



Department of Energy

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AUG 15 2000

00-DOE-03212

Mr. Steve Gunderson  
Rocky Flats Cleanup Agreement Project Coordinator  
Colorado Department of Public Health and Environment  
4300 Cherry Creek Drive South  
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Mr. Tim Rehder  
Rocky Flats Cleanup Agreement Team Leader  
United States Environmental Protection Agency  
999 18<sup>th</sup> Street, Suite 500  
Denver, Colorado 80202-2466

Dear Mr. Gunderson and Mr. Rehder:

Enclosed is the Rocky Flats Cleanup Agreement (RFCA) Implementation Quarterly Status Report for the Third Quarter Fiscal Year 2000. Notable achievements this quarter include: Receipt of the Closure Project Baseline on June 30, 2000; distribution of the *Sampling and Analysis Plan for Automated Synoptic Surface Water and Sediment Sampling for the GS10 Source Investigation*; and submittal to the Colorado Department of Public Health and Environment and Environmental Protection Agency of draft data quality objectives for the Industrial Area Sampling and Analysis Plan for their review and comment.

If you have any questions or comments, please contact me at (303) 966-5918 or Glenn Doyle at (303) 966-3087.

Sincerely,

Joseph A. Legare  
Assistant Manager  
for Environment and Infrastructure

Enclosure:  
cc w/Enclosure:  
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Administrative Record

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ADMIN RECORD

SW-A-004095

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**QUARTERLY STATUS REPORT**  
**ROCKY FLATS CLEANUP AGREEMENT IMPLEMENTATION**  
**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**  
**THIRD QUARTER FISCAL YEAR 2000**

**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 April 2000 through June 2000 (referred to as the third quarter of fiscal year [FY] 00). The sections of this report are organized into the following topics: (1) Introduction; (2) Site-wide Activities Implementing RFCA and Supporting Site Closure; (3) Site Closure Projects; (4) RFCA Milestones and Target Activities; (5) Water Management; and (6) List of Approved Decision Documents.

**2.0 Site-wide Activities Implementing RFCA and Supporting Site Closure**

Site-wide activities implementing RFCA and supporting site closure during the third quarter of FY00 included: (1) Accelerating Cleanup: Path to Closure; (2) Closure Project Baseline (CPB); (3) Integrated Monitoring Plan (IMP); (4) Actinide Migration Evaluation (AME); (5) RFCA Standard Operating Protocol (RSOP) Update; (6) Industrial Area Characterization and Remediation Strategy Update; (7) Historical Release Report (HRR) and (8) Site Water Balance Update.

**2.1 Accelerating Cleanup: Path to Closure**

The *Path to Closure* document is based on the Integrated Planning, Accountability, and Budgeting System database, through which Kaiser-Hill Company, L. L. C. (Kaiser-Hill) provides current project data to DOE. During the third quarter of FY00, Kaiser-Hill updated the Integrated Planning, Accountability, and Budgeting System database in all three areas of RFETS participation: planning, project execution, and waste stream disposition.

**2.2 Closure Project Baseline**

Following the DOE and Kaiser-Hill Closure Contract signing on January 24, 2000,

Kaiser-Hill began revising the CPB in accordance with the specific requirements of the contract. Revisions include organizing the work scope around the newly "projectized" organizational structure, adjusting costs to fit within the annual funding cap, performing routine Programmatic Risk Assessment on the project, and responding to the findings and observations that resulted from the Baseline Confidence Review of CPB, Rev. 3a, in September 1999. The updated CPB (Revision 5) was delivered to the DOE Rocky Flats Field Office (RFFO) on June 30, 2000.

