Public Invited to Use Information Repositories

The following information repositories contain current information technical reports and reference documents on environmental restoration at the Rocky Flats Plant

Rocky Flats Public Reading Room Front Range Community College 3645 West 112th Avenue Level B Center of Building Westminster CO 80030 303-469 4435
Hours Monday – Tuesday 12 00 p m – 8 00 p m
Wednesday 10 00 a m – 4 00 p m
Thursday – Friday 9 00 a m – 4 00 p m

Rocky Flats Environmental Monitoring Council
1536 Cole Boulevard Suite 150 Denver West Office Park Bldg 4 Golden CO 80401 303-232 1966
Hours By Appointment

EPA Administrative Records
999 18th Street Suite 500 Denver CO 80202
303-293 1807
Hours Monday Friday 7 30 a m 4 30 p m

Colorado Department of Health (CDH)
Hazardous Materials and Waste Management Division
4210 East 11th Avenue Room 351 Denver CO 80220
303- 31 4830
Hours Monday Friday 8 00 a m – 5 00 p m

Calendar of Events

Rocky Flats Environmental Monitoring Council Meeting January 29 1991
Front Range Community College Student Lounge 7 00 p m (see address above)

Comment Period on Residue Compliance Plan runs through December 3 1990
(please send comments to Fred Dowsett CDH at address above)

Comment Period on Supercompactor runs through December 5 1990
(please send comments to Fred Dowsett CDH at address above)

Scoping Period on the Complex wide Programmatic Environmental Impact Statement for Environmental Management runs through February 19 1991
(call Beth Brainard at 303-966 5993 for details about commenting)

Public Scoping Meeting on the Complex wide Programmatic Environmental Impact Statement for Environmental Management January 23 1991 Westminster Recreational Center 9 00 a m – 9 30 p m (tentative)

General Rocky Flats Plant Tours December 10 1990 and January 14 1991
(please call 303-966 5870 one week in advance)

EG&G Rocky Flats Inc
PO Box 464
Golden CO 80402 0464

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EG&G Rocky Flats Inc
P O Box 464
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80402 0464
303 966 5754

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ROCKY FLATS
ENVIRONMENTAL RESTORATION UPDATE

EG&G

A PERIODIC UPDATE ON ROCKY FLATS CLEANUP NOVEMBER 1990

Regulations Guide Cleanup at Rocky Flats Plant

Numerous laws and regulations guide environmental restoration activities at the Rocky Flats Plant (RFP) Superfund law regulates waste sites where hazardous or toxic substances were formerly released Superfund status is generally given to a site when wastes and contamination have been discovered that pose a potential threat to public health and/or the environment

At RFP primary production activities have included 1) fabrication of nuclear weapons components from beryllium plutonium uranium and stainless steel 2) assembly of these components and 3) chemical recovery and purification of recyclable transuranic (TRU) (radioactive) radionuclides Wastes produced by these operations have included 1) industrial/municipal solid waste 2) hazardous waste 3) low level waste 4) low level mixed (hazardous and radioactive) waste 5) TRU waste and 6) TRU mixed waste

DOE studies and identifies various wastes and contamination and evaluates risks that may be posed at each location within RFP Those locations are broken into Operable Units (OUs) based on types of contamination regulatory requirements locations and types of remedial action technologies needed

Waste and contamination can be treated stored stabilized or removed the course of action is determined by various environmental regulations and laws The underlying goal is always to reduce risk to public health and the environment and to bring all operations into compliance with federal and state regulations

The federal law controlling inactive waste sites is the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 also referred to as Superfund The act regulating generation transportation storage and disposal of hazardous wastes at sites that are currently active is the Resource Conservation and Recovery Act of 1976 (RCRA) as amended by the Hazardous and Solid Waste Amendments of 1984 In situations where two laws with overlapping jurisdiction by different agencies conflict an Interagency Agreement (IAG) is created between the guiding parties involved which for RFP are the U S Environmental Protection Agency (EPA) DOE and the State of Colorado The IAG also integrates the Clean Water Act Safe Drinking Water Act Clean Air Act Colorado Hazardous Waste Act (CHWA) and other laws applicable to restoration activities at RFP

