

CORRES CONTROL  
OUTGOING LTR NO

87 RF 3583

Rocky Flats Plant  
North American Space Operations  
Rockwell International Corporation  
P.O. Box 464  
Golden, Colorado 80402-0464  
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Rockwell  
International



000024551

Contractor to U.S. Department of Energy

August 19, 1987

87-RF-3583

Albert E. Whiteman  
Area Manager  
DOE, RFAO

Attn: R. D. Reed

REVISED ROCKY FLATS ENVIRONMENTAL SURVEY  
LISTING OF TECHNICAL CORRECTIONS

DOE-HQ conducted an Environmental Survey of the Rocky Flats Plant in August, 1986. Technical reviews by myself and several members of my HS&E staff and other key plant personnel have identified some statements in the report that are either erroneous, no longer accurate, require additional clarification, or contain typographical errors. A listing of these technical corrections was submitted to DOE-RFAO for review on July 31, 1987. Attached is the revision to that listing incorporating DOE-RFAO comments. Please transmit this revision to the DOE-HQ Environmental Survey Team for incorporation into the next update report on Rocky Flats.

As you are aware, this document has already been supplied to several congressional committees. The Rocky Flats Environmental Survey Report will likely be subjected to intense regulatory/public scrutiny on a detailed technical level. Therefore, it is in the best interest of all parties to have a final report which is technically accurate. Incorporating the attached corrections into the Rocky Flats report will be a major step in this direction. Please note that the attached listing does not address or correct any of the Findings Sections. All fifty-three findings and associated background/rationale statements have been covered separately in the revised Implementation Plan being submitted to your office on August 19, 1987.

Please contact me if you have any questions or require additional information on this topic.

George W. Campbell, Director  
Health, Safety and Environment

Orig. and 1 cc - A. E. Whiteman  
Enc.

ADMIN RECORD

SW-A-003841

DIST	LTR	ENCL
SANCHINI D J		
SADLER C P	X	X
CAMPBELL G W	X	X
WOOD R C		
WINZER J E		
WIRBY W A		
LANGHEIM G R		
MCCNETT J F		
MEYERS G W	X	X
SHANNON W M		
SMITH R E		
WEIDNER W F		
WESTON W F	X	X
WILSON G L		
WOZNIAK B D		
YOUNG E R		
BETCHER D M		
CARNIVAL G J		
CHANDA R N		
EDWARDS K J		
HAPMAN L K		
HEBERT J L		
HOEY J B		
HOFFMAN R B		
KRIEG D M		
LIM B W		
LOUBENBURG D E		
MICHEL W B		
NAIMON E R		
NEWBY R L		
TURNER H L		
VELASQUEZ R N		
CORRES CONTROL	X	X
M. J. Doherty	X	X
E. W. Donald	X	X
D. Hornbaker	X	X
H. McKinley	X	X
G. L. Potter	X	X
G. H. Setlock	X	X
CLASSIFICATION		
UNCLASSIFIED	X	X
CONFIDENTIAL		
SECRET		
AUTH. CLASSIFIER SIG.		
DATE		
IN REPLY TO LTR NO.		
REC #		
TR. APPROVALS		

FIG. & TR. PIST INITIALS  
NMD/dlb  
SF-46469 (Rev 3/87)

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Rocky Flats Plant  
Environmental Survey Preliminary Report  
Technical Corrections and Clarifications

Prepared by  
Environmental Management  
Rockwell International  
Rocky Flats Plant

Submitted August, 1987

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Line-by-line technical review of  
Environmental Survey Preliminary Report  
of the Rocky Flats Plant- Golden CO  
August, 1987

Note: All findings throughout the text are addressed in the implementation plan and are not addressed in this review.

**Executive Summary:**

**PAGE ES-2**

**Summary of Findings:**

**General Comments:** The findings are listed without perspective or priority, as if they were of equal consequence. They do not reference categorical criteria of page 1-2.

**Finding 1:** (Groundwater...)

**Insert:** On-site groundwater is contaminated in localized areas (within and contiguous to the 384-acre plantsite proper) with nitrates...