### **2.3 Integrated Monitoring Plan**

The IMP Working Group for Surface Water met twice during the third quarter of FY00. Topics discussed at the first meeting included: (1) the Site's GS10 source investigation sampling program design; (2) analytes of interest, i.e., metals at RFCA Points of Evaluation (POEs) and volatile organics for terminal pond predischage sampling; (3) the new RFCA POE sampler at the Wastewater Treatment Plant (WWTP) outfall in preparation of the renewal National Pollutant Discharge Elimination System (NPDES) permit being issued; and (4) results from CDPHE's investigative water sampling of the GS10 subdrainage. Copies of the *Sampling and Analysis Plan for Automated Synoptic Surface Water and Sediment Sampling for the GS10 Source Investigation* were distributed. (Note: Synoptic sampling is the sampling of the same event at multiple locations as surface water moves through the drainage to minimize the variations in water quality due to hydrologic variations.)

Topics discussed at the second meeting included: (1) a presentation of details related to the first successful synoptic sampling event; (2) issues related to the identity of synoptic station SW023; and (3) the disposition of building footing drains. Agreement was reached by the Working Group that the IMP process will monitor footing drains during Decontamination & Decommissioning (D&D) and remediation of associated individual hazardous substance sites (IHSSs). Any footing drains will be excavated if required to meet remediation goals. Otherwise, the Environmental Restoration (ER) Program will address the footing drains during final configuration of the Site. At that time, footing drains that create subsurface pathways to the drainages will be removed or altered. In addition, copies of the CDPHE revised sampling and analysis plan that added surface water monitoring for the uranium groundwater study were distributed.

Each media Working Group will meet during the fourth quarter of FY00 to review and update their respective sections for the FY01 IMP revision. The FY01 IMP is scheduled to be completed in September 2000.

### **2.4 Actinide Migration Evaluation**

During the third quarter of FY00, the AME Group conducted the following activities:

- (1) A regulator and stakeholder meeting was held on April 18, 2000 to:
  - (a) Discuss the actinide migration conceptual model;

- (b) Review the highlights of the March 1, 2000 stakeholder meeting regarding the articles: *Reaction of Plutonium Dioxide with Water: Formation and Properties of PuO<sub>2+x</sub>* in Science and *Oxidized Plutonium Reaches a Higher State* in Science News;
  - (c) Discuss the Citizens Advisory Board comments on the Honeyman Report; and
  - (d) Discuss the results of the colloidal transport studies being conducted by Peter Santschi at Texas A&M.
- (2) A regulator and stakeholder meeting was held on June 5, 2000 to present:
- (a) The status of the AME project through review of the history of the project and the external advisory group, the conclusions from the scientific studies conducted thus far under the AME project, the development of the conceptual model, the environmental chemistry issues, and the results thus far of the transport models;
  - (b) The results of the Uranium Geochemical Modeling conducted by Jim Ball, United States Geological Survey;
  - (c) An Erosion "Primer" by Leonard Lane; and
  - (d) The results of the Erosion and Sediment Transport Modeling conducted at RFETS.

The Erosion and Sediment Transport Modeling Report will be published during the fourth quarter of FY00 for distribution to stakeholders prior to the August 16, 2000 Actinide Migration Stakeholder Public Meeting. The meeting will focus on the initial results of the modeling presented at the June 5, 2000 meeting and subsequent scenario modeling. Results of the August 16, 2000 meeting will be included in next quarter's report.

## **2.5 RFCA Standard Operating Protocol Update**

Two RSOPs are under development. The RSOP for Facility Disposition, once approved, may be applied to all facilities at RFETS that meet the unrestricted release criteria. This RSOP was developed to document the facility disposition decision; establish the demolition process requirements and controls; assess the environmental consequences of demolishing a facility; and documents the environmental impacts of shipping Low Level (LL) and Low Level Mixed Waste (LLMW) from RFETS to appropriate disposal facilities.

A second RSOP, RSOP for Facility Component Removal, Size Reduction, and Decontamination Activities, once approved, may be applied to all facilities at RFETS that require decommissioning activities including, physical removal of facility components; size reduction of components to meet property reuse, waste management and/or transportation requirements; and decontamination of components in preparation for removal, size reduction, and/or building demolition.

