UPDATE

Environmental Restoration

A Periodic Update of Rocky Flats Cleanup

February/March 1993

EG&G ROCKY FLATS

DOE ESTABLISHES REMOTE GAMMA ANALYSIS SYSTEM

An article in the last issue of the Environmental Restoration Update addressed the sampling program at Rocky Flats which has helped decrease the backlog of samples at the Rocky Flats Plant. The Environmental Restoration department will draw over 40,000 samples this year, so the need for an effective management program is imperative. To further complement the current sampling program, the United States Department of Energy's (DOE) in-situ gamma analysis systems has been instituted at Rocky Flats to provide a remote sensing capability for ground-based measurements.

Since 1977, DOE has maintained the in-situ gamma analysis systems through the Remote Sensing Laboratory operated by EG&G Energy Measurements, under the direction of the DOE Nevada Operations Office. These systems are based on high resolution germanium sensors which have been used on various platform heights to assess the radiological character of debris and surface soils, and have the capability of providing near real-time analysis and results. This capability makes the systems ideally suited for emergency response situations as well as cleanup operations where timely analysis is required to direct other resources.

Modified Suburban houses analytical gear.

Traditionally, the gamma detectors were mounted on small, hand-carried tripods. At Rocky Flats, gamma analysis technology has been further developed under the

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Changes to the OU4 IM/IRA Decision Document

In a February 17, 1993 letter from Gary Baughman, CDH and Martin Hestmark, EPA to Richard Schassburger, DOE, the agencies approved amendments to the OU4 IM/IRA Decision Document. The amendments are as follows:

- Provide a connection to allow Interceptor Trench System (ITS) water to be pumped directly from the modular tanks to Building 374 for treatment. However,
- DOE must continue and expedite treatment of pond water in the Building 374 evaporators,

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ADMIN RECORD

DOCUMENT CLASSIFICATION REVIEW WAIVER PER CLASSIFICATION OFFICE

- ITS water must be stored in the modular tanks, subject to available capacity, and
- First priority for use of Building 374 available capacity will be for the treatment of pond water followed by the treatment of ITS water.

• If high ITS water flow rates are experienced or anticipated before excess pond water is processed in Building 374 or before Building 910 is operational, DOE may cease treating pond water and begin to lower modular tank levels to accommodate expected ITS flows. When sufficient capacity has been reestablished to the modular tanks, DOE must resume treatment of pond water.

• Divert ITS water to the modular tanks following completion of the Building 374 connection and prior to Building 910 Evaporators becoming operational.

• Permanent removal of the .020" ultraviolet liners from all three modular tanks.

• Maintain approximately 18" of ITS water in a contingency "empty tank" to prevent high winds from lifting and tearing the liners, with the provision that the contingency tank may be completely emptied to clean the bottom, make repairs, or for eventual decommissioning and removal.

• Replacement of the Building 910 basement sump with a containment tank to facilitate leak detection.

• Modify language to state that Building 910 Evaporator bottoms will not exceed concentrations of 400,000 parts per million total dissolved solids.

• Modify any language in the IM/IRA Decision Document to clarify that Building 910 distillate may "...be reused as makeup water in the raw water system or condensate systems on plant site." Sampling and analysis of the distillate, as set forth in the Decision Document, shall remain the same whether the water is sent to the raw water system or condensate systems.

The agencies also stated in the February 17 letter that they would not approve DOE's revised schedule to supersede the original schedule included in the IM/IRA. DOE revised the original schedule due to several factors: technical difficulties with the Building 910 generators, possible leaks in all three modular tanks, and the anticipated effects of freezing weather on tank repair and startup operations, both of which involve water. The agencies reserve the right to assess stipulated penalties dating from the original milestone dates.

Environmental Compliance Deficiencies Corrected

A new program designed to identify and correct environmental deficiencies has been implemented at Rocky Flats. The program holds senior management accountable for the proper and timely correction of deficiencies and sets in motion a "hands-on" procedure for identifying potential deficiencies throughout the site or problems that have not become deficiencies.

Senior management is required to routinely inspect their buildings and work with employees to properly identify potential deficiencies and expedite correction. Maintenance centers have been designated in several buildings to ensure that corrective actions receive proper priority. An onsite Environmental Compliance Action Center has been set up to provide senior management with accurate, timely information about the current status of regulatory compliance issues.