**Finding 2:** (Mixed waste...)

**Add:** The majority of the mixed waste now accumulating on-site is stored in stable form as concrete blocks (saltcrete or pondcrete). These waste forms are being stored at RFP with the approval of CDH and are meeting all RCRA waste storage requirements. Weekly inspections of the waste storage areas are conducted to preclude environmental releases.

**Finding 3:** (Ten on-site areas...)

**Insert:** ...hazardous substances from past (1950's-1960's) waste disposal practices ...

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Finding 4: (Improper asbestos handling...)

Needs clarification:

Insert: **This finding was a non-typical occurrence. Normally asbestos is disposed of in a separate cell of the active landfill. Although several bags of asbestos debris were initially put in the active landfill they were relocated to the proper separate cell. The materials were analyzed and found to not contain friable asbestos; no airborne asbestos was detected.**

Finding 6: (Drums and crates...)

Add: **These incidences were isolated and were corrected in the fall of 1986 in preparation of compliance with RCRA Part B requirements.**

**PAGE ES-3**

Finding 7: (Deviations from accepted practices...)

Erroneous extrapolation:

**The deviations noted were minor in nature and this statement is not true of all air monitoring programs at RFP. The deficiencies in one air monitoring program do not imply deficiencies or questionable data in all air monitoring programs.**

First paragraph (Overall Conclusions):

Insert: (After first sentence)

**The survey found few environmental problems that had not been previously identified by DOE/RFAO-AL Comprehensive Environmental Assessment Response Program (CEARP), the RFP RCRA Part B permit application and/or on-site internal audits.**

Insert: (at end of section)

**...meeting this requirement in a prioritized fashion per the RCRA Part B.**

Second paragraph (Transmittal of Results):

Insert: (in first sentence:)

**The preliminary findings of the environmental...**

**Section 1**

**PAGE 1-1**

Third paragraph (1.0):

Replace: (in second sentence:)  
**participants**

With: **team**

**PAGE 1-3**

Last paragraph (1.0):

Needs DOE HQ/Environmental survey team clarification:

(second sentence)

Explain why nonregulated materials and those kept in concentrations below established standards were investigated and with what guidelines they were examined.

**Page 1-4**

First complete paragraph (1.0):

Replace: (in first sentence)

**unsafe**

With: **incompatible**

Last paragraph (1.0):

Needs DOE HQ/Environmental survey team clarification:

(last paragraph)

Explain what "data gaps and weaknesses" were identified on which the S&A Plan was based.

**PAGE 1-5**

**Section 2**

**PAGE 2-4**

First paragraph (2.1):

Insert: (seventh sentence:)

...city of Westminster and for portions of the cities of Northglenn and Thornton.

**Page 2-5**

Sixth paragraph (2.1):

Replace: (in first sentence:)

**anong**

With: **along**

**Page 2-6**

Second paragraph (2.1):

Replace: **The Oxnard Support Facility**

With: **The Oxnard Facility**

Replace: **by farm crop land.**

With: **an industrial park (automobile preparatory facility being constructed).**

**Page 2-9**

Fourth paragraph (2.2.3):

Insert: (at end of last sentence)

...designed for beryllium work with appropriate worker protection.

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**PAGE 2-10**

Top paragraph as continued from page 2-9 (2.2.4):

Replace: ...silver, lead, and nickel are used...

With: ...silver, lead, and nickel have been used...

Last paragraph (2.2.5):

Erroneous Statement: (last sentence)

Replace: (in last sentence:)

...goes to a waste treatment facility where it is prepared for burial as a solid waste.

With: ...goes to a waste treatment facility. Since the americium fraction is a transuranic (TRU) waste, it is not buried per DOE Order 5480.2. The waste is placed into interim storage until geological disposal is available.

**PAGE 2-11**

First paragraph (2.2.6):

Insert: ...control of quality, safety, health, environmental protection, and maintenance...

Second paragraph (2.2.7):

Replace: **Oxnard Support Facility**

With: **Oxnard Facility**

Fourth paragraph, first concern (2.3):

Needs DOE HQ/Environmental survey team clarification: Neither an adequate storage site nor appropriate technology have been approved for the disposal of mixed hazardous wastes at this time.

Fourth paragraph, second concern (2.3):

Needs DOE HQ/Environmental survey team clarification: An engineering evaluation of the cleanup of the contaminated sediments has been made.

