



Department of Energy

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Denver, Colorado 80202-2466

Dear Gentlemen:

Enclosed for your information is the Rocky Flats Cleanup Agreement Implementation Quarterly Status Report for the fourth quarter of Fiscal Year 1999.

If you have any questions concerning this report, please contact me at (303) 966-5918, or Gail Hill at (303) 966-3424.

Sincerely,

Joseph A. Legare
Assistant Manager
for Environment and Infrastructure

Enclosure

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QUARTERLY STATUS REPORT
RFCA IMPLEMENTATION
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
FOURTH QUARTER FISCAL YEAR 1999

1.0 Introduction

Pursuant to paragraph 263 of the Rocky Flats Cleanup Agreement (RFCA or Agreement), this quarterly status report presents the progress toward implementation of activities covered under the Agreement. The RFCA is a legally binding agreement between the Department of Energy (DOE), the Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE) to accomplish required cleanup of radionuclide and hazardous substance contamination at and from the Rocky Flats Environmental Technology Site (RFETS or Site).

This report describes activities that occurred from July 1999 through September 1999 (referred to as the fourth quarter of fiscal year [FY] 99), and summarizes FY99 accomplishments and future planned activities. The sections of this report are organized into the following topics: (1) Introduction; (2) Site-wide Activities; (3) Implementation of the RFCA; (4) Water Management; (5) RFCA Milestones and Target Activities; (6) Site Closure Project; and (7) List of Approved Decision Documents.

2.0 Key Site-wide Activities

During the fourth quarter of FY99, several site-wide activities continued. These activities include (1) Accelerating Cleanup: Path to Closure, and (2) Actinide Migration.

2.1 Accelerating Cleanup: Path to Closure

The *Path to Closure* document is part of a continuum that began with the first life-cycle cost estimates and risk analyses underlying the Baseline Environmental Management Report (BEMR), reflecting DOE's commitment to listen and respond to stakeholder, regulator, and Tribal Nation concerns. The result is a more realistic projection of where DOE is headed, how DOE can accelerate cleanup and closure, and what the barriers are to further acceleration of those goals.

A limited update of FY98 through FY00 costs, milestones and metrics was completed in the first quarter of FY99. A full update to the document is scheduled for completion in the fourth quarter of FY99. The basis for this update will be the 2006 Closure Project Plan dated May 21, 1999.

2.2 Actinide Migration Evaluation

During the fourth quarter of FY99, the Actinide Migration Evaluation (AME) Group conducted the following activities:

- (1) Finalized FY99 portion of the watershed erosion (WEPP) modeling for the South Interceptor Ditch, Woman Creek and Walnut Creek watersheds, the sediment transport modeling, the geochemical modeling, and the air transport modeling, and prepared results reports which are currently under review;
- (2) Completed redox and colloid experiments, prepared draft final reports which are currently under review, and discussed results with AME Group; and
- (3) Installed two groundwater wells.

The next Actinide Migration Evaluation Meeting will be on October 4, 1999, where the AME Group will summarize some of the FY99 results.

3.0 Implementation of the RFCA

Activities associated with the implementation of RFCA during the fourth quarter of FY99 include (1) the Integrated Monitoring Plan (IMP) and (2) the Closure Project Baseline. These RFCA implementation activities are discussed below.

3.1 Integrated Monitoring Plan (IMP)

The IMP was reviewed for FY 2000 in accordance with the RFCA requirements. Revisions focused on developing more consistent integrated monitoring related to the execution of closure projects, and on providing up-to-date documentation reflecting the most current technical approaches within the routine environmental monitoring programs. Minor technical changes were made in the surface water and groundwater monitoring programs. These changes are seen in the form of newly implemented monitoring locations and a pilot study using a newly available analytical method for isotopic characterization of uranium in groundwater. The updated IMP was distributed in September 1999.

3.2 Closure Project Baseline (CPB)

PricewaterhouseCoopers completed a draft external validation of the 2010 Closure Project Baseline (CPB) in the third quarter of FY99. The purpose of this validation effort is to test an existing approved CPB to determine whether the project management principles being used to develop closure plans at Rocky Flats are sound. PricewaterhouseCoopers will finalize their validation of the 2010 CPB in the fourth quarter of FY99. Comments from the final 2010 CPB validation will be incorporated in the 2006 Closure Project Plan.