The Facility Disposition RSOP underwent formal review by the Lead Regulatory Agency (LRA) and the public during the third quarter of FY00 (May 17, 2000 through June 30, 2000). Approval of the Facility Disposition RSOP is anticipated during the fourth quarter of FY00. An early draft of the RSOP for Facility Component Removal, Size Reduction, and Decontamination Activities was provided to the regulators and stakeholders during the third quarter of FY00; a formal public review and comment period is expected during the fourth quarter of FY00. Approval of the Facility Component Removal, Size Reduction, and Decontamination Activities RSOP is anticipated during the first quarter of FY01.

## **2.6 Industrial Area Characterization and Remediation Strategy Update**

The Industrial Area Characterization and Remediation Strategy (IA Strategy), submitted to CDPHE and EPA in FY99, provides a roadmap to closure of the Industrial Area (IA) Operable Unit (OU). The IA Strategy integrates characterization and remediation of the IA IHSS with D&D activities. The IA Strategy also addresses other interfaces and streamlining actions essential to achieving the goals of the 2006 CPB.

The first action of the IA Strategy is to develop an Industrial Area Sampling and Analysis Plan (IASAP). Characterization of RFETS is required for two reasons: to support remediation and to support the Comprehensive Risk Assessment (CRA). The IASAP is the sampling plan to support remediation of contaminated soil for IHSSs, Potential Areas of Concern (PACs) and under Building Contamination (UBCs) in the IA. The plan is written to enable remediation sample data and sample data from outside the IHSSs (white space) to be used for the CRA that evaluates residual risk following completion of all accelerated actions. A similar SAP will be developed for the Buffer Zone (BZ) in FY01. The IASAP and the BZ SAP sampling requirements will contain the final site characterization requirements for RFETS.

In the third quarter of FY00, draft data quality objectives (DQOs) for the IASAP were submitted to CDPHE and EPA. Comments were received from CDPHE and are being incorporated into the DQOs. Revised DQOs and a comment response will be sent to CDPHE and EPA at the beginning of the fourth quarter of FY00. Existing data from the IA was processed through the data quality filter during the third quarter of FY00. Filtered data is being compiled into GIS maps to show the extent of usable data and potential data gaps. The IASAP outline and statistical and geostatistical data analysis methods that will be used during IA characterization were discussed with CDPHE and EPA. The draft IASAP was started and will be completed by the end of the fourth quarter of FY00. The draft Comprehensive Risk Assessment Methodology was started during the third quarter of FY00 and will be completed by the end of the fourth quarter of FY00. Several meetings with CDPHE and EPA to discuss IASAP and Comprehensive Risk Assessment Methodology progress and ideas will be held during the fourth quarter of FY00. The IASAP will require approval by EPA and CDPHE prior to implementation.

## **2.7 Historical Release Report**

During the third quarter of FY00, DOE and Kaiser-Hill met with EPA and CDPHE to discuss comments on the 1997 and 1998 HRR Updates. The disposition of several IHSSs and PACs were in question. The Site is currently researching these IHSSs and PACs to determine if current data will support a no further action determination. A response will be sent to CDPHE and EPA during the fourth quarter of FY00. The year 2000 update to the HRR was started during the third quarter of FY00 and will be submitted by Kaiser-Hill to DOE by September 30, 2000.

## **2.8 Site Water Balance Update**

The purpose of the Site Water Balance is to develop information to support a hydrologic design basis for RFETS closure activities. The objectives of the Site Water Balance are to provide RFETS with a management tool to: (1) evaluate how the site-wide ~~water~~ <sup>hydrology</sup> hydrology is likely to change from the present to final Site configuration at closure; (2) assist in predicting surface water impacts from groundwater for present and final Site configuration; (3) provide hydrologic profiles to support decisions for final Industrial Area configuration to protect surface water quality standards; and (4) provide information for the RFCA Integrating Decision Document, the comprehensive risk assessment, and the Final Corrective Action Decision/Record of Decision (CAD/ROD).