An automated system is also in place to track environmental deficiencies in a central, comprehensive database at the Rocky Flats. The tracking system provides an integrated schedule of plantwide environmental commitments, deficiencies and corrective actions.

In a preliminary assessment last November, the DOE reported to EPA and CDH 253 potential environmental deficiencies, ranging from missing signs to improperly characterized waste.

EG&G Rocky Flats has reported to the DOE that each of the 253 potential environment compliance issues has either been addressed in a corrective action plan or determined not to be a regulatory deficiency. EPA and CDH have both been briefed on the status of deficiencies. Review of the deficiencies show they pose no threat to public health or environment.

FEEDBACK

Let us know what you think about this Update.

Fax or mail your comments, questions or suggestions to:

FAX: (303) 966-6153

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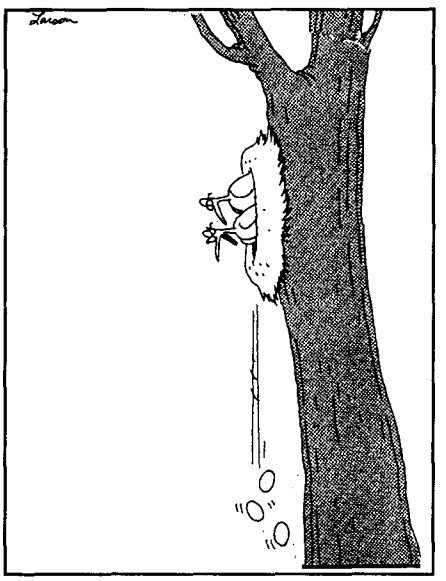
DOE MOVES TO PROTECT NESTING EAGLES

The Department of Energy has directed EG&G Rocky Flats to temporarily suspend some environmental field activities on the plantsite's east side, including work in portions of Operable Unit (OU)3 to comply with regulations protecting the nesting activities of two bald eagles recently spotted near Standley Lake. OU3 includes Standley Lake, Great Western Reservoir and surrounding land just east of the plant's boundary. The suspended activities include collection of soil samples within approximately one mile of the nesting eagles, installation of an air monitoring station at Standley Lake and performance of an air sampling study using a portable wind tunnel. The temporary suspension of field investigations will not impact public health or safety.

The field work suspension will remain in effect until DOE has completed consultation activities with the U.S. Fish and Wildlife Service as required by the Endangered Species Act. The U.S. Fish and Wildlife Service protects the bald eagles under three federal acts—the Endangered Species Act, the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.



"Aaaaaaa! There goes another batch of eggs, Frank! ...No wonder this nest was such a deal."

EG&G will also review all upcoming projects in the plant's buffer zone to determine if such activities "may affect," as defined by federal legislation, the bald eagles.

Located in Jefferson County Open Space, this is the closest nesting site to human habitation in Colorado, and is one of only three bald eagle nesting locations along the Front Range. Driven closer to civilization by diminishing natural habitats, eagles, who usually prefer to nest in isolated areas, have been forced to adapt to a less secluded lifestyle.

In addition to being in the vicinity of Rocky Flats, the nest location is also less than one mile from a major subdivision and is close to well-traveled roads. The eagles' nesting activity may also affect plans by the cities of Westminster, Thornton, Northglenn and Federal Heights to construct a $30 million, DOE-funded canal system to divert water flowing through Rocky Flats around Standley Lake.

DOE establishes remote gamma analysis system - *Continued from page 1*

direction of Ron Reiman, a nuclear engineer with Environmental Sciences and Engineering. Reiman worked with gamma analysis since its inception in Nevada and has worked with the plant's Modification Center to rebuild a Chevrolet Suburban to accommodate the complex equipment needed for detecting and measuring materials in surface soils. The system can detect and measure a variety of radioactive materials in surface soils, and "can identify them by their distinctive energy fingerprint," said Reiman.

The Suburban is equipped with winches, generators, built-in computers, satellite links and sensors, all of which make the truck a stand-alone sampling unit capable of ranging all over plantsite looking for radionuclides, both man-made and naturally occurring. The generator provides electricity for the computers, the assorted electronic sensors and the air conditioner. The winch is located on the back of the vehicle and is used to manipulate a telescoping arm away from the truck. This telescoping arm extends the detector to an elevation of about 20 feet, from which the detector can read 20,000 square feet of surface soil. A computer is located inside the Suburban. Reiman has upgraded the analysis software so that larger areas can be analyzed and assure that the resolution and detail meet Colorado Department of Health requirements.

