

**1999 Rocky Flats Cleanup Agreement  
Annual Review  
July 1999**

**1.0 BACKGROUND**

The Rocky Flats Cleanup Agreement (RFCA or Agreement) was signed by the Department of Energy (DOE), the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) on July 19, 1996. The RFCA Parties have committed to review the agreement to determine if any revisions are necessary. RFCA paragraph 5 states:

*The Parties shall conduct an annual review of all applicable new and revised statutes and regulations and written policy and guidance to determine if an amendment pursuant to Part 19 (Amendment of Agreement) is necessary.*

In addition to the annual review prescribed in RFCA paragraph 5, the agencies committed to conducting an internal annual review of the radionuclide soil action levels (RSALs). Questions to be addressed on an annual basis include.

- 1 Is there new scientific information available that would impact the interim action levels?
- 2 Has a national soil action level been promulgated within the year? If yes, the parties commit to revisit the Rocky Flats interim action levels.
- 3 How were the interim action levels applied to the site over the course of the year?
4. Have the remedies been effective?

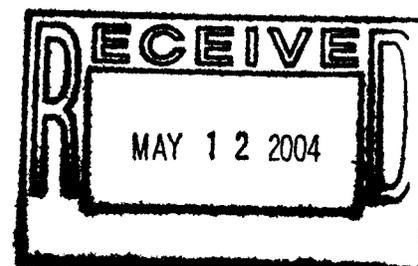
(See, Responsiveness Summary for Soil Action Levels released on November 6, 1996 )

This report is a summary of the Parties' 1999 regulatory/radionuclide soil action levels annual review

**1.1 What the Parties reviewed this year**

The 1999 Regulatory/Radionuclide Soil Action Level Annual Review covers the period from July 1, 1998 through July 1, 1999. The following environmental laws and associated regulations, written policy, and guidance were reviewed

Comprehensive Environmental Response, Compensation, and Liability Act,  
Resource Conservation and Recovery Act/Colorado Hazardous Waste Act,  
Toxic Substances Control Act,  
Clean Water Act,  
Clean Air Act,  
National Environmental Policy Act,  
Endangered Species Act,  
Radiation Related Document Review (See Section 6.0), and  
Defense Authorization Acts and Appropriation Acts



ADMIN RECORD

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In addition to the above environmental laws and the radionuclide soil action levels, the Action Levels and Standards Framework for Surface Water, Ground Water, and Soils (ALF); the Preliminary Programmatic Remediation Goals (PPRGs); and the Implementation Guidance Document (IGD) were reviewed. Summaries of these reviews are described below.

### **1.2 RFCA-required Reviews to be completed in FY99**

The Integrated Monitoring Plan (IMP) is being reviewed for FY2000. An IMP Working Group consists of members from DOE and its contractors, EPA, CDPHE, and local communities. The final FY2000 IMP is scheduled for completion by October 1999.

DOE reviews and updates, as required, the Environmental Restoration Ranking (RFCA paragraph 79), Historical Release Report (RFCA paragraph 119(l)); the summary level baseline (RFCA paragraph 141); the Rocky Flats Site-wide Public Involvement Plan (RFCA paragraph 281(g)), and the Administrative Record (RFCA paragraph 284) on an annual basis. These reviews are scheduled for completion by September 30, 1999.

The Natural Resource Management Policy and the Integrated Water Management Plan (IWMP) are also reviewed annually, the Rocky Flats Water Working Group will evaluate the need for the IWMP.

For more information on any of the above documents, contact either a RFCA Project Coordinator or an Agency community relations representative after September 30, 1999.

### **1.3 Public Participation**

In a letter dated June 4, 1999, stakeholders were invited to submit any new information relevant to the RFCA or soil action levels for this review. Written comments were accepted by the agencies through July 2, 1999.

## **2.0 ENVIRONMENTAL STATUTES**

As stated above, all major environmental laws, regulations, written policy, and guidance were reviewed. If there was a change to an environmental law, regulation, written policy or guidance, the Kaiser-Hill Company, L L C (Kaiser-Hill) Team reviewed whether the change had been implemented at the Rocky Flats Environmental Technology Site (RFETS or site) and whether the change impacted RFCA. The following discussion describes key changes to environmental laws, regulation, written policy or guidance. No other changes were identified as impacting RFETS or RFCA.