At the request of DOE, Rocky Flats Field Office (RFFO), Kaiser-Hill Company, L.L.C. (Kaiser-Hill) submitted a 2006 Closure Project Plan to DOE in the third quarter of FY99. This deliverable defines the plan, including the scope, schedule, and cost, to completely close Rocky

Flats by the end of calendar year 2006 – an acceleration of four years over the current 2010 plan. Validation of the 2006 Closure Project Plan began in the third quarter after the submittal of the 2006 Plan and will be completed in the fourth quarter of FY99. Major changes resulting from this validation will be incorporated into a revised 2006 Plan that is expected to be adopted by DOE as the new CPB.

4.0 WATER MANAGEMENT

Water management activities during the fourth quarter of FY99 are summarized by (1) Watershed Improvements; (2) Surface Water Management; (3) Surface Water Monitoring; (4) Ground Water Monitoring; and (5) the Rocky Flats Water Working Group.

4.1 Watershed Improvements

No watershed improvements were implemented during the third or fourth quarter of FY99.

4.2 Surface Water Management

4.2.1 Third Quarter of FY99

During the third quarter of FY99, the Site completed the following pond water transfers and discharges totaling 126.35 Million Gallons (MG), a decrease of 18% compared to the third quarter of FY98 (154.63 MG). This decrease is attributable to average stormwater runoff during late May through June, and no ongoing pond-related construction projects that required water management.

Pond A-3 activity included three routine and one non-routine outlet-valve direct discharge to Pond A-4 totaling 35.81 MG. The first routine discharge of 15.15 MG occurred during the period of April 19 through 27. The non-routine discharge of 12.17 MG occurred during the period of April 30 through May 9, in response to significant stormwater runoff in the A-series drainage. The second routine discharge of 5.77 MG occurred during the period of May 24 through 28. The third routine discharge of 2.72 MG occurred during the period of June 21 through 24.

Pond A-4 activity included one non-routine outlet-valve direct discharge to North Walnut Creek totaling 28.35 MG. This discharge occurred during the period of May 3 through 18, in response to significant stormwater runoff in the A-series drainage. The City of Broomfield diverted the Pond A-4 discharge around Great Western Reservoir via the Broomfield Diversion Ditch.

Pond B-1 activity included one routine pumped-transfer to Pond B-2 totaling 0.47 MG. This transfer occurred during the period of June 15 through 16.

Pond B-2 activity included one routine pumped-transfer to Pond A-2 totaling 0.80 MG. This transfer occurred during the period of May 26 through June 2.

Pond B-5 activity included one non-routine and one routine outlet-valve direct discharge to South Walnut Creek totaling 43.30 MG. The non-routine discharge of 31.00 MG occurred during the period of April 28 through May 18, in response to significant stormwater runoff in the B-series drainage. The routine discharge of 12.30 MG occurred during the period of June 18 through 30. Water-quality samples were collected and analyzed, and all approvals were obtained prior to the routine discharge. The City of Broomfield diverted the Pond B-5 discharges around Great Western Reservoir via the Broomfield Diversion Ditch.

Pond C-2 activity included one routine pumped-discharge and one non-routine outlet-valve direct discharge to Woman Creek totaling 12.40 MG. The routine discharge of 10.40 MG occurred during the period of June 3 through 10. The non-routine discharge of 2.00 MG occurred during the period of June 14 through 21, and facilitated video inspection of the outlet conduit per Office of the State Engineer requirements. Water-quality samples were collected and analyzed, and all approvals were obtained prior to the discharges. The City of Westminster detained the Pond C-2 discharges in the holding cells of the Woman Creek Reservoir.

Landfill Pond activity included one routine pumped-transfer to Pond A-3 totaling 3.60 MG. This transfer occurred during the period of May 10 through 18.

There was no Pond A-1 or A-2 activity during the third quarter of FY99.

Transfers and discharges from the Site ponds during the third quarter of FY99 are summarized in Table 3.

Table 3. Site Pond-Water Transfers and Discharges - Third Quarter FY99

Dates	Pond Activity	Total MG	Mode
4/19 to 4/27	A-3 to A-4	15.15	Outlet-valve direct discharge
4/30 to 5/9	A-3 to A-4	12.17	Outlet-valve direct discharge
5/24 to 5/28	A-3 to A-4	5.77	Outlet-valve direct discharge
6/21 to 6/24	A-3 to A-4	2.59	Outlet-valve direct discharge
5/3 to 5/18	A-4 to NWC	28.35	Outlet-valve direct discharge
6/15 to 6/16	B-1 to B-2	0.47	Pumped-transfer
5/26 to 6/2	B-2 to A-2	0.80	Pumped-transfer
4/28 to 5/18	B-5 to SWC	31.00	Outlet-valve direct discharge
6/18 to 6/30	B-5 to SWC	14.62	Outlet-valve direct discharge
6/3 to 6/10	C-2 to WC	9.30	Pumped-discharge

6/14 to 6/21	C-2 to WC	2.53	Outlet-valve direct discharge
5/10 to 5/18	Landfill to A-3	3.60	Pumped-transfer
	Total for Quarter	126.35 MG	

4.2.2 Fourth Quarter of FY99

During the fourth quarter of FY99, the Site completed the following pond water transfers and discharges. A total of 40.26 MG were transferred/discharged during the fourth quarter, a decrease of 5% compared to the fourth quarter of FY98 (42.37 MG). This decrease is attributable to below average stormwater runoff during June and most of July, and no ongoing pond-related construction projects that required water management.