The detector itself is the critical component of the system. Previous detectors have consisted of a single crystal of high-purity germanium, whereas the new system contains six crystals. "Arrays of high-purity germanium have never been used for environmental purposes," Reiman said. The germanium provides several advantages over conventional soil analyis: it can check an area of about 20,000 square feet in one reading, does not disturb soils and results are almost immediate. The potential economic savings over one year would be around $14 million and could decrease the need for traditional soil samples by 30 percent.

IAG MILESTONES FOR FY93 AND AN UPDATE FOR FY92

The Fiscal Year (FY) 1993 Milestone schedule outlines the scope and schedule of specific Operable Units at Rocky Flats. Some of the original milestone dates as outlined in the Interagency Agreement (IAG) have been extended; other milestones have already been completed, and new milestones have been added since the IAG was signed.

Completed Milestones:

Operable Unit	Description	Milestone	Actual Completion Date
12	Final Phase I RFI/RI Work Plan	10/5/92	10/5/92
13	" "	10/12/92	10/9/92
14	" "	10/19/92	10/19/92
15	" "	10/26/92	10/26/92
1	Draft Phase III RFI/RI Report	7/30/92	10/28/92
8	Final Phase I RFI/RI Work Plan	9/28/92	12/1/92

The following are milestones added since the IAG was signed:

Operable Unit	Description	Milestone
2	Subsurface Site 1 Draft Test Plan	10/29/92 (Completed)
2	Subsurface Site 1 Final Test Plan	1/12/93 (Completed)
Sitewide	Annual Treatability Study Report	3/8/93
2	Final Treatability Test Report (Rads Removal System)	7/13/93
2	Subsurface Pilot Unit Installation	8/3/93
2	Subsurface Inspection and System Startup/Begin Pilot Testing	9/15/93
2	Subsurface Pilot Study	TBD
2	Draft Pilot Test Report to EPA and CDH	TBD
2	Final Pilot Test Report to EPA and CDH	TBD

UPCOMING FY93 MILESTONES AND EXTENSIONS

Operable Unit	Description	ORIGINAL Milestone	Extended Date
1	Final Phase III RFI/RI Report	1/4/93	4/4/93
2	Draft Treatability Test Report (Rads Removal System)	4/1/93	5/18/93
4	Draft Phase I RFI/RI Report	5/21/93	
1	Draft CMS/FS Report	3/31/93	6/29/93
3	Draft Phase RFI/RI Report	7/16/93	
6	Draft Phase RFI/RI Report	8/4/93	
2	Final Phase II RFI/RI Report	8/9/93	

RCRA Changes May Affect Some Operable Units

The EPA announced certain corrective action-related regulations under Subtitle C of the Resource Conservation and Recovery Act (RCRA). The specific provisions finalized in this rulemaking address two new units that will be used for remedial purposes under RCRA corrective action authorities: corrective action management units (CAMUs), and temporary units (TUs).

The proposed regulations contained several key remediation waste management provisions. These provisions were designed to reduce or eliminate certain waste management requirements of the current RCRA regulations. Currently, these requirements impede the ability of the EPA to select and implement reliable, protective and cost-effective remedies at RCRA facilities. These impediments also occur at sites being remediated under CERCLA authorities, since RCRA requirements are often applicable as defined in CERCLA.

More information on the RCRA provisions will be included in the April/May *Environmental Restoration Update.*

Quarterly Meeting Rescheduled

The Environmental Restoration Quarterly Public Meeting will be held April 13, 1993 from 7:00 to 9:00 p.m. at the Ramada Hotel in Westminster.

The public meeting will focus on Operable Unit 4, Solar Ponds Remediation.

A video detailing the primary activities of the solar pond project has been produced and will be presented at the public meeting in order to give members of the community a first hand look at the solar ponds remediation process.

After the video, a Rocky Flats Plant and an EPA representative will discuss the IAG Milestone schedule. Other EG&G and DOE personnel will be available to answer any questions related to the Operable Unit 4 and the IAG Milestone presentations in a question and answer session.