CERCLA authority is far broader than any other federal environmental statute including RCRA Under RCRA a waste must either be listed on one of EPAs three hazardous waste lists or meet one of EPAs four hazardous characteristics By contrast CERCLA authority may cover a substance whether it is a waste a product or a

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Welcome to the first issue of the *Rocky Flats Environmental Restoration Update* The U S Department of Energy (DOE) will publish this *Update* periodically throughout the year to provide information to community members interested in environmental restoration and waste management projects being conducted and planned at the Rocky Flats Plant (RFP)

The RFP is a government owned contractor-operated facility located approximately 16 miles northwest of downtown Denver It is part of a nationwide nuclear weapons research development and production complex that has been in operation since 1951 EG&G operates the plant for DOE ■

DOE Solicits Participation

The study planning and action sequence of environmental restoration is designed to allow for public participation throughout its various stages During monitoring analysis and cleanup of hazardous wastes at Superfund sites public comment is one of the most significant vehicles for community participation in the decision making process

All formal Proposed Plans for environmental restoration activities or drafts of Permit Modifications issued in compliance with the governing regulations are available for public comment for 60 days after their issuance At least one public meeting will be held during the public comment period for each Proposed Plan or Draft Permit Modification Public meetings and public comment periods will be announced through newspaper ads on the radio and through direct mail announcements to all persons on the RFP mailing list If you wish to be placed on the mailing list please call 966 6159

After the public comment period for the Proposed Plan DOE must respond to all relevant comments in what is called a Responsiveness Summary while the State will respond to comments made related to permits Taking into consideration the comments received the appropriate remedial action is determined for each operable unit DOE prepares the Corrective Action Decision or Record of Decision (CAD/ROD) These documents formally record the selection of a remedy for a site or an operable unit The Colorado Department of Health (CDH) prepares the Resource Conservation and Recovery Act (RCRA)/Colorado Hazardous Waste Act (CHWA) permit A RCRA/CHWA permit is issued upon compliance of all fed

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ADMIN RECORD

Cleanup Regulations *continued*

raw material In addition the decision as to whether RCRA applies is based on certain minimum amounts and concentrations of toxic materials Under CERCLA any amount of a hazardous substance may activate jurisdiction Both RCRA and CERCLA have parallel steps in cleanup of a hazardous waste site as shown in the diagram to the right

DOE s response to the environmental contamination at RFP must meet the requirements in the IAG EPA administers both CERCLA and RCRA but within Colorado EPA has delegated RCRA authority to th State The State is therefore the lead agency on most requirements of RCRA as well as on all requirements falling under CHWA

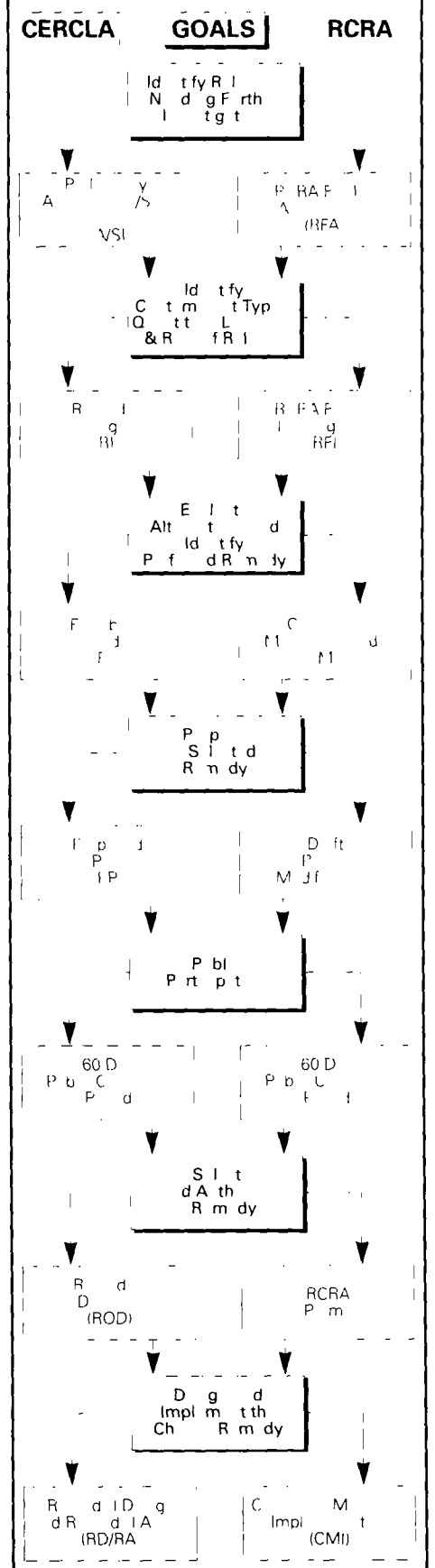
RFP has been divided into 16 operable units for study and cleanup purposes These have been ranked according to a preliminary identificatio n of those that pos the greatest threat to public health and the environment R storation activities have begun at OU1 and OU2 and will continue unt l restoration i complete at ll 16 OUs