A subcontract to perform the Site Water Balance was awarded in January 2000. The project will be performed in two phases and will terminate in January 2002. Phase 1, which began with subcontract award, is to develop a Work Plan, compile existing data and collect new data as appropriate, and evaluate water balance models. During the third quarter of FY00, the subcontractor completed approximately 80% of the Work Plan and compiled information on anticipated remedial actions, Site groundwater and surface water, footing drains and subsurface structures and other utilities that DOE plans to leave in place.

## **3.0 Site Closure Projects**

### **3.1 Industrial Area Operable Unit, Building 779 Cluster Closure Project**

The Decommissioning Operations Plan (DOP) for the Building (B) 779 Cluster Project was approved by CDPHE on February 6, 1998. As of March 31, 2000, all decommissioning activities approved by the DOP were completed and the 779 Cluster had been demolished. The Decommissioning Final Closeout Report was completed by Kaiser-Hill and submitted to RFFO on May 24, 2000. RFFO is reviewing the document for transmittal to the LRA for approval.

Consistent with the Decommissioning Final Closeout Report, the remaining Cluster area and slabs have been turned over to B776 for oversight and control prior to commencement of ER activities currently planned for the first quarter of FY04.

### **3.2 Industrial Area Operable Unit, Building 771 Closure Project**

The B771/774 Closure Project DOP was approved by CDPHE on January 11, 1999. Three D&D work sets were completed during the third quarter of FY00. A total of eight D&D work sets have been completed in B771 through the end of the third quarter of FY00.

### **3.3 Industrial Area Operable Unit, Building 776/777 Closure Project**

The B776/777 Closure Project DOP was approved by CDPHE on November 5, 1999. No additional D&D work sets were completed during the third quarter of FY00; however, several work sets are near completion. A total of two D&D work sets have been completed in B776 through the end of the third quarter of FY00.

Substantial progress was made toward closing the Material Access Area (MAA) in B776 during the third quarter of FY00; DOE approved the downgrading of the B776 MAA to a Limited Area, effective July 5, 2000. This RFCA Target Activity was completed on July 5, 2000.

### **3.4 Industrial Area Operable Unit, Building 371/374 Closure Project**

During the third quarter of FY00, the B371/374 Closure Project Team conducted the following activities:

- (1) Completed 95% of the sampling required supporting the Reconnaissance Level Characterization (RLC);
- (2) Continued development of the cluster DOP, although the schedule was extended to reflect changes in the B371 nuclear mission to support earlier Protected Area Closure for the 500 and 700 facilities. DOP approval by March 2001 will support new decommissioning schedules and allow the DOP to incorporate or reference RSOPs, if approved.
- (3) Completed additional planning, estimating, and scheduling of the cluster decommissioning work to support the Site rebaselining effort. An informal briefing to the LRA on the new project plans and DOP reformatting using the RSOPs was held.

Activities planned for the fourth quarter of FY00 include: (1) complete the RLC Report and submit to DOE for approval and the LRA for concurrence and (2) complete a draft DOP for internal review.

### **3.5 Industrial Area Operable Unit, Building 707 Closure Project**

During the third quarter of FY00, the B707 Closure Project Team conducted the following activities:

- (1) Completed the RLC Report and associated field surveys and provided the RLC Report to the LRA for review and concurrence.
- (2) Completed the draft DOP and began an internal review.
- (3) Completed additional planning, estimating, and scheduling of the cluster decommissioning work to support the Site rebaselining effort.

Activities planned for the fourth quarter of FY00 include: (1) obtaining LRA concurrence on the RLC Report and (2) providing the draft DOP to the LRA for review.