### **2.1 Toxic Substances Control Act**

Under the Toxic Substances Control Act (TSCA), EPA proposed a new rule on December 18, 1998, to provide standards for the management and disposal of lead-based paint (LBP) debris generated by individuals or firms. EPA temporarily suspended the applicability of Resource Conservation and Recovery Act (RCRA) standards that currently regulate LBP debris. Proposed regulatory revisions have not been finalized at this time and the RFCA Parties will continue to monitor regulatory activity associated with this effort.

## **2.2 Clean Water Act**

While the action has been pending for several years, the renewal of the Clean Water Act (CWA) did not occur in the past year. EPA continued to promulgate regulations under the existing Act, but none of the new regulations were applicable to RFETS activities. In State matters, the Colorado Water Quality Control Commission adopted narrative temporary modifications for americium and plutonium in Segment 5 which is that concentration that is consistent with attaining the numerical water quality standards in Segment 4(b) of Big Dry Creek. These temporary modifications were effective June 30, 1999 and expire December 31, 2000. The temporary modifications have been incorporated in the RFCA Attachment 5, ALF. The next scheduled triennial review of water quality standards applied to RFETS is scheduled for May 2000, an informational hearing will be held in November 1999.

## **2.3 Clean Air Act**

EPA continued to promulgate regulations under the Clean Air Act (CAA), but the majority are not applicable to RFETS activities and no new compliance requirements were added. In fact, compliance requirements were eased with the revision of the state rule on ozone-depleting substances, which eliminated a number of tracking and reporting requirements. In addition, the applicability of the accidental release provisions (40 CFR 68) for propane and other flammable substances was stayed and may be eliminated entirely. As a result, the Risk Management Plan (RMP) that has been prepared for RFETS does not need to be submitted at this time.

## **2.4 Summary**

Based on the review of the environmental statutes and associated regulations, written policy, and guidance, no amendment to RFCA is required at this time. However, changes in the environmental regulations have been incorporated, as appropriate, into ALF (RFCA Attachment 5).

## **3.0 RFCA ATTACHMENT 5: ACTION LEVELS AND STANDARDS FRAMEWORK FOR SURFACE WATER, GROUND WATER**

The RFCA Parties evaluated whether any changes to standards or actions levels in ALF were necessary. The only change identified by the RFCA Parties as impacting ALF was the Colorado Water Quality Control Commission adoption of the temporary modifications for americium and plutonium in Stream Segment 5. These changes have been incorporated into ALF.

## **4.0 PRELIMINARY PROGRAMMATIC REMEDIATION GOALS**

DOE developed risk-based PPRGs in 1995 to establish initial site-wide cleanup targets for contaminants for each environmental medium. The PPRGs are currently used in RFCA Attachment 5, as action levels for the following mediums:

- **Groundwater Action Levels** PPRGs based on the residential groundwater ingestion scenario are used where no Maximum Contaminant Level (MCL) is available from USEPA,
- **Surface Soil Action Levels** For non-radionuclides, PPRGs are used as action levels for the appropriate land use, e.g., industrial use or open space use; and
- **Subsurface Soil Action Levels** For non-radionuclide inorganics, PPRGs are used as action levels for the appropriate land use, e.g., industrial use or open space use.

#### **4.1 Toxicity Values**

Toxicity values are updated regularly by EPA. Toxicity values were obtained from the latest information contained in the Integrated Risk Information System (IRIS) (April 1999). If values were not available from IRIS, the Health Effects Assessment Summary Tables (HEAST) (1998) annual update was consulted. The toxicity values have been updated and reviewed by the RFCA Parties. A table summarizing the toxicity values can be found in IGD Appendix N.

#### **5.0 IGD**

A working group comprised of members from the EPA, CDPHE, DOE, Kaiser-Hill, and RMRS was convened to review and update, if necessary, the IGD. The IGD working group updated the document. Once the document is final, it will be released on-site as a controlled document. Stakeholders interested in obtaining a copy of the final IGD should contact either a RFCA Project Coordinator or an Agency community relations representative after September 30, 1999.