OU Number	Description	Lead Agency	OU Number	Description	Lead Agency
01	881 Hillside Area	EPA/CDH	10	Other Outside Closures	CDH
02	903 Pad Area	EPA/CDH			
03	Off Site Areas	EPA	11	West Spray Field	CDH
04	Solar Ponds	CDH			
05	Woman Creek	EPA	12	400/800 Area	CDH
06	Walnut Creek	EPA	13	100 Area	CDH
07	Present Landfill	CDH	14	Radioact ve Sites	EPA
08	700 Area	EPA/CDH	15	Inside Building Closur s	CDH
09	Original Process Waste Lines	CDH	16	Low Prior ty S tes	CDH

An evaluation of alternatives to clean up the contaminatior must be perfo med following investigation of each OU to arrive at Proposed Plan or a Draft Permit Modification for cleanup These studies can take several years to complete

If near term risks are identified during the longer time it typically takes to evaluate and select a remedy interim actions may be conducted to minimize the release of hazardous substances An Interim Measures/Interim Rem dial Action Plan (IM/IRA Plan) to identify screen and evaluate interim alternatives and propose a preferred alternative will be developed and implemented at the affected OU ■

Cleanup steps under RCRA & CERCLA at the Rocky Flats Plant



Note Interim remed al actions o mea sures will be performed whene e con d tions wa rant They follow a s m lar process on an accelerated schedule

Participation *continued*

eral and state requirements to minimi e treat and dispose of hazardous waste These regulations provide an incentive to reuse or reclaim wastes or to search out new products processes and raw mate rials that do not result in the generation of hazardous waste in the first place

To further understand the sequence of regulatory actions involved with envi ronmental restoration please refer to the diagram included on thi page DOE s preparing a Community Relations Plan (CRP) describing techniques and proce dures that will be used to encourage and incorporate community involvement dur ing environmental restoration activities at RFP The CRP following public comment will be completed in August 1991 and will then be placed in the information repositories listed on page 4 of this *Update* ■

881 Drain Planned

The soil and grou id water at the 881 Hillside Area Operable Unit 1 (OU1) located north of Woman Creek in the southeast section of RFP were con taminated in the 1960s and 1970s with solvents and radionuclides The various waste management sites that OU1 com prises are being invest gated and treated a high priority sites because of elevated concentrations of organ ompounds in the ground water

The selected IRA at OU1 ir volves construction of an ur derground dra nage system called a french drain which will be designed to intercept and contain all contaminated ground water flowing from the OU1 area The 2 100 foot long drain w ll be constructed on top of the bedrock in the alluvium which varies from 10 to 40 feet ir thickness Thi drain will be located downgradient of the contaminat ed ground water of the OU1 solid waste management units (SWMUs) An imper meable barrier will be constructed between the bedrock and the surface with a piping sys tem located on the upstream side to collect contaminated gro nd water Water w ll then be pumped to an on site treat ment facility to remove organ ic compounds and metals

Monitoring wells will be ir stalled to monitor the effec tiveness of the ground water collection system The treat ed water will be released into the South Interceptor Ditch which drains into Pond C 2 Water collecting in Pond C 2 is held for sampling and analysis and is treated if nec essary before being trans ferred to ponds on Walnut Creek The water in Walnut Creek then flows into the Broomfield Diversion Ditch bypassing Great We tern Reservoir The field nvestigations phase of the ground water Remedial Investigation and Feasibility Study (RI/FS) upon which the design for final cleanup of the area will be based will begin in March 1991 ■