Fourth paragraph, third concern (2.3):

Insert: (Clarification after third concern:)

**A series of remedial investigation/feasibility studies is ongoing at RFP per Compliance Agreement/RCRA/CERCLA schedules.**

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PAGE 2-12

Fourth paragraph (from page 2-11), fourth concern (2.3):

Needs clarification:

(last two sentences of concern:)

Small amounts of radioactive liquid PCB wastes are stored presently at RFP in Building 776. These wastes will be shipped to Los Alamos for disposal pending the approval of a new container for transportation. Currently no approved container exists for the transportation of radioactive liquid PCBs.

Second paragraph (2.3):

Needs clarification/erroneous statement:

The RCRA Part B permit was not deficient. The section on groundwater monitoring was not submitted to CDH but was submitted to the EPA at the time because of a jurisdictional dispute between CDH, EPA and DOE. This dispute has since been settled through the July 31, 1986, Compliance Agreement.

### Section 3

Page 3-1

First paragraph (3-1):

Insert: ...problems in the air, soil, surface water, and groundwater media.

Page 3-2

Fourth paragraph (3.1.1):

Erroneous Statement:

Regarding Colorado ambient air quality standards: the state ambient air standards are the same as the federal EPA NAAQS. This was confirmed with telephone conversation with Frank Rogers from CDH on 6-22-87. The ambient air quality standard for ozone is a one-hour primary standard equal to 0.120 ppm. not to be exceeded more than once per year.

Pages 3-4 and 3-5

Table 3-1 (3.1.1):

Erroneous Statement; needs clarification :

The Colorado ambient air quality standards cited in Table 3-1 are incorrect. They are the same as the EPA NAAQS (see previous comment).

Delete: Fourth column of Table 3-1.

Insert: (in heading of third column:)  
...NAAQS and Colorado AAQS

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Page 3-7

Third paragraph (3.1.1.2):

Delete: ...through routine and accidental releases and fugitive emissions...

Replace: RFP handles both enriched and depleted uranium.

With: RFP can handle both enriched and depleted uranium.

Replace: Tritium contamination may be present in materials handled at RFP and and will be released during processing.

With: Tritium contamination may be present in materials handled at RFP and may be released in small quantities during processing.

Page 3-8

First paragraph (3.1.1.2):

Partially True; needs clarification:

The last sentence "The background levels at RFP site would be expected to be comparable to those of Denver, Colorado." is not necessarily true since the Denver area is built, tilled, plowed and disturbed, whereas RFP area is not.

Page 3-11

First paragraph (3.1.2):

Needs clarification:

Replace: The discussion of air emissions controls and problems at the RFP...

With: The discussion of air emissions controls and environmental impacts at the RFP...

Replace: ...including plutonium, uranium, tritium, and possibly others, are generated...

With: ...including plutonium, uranium, tritium, and other radionuclides, are generated...

Replace: ...substances generated by the burning of fuel...

With: ...substances generated by the oxidation of fuel...

Second paragraph (3.1.2):

Needs clarification:

Insert: ...Supportive activities that may result in emissions...

Fourth paragraph (3.1.2.1):

Needs clarification:

Insert: (after first sentence)

**However, these materials are processed inside gloveboxes with controlled atmospheres.**

Replace: RFP handles plutonium, enriched uranium...

With: RFP can handle plutonium, enriched uranium...

Replace: ...tritium is released to the atmosphere...

With: ...tritium may be released to the atmosphere...

Page 3-12

Top line; fourth paragraph from Page 3-11 (3.1.2.1):

Spelling error:

Replace: ~~protoactinium~~-234

With: ~~protactinium~~-234

First paragraph (3.1.2.1):

Insert: (in last sentence:)

**...are passed through HEPA filtration...**

Page 3-14

First paragraph (3.1.2.1):

Insert: (at the end of the paragraph:)

**These filtration systems ensure that plutonium effluents are continually controlled to levels well below applicable DOE and EPA standards.**

Erroneous statement:

Delete: delete the last sentence of the paragraph.

Third paragraph (3.1.2.1):

Replace: (in first sentence:)

**Small amounts of tritium handled at RFP result in the discharge of this isotope.**

With: Small amounts of tritium handled at RFP may result in some releases of this radionuclide.