Upcoming Public Meetings

Site-Specific Plan Public Information Meeting
April 7, 1993 - 7:00 p.m. to 9:00 p.m.
Ramada Hotel, 8773 Yates Drive, Westminster

***Quarterly Environmental Restoration Public Information Meeting**
April 13, 1993 - 7:00 p.m. to 9:00 p.m.
Ramada Hotel, 8773 Yates Drive, Westminster

Site-Specific Plan Public Comment Meeting
April 28, 1993 - 7:00 p.m. to 9:00 p.m.
Ramada Hotel, 8773 Yates Drive, Westminster

* Please note date change for this meeting from March 23 to April 13.
** Other meetings may be scheduled since print time. Please contact Cathy Carlson at (303) 966-4261 for information.

ENVIRONMENTAL TECHNOLOGIES

Within Rocky Flats' Environmental and Waste Management (E&WM) division resides a quiet little think tank composed of engineers and scientists. This group is aptly named Environmental Technologies, and they were formed in March 1992 to provide environmental support to projects within the waste management area.

Environmental Technologies is separated into two distinct subgroups. Both groups work together to implement environmentally-focused solutions to common problems associated with regulatory compliance, analytical methods, and treatment processes.

The "environmental" subgroup develops techniques and equipment specifically tailored to meet regulatory requirements. The group provides testing services, equipment design, and assistance in complying with environmental regulations, specifically the Clean Water Act, Clean Air Act, the National Environmental Policy Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response, Compensation, and Liability Act. The "waste management" subgroup characterizes and samples both waste streams and the backlog of drummed wastes in support of waste treatment and disposal and specializes in the analysis of unknown waste forms.

From left to right: T.P. Zgabay, J.C. Laul, W.C. Gotrtschall, L.L. Millette, C.E. Baldwin, S.D. Muller, S.D. Spence, J.L. Stakebake, D.R. Barter, R.B. Blair. Not pictured: A.W. McLaurin, R.D. Thiel

Most of the Environmental Technology department's experiments and developments take place in one of three labs expressly outfitted for environmental work, analytical support, pilot scale and benchtop testing. The labs are equipped with the latest in analytical instrumentation, uranium analyzers and infrared spectrometers. The labs are located on plantsite in Building 881, are operated by the Environmental Technology 's staff, and are funded through the E&WM workpackage. Lab space is also available for internal treatability studies and commercial testing of new and emerging treatment methods.

Several different technologies have been and continue to be developed by both the waste and the environmental subgroups. Telemetry, environmental instrumentation, heterogeneous and homogeneous waste sampling, water and sludge treatment, and other biological methods for waste reduction represent the types of services Environmental Technologies offers. In subsequent issues of the Update, we will take a closer look at each technology and how it impacts the Rocky Flats Plant, as well as the commercial industry.

Public Invited to Use Reading Rooms

The following reading rooms contain current information, technical reports, and reference documents on environmental restoration at the Rocky Flats Plant:

Rocky Flats Plant Reading Room*
Front Range Community College Library
3645 West 112th Avenue
Level B, Center of Building
Westminster, Colorado 80030
(303) 469-4435
Hours:
Monday - Tuesday 12:00 pm - 8:00 pm
Wednesday 11:00 am - 4:00 pm
Thursday - Friday 8:00 am - 4:00 pm

Colorado Council on Rocky Flats*
1536 Cole Boulevard, Suite 325
Denver West Office Park, Building 4
Golden, Colorado 80401
(303) 232-1966
Hours:
Monday - Friday 8:30 am - 5:00 pm

EPA Superfund Records Center*
999 18th Street, Suite 500
Denver, Colorado 80202-2405
(303) 293-1807
Hours:
Monday - Friday 8:00 am - 4:30 pm

Colorado Department of Health*
Hazardous Materials and Waste Management Division
4300 Cherry Creek Drive South
Bldg. B, 2nd Floor
Denver, Colorado 80222-1530
(303) 692-3312
Hours:
Monday - Friday 8:00 am - 5:00 pm

Standley Lake Library
8485 Kipling Street
Arvada, Colorado 80005
(303) 423-4600
Hours:
Monday - Friday 10:00 am - 9:00 pm
Friday - Saturday 10:00 am - 5:00 pm
Sunday 12:00 pm - 5:00 pm

United States Department of Energy
Freedom of Information and Privacy Branch Office
1000 Independence Avenue, S. W.
Washington, D.C. 20585
(202) 586-6025
Hours:
Monday - Friday 9:00 am - 4:00 pm
(Eastern Time Zone)

*Information Repository

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