Final
Interim Measure/
Interim Remedial Action for
IHSS 114
and RCRA Closure
of the RFETS
Present Landfill

August 2004

(MINOR MODIFICATION JANUARY 2006)

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LIST OF FIGURES

LIST OF TABLES

ATTACHMENT

APPENDICES

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The aforementioned layers will be designed to meet the RCRA requirements of minimizing infiltration and erosion. Additionally, surface vegetation will be established on this soil layer to enhance resistance to surface erosion, prevent intrusion of noxious weeds and burrowing animals, and to provide an aesthetic appearance to the cover, using appropriate native seed mixes.

Drainage ditches along the perimeter of the landfill cover will be modified to allow the free drainage of the geosynthetic composite cover and drainage layer, and to direct surface water runoff away from the landfill. These ditches will generally be vegetation-lined with riprap applied in areas of steeper channel slope where erosion might be expected. The geosynthetic composite liner will be placed below the frost line established during the design for the location and weather conditions at the Present Landfill.

Four gas vents were installed in the existing landfill cover in 1992. The existing vents consist of vertical standpipes that extend into the underlying waste to allow passive venting of landfill gas. These vents will be removed before placement of the cover, and replaced with barometric vents as determined by the detailed engineering design. Removal of the vents will be accomplished by either pulling the casing, plugging the casing with bentonite or grout, or cutting the pipe. If the casing is left in place, it will be cut off below the existing ground surface and plugged using either bentonite or grout.

A Monitoring and Maintenance Manual will be prepared following the cover design and will incorporate the regulatory requirements for inspection and maintenance of the cover and for groundwater monitoring.

5.2 Present Landfill Seep

The existing seep interception and treatment system will be modified and maintained (Figure 5). The modified seep treatment system will be designed to measure the flow of the seep, to allow sampling before and after treatment, and to treat the seep water by passive aeration. The seep treatment system will include flows from the landfill groundwater intercept system. The landfill groundwater intercept system piping will be interrupted immediately outside the landfill and new piping will be installed to route any flow into the seep treatment system. Maintenance of the passive seep interception and treatment system will include quarterly visual inspection of the components, vegetation control, and erosion control. In addition, flow from the GWIS will be sampled pursuant to the requirements of the Monitoring and Maintenance Plan for the Present Landfill in Attachment 1, to determine the quality of water entering the seep treatment system. These data will be evaluated to determine if modifications are required of the seep treatment system.

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A Monitoring and Maintenance Manual will be prepared following the design and will incorporate the regulatory requirements for inspection and maintenance of the passive seep interception and treatment system and for monitoring of the Present Landfill seep.

5.2 East Landfill Pond Sediments

The sediments in the East Landfill Pond will be removed and placed under the RCRA Subtitle C-compliant cover. This part of the accelerated action will include the following steps:

- Remove the water currently in the pond. This water will be pumped to the A-series ponds or to the on-site incidental water management system.
- Remove the vegetation along the banks of the pond only as needed to remove the sediments.
- Remove the sediments down to native material and place the removed sediments within the existing surface soils of the landfill and within the boundary of the RCRA Subtitle C-compliant cover. Cement or other pozzolanic material will be used to solidify the sediments if they are too wet at the time of placement.
- Confirmation samples will be taken after the sediments are removed. The samples will be evaluated in support of a RCRA contained-out determination to demonstrate that no hazardous wastes remain in the pond. Additionally, data will be evaluated and incorporated into the comprehensive risk assessment (note: this RCRA process will proceed independently of the accelerated action certification process).
- After removal of the sediments, water will be placed back into the pond to a level conducive for wetland plant growth and new wetland plants will be planted according to the Rocky Flats Wetland Mitigation, Monitoring, and Management Plan, (DOE 2006, in prep).

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6.4 Compliance with NPDES ARARs

6.4.1 Permit Waiver Requirements

Appendix F to this IM/IRA presents the ARARs that apply to the Present Landfill closure. Specifically, water discharged from the landfill will be subject to regulation under the Federal Water Pollution Control Act (aka Clean Water Act [CWA]), 33 U.S. Code (USC) 1251 *et seq.*, and the NPDES regulation under 40 CFR Part 122. For the activities described in this document, the substantive requirements of 40 CFR 122.28 will be met to the extent practicable.

6.4.2 Present Landfill Point Source Discharge Compliance

The following information specifically addresses the requirements listed above.