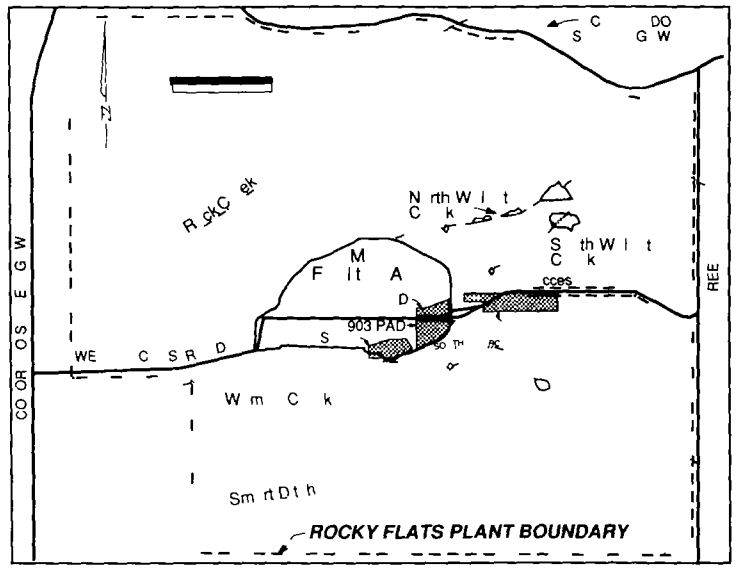
Remedial Action for 903 Pad Being Evaluated

DOE has completed its evaluation of technologies for cleaning up some contami nated surface water sources at the 903 Pad Mound and East Trenches Areas which make up Operable Unit 2 (OU2) The preferred treatment methods have been presented to the public in the Interim Measures/ Interim Remedial Action Plan (IM/IRA Plan) which was recently available for public comment Under this IM/IRA Plan source areas of contamination will be treated and returned to the surface water system

The contamination at the 903 Pad and Mound Areas is largely attributed to the storage in the 1950s and 1960s of waste drums that corroded over time allowing hazardous and radioactive mater als to leak into the surrounding soil Additional con tamination may have resulted from wind dispersion during removal and soil move ment activities

The East Trenches Area was used for the disposal of plutonium and uranium cor taminated waste and sanitary sewage sludge from 1954 to 1968 Two areas adja cent to the trenches were used for spray irrigation of sewage treatment plant efflu ent some of which may have contaminants that were not removed by the treatment system

DOE evaluated alternatives to remove first the radionuclides and metals and then the volatile organic compounds from the surface water at OU2 Radionuclides are a radioactive species of an element that de ays or disintegrates spontaneously Volatile organic compounds are chemicals containing mainly carbon hydrogen and oxygen that tend to vaporize at room temperature and can produce toxic effects on body tissues and processes



The preferred alternative i chemical precipitation with cross flow membrane filtration for suspended solids radionu clides and metals removal This process would be followed by granular activated carbon adsorption for removal of volatile organic compounds

In more simplified terms during chemical precipitation chemicals are added to the contaminated water containing soluble radionuclides and met als These chemical additives cause the soluble radionuclides and metals in the water to form particles large enough to be fil tered or settled out To remove volatile organic compounds the water to be treated is passed through columns containing granular carbon which has been previously pro ce sed to increase its porosity and surface area The volatile organic compounds become attached to the carbon particles and thus are separated from the water The treated water then flows back into the detention ponds above South Walnut Creek

The preferred technologies were proposed by DOE because they have proven to be reliable easy to operate and cost effective

As part of the preferred alternative DOE expects to start up a field scale treatabil ity unit by March 1991 to evaluate the effectiveness of the organics removal methods To confirm the effectiveness of the treatment process the project will test water at three points at the entrance to the treatment facility at several points within the facility and at the discharge point After completion of the field scale treatability tests the unit is anticipated to remain in service for about six years by which time the final remedial action is expected to be in service ■