### **3.6 Remediation, Industrial, & Site Services Project**

#### **3.6.1 Environmental Restoration**

##### **3.6.1.1 Buffer Zone Operable Unit, 903 Pad**

*The Characterization Report for the 903 Drum Storage Area, 903 Lip Area, and Americium Zone, Rev. 1, June 26, 2000, Final* was transmitted by Kaiser-Hill to DOE by June 30, 2000. Revision 1 incorporates comments received from the regulators on Revision 0 and includes sampling results from sediments sampled in the wetland located in the Americium Zone near surface water sampling location 053 (SW053). The results of the sampling effort were provided as Appendix G in the recently transmitted 903 Pad Characterization Report.

To address the EPA's and CDPHE's concerns about the large scope of environmental restoration work currently scheduled for the final two years of the RFETS closure project, the RFCA Parties have agreed to pursue a proposal for the EPA to assume responsibility for 903 Pad remediation. If this proposal is adopted, the DOE agrees to provide funding to the EPA for the remediation. The Parties believe that any such remediation project assumed by the EPA should begin in FY02. The Parties will define the regulatory, site support, and contractual framework of the proposal by June 30, 2000. In the event 903 Pad remediation is not assumed by the EPA 903 Pad remediation by the Site contractor will begin in FY03, with completion in FY05. Due to uncertainty regarding which entity will perform the project, KH suspended all document preparation work pending the June 30, 2000 decision date.

### 3.6.1.2 OU7

Samples have been collected for one year in accordance with the November 1998 addendum to the OU7 SAP. A report entitled, "Evaluation of OU7 Aeration Treatment System, November 1998-October 1999" was written during the first quarter of FY00 and transmitted to the agencies. The system has, in most cases, met the treatment objectives for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). The report supports the semi-annual sampling, which is planned to replace the monthly sampling schedule in accordance with the November 1998 addendum. The purpose of monthly sampling was to characterize VOCs and SVOCs from the treatment system influent and metals and radionuclides from the effluent. DOE received informal comments to the November 1998 addendum to the OU7 SAP from CDPHE and EPA during the third quarter of FY00. The OU7 SAP and the Evaluation Report are being revised based on these comments. These revised documents are expected to be resubmitted to EPA and CDPHE during the fourth quarter of FY00.

### 3.6.1.3. Plume Maintenance and Monitoring

Operation, maintenance and monitoring continue for the three reactive barriers at Rocky Flats. These are the Mound Site Plume, East Trenches Plume and Solar Ponds Plume groundwater collection and treatment systems. Investigation into the water loss at the Solar Ponds Plume continues. The *Quarterly Report for the Rocky Flats Groundwater Plume Treatment Systems* was completed on June 30, 2000 and will be provided to CDPHE and EPA during the fourth quarter of FY00.

### 3.6.1.4 OU1

A draft modification to the OU1 CAD/ROD was submitted by DOE to EPA and CDPHE for review. The draft document proposed discontinuing operation of the OU1 collection well one year after signing the modified OU1 CAD/ROD. Kaiser-Hill has incorporated comments received from EPA and CDPHE. The modifications to the OU1 CAD/ROD will be resubmitted by DOE to EPA and CDPHE for approval during the fourth quarter of FY00. Once written approval is received from the Agencies, the modified CAD/ROD will be released for a 45-day public comment period.

Decommissioning of the French Drain is planned to begin in the fourth quarter of FY00. The French Drain system will be breached at the lowest point and the collected groundwater will flow underground to the South Interceptor Ditch.

### **3.6.1.5 Characterization of Under Building Contamination 123 and Building 886 Implementing Horizontal Directional Drilling Environmental Measurement While Drilling**

Under Building Contamination (UBC) location 123 (where the demolished former B123 slab is located) and B886 have been selected as the sites to demonstrate real time monitoring of radionuclides using a Gamma Ray Spectrometer in conjunction with horizontal directional drilling to perform: 1) a final characterization at UBC 123 and, 2) partial investigation at B886. The SAP was approved by CDPHE during the third quarter of FY00 and the solicitation process was completed in the third quarter of FY00 with expectations of awarding a contract early in the fourth quarter of FY00. Other project documents and requirements (e.g. Integrated Work Control Package, Soil Disturbance Permit, NEPA, etc.) were developed for field implementation during the third quarter of FY00.