Pond A-3 activity included one routine outlet-valve direct discharge to Pond A-4 totaling 7.74 MG. This discharge occurred during the period of August 2 through 9.

Pond A-4 activity included one routine outlet-valve direct discharge to North Walnut Creek totaling 14.20 MG. This discharge occurred during the period of August 27 through September 7. Water-quality samples were collected and analyzed, and all approvals were obtained prior to the discharge. The City of Broomfield diverted the Pond A-4 discharge around Great Western Reservoir via the Broomfield Diversion Ditch.

Pond B-5 activity included one non-routine outlet-valve direct discharge to South Walnut Creek totaling 18.32 MG. This discharge occurred during the period of August 5 through 19, in response to significant stormwater runoff in the B-series drainage. Water-quality samples were collected and analyzed, but Pond B-5 dam safety concerns required initiation of discharge prior to receipt of data. The City of Broomfield diverted the Pond B-5 discharge around Great Western Reservoir via the Broomfield Diversion Ditch.

There was no Pond A-1, A-2, B-1, B-2, C-2, or Landfill activity during the fourth quarter of FY99.

Transfers and discharges from the Site ponds during the fourth quarter of FY99 are summarized in Table 4.

Table 4. Site Pond-Water Transfers and Discharges - Fourth Quarter FY99

Dates	Pond Activity	Total MG	Mode
8/2 to 8/9	A-3 to A-4	7.74	Outlet-valve direct discharge
8/27 to 9/9	A-4 to NWC	14.20	Outlet-valve direct discharge
8/5 to 8/19	B-5 to SWC	18.32	Outlet-valve direct discharge
	Total for Quarter	40.26 MG	

4.3 Surface Water Monitoring

4.3.1 Third Quarter of FY99

During the third quarter of FY99, 153 automated monitoring system samples were collected and submitted for analysis.

Reportable 30-day average values for americium and plutonium were observed at Point of Evaluation (POE) GS10 during March and April of 1999. GS10 is located in South Walnut Creek west of Pond B-1. As of April 30, 1999, 30-day average values for americium remained greater than 0.15 pCi/L. 30-day average values for plutonium returned below 0.15 pCi/L on April 28, 1999. Monitoring activities continue, and a Source Evaluation Report is being prepared.

30-day moving average results for all other POE locations and all Point of Compliance (POC) locations were well below the RFCA action levels and standards.

Equipment installation at RFCA POC GS31 was completed prior to discharge of Pond C-2. This marks completion of the freeze protection upgrades.

4.3.2 Fourth Quarter of FY99

During the fourth quarter of FY99, 73 automated monitoring system samples were collected and submitted for analysis.

Most recent monitoring data indicate POE GS10 reportable values continue above 0.15 pCi/L (Am > 0.15 for the periods of July 1-10 and July 24-August 3; and Pu > 0.15 for the period July 24 - August 3).

The GS10 source evaluation initiated during second quarter FY99 was completed and the *Source Evaluation Report for Point of Evaluation GS10* delivered to the RFCA Project Coordinators during July 1999. This GS10 report built on the results presented in previous Walnut Creek Source Evaluation reports (*Progress Report #1*, September, 1997; *Progress Reports #2*, November, 1997; *Progress Report #3*, December, 1997; and *Final Report to the Source Evaluation and Mitigation Actions Plan for Walnut Creek*, April 1998). To date, no singular actinide source can be identified as the primary contributor to the elevated 30-day average at GS10. Data and information collected and analysis performed do not support a singular conclusion. Most likely, multiple sources and transport mechanisms are responsible for the elevated radionuclide activities at GS10.

RFCA reportable 30-day average values for plutonium were observed at POE SW093 during July 1999. Monitoring location SW093 is located upstream of Pond A-1 in North Walnut Creek. The initial reportable value of 0.155 pCi/L plutonium occurred on July 25, 1999 and subsequent analytical results through August 3, 1999 indicate plutonium remain greater than 0.15 pCi/L. Formal notification was provided to the RFCA Project Coordinators on September 15, 1999. The Site's SW093 source evaluation plan includes:

- (1) Continued monitoring;
- (2) Review of Site operations, environmental restoration, and demolition and decommissioning activities, especially in the Building 779 area, to assess whether they may have impacted the Site's water quality during the period when the 30-day;
- (3) Review sampling protocols;
- (4) Intensify analysis of historical data in the drainage basin; and
- (5) Continue the Actinide Migration Evaluations.