6.4.2.1 Permit Required

The Present Landfill seep water is intercepted in a perforated pipe that directs water into a passive treatment system. The seep water flow is first measured and is then directed to a passive treatment tank where flagstone steps (waterfall) treat the water before flowing into the East Landfill Pond. This description of the treatment unit and outfall requires an NPDES discharge permit, except as excluded under CERCLA 121(d)(1). The monitoring point for NPDES purposes will be at the discharge from the WWTU tank system.

6.4.2.2 Requirements to Obtain a Permit

The requirements for NPDES permit applications are set forth in 40 CFR Part 122, which specifies that an applicant must complete an EPA Form 2-C, and supply all relevant facility information. The Present Landfill, Present Landfill seep description, and water quality information contained in this IM/IRA are the same as would be included in an NPDES permit application. When issued, the NPDES permit specifies effluent limitations for the prospective outfall, based on water quality standards applied to the receiving water and the potential impacts of the discharge on the receiving waters. The permit would also require routine monitoring of the effluent and routine reports to the issuing agency.

6.4.2.3 How the Present Landfill IM/IRA Meets the Requirements

The NPDES outfall will be at the effluent of the seep treatment system. (This is the monitoring point for NPDES purposes, which is at the discharge from the WWTU tank system.) The parameters that will be monitored are listed in the Monitoring and Maintenance Plan for the Present Landfill in Attachment 1. The effluent limits are the surface water standards applicable for the receiving water, as listed in RFCA Attachment 5, Table 1. After the cover is installed, monitoring of the treatment system effluent will be conducted quarterly until the first CERCLA review. A validated exceedance of an effluent limit will trigger an increase in monitoring to monthly for three consecutive months. Continued exceedances during the three-month period will trigger consultation between the RFCA parties to evaluate whether a change to the remedy is required, additional parameters need to be analyzed, or a different sampling frequency is required. If no exceedances are detected during the first CERCLA review period, then the

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monitoring frequency will change from quarterly to either semiannually or annually based on the review of the data by the RFCA parties.

During future CERCLA periodic reviews, the RFCA parties will evaluate whether continued monitoring of the treatment system effluent is required beyond the yearly sampling required under the existing law.

Finally, NPDES permits require that routine reports of monitoring activities be submitted to the permitting authority. Results of the monitoring described in this section will be reported annually. These reporting obligations meet the substantive requirements of the NPDES permit and become part of the Administrative Record (AR).

6.4.3 RCRA Wastewater Treatment Unit Exclusion

The Present Landfill seep discharge contains landfill leachate that is mixed with groundwater. Because the discharge from the Present Landfill seep treatment system will be regulated under NPDES, it is not a solid waste and therefore not a hazardous waste at the point where it is a regulated NPDES discharge (Section 261.4[a][2] of 6 CCR 1007-3). Under CERCLA, this NPDES discharge is eligible for a permit waiver as described in sections 6.5.1 and 6.5.2.

For the leachate collection and treatment system upstream of the NPDES-regulated discharge point under sections 100.10(a)(6) and 265.1(c)(10) of the Colorado Hazardous Waste Regulations, owners and operators of WWTUs, as defined in 6 CCR 1007-3, Part 260.10, are exempt from hazardous waste permit requirements.

A WWTU refers to a device that:

- Is part of a wastewater treatment facility that is subject to regulation under either Section 402 or Section 307(b) of the CWA;
- Receives and treats or stores an influent wastewater which is a hazardous waste as defined in Section 261.3 or . . . : and
- Meets the definition of a tank or tank system in Section 260.10.

In the current configuration of the seep treatment system, Present Landfill seep water is intercepted in a perforated pipe that directs water to a flow measurement tank. The flow is then directed to a treatment tank where the seep water is treated by flowing over a series of flagstone steps (waterfalls) before flowing into the East Landfill Pond. To meet the requirements for a WWTU exclusion, treatment of the seep water will occur within a tank.

CDPHE issued a Policy on Wastewater Treatment Unit Exemption in June 1991 and a Guide to Implementing the Division's Treatment Unit Policy in January 2000 (collectively referred to as the CDPHE WWTU Policy and Guide) that established certain conditions or criteria related to the requirements that must be met for the exemption to apply.