## **3.7 Materials Stewardship**

### **3.7.1 RFCA Milestone: Ship 6000m<sup>3</sup> of LL/LLMW between 10/1/99 and 9/30/00.**

Complete.

### **3.7.2 RFCA Milestone: Complete 86 shipments to WIPP during FY00. This assumes WIPP is open and remains open during the fiscal year; WIPP receives a RCRA disposal permit and can accept Rocky Flats TRU and TRM by February 2000. NMED certifies shipments of Rocky Flats waste to WIPP by February 2000.**

By letter dated March 28, 2000, DOE notified CDPHE and EPA that DOE does not expect to meet this milestone. Discussions are continuing between the RFCA Parties to determine whether, and if so what, modifications to this milestone are appropriate.

### **3.7.3 RFCA Milestone: Store TRU waste in B906 by September 1, 2000. If B906 is needed prior to September 1, 2000, for TRU waste storage, then B906 must be ready in time to not impact residues or D&D.**

On schedule. DOE is scheduled to complete its operational readiness review (ORR) of B906 for the storage of TRU waste by August 21, 2000. Once the ORR is complete, TRU waste may be stored in the building.

#### 4.0 RFCA Milestones and Target Activities

Table 1 summarizes the status of each RFCA FY00 Milestone and Target Activity.

**Table 1: RFCA FY00 Milestones and Target Activities**

FY00-M2	Complete demolition to slab of B779 by 9/30/00	Complete
FY00-M5	Ship 6000m3 of LL/LLMW between 10/1/99 and 9/30/00	Complete
FY00-M6	Complete 86 shipments to WIPP during FY00. This assumes WIPP is open and remains open during the fiscal year; WIPP receives a RCRA disposal permit and can accept Rocky Flats TRU and TRM by February 2000. NMED certifies shipments of Rocky Flats waste to WIPP by February 2000.	DOE has notified EPA and CDPHE by letter on March 28, 2000, that DOE does not expect to meet this milestone. Discussions are continuing between the RFCA Parties on whether, and if so what, modifications to this milestone are appropriate.
FY00-new	Store TRU waste in B906 by September 1, 2000. If B906 is needed prior to September 1, 2000, for TRU waste storage, then B906 must be ready in time to not impact residues or D&D. (i.e. Slowing down the generation rate of TRU waste is not an acceptable means of meeting this milestone).	On schedule
FY00-new	Complete 18 D&D work sets between 10/1/99 and 9/30/00.	10 D&D work sets have been completed. See sections 3.2 and 3.3.
FY00-T1	Complete eU shipments, except eU contaminated with plutonium. (Uncertainties beyond RFFO control are acknowledged to exist in the availability of receiver sites and transportation corridors.)	Complete
FY00-T2	Install and operate the Plutonium Packaging System in Building 371 by March.	A modification to the target was approved in the 2 <sup>nd</sup> quarter. The new target is October 2000.
FY00-T3	Close Material Access Area in Building 776.	Complete

## **5.0 Water Management**

Water management activities during the third quarter of FY00 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.

### **5.1 Watershed Improvements**

No watershed improvements were implemented during the third quarter of FY00.

### **5.2 Surface Water Management**

#### **5.2.1 Third Quarter of FY00**

During the third quarter of FY00, the Site completed the following pond water transfers and discharges totaling 44.08 Million Gallons (MG), a decrease of 65% compared to the third quarter of FY99 (124.73 MG). This decrease is attributable to below average stormwater runoff during the period, and no Pond B-5 pumped-transfers to Pond A-4.

