 6

Common Concern:
Commenters expressed a preference that any new monitoring points should be operated in conjunction with existing POCs (i.e., located at the terminal ponds and Indiana Street) for several years to make sure monitoring results at the proposed location are representative of both upstream and downstream conditions.

Commenters believe that the POCs known as GS01 and GS03 should be maintained and operated indefinitely as part of DOE's ongoing obligation to ensure that surface flows leaving federally controlled lands meet relevant standards. And, that this monitoring should be required under RFLMA, instead of depending on some unenforceable assurance by DOE, so that there is federal regulator backing on the maintenance of this monitoring requirement.

Response:
The locations of the new POCs were selected to enable collection of samples representative of the water quality leaving the NPL site. The new POCs are the functional equivalent of the existing POCs. The POU was deleted from the NPL because it was determined that no hazardous substances occur above levels that allow for unlimited use and unrestricted exposure, and there is no further regulatory requirement to continue monitoring this zone. As discussed in the response to Common Concern Statement 3, GS01 and GS03 will remain as POCs for two years after WALPOC and WOMPOC become POCs. However, non-RFLMA monitoring at the Indiana Street wells and GS01 and GS03 after they cease to be RFLMA required POCs has been discussed with the downstream communities as a possible inclusion in the AMP.

Common Concern Statement 7

Common Concern:
Commenters were concerned that shifting from a 30-day to a 12-month average would delay the determination of any exceedances. The comments stated that the level of protection provided by the remedy would be reduced, and there would be a corresponding increase in the risks associated with the Site. Commenters stated that the proposal to use a 12-month rolling average

instead of a 30-day average to determine surface water compliance masks the variability of the monitoring data and reduces the ability to incorporate an advance warning system.

Response:
The Proposed 2010 RFLMA Modifications included reporting both the 30-day average and 12-month rolling average, and both data calculation methods will be evaluated according to designated RFLMA processes. Both methods can trigger notification of reportable conditions and regulatory consultation, which serve as an advance warning system. There is no increase in risk associated with the change because both methods are retained and provide the ability to respond in a timely manner.

Using both averaging methods actually has the potential to provide more accurate evaluation and response, given the intermittent stream flow conditions at the NPL site, and represents a more appropriate reporting process. A 30-day average is calculated using data from the previous 30 days in which measurable flow was present; the 12-month rolling average is calculated using data from a rolling 12-month calendar period, regardless of flow conditions. As an explanation of the various stream flow scenarios, the following examples based on observed conditions at Rocky Flats are provided:

- If a location flows constantly for 30 consecutive days, then the 30-day average covers 30 calendar days.
- If a location flows 30 days intermittently across 3 calendar months, then the 30-day average is essentially a 3 “calendar month” rolling average.
- If a location flows 30 days intermittently across 1 calendar year, then the 30-day average is equivalent to the 12-month rolling average for that calendar year.
- If a location flows 60 days intermittently across 1 calendar year, then the 30-day averages would be more sensitive to water quality variation than the 12-month rolling average for the same period. The 12-month rolling average would be equivalent to a 60-day average.
- If a location flows for 30 days intermittently across 2 calendar years (e.g., two 15-day discharges from a terminal pond, occurring once per year), then the 30-day average is essentially a 24 calendar-month average, which is less sensitive than the 12-month rolling average. Put another way, if a location flowed 15 days one calendar year, and then 15 days the next calendar year, the 30-day average would cover 2 calendar years, while the 12-month rolling averages would include only 15 days of flow, and thus the 12-month rolling average would be more sensitive to water quality variation than the 30-day average.

Common Concern Statement 8

Common Concern:
Commenters expressed concern that LM has not prepared a contingency plan in the event a compliance standard is exceeded. Instead of a contingency plan, LM relies on a consultative process with EPA and CDPHE to decide how to proceed with further studies or monitoring. Commenters requested that LM develop a contingency plan that outlines the physical and/or operational actions that LM will employ in the event a compliance standard is exceeded at any surface water POC.

Commenters disagree with the statement made by the regulators at the August 10, 2010, public meeting that sensitive water quality standards at the POCs, up gradient and down gradient water quality sampling, the Standley Lake Protection Project facilities, and replacement of Broomfield's drinking water source represent a contingency plan.

Response:
The most effective way to deal with contingency is to ensure that the original remedy provides long-term protectiveness. Any designed contingency plan considers and is appropriate to the corresponding level of risk represented by conditions at the Site. The RFLMA does not address specific circumstances but provides the decision logic for evaluation, reporting, consultation, and mitigation requirements that are based on meeting the remedy goals for protection of human health and the environment. The RFLMA process includes consultation to further understand an issue but is not limited - the process could result in immediate action or operational changes.