The Site's source evaluation will conclude on November 1, 1999 with the delivery of a final Source Evaluation Report for POE SW093 to the RFCA Project Coordinators.

All other RFCA POE and all POC monitoring locations were below the RFCA action levels and standards during the fourth quarter of FY99.

4.4 Ground Water Monitoring

The draft final 1998 Annual Rocky Flats Cleanup Agreement (RFCA) Groundwater Monitoring Report was provided to the DOE, RFFO on September 30, 1999.

The first (calendar) quarter 1999 groundwater monitoring report was presented to the stakeholders at the Quarterly Information Exchange Meeting on August 31, 1999.

The SAP for characterizing the eastern extent of the Industrial Area VOC plume was approved by the agencies in July and well installation was initiated in August and September 1999.

The SAP for D&D monitoring was approved by the agencies in August and well installation was initiated in September 1999. Monitoring wells will be installed around Buildings 444, 886 and 771.

All groundwater samples and water level measurements for FY99 were completed on September 16, 1999.

The results of the data evaluation for the northern portion of the Industrial Area Plume have been completed and will be included in the 1998 Annual Rocky Flats Cleanup Agreement (RFCA) Groundwater Monitoring Report.

Other projects that the Groundwater program supported include the natural attenuation projects for IHSS 118.1 carbon tetrachloride source, the Ryans Pit/903 Pad VOC plume and the installation of wells for the actinide migration project to investigate the radionuclide contamination in selected groundwater wells.

4.5 Rocky Flats Water Working Group

During the last quarter of FY99, the Rocky Flats Water Working Group (RFFWWG) met once or

twice a month (usually the first and third Tuesday afternoon of the month). The Group completed the following tasks:

- (1) Evaluated and categorized the current and future water visions for the RFETS, the EPA, the CDPHE, the downstream cities, and the Colorado Division of Wildlife;
- (2) Held extensive discussions on the RFETS endstate, prepared a cause-effect diagram on endstate, and categorized points of agreement and disagreement on endstate issues; and
- (3) Finalized the drain vulnerability assessment and potential impacts to the Wastewater Treatment Plant. The RFWWG is currently developing and evaluating options for what to do about surface water exceedances at RFCA surface water points of evaluation. The next RFWWG is on October 5, 1999.

5.0 Status of RFCA Milestones and Target Activities (M&TAs)

All FY99 M&TAs were completed. Attachment 1 is a table summarizing the status of each project.

- 5.1 Either a) ship cumulative amount of 78% of 10/01/96 pond/salt inventory offsite and evacuate all waste from Tent 9 by 9/30/99, or b) the additional onsite storage for pond/salt is operational by 9/30/99**
[FY99 Milestone M1]

This milestone was completed on April 15, 1999.

- 5.2 Ship 670 m³ TRU/TRM to WIPP by 9/30/99, assuming a January 1999 opening**
[FY99 Milestone M2]

By letter dated March 10, 1999, EPA and CDPHE removed this milestone since the assumption within this milestone had not been met. Subsequently, the WIPP initiated operations on March 26, 1999, through receipt of its first shipment of TRU waste from the Los Alamos National Laboratory. Rocky Flats initiated shipments to WIPP on June 15, 1999. During the last quarter of FY 1999, 282 drums (59 cubic meters (m³)) were shipped. For FY 1999, a total of 308 drums (65 m³) were shipped.

- 5.3 Ship 1,750 cubic meters of low level waste by 9/30/99**
[FY99 Milestone M3]

This milestone was completed on March 4, 1999.

- 5.4 Complete installation and operate remedial action described in decision document for Solar Ponds Plume (N. Walnut Creek) by 9/30/99**
[FY99 Milestone M4]

This milestone was completed September 22, 1999. Installation of the passive-reactive barrier

system for treatment of the contaminated Solar Ponds Plume was completed and the system was operational in the fourth quarter of FY99.

5.5 Complete installation and operate remedial action described in decision document for East Trenches/903 Pad/Ryan's Pit Mound plume (S. Walnut Creek) by 9/30/99 [FY99 Milestone M5]

This milestone was completed September 23, 1999. Installation of the passive-reactive barrier system for treatment of the contaminated East Trenches Plume was completed and the system was operational in the fourth quarter of FY99.