Pond A-3 activity included two routine outlet-valve direct discharges to Pond A-4 totaling 7.79 MG. The first discharge of 4.09 MG occurred during the period of April 7 through 11, 2000. The second discharge of 3.70 MG occurred during the period of May 16 through 21, 2000.

Pond A-4 activity included one routine outlet-valve direct discharge to North Walnut Creek totaling 9.58 MG. This discharge occurred during the period of June 14 through 22, 2000. 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-1 activity included one transfer of treated effluent from the B995 WWTP totaling 0.10 MG that occurred on June 16, 2000. This transfer was performed to keep adequate water in Pond B-1 to keep the pond sediments covered.

Pond B-5 activity included two routine outlet-valve direct discharges to South Walnut Creek totaling 26.61 MG. The first discharge of 14.83 MG occurred during the period of April 27, 2000 through May 10, 2000. The second discharge of 11.78 MG occurred during the period of June 14 through 26, 2000. Water-quality samples were collected and analyzed, and all approvals were obtained prior to the discharges. The City of Broomfield diverted the Pond B-5 discharges around Great Western Reservoir via the Broomfield Diversion Ditch.

There were no Pond A-1, A-2, B-2, C-2, or Landfill Pond transfers or discharges during the third quarter of FY00.

Transfers and discharges from the Site ponds during the third quarter of FY00 are summarized in Table 2.

**Table 2. Site Pond-Water Transfers and Discharges - Third Quarter FY00**

<b>Dates</b>	<b>Pond Activity</b>	<b>Total MG</b>	<b>Mode</b>
4/7 to 4/11	A-3 to A-4	4.09	Outlet-valve direct discharge
5/16 to 5/21	A-3 to A-4	3.70	Outlet-valve direct discharge
6/14 to 6/22	A-4 to NWC	9.58	Outlet-valve direct discharge
6/16	WWTP to B-1	0.10	WWTP effluent transfer
4/27 to 5/10	B-5 to SWC	14.83	Outlet-valve direct discharge
6/14 to 6/26	B-5 to SWC	11.78	Outlet-valve direct discharge
	<b>Total for Quarter</b>	<b>44.08 MG</b>	

### 5.3 Surface Water Monitoring

#### 5.3.1 Third Quarter of FY00

During the third quarter of FY00, 56 automated monitoring system samples were collected and submitted for analysis. In addition to the RFCA base program, 11 samples were collected and submitted for analysis as part of the second successful synoptic sampling event for Site's ongoing GS10 source investigation. In addition to the synoptic surface water sampling, a total of 46 soil samples were collected from which 16 were selected and submitted for analysis (as prescribed in the *Sampling and Analysis Plan for Automated Synoptic Surface-Water and Sediment Sampling for the GS10 Source Investigation*).

On June 15, 2000, the Site received validated analytical results that indicated RFCA reportable values had been observed for both americium and plutonium at RFCA POE GS10 which is located in the South Walnut Creek upstream of Pond B-1 in Walnut Creek basin. Calculated 30-day moving averages for americium (Am) and plutonium (Pu) first triggered the reporting requirements under RFCA Attachment 5, Section 2.4 (B) on April 14 and April 28, 2000 respectively. To meet the Site's RFCA commitment, DOE transmitted this information to the EPA

and the CDPHE within the 15-day reporting period, which ended on June 30, 2000.

The 30-day moving averages for all other RFCA POE and all Points of Compliance monitoring locations were below the RFCA action levels and standards during the third quarter of FY00 for all monitored metals and radionuclides.

Although plans to install a second B771/774 Performance and Source Location monitoring station (GS44) have been finalized and approved, the Surface Water organization is still working with B771 personnel to coordinate installation and operation. GS44 will be located west of the B771/774 complex between T771F and T771L. This location will also collect continuous flow-paced composite samples of surface water originating as runoff and footing drain discharge. The sub-drainage tributary to GS44 covers an area of approximately 4.1 acres.