Although not part of the remedy, Rocky Flats surface water is diverted around downstream drinking water supplies by the Standley Lake Protection Project and the Walnut Creek Diversion Project. These projects were funded by DOE and constructed to isolate downstream drinking water reservoirs to address concerns of downstream communities. The water supply is further protected by the use of drinking water from Carter Lake and from the Walnut Creek Diversion Project, which provide diversion to protect downstream users.

Mitigation plans, if required, are based on the monitoring results and investigation of the possible source(s). The following elements in RFLMA combine to provide a compliant and protective system for measuring constituents that might flow off Site:

- **Upstream sampling:** POEs are located specifically to provide an indication of the quality of surface water flowing toward the POCs. Groundwater monitoring well data offer an even earlier indication of potential impacts to upstream water quality. This upstream monitoring serves as an advance indicator for potential downstream impacts.
- **Surface water standards:** The RFLMA standards are based on a 30-year exposure, yet they are applied to 30 days of flow and 12-month periods. For example, the RFLMA standard for plutonium is 0.15 picocurie per liter (pCi/L) (a chronic value based on consumption of 2 liters per day for 30 years), while the national drinking water maximum contaminant level (MCL) is 15 pCi/L for alpha emitters (such as Plutonium). Use of such conservative standards in RFLMA provides an additional measure of protection.
- **Notification and Consultation:** RFLMA requires that potentially affected communities and the regulatory agencies be informed if the 30-day or 12-month averages exceed standards at

POCs or POEs. Mitigating actions are determined in consultation with, and approved by, regulatory agencies. Results of the consultation are shared and discussed with the public in accordance with the Public Involvement Plan.

Having a sensitive standard, together with a comprehensive monitoring system, ensures that responses can be made within a time frame that is protective of human health and the environment.

Common Concern Statement 9

Common Concern:
Commenters are concerned that if the Proposed 2010 RFLMA Modifications are approved, the level of protection will be reduced, and there will be a corresponding increase in the risks associated with the Site. Commenters are concerned that moving existing upstream POCs farther from the source of contamination, and establishing new surface POCs at the confluence of multiple tributaries would dilute concentrations and monitoring results with larger volumes of flow.

Response:
The new POCs are representative of the water quality leaving the NPL site, and no RFLMA-required monitoring upstream of the POCs will change. The following information is provided as a comparison of the existing POCs to the proposed POCs as related to drainage area and tributary contributions:

New Woman Creek POC:

- New POC will monitor approximately 1,612 acres.
- New POC will no longer monitor runoff contributions from approximately 980 acres located outside the NPL site and will no longer monitor tributary water contributions from South Woman Creek and Woman Creek downstream of the NPL site. These water contributions currently act to dilute flows at the existing GS01 POC.
- New POC is likely to collect samples over a larger portion of the calendar year than the current GS01 POC, as the Woman Creek reach downstream of the NPL site generally loses water through evapotranspiration and infiltration to the alluvium. There are no significant groundwater seeps in Woman Creek downstream of the NPL site.
- Current POE SW027 will still directly monitor water entering Pond C-2 from NPL site areas with residual contamination.
- New POC location will result in representatively monitoring water leaving the NPL site; however, Pond C-2 water will be diluted by Woman Creek water.

New Walnut Creek POC:

- New POC will monitor approximately 1,052 acres.
- New POC will no longer monitor runoff contributions from approximately 840 acres located outside the NPL site and will no longer monitor tributary water contributions from

McKay/Upper Church ditches and Walnut Creek downstream of the NPL site. These water contributions currently act to dilute flows at the existing GS03 POC.

- New POC is likely to collect samples over a larger portion of the calendar year than current GS03 POC, as the Walnut Creek reach downstream of the NPL site generally loses water through evapotranspiration and infiltration to the alluvium. There are no significant groundwater seeps in Walnut Creek downstream of the NPL site.
- New POC location will result in representatively monitoring water leaving the NPL site; however, Pond A-4 and B-5 water will be diluted by No Name Gulch water.
- Current POEs SW093 and GS10 will still directly monitor water entering the A- and B-Series ponds from NPL site areas with residual contamination.

The proposed POCs will measure all the potentially contaminated water leaving the Site. They are the best locations for the new NPL boundary configuration and will be the functional equivalent of the current POCs.