5.6 Develop a comprehensive characterization/remediation strategy for the Industrial Area soils and ground water by 9/30/99 [FY99 Milestone M7]

This milestone was completed September 30, 1999. The agencies and the public reviewed the Industrial Area Strategy. Comments were addressed and the final strategy document was issued in the fourth quarter of FY99.

5.7 Complete off-site shipment by 9/30/99 for treatment and/or disposal of all T-1 waste streams not returned to T-1, and for which treatment or disposal locations are available and controlling documents are in place by 4/30/99 [FY99 Milestone M8]

This milestone was met. Offsite disposal locations were not available; therefore, controlling documents were not available by April 30, 1999. Efforts continued during the quarter to prepare and ship wastes that could be disposed offsite. Waste that could be disposed offsite included low-level mixed waste (LLMW) soils, but no uranium waste. Six crates of low-level waste containing project debris and protective clothing were shipped to NTS. Twelve crates of LLMW soils were shipped to Envirocare for disposal during the fourth quarter. The remaining LLMW soils and the cemented cyanides are expected to be shipped during the first quarter of FY2000. Disposal sites for the uranium wastes are still not available. Final grading and reseeded of the T-1 site was completed during the fourth quarter of FY99.

5.8 Complete information management system for integrated sitewide monitoring and environmental database by 9/30/99 [FY99 Milestone M9]

This milestone was completed. The information management system for environmental monitoring data has been established on the Internet, and is updated as monitoring data becomes available.

5.9 Either a) construct and operate new storage facility for TRU/TRM by 9/30/99, or b) by 9/30/99 demonstrate adequate storage available for TRU/TRM through 9/30/00 [FY99 Milestone M10]

Part b) of this milestone was completed on schedule as evidenced by preparation of a "Transuranic and Transuranic Mixed Waste Inventory Management Strategy" report transmitted via letter on September 30, 1999.

DOE initiated the first shipment to the Waste Isolation Pilot Plant (WIPP) on June 15, 1999. The ability to ship transuranic (TRU) waste to WIPP (mixed waste will not be shipped pending issuance of the WIPP Resource Conservation and Recovery Act [RCRA] permit by the New Mexico Environmental Department) would minimize the need for additional storage; however, it may not eliminate the need altogether. As a result, other contingent storage options continue to be evaluated in the event that shipments can not be sustained at a rate necessary to keep pace with ongoing generation or inventory elimination needs.

During the third quarter of FY99, Tents 2 and 12 on the 750 Pad were placed into service for storage of repackaged residue TRU waste in pipe overpack components. The tents provide additional storage capacity of approximately 1,900 m³.

During the fourth quarter of FY99, Kaiser-Hill and DOE-RFFO reviewed several different options for creating additional storage space for TRU and transuranic mixed (TRM) waste. An environmental assessment (EA) for TRU/TRM waste storage options was completed, including EA report preparation and revision, public comment period completion, and "Finding of No Significant Impact" preparation. The decision was made to modify Building 906 by adding an HEPA filtration system, adjusting the height of existing spill containment berms, repairing the floor coating, upgrading security features, and relocating a natural gas pipeline. These modifications will enable B906 to be used as a dual-use facility for storing both LL/LLM and TRU/TRM waste. If the building is used entirely for TRU/TRM waste, 2,200 cubic meters of storage space will be available within B906. Design work for these modifications was partially completed during the fourth quarter of FY99. Construction work is scheduled to start December 1999 and end June 2000.

5.10 Complete characterization of the 903 Pad as defined in the approved Sampling Analysis Plan by 9/30/99 (with the exception of the remaining radiological boreholes, which will be completed by 12/31/99)
[FY99 Milestone M11]

This milestone was completed including the remaining radiological boreholes. The 903 Pad characterization report was completed and transmitted to the agencies on September 30, 1999.

5.11 Thermally stabilize 90% of the plutonium oxide generated during the year by 9/30/99
[FY99 Target Activity T1]

This target activity was completed.

5.12 Complete the offsite shipment of the pits by 9/30/99
[FY99 Target Activity T2]

This target activity was completed.

5.13 Drain 6 systems in building 771 by 9/30/99
[FY99 Target Activity T3]

This target activity was completed.

5.14 Remove solid Cat I and II SNM (not holdup and composites) from building 776/777 by 9/30/99
[FY99 Target Activity T5]

This target activity was completed.

6.0 Site Closure Project

The site is continuing efforts to close Operable Units (OUs) that are not currently associated with a milestone. These projects, including the fourth quarter's accomplishments, are listed below.