Insert: (between 3rd and 4th sentence:)

**For additional control, materials that may contain tritium are handled in a specially designed glovebox system that is equipped with a gettering system that can trap tritium that might be released.**

Page 3-15

Table 3-5 (3.1.2.1):

Spelling error: Under "Source"

Replace: G. S. Setlock

With: G. H. Setlock

Page 3-16

First paragraph (3.1.2.1):

Insert: (in first sentence:)  
...ignites spontaneously in air...

Second paragraph (3.1.2.1):

Needs clarification:

The removal of contaminated soil from the 'lip' area as a control measure was not mentioned in the paragraph.

Insert: (after sixth sentence:)  
After subsequent environmental monitoring, some additional contaminated soil (i.e. in the "lip area") was removed.

Page 3-18

First paragraph (3.1.2.1):

Erroneous Statement:

Building 886 has never processed uranium.  
Building 881 no longer processes uranium.

Replace: (in fourth sentence:)  
...Building 881, one HEPA-filtration stage is used;...

With: ...Building 881, which historically processed uranium, one HEPA-filtration stage was used;...

Needs clarification:

This paragraph needs to be updated to reflect the status of the 881 plenum upgrade (which was scheduled for 1987).

Second paragraph (3.1.2.1):

Replace: (in first sentence:)  
...are used to burn radioactively ...

With: ...are used to treat radioactively...

Third paragraph (3.1.2.1):

Replace: (in first sentence:)  
...rubber. and cloth for the dual purpose of disposing of the contaminated waste and for subsequent recovery of plutonium.

With: ... rubber, and cloth for the purpose of plutonium recovery.

Insert: (at end of paragraph).  
Waste feed rates in the original Air Pollution Emission Notice remained the same in the RAPEN.

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Page 3-19

Second paragraph (3.1.2.1):

Erroneous statement:

The main building ventilation system in Bldg. 771 contains two stages of HEPA filters, not four.

Replace: (in second sentence:)

...which is served by another stage of four banks of HEPA filters.

With: ...which is served by another two stages of HEPA filters.

Third paragraph (3.1.2.1):

Erroneous statement:

The two incinerators are no longer covered by a single emissions permit.

Fourth paragraph (3.1.2.1):

Erroneous statements:

Insert: Insert the words **radioactive-contaminated** in the four places it appears in this paragraph. Operation of these incinerators is not limited to Pu-contaminated wastes.

Erroneous statement:

Delete: Delete the last sentence of paragraph 4:  
**The use of this unit is limited to materials containing quantities that are considered to be economically recoverable.**

Fifth paragraph (3.1.2.1):

Replace: ...and five stages of HEPA filters.

With: ...and **six** stages of HEPA filters.

Sixth paragraph (3.1.2.1):

Erroneous statement:

Replace: ...for the **demonstration-scale incinerator to burn plutonium-contaminated hazardous wastes.**

With: ...for the **full-scale incinerator to treat plutonium- and uranium-contaminated hazardous wastes.**

Page 3-20

First paragraph (3.1.2.2):

Needs DOE HQ/Environmental survey team clarification:

What "future problems" are referred to in the last sentence?

Third paragraph (3.1.2.2.1):

Erroneous statement:

Air Contaminant Emission Notices, now called Air Pollution Emissions Notices (APEN), do not serve as operating permits.

Change: ...contaminant to pollution and  
delete which serve as operating permits.

**Page 3-21**

Figure 3-3 (3.1.2.2.3):

Needs DOE HQ/Environmental survey team clarification:  
The meaning of the dashed lines on this  
figure are unclear and should be defined.  
If dashed lines are used to interpolate  
between existing data. this needs to be  
footnoted.

**Page 3-22**

First paragraph (3.1.2.2.3):

Erroneous Statement:

Air Containment Emission Notices, now called  
Air Pollution Emissions Notices (APEN), do  
not serve as operating permits.

Change: Change contaminant to pollution  
and delete which serve as operating permits.

Needs clarification:

Insert: (after second sentence:)

No emission controls are required on the  
steam plant boilers in Bldg. 443, since their  
heat input capacity is less than that  
specified in EPA's NSPS.