Deleted: The NPDES outfall will be at the effluent of the seep treatment system. (This is the monitoring point for NPDES purposes, which is at the discharge from the WWTU tank system.) The parameters that will be monitored are VOCs and metals. The effluent limits are the surface water standards applicable for the receiving water, as listed in RFCA Attachment 5, Table 1. After the cover is installed, monitoring of the treatment system effluent will be conducted quarterly until the first CERCLA review. A validated exceedance of an effluent limit will trigger an increase in monitoring to monthly for three consecutive months. Continued exceedances during the three-month period will trigger consultation between the RFCA parties to evaluate whether a change to the remedy is required, additional parameters need to be analyzed, or a different sampling frequency is required. If no exceedances are detected during the first CERCLA review period, then the monitoring frequency will change from quarterly to either semiannually or annually based on the review of the data by the RFCA parties. ¶
During the sampling period, a validated exceedance of an effluent limit will trigger an increase in monitoring to monthly for three consecutive months. Continued exceedances during the three-month period will trigger consultation between the RFCA parties to evaluate whether a change to the remedy is required, additional parameters need to be analyzed, or a different sampling frequency is required. During future CERCLA periodic reviews, the RFCA parties will evaluate whether continued monitoring of the treatment system effluent is required beyond the yearly sampling required under the existing law.¶
Finally, NPDES permits require that routine reports of monitoring activities be submitted to the permitting authority. Results of the monitoring described in this section will be reported annually. These reporting obligations meet the substantive requirements of the NPDES permit and become part of the Administrative Record (AR). ¶

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containment system. Under the CDPHE WWTU Policy and Guidance, tanks that manage wastewater must be a dedicated part of the WWTU.

In the existing seep treatment system, the Present Landfill seep is collected in 4-inch slotted pipes from the bottom of the east face of the Present Landfill. The existing passive treatment system will be modified to first direct the seep water flow into a flow measurement tank. Seep water from the flow measurement tank will then be introduced to a passive treatment tank consisting of a series of flagstones (waterfalls) for treatment before being discharged into the East Landfill Pond (Figure 5).

The system meets the Part 260.10 definition of a tank or tank system and is a dedicated part of the WWTU.

The seep treatment system will be modified to meet the requirements of a WWTU so that treatment will occur within a dedicated tank or tank system, as defined in 6 CCR 1007-3 Part 260.10.

6.5 Surface Water

The East Landfill Pond will be managed in accordance with the Pond Operations Plan.

Deleted: allowed to discharge through an overflow structure into No Name Gulch, which is connected to Walnut Creek. Surface water monitoring for the Creek is conducted at the existing Indiana Street surface water point of compliance (POC).

6.5.1 Stormwater

Given the expected conditions at the Present Landfill site, no significant surface water impacts are anticipated as a result of stormwater events. However, because the total area of the project is greater than 1 acre and the location is outside the IA, which has an effective NPDES Permit for Storm Water, the proposed action would require an NPDES Storm Water Permit for Construction Activities. However, because it is a CERCLA action, Paragraphs 16 and 17 of RFCA establish the requirements under which a CERCLA permit waiver applies. For any action that would require a permit except for CERCLA, Paragraph 17 requires that the information presented below be included in the submittal.

6.5.1.1 Permit Required

Because the landfill cover construction project is larger than 1 acre in size and lies outside of the Site IA, an NPDES General Storm Water Permit for Construction Activities would be required. The permit is found at 40 CFR Part 122, and is obtained by filing a Notification of Intent (NOI) with EPA. This IM/IRA serves as the NOI for the Present Landfill.

6.5.1.2 Requirements to Obtain a Permit

Because the stormwater permit for construction activities is a general permit, it has been through public comment and promulgated by EPA. Obtaining the permit is through the NOI (i.e., a letter submittal to the agency containing basic information about the project). The permit requires the installation of best management practices (BMPs) and structural stormwater controls, such as silt fences, to protect downstream water from potential

11.0 RESPONSIVENESS SUMMARY

Responses to comments received during the formal public comment period, including comments from the regulatory agencies, are documented in Appendix G.

12.0 REFERENCES

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DOE, 2001, Rocky Flats Cumulative Impacts Document, 2000 Update, Rocky Flats Environmental Technology Site, Golden, CO.

DOE, 2006, Rocky Flats Wetland Mitigation, Monitoring, and Management Plan, Rocky Flats Office of Legacy Management, Broomfield Colorado (in prep).