6.1 Environmental Restoration

The OU consolidation under RFCA established the Buffer Zone (BZ) and Industrial Area (IA) OUs, and left OUs 1, 3, and 7 intact. Operable Units 5 and 6 remain in place with some minor modifications. The following actions were completed for each OU through the fourth quarter of FY99.

6.1.1 OU1

Pursuant to the OU1 Corrective Action Decision/Record of Decision (CAD/ROD), a remedial action for IHSS 119.1 was initiated in April 1997 using closure funds. As required by the CAD/ROD, an investigation was completed for potential downgradient sources. Another investigation was completed to acquire information for determining worker health and safety requirements. Based on the results, it was concluded by the lead regulatory agency (LRA) and DOE to proceed with an amendment to the CAD/ROD calling for long-term monitoring with No Further Remedial Action. FY00 activities will include amending the CAD/ROD and removing the French drain.

6.1.2 OU5

In light of the fact that four areas within OU5 contain radionuclides in subsurface soils in excess of the RFCA Soil Action Level, DOE submitted a written proposal to the regulators to consolidate the OU5 IHSSs into the BZ OU and address them according to the Environmental Restoration (ER) Ranking. In addition, DOE requested written approval from the EPA on the

RCRA Facility Investigation/Remedial Investigation (RFI/RI) Report. A response from EPA has not been received.

6.1.3 OU6

DOE staff has reviewed background information for OU6 in preparation for finalizing the RFI/RI Report and preparing the Proposed Plan. DOE will request final RFI/RI Report approval and to draft the OU6 proposed plan.

6.1.4 OU7

The passive aeration system was installed during the first quarter of FY99. The passive seep collection system continues to operate with no changes since the first quarter of FY99. Sampling is continuing in accordance with the modified sampling and analysis plan.

The OU7 landfill will be addressed when it moves up in priority on the ER Ranking list.

6.1.5 IHSS 118.1

The Sampling and Analysis Plan for monitoring of Natural Attenuation at IHSS 118.1 was approved on October 29, 1998. Eight monitoring wells were installed in February 1999. Footing drains were sampled. The first sampling round, completed in March 1999, did not indicate significant natural attenuation was occurring, but provided enough indicators to warrant continued monitoring. The second round of sampling was completed in September 1999. Results are expected in November 1999.

6.2. D&D Cluster Closure Projects

6.2.1 Building (B) 779 Cluster Closure Project

The Decommissioning Operations Plan (DOP) for the B779 Cluster Project was approved by CDPHE on February 6, 1998. Approval was granted to initiate and pursue decommissioning activities within the B779 cluster in accordance with plans and commitments as described within the DOP. Decommissioning activities were initiated in FY98 with equipment and glovebox removal. As of September 30, 1999, the following activities were completed:

- (1) Annex B had been stripped out,
- (2) Final radiological survey report completed and approved by CDPHE;
- (3) Strip out of the Administrative portion of B779,
- (4) Final radiological surveys for the majority of the Administrative building were completed and the draft survey report submitted to CDPHE;
- (5) Strip out of Annex A was completed;
- (6) Annex A was declared Operationally Clean, scabbling of paint from affected areas finished, and the final radiological survey initiated;
- (7) Ventilation ducting was completely removed from the roof of B779; and

- (8) Asbestos abatement was completed for all Cluster buildings.

CDPHE approved the 779 Cluster Demolition Plan as a modification to the 779 Cluster DOP on July 27, 1999. Demolition of B779 is scheduled to begin during the first quarter of FY00.

6.2.3 B886 Cluster Closure Project

CDPHE approved the Interim Measure/Interim Remedial Action (IM/IRA) for the B886 Cluster Closure on August 3, 1998. Strip out and removal of selected equipment, and nine tanks and all associated piping in Rooms 101 and 103 of B886 was completed in the fourth quarter of FY99.

6.2.4 B771 Cluster Closure Project

The B771 Closure Project scope includes the deactivation, D&D, and demolition of B771/774, ancillary support structures, trailers, plant systems and utilities, underground tank systems, and waste sites associated with the B771 complex.

Implementation of an integrated approach towards closure is expected to accelerate closure of this cluster. The B771 closure project is being developed to integrate the final mission or risk reduction work, SNM holdup removal, deactivation, and D&D. On January 11, 1999, CDPHE approved the Building 771/774 Closure Project DOP. The DOP provides a general description of the steps that will be followed to decommission the B771/774 Cluster. A detailed technical approach to decommission an area/room of the closure project will be developed and approved in accordance with the Integrated Work Control Process (IWCP).

