

Pollution Prevention Program Plan  
FY 1997

Rocky Flats Environmental Technology Site  
State CO  
Operations Office RF

Prepared for  
Department of Energy

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**Pollution Prevention Program Plan  
FY 1997**

**Purpose**

Executive Order 12856 and DOE Order 5400.1 require DOE Sites to prepare a Pollution Prevention (P2) Program Plan. This document serves as the FY97 update to the FY95 program plan. The purpose of this document is to integrate the pollution prevention activities of all organizations that generate waste at Rocky Flats Environmental Technology Site (RFETS). In addition, this plan documents site-specific waste reduction and recycling goals which are consistent with goals established by the Secretary of the Department of Energy.

**Reduction of Toxic Chemical Release Inventory**

Routine

RFETS no longer exceeds reporting thresholds for releases and offsite transfers of any of the EPCRA toxic chemicals. This surpasses the DOE Complex wide reduction goal of 50% by December 31, 1999. Given the current clean-up mission of the Site, this status is expected to continue through Site closure. In addition, the site has established an aggressive chemical management program with the intent of limiting procurement of all chemicals to the absolute minimum and least toxic possible.

Non-routine

RFETS is in the process of removing all post-production mission excess chemicals from the Site as a pre-decontamination and decommissioning activity. Over the past several years, approximately 30,000 containers of chemicals have been recycled, treated and/or disposed. Over the next several years, RFETS plans to disposition up to an additional 67,000 containers.

**Reduction of Low-Level Radioactive Waste (LLW) Generation**

Routine

The following initiatives are in effect for the reduction of routine LLW. Contaminated areas (CA) will continue to be aggressively reduced to minimize the generation of contact wastes, routine activities are being relocated or eliminated from CAs where possible, aggressive survey and decontamination activities are employed to support the release of non-radioactive waste and debris.

Non-Routine

Technologies are being developed for recycling/reuse possibilities (i.e., CO<sub>2</sub> blasting of contaminated scrap metal). Pollution prevention teams, consisting of program managers, project managers, D&D managers and P2 personnel, are being formed to ensure P2 principles and techniques are incorporated early in program and project planning. During environmental restoration activities, radioactive contamination is removed from environmental media and the media is returned to the environment rather than disposed as radioactive waste.

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## **Reduction of Low-Level Mixed Waste (LLM) Generation**

### Routine

The routine LLW goals also apply to the LLM waste generation

### Non-Routine

The non-routine LLW goals also apply to the non-routine LLM waste generation. Additionally, environmental restoration activities are planned with the intent to remove and concentrate hazardous constituents, as well as radioactive constituents from environmental media to the extent necessary to return environmental media to the environment.

## **Reduction of Hazardous Waste Generation**

### Routine

Non-hazardous fluorescent light tubes are being used in place of those characterized as hazardous waste when spent. The Site has implemented a closed-loop oil re-refining program meeting the needs of the Site's lubricating oil requirements. Vehicle anti-freeze is recycled through a closed-loop system. Several types of batteries are routinely recycled rather than disposed as hazardous waste. The majority of hazardous solvents have been removed from processes or replaced by non-hazardous or less toxic solvents. RFETS currently recovers and recycles precious metals from photographic development solutions. Plans are being developed to digitize the photography lab, eliminating almost all of the waste generated by the process.

### Non-routine

The site maintains a "relogistics" program with the sole intent of finding uses for all excess products and materials, including items that would be hazardous waste if discarded. Typical items dispositioned include, computers, machinery, chemicals and building materials. The pollution prevention management teams described above will play an integral role in reducing the amount of hazardous waste generated during D&D activities by maximizing the recycling efforts.

## **Reduction of Sanitary Waste Generation**

Reduction of sanitary waste at the Site has been accomplished thus far primarily by aggressive recycling programs. Recycled items include paper, commingled items (glass, tin, plastic bottles, aluminum), toner cartridges, batteries and non-contaminated scrap metal. The Site also recycles cafeteria food scraps and biodegradable paper products by composting at an off site permitted facility. Efforts are currently underway to transfer Site procedures, plans and other widely disseminated documents to electronic access instead of paper distribution.

## **Increase Sanitary Waste Recycling**

Current recycling efforts include plans to increase percentages of those items identified above. Additionally, the Site "relogistics" program ensures excess products and materials are evaluated for potential recycling and reuse possibilities. Additional items currently targeted for recycling include excess software manuals, computer disks, and damaged wooden pallets.

**Increase Affirmative Procurement (AP) of EPA-Designated Recycled Products**

The Site goals for affirmative procurement are to purchase 85% of designated recycled products for fiscal year 1997, 95% of products for fiscal year 1998, and 100% of products for fiscal year 1999. The Site is in the process of establishing an affirmative procurement subcontract system, requiring all AP purchases to be made through the subcontractor.

**Reduction of TRU Waste Generation**

Routine

Because the Site is no longer in production, routine TRU waste generation is minimal.

Non-Routine

Decontamination and decommissioning plans include disposition of many highly contaminated tank systems and equipment. Several decontamination technologies are currently being evaluated for use on various systems and equipment. Where it is determined to be cost effective, systems and equipment will be decontaminated from TRU to Low Level or non-radioactive waste.

Site Rocky Flats Environmental Technology Site

Pollution Prevention Waste Reduction Goals  
 from 1997 - 1999  
 Using 1993 Quantities as a Baseline

Goal	1993 (Baseline)*		Projected 1997		Projected 1998		Projected 1999		By 12-31-99 DOE Reduction Goals
	Qty**	% Reduction	Qty	% Reduction	Qty**	% Reduction	Qty**	% Reduction	
Reduction of Toxic Chemical Release Inventory	1000		800	20%	700	30%	600	40%	100%
Reduction of Low-Level Radioactive Waste Generation	591 73 m <sup>3</sup>		472	20%	384	35%	295	50%	50%
Reduction of Low-Level Mixed Waste Generation	380 11 m <sup>3</sup>		304	20%	247	35%	190	50%	50%
Reduction of Hazardous Waste Generation	23 mt		18	20%	15	35%	11 5	50%	50%
Reduction of Sanitary Waste Generation	3550 mt		2840	20%	2485	30%	2130	40%	33%
A Increase Sanitary Waste L Recycling				20%		30%		40%	33%
L Increase Affirmative Procurement of EPA- Designated Recycled Products				85 % of total purchases		95 % of total purchases		100 % of total purchases	100 %

\*From 1994 Annual Report on Waste Generation and Pollution Prevention Progress

\*\*Rad and mixed wastes are in cu meters and hazardous and sanitary wastes are in metric tons