#### **6.0 RADIONUCLIDE SOIL ACTION LEVELS**

A RSAL Working Group (RWG) comprised of members from the EPA, CDPHE, DOE, and the Kaiser-Hill Team was convened to evaluate new or revised statutes, regulations, written policy and guidance and determine its impact to the RSALs. Based on anticipated information from the Actinide Migration Evaluation (AME) Team expected in October 1999 and from the Rocky Flats Soil Action Level Oversight Panel (RFSALOP) review expected in November 1999, the RFCA Parties decided that the RSALs will not be revised in FY99. If the RFCA Parties agree that the RSALs need to be revised in the future, then this work will be completed, however, prior to any changed RSALs being incorporated into RFCA Attachment 5, the public will have an opportunity to comment on the proposed changes as required in RFCA paragraph 117.

The FY99 RWG review of the RSALs includes the following actions:

##### **Action 1: Conduct a Regulatory Analysis**

This action involves reviewing the range of requirements, cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal requirements or state environmental laws that address radionuclides. The RWG will begin this action by reviewing the regulatory analysis of radionuclides in soils found in section 3 of the "Action Levels for Radionuclides in Soils for the Rocky Flats Cleanup

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Agreement," dated October 31, 1996 (This document can be found in IGD Appendix M) The RWG will also review the 1998 RFCA Annual Review Report, section 6.1, Review of Statutes, Regulations, Policy and Guidance. The RWG will update the information contained in these two documents. The outcome of Action 1 will be an understanding by all members of the RWG on the regulatory options available to derive a radionuclide soil action level. A summary of this update will be documented and will be used to support the 1999 RSAL Annual Review

#### **Action 2: Model Evaluation**

The RWG will re-evaluate models previously reviewed and clearly document the RWG's understanding of the similarities and differences between the available computer models that could be used to calculate a radionuclide soil action level. Examples of computer models that will be evaluated include the latest version of RESRAD, RESRAD version 5.61, DandD, MEPAS, Presto, Comply, GENII, and MMSOILS

#### **Action 3: Parameter Evaluation**

The RWG will evaluate input parameters, including a sensitivity analysis, for the models evaluated in Action 2. The RWG will document the similarities and differences between the available parameters.

#### **Action 4: New Scientific Information**

The RWG will evaluate new scientific information as it becomes available throughout the year. For example, the Actinide Migration Studies group is assessing the chemical form of plutonium in the environment at the site. The outcome of this assessment may be new information that may impact the RSALs. All new scientific information will be summarized, including the RWG's understanding of how the new scientific information may impact the RSALs.

#### **Action 5: Cleanup Levels at Other Sites**

This task involves a review of cleanup levels at other sites. Where remediation has been completed at other sites, the RWG will evaluate the information available on how cleanup levels were derived and develop an understanding on the differences and similarities between the derivation of the cleanup level compared to the derivation of the RSALs.

During the 1998 RSAL Annual Review, the RWG identified two sites that had derived radionuclide cleanup standards for plutonium, americium, and/or uranium using the RESRAD computer code, i.e., the Nevada Test Site (Tonopah Test Range) and the State of Washington (for implementation at Hanford). Because both of these sites are using these values on an interim basis, the RWG agreed to continue reviewing periodically the radionuclide cleanup standards from the Nevada Test Site (Tonopah Test Range) and the State of Washington in order to understand how these values were derived and to determine if there is any information that may affect the RSALs. This effort will be ongoing through FY99. The outcome of the periodic reviews will be summarized, including the RWG's understanding of how the values were derived and what potential impact, if any, the information may have on the RSALs.

The RWG will continue to look at any other sites that derive radionuclide cleanup standards

At the completion of the 1999 RWG review, a report will be prepared summarizing its findings

In addition to the annual review requirements prescribed in RFCA paragraph 5, the RFCA Parties addressed the four questions discussed in Section 1 0, Background

The interim action levels were applied over the course of the year at the Solar Pond Plume Project Nitrate and uranium from the Solar Pond Plume contaminate the ground water above Tier II ground water action levels in a localized plume discharging to South Walnut Creek A passive reactive barrier system of reactive iron is being installed in FY99 to contain the radionuclide prior to releasing of the water to South Walnut Creek

The effectiveness of the reactive barrier for the Solar Pond Plume will be verified with monitoring over time The effectiveness of past remedial actions is still being determined by the groundwater monitoring program.