Two significant characterization efforts have been completed, SNM holdup characterization and the Reconnaissance Level Characterization Report. Several key risk reduction activities have been completed – all liquid tanks have been drained, all residues have been removed from the building, and 2000 square feet of Benelex shielding has been removed. Draining and removing liquid piping systems has also begun. There are 38 liquid piping systems in Building 771 and as of the end of September 1999, 15 liquid piping systems have been drained and removed.

The 771/774 Cluster has been divided into discrete work sets for planning and estimating the D&D of this cluster. A work set can be a glovebox, a room, a utility system, or the actual building structure of Building 771/774. As of September 30, 1999, D&D work activities have been completed for 5 work sets, and two additional work sets are essentially completed.

6.2.5 B776/777 Cluster Closure Project

The B776/777 Cluster Closure Project is currently focusing on deactivation while supporting waste, residue and SNM activities (e.g., characterization, storage, transfer and consolidation, sampling, repackaging and consolidation, assay, and activities that prepare for offsite shipping). Deactivation activities are focused on SNM inventory reduction, SNM holdup removal, and preparing the buildings for D&D.

The following major activities have been accomplished since FY97:

- (1) Three RCRA storage units have been emptied.
- (2) Five mixed residue pencil tanks have been closed.
- (3) 4,000 chemicals have been excessed.
- (4) Seven RCRA tanks have been emptied.
- (5) All tanks have been sampled and purged, as necessary, of hydrogen.
- (6) SNM has been removed from four vaults.
- (7) All gloveboxes have been scanned for SNM holdup.
- (8) Seven of fifteen identified areas have had SNM holdup removed.
- (9) Over 2,000 gallons of oil have been removed from idle equipment.
- (10) 318 containers of legacy waste have been dispositioned from the building.
- (11) Microwave treatability study samples have been removed from B701.
- (12) Reconnaissance Level Characterization Report has been prepared.
- (13) The public comment period for the Decommissioning Operations Plan (DOP) was completed on September 20, 1999. Comments are currently being incorporated into the DOP.
- (14) 14 of 16 mixed residue vacuum accumulators have been drained to RCRA stable.
- (15) 91 of 147 glovebox sections have been deactivated.
- (16) Removal of classified items from rooms is 91% complete and 28 of 162 gloveboxes have had the classified removed.

7.0 List of Approved Decision Documents

This list of approved decision documents provides the information for the update to RFCA Attachment 12.

- (1) CDPHE and EPA approved a field modification to the East Trenches Plume PAM to allow transfer of construction waters to Pond B-2 on June 2, 1999.
- (2) CDPHE and EPA approved a modification to the DPP clarifying the removal of non-structural fixed equipment on June 21, 1999.
- (3) CDPHE and EPA approved a field modification to the Solar Ponds Plume IM/IRA to alter the approach to barrier installation on August 31, 1999.
- (4) CDPHE and EPA approved a field modification to the Solar Ponds Plume IM/IRA to amend the number of and monitored interval for the wells installed to the north of the collection system on August 31, 1999.
- (5) CDPHE approved a modification to the 779 Cluster Decommissioning Operations Plan to include the 779 Cluster Demolition Plan on July 27, 1999.

Other reports and documents were:

- (1) The Source Evaluation Report for Point of Evaluation GS10 was delivered to the RFCA coordinators July 30, 1999.

- (2) The first (calendar) quarter 1999 groundwater monitoring report was presented to the stakeholders at the Quarterly Information Exchange Meeting on August 31, 1999.
- (3) The draft final 1998 Annual Rocky Flats Cleanup Agreement (RFCA) Groundwater Monitoring Report was provided to the K-H and DOE on September 30, 1999.
- (4) The updated Integrated Monitoring Plan was distributed in September 1999.
- (5) The Industrial Area Strategy was issued September 30, 1999, after incorporating agency and public comments.
- (6) The annual update to the Historical Release Report was distributed the end of September 1999.
- (7) The annual update to the Environmental Restoration (ER) Ranking was completed in September 1999.
- (8) The annual update to the Administrative Record was issued in September 1999.
- (9) The annual update to the Rocky Flats Site-wide Public Involvement Plan was completed in September 1999.
- (10) The Characterization Report for 903 Drum Storage Area, 903 Lip Area, and Americium Zone was issued in September 1999.
- (11) The public comment period for the 776/777 Decommissioning Operations Plan was concluded on September 20, 1999. Agency approval is expected in the first quarter FY00.
- (12) The public comment period for the RFCA Standard Operating Protocol (RSOP) for the disposition of concrete rubble has concluded. Approval of the RSOP is expected during the first quarter of FY00.