Second paragraph (3.1.2.2.3):

Needs clarification:

Insert: (after second sentence:)

The requisitions used to acquire No. 6 fuel  
oil to be burned in the boiler plant  
specify the maximum sulfur content of the  
fuel to be less than 1%.

Fourth paragraph (3.1.2.2.4):

Needs clarification:

This incinerator was used intermittently. several  
hours per month; smoke from the stack would  
occasionally exceed the <20% opacity limits  
This was caused by improper operation of the  
incinerator, mainly insufficient preheating  
and unreasonable feed-rates. Other considerations  
were involved in the decision discontinue operation  
of the incinerator and rely upon shredding  
operations (replacement costs. maintenance,  
total destruction efficiency,  
etc.).

**Page 3-24**

Fifth paragraph (3.1.2.2.6):

Needs clarification:

Insert: (instead of 7th sentence:)

The operation involving the use of CCL4 in

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building 707 is using this solvent for degreasing of metal parts, and is not considered a disposal operation. The buildings purpose is not that of disposing of solvents, therefore, comparison to the 38 liter-per-day standard is felt to be inappropriate in this case. A more appropriate regulatory comparison would be Section D.1.B, General Limitations - Existing Sources (CDH Regulation #7. Regulation to Control Emissions of Volatile Organic Compounds); which allows 450 pounds/hour, or 3000 pounds per day of VOC's. Calculations on estimated CCL4 emissions are well below these numbers. However, the concern in this document echos plant-site awareness over upcoming regulations controlling CCL4, specifically as a hazardous pollutant under Section 112 of the Clean Air Act, and upcoming air regulations under RCRA, will overshadow the VOC issue.

Page 3-25

Fourth paragraph (3.1.3):

Insert: (before last sentence)

A public meeting is held monthly to exchange environmental monitoring information with the Colorado Department of Health and the City of Broomfield, both of which maintain their own independent monitoring programs for RFP. This public meeting has been occurring for over 15 years.

Page 3-27

First and third paragraphs (3.1.3.1.1):

Needs clarification:

RFP observes DOE-established limits for the release of radioactive materials to restricted areas. NRC regulations and requirements are not applicable to operations at RFP.

Fourth paragraph (3.1.3.1.2):

Needs clarification:

These monitors were installed for research purposed and are not required for regulatory compliance.

Insert: (at end of 3rd sentence:)

...steam plant, even though monitoring for these emissions is not required by law.

Page 3-28

Third paragraph (3.1.3.1.1):

Insert: (at end of paragraph:)

The exhaust ducts serving the pilot and demonstration FBIs are also continuously monitored for plutonium, uranium, and beryllium.

Fourth paragraph (3.1.3.1.1):

Insert: (at end of paragraph:)

Continuous emissions monitoring (CEM) is not required by the 771 Incinerator Air Emissions Permit. Emission data collection for other miscellaneous sources is not required at this time. However, the operation of a NOx analyzer as part of process control operations for the building scrubber system is felt to be the only effective way utilities can verify the 98% removal efficiency on this control equipment.

Page 3-31

Second paragraph (3.1.3.2):

Insert: ...are recombined by location, and analyzed monthly for plutonium as plutonium-239....

Page 3-36

First paragraph (3.1.3.2):

Insert: (at end of second sentence:)

...Rocky Flats Plant, and at the monthly State Exchange of Information meetings.

Second paragraph (3.1.3.3):

Insert: (at end of last sentence:)

...and is currently being test evaluated by RFP personnel.

Fourth paragraph (3.1.3.3):

Needs clarification: (last sentence:)

RFP is located in a non-attainment area for ozone which includes the Denver and Boulder valleys. Therefore, RFP is not necessarily the source of the measured ambient ozone. All RFP ozone data presented is accurate, however, these values (Table 3-13) are not appropriate as violations of the ambient standards. All of these values were the maximum 1-hour values recorded for their respective years; for determining violations of the standards the second highest maximum value should have been used. The standard allows for one exceedence per year to allow for statistical anomalies (see footnote d. in Table 3-13). The table below is a revision

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to the ozone section of Table 3-13 using the 2nd highest maximum as reported in the Rocky Flats Annual Monitoring Report. In addition, the Colorado standard was improperly referenced in Table 3-13. The CDH ambient air quality standard is 0.120 ppm, not 0.082 ppm as indicated in the table. From this revision, it can be seen that ozone levels exceeded ambient standards in 1982, 1983, and 1985.