#### **5.4 Ground Water Monitoring**

The fourth (calendar) Quarter 1999 groundwater monitoring report was presented to the stakeholders at the Quarterly Information Exchange Meeting on May 30, 2000.

DOE submitted the SAP for the D&D Monitoring of Buildings 707, 371/374, 776/777 and 883/865 to CDPHE and EPA for review and approval.

Comment responses on the SAP for the natural attenuation monitoring of the PU&D Yard have been submitted to DOE for approval prior to submittal to CDPHE and EPA.

All groundwater samples and water level measurements for the second quarter of calendar year 2000 were completed on June 29, 2000.

The ICP/MS Uranium sampling and analysis project, which is being conducted jointly with CDPHE, is 95% completed as of June 30, 2000.

Additional groundwater monitoring requirements were outlined in March to supply additional data for the site water balance modeling effort. Additional groundwater monitoring was completed for the second quarter of FY00, and consisted of water level measurements from 72 wells and real time water level measurements from 13 wells.

#### **5.5 Rocky Flats Water Working Group**

During the third quarter of FY00, the Rocky Flats Water Working Group met on May 16 and June 27. The meetings included the customary update on the Site's Surface Water operations. The separation of operations and monitoring/strategic functions in the Site's water management activities was discussed at the first of these meetings. During this quarter, Ponds A-4 and B-5 have been discharged a total of 3 times, A-4 once and B-5

twice; all water being in compliance with discharge standards currently in effect. Nitrate concentrations in Pond A-3 were less than both the 10 mg/l limitation specified in the existing NPDES permit and in the applicable 100 mg/l limitation in the temporary modification to be incorporated in the renewal NPDES permit. EPA representatives continued to provide updates on the status and issues related to the renewal NPDES permit. At this time, permit issuance is imminent.

A prominent discussion at both meetings was the status and path forward on issues related to the Solar Pond Plume Treatment System. Since the system was installed, it has treated water intermittently. This appears to be due to several factors including: the relocation of the treatment cell to avoid issues with endangered Preble's Meadows Mouse habitat; the dryness of the startup year; and some apparent leakage under or past the treatment barrier (i.e., possibly the Interceptor Trench System sump). The net result is water below the treatment system in the tributary into Pond A-3 contains untreated concentrations of nitrate greater than 10 mg/l although well below the 100 mg/l temporary nitrate concentration limit. Treated water concentrations <sup>existing</sup> below the treatment cell were negligible. No resolution concerning what, if any, action(s) should be taken, has been reached.

At the June 27 meeting, the most recently detected reportable 30-day-averaged concentrations of Am and Pu at surface water Point of Evaluation GS-10 were discussed briefly. The ongoing investigation of the source area above GS-10 appears to preclude any other supplemental actions at this time to investigate this most recent observation. Data collected in the ongoing investigation above GS-10 appear consistent with the observations reported.

Other discussions included a presentation of the "Regulatory Closure Framework" and reports on the "Industrial Area Sampling and Analysis Plan", a preliminary status update of recent aseptic well monitoring results, and status updates on CDPHE's monitoring results in the drainage above GS-10.

## 6.0 List of Approved Decision Documents

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

- (1) A minor modification to the B776/777 DOP was submitted by DOE to CDPHE for approval on May 17, 2000 (Modification #4). This minor modification clarifies the requirements for the management of remediation waste and references the B776/777 Operations Order OO-776-374. CDPHE approved the minor modification on May 23, 2000.
- (2) A field modification to the B771/774 DOP was submitted by DOE to CDPHE on June 7, 2000. This field modification subdivides B771 Set 38 into four individual sets. CDPHE approved the field modification on June 27, 2000.

- (3) A field modification to the B771/774 DOP was submitted by DOE to CDPHE on June 14, 2000. This field modification clarified deviations to 10 specific set descriptions and major endpoints found in the B771/774 DOP. CDPHE approved the field modification on June 27, 2000.