**Attachment 1: RFCA Milestone (R-M), Target Activities (R-T), and Closure Projects
Tracking Table FY99**

Driver	Commitment	Due Date	At Risk	Status/Comments
R-M	FY99-M1 Either (a) ship cumulative amount of 78% of 10/01/96 pond/salt inventory off site and evacuate all waste from Tent 9 by 9/30/99; or (b) the additional on site storage for pond/salt is operational by 9/30/99	9/30/99	N	Complete
R-M	FY99-M3 Ship 1,750 cubic meters of low-level waste by 9/30/99	9/30/99	N	Complete
R-M	FY99-M4 Complete installation and operate remedial action described in decision document for Solar Pond plume (N. Walnut Creek) by 9/30/99	9/30/99	N	Complete
R-M	FY99-M5 Complete installation and operate remedial action described in decision document for East Trenches/903Pad/ Ryan's Pit Mound plume (S. Walnut Creek) by 9/30/99	9/30/99	N	Complete
R-M	FY99-M7 Develop a comprehensive characterization/remediation strategy for the Industrial Area soils and groundwater by 9/30/99	9/30/99	N	Complete
R-M	FY99-M8 Complete off-site shipment by 9/30/99 for treatment and/or disposal of all T-1 waste streams not returned to T-1, and for which treatment or disposal locations are available and controlling documents are in place by 4/30/99	9/30/99	N	Complete
R-M	FY99-M9 Complete information management system for integrated Site-wide monitoring and environmental database by 9/30/99	9/30/99	N	Complete
R-M	FY99-M10 Either (a) construct and operate new facility for storage of TRU/TRM by 9/30/99 or (b) by 9/30/99 demonstrate adequate storage available for TRU/TRM through 9/30/00	9/30/99	N	Complete
R-M	FY99-M11 Complete characterization of the 903 Pad as defined in the approved Sampling Analysis Plan by 9/30/99 (with the exception of the remaining radiological boreholes, which will be completed by 12/31/99).	9/30/99	N	Complete. Remaining radiologic boreholes installed.
R-M	FY99-M8 Complete off-site shipment by 9/30/99 for treatment and/or disposal of all T-1 waste streams not returned to T-1, and for which treatment or disposal locations are available and controlling documents are in place by 4/30/99	9/30/99	N	Complete
R-M	FY99-M9 Complete information management system for integrated Site-wide monitoring and environmental database by 9/30/99	9/30/99	N	Complete
R-M	FY99-M10 Either (a) construct and operate new facility for storage of TRU/TRM by 9/30/99 or (b) by 9/30/99 demonstrate adequate storage available for TRU/TRM through 9/30/00	9/30/99	N	Complete

Driver	Commitment	Due Date	At Risk	Status/Comments
R-M	FY99-M11 Complete characterization of the 903 Pad as defined in the approved Sampling Analysis Plan by 9/30/99 (with the exception of the remaining radiological boreholes, which will be completed by 12/31/99).	9/30/99	N	Complete. Remaining radiologic boreholes installed.
R-T	FY99-T1 Thermally stabilize 90% of the plutonium oxide generated during the year by 9/30/99	9/30/99	N	Complete
R-T	FY99-T2 Complete the offsite shipment of the pits by 9/30/99	9/30/99	N	Complete
R-T	FY99-T3 Drain 6 systems in Building 771 by 9/30/99	9/30/99	N	Complete
R-T	FY99-T5 Remove solid Categories I and II SNM (not holdup and composites) from Building 776/777 by 9/30/99	9/30/99	N	Complete
Closure Project	B771	N/A	N/A	CDPHE approved the B771/774 Closure Project Decommissioning DOP on January 11, 1999.
Closure Project	B776/777 Cluster Closure Project	N/A	N/A	Agency approval is expected in the first quarter FY00.
Closure Project	B779 Cluster Closure Project	N/A	N/A	DOP approved 2/6/98. CDPHE approved the B729 Demolition Plan on 11/13/98. CDPHE approved the 779 Cluster Demolition Plan on July 27, 1999.
Closure Project	B886 Cluster Closure Project	N/A	N/A	Interim Measure/Interim Remedial Action approved 8/3/98.
Closure Project	Operable Unit 7	N/A	N/A	Modifications to the passive seep collection system were completed during the first quarter of FY99. The passive aeration system was installed during the first quarter of FY99. Sampling is continuing in accordance with the modified Sampling and Analysis Plan.
Closure Project	IHSS 118.1	N/A	N/A	The Sampling and Analysis Plan for IHSS 118.1 was completed and submitted to the agencies for review during the first quarter of FY99. Installation of monitoring wells was completed in the second quarter of FY99. First and second rounds of sampling have been completed.