Parameter	Averaging Times	1981	1982	1983	1984	1985	NAAQS	CDH
Ozone	1-hour average	0.065	0.150	0.149	0.097	0.195	0.120	0.120
	Primary							

**Page 3-40**

Second paragraph (3.1.3.4):

Insert: (last sentence:)

...transmitted to the Environmental Assessment Facility (Building T452b), and ...

**Page 3-44**

Fourth paragraph (3.2):

Delete: (in the second sentence:)

...due to landfill erosion or to spray irrigation...

Leave the sentence generic as landfill and spray irrigation are not the significant issues. The text gives issues later.

Last paragraph (3.2.1):

Replace: ...onto surface soil of airborne radionuclides.

With: ...onto surface soil of radionuclides from leaking drums in the 903 Pad Area and their subsequent transport through resuspension.

**Page 3-45**

Top paragraph (from 3-44):

Needs DOE HQ/Environmental survey team clarification: The environmental survey fails to cite a series of comprehensive radioecology studies performed by Colorado State University in the 1970's showing virtually no uptake of plutonium in the flora and fauna around RFP.

**Page 3-46**

First paragraph (3.2.2):

Sentence needs clarification:

Normal operations and incidences such as glovebox fires contribute only negligibly to the plutonium concentrations in the soil.

Replace: (the first sentence of the paragraph:)

With: **Due to HEPA filtration on all RFP process buildings, glovebox operations contribute negligible radioactive particulates to the environment.**

Second paragraph (3.2.2): (First sentence:)

Insert: Insert a 1 in front of 967.

Page 3-49

Fourth paragraph (3.2.3):

Needs DOE HQ/Environmental survey team clarification:

This paragraph fails to discuss the special soil studies which have been performed in the past to characterize RFP. For example, mention should be made of the plant-wide aerial surveys performed by EG&G in 1971 and 1982; plant-wide radiometric survey, 1974; and remedial investigation studies on hydrogeologic samples in progress.

Page 3-50

First paragraph (3.2.3):

Needs clarification:

The use of the word "problem" in the last sentence is inappropriate since data are yet to be collected and evaluated.

Replace: **The problem**

With: **This situation**

Second paragraph (3.2.3):

Needs DOE HQ/Environmental survey team clarification:

The last sentence of this paragraph implies that treated sanitary water contains radionuclides. The sampling is performed as a precaution, not because the sanitary water is contaminated.

Third paragraph (3.2.3):

Needs clarification/update:

The investigation on the sporadic nature of the contamination shown in the results of the background and sprayfield samples showed that the laboratory was contaminated with acetone and methylene chloride. The April 1987 audit, performed by the EPA Headquarters groundwater task force, NEIC, indicated that this does not pose an environmental problem.

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**Page 3-52**

Sixth (last) paragraph (3.3.1):

Needs clarification:

First sentence implies that process waters are discharged directly to Walnut Creek and Woman Creek.

Insert: (after first sentence:)

All process waters at RFP are processed to flash evaporation and dried salts. No process waters are discharged presently to the environment. Treated sanitary effluent from non-processes sources, rainwater, and snowmelt are the only waters transported by the Walnut Creek and Woman Creek drainages.

**Page 3-56**

First paragraph (3.3.1):

Insert: (at end of paragraph:)

For the same time period (January to March 1986), tritium concentrations from Rocky Flats ponds ranged from  $-400\pm 800$  to  $600\pm 800 \times 10^{-9}$  uCi/ml.

**Page 3-58**

Fourth paragraph (3.3.2.1):

Replace: ...analytical laboratories in Building 881.

With: ...analytical laboratories in Buildings 123 and 881.

Insert: ...by the double walled, alarmed, inspectable, waste collection system pipeline.

**Page 3-59**

First paragraph (3.3.2.1):

Erroneous statement:

Cooling tower blowdown goes to the sanitary sewer not the process waste system.

Replace: ... cooling tower blowdowns are returned to the process waste system,...

With: ...cooling tower blowdowns are returned to the sanitary sewer,...

Second paragraph (3.3.2.2):

Insert: The recent repairs and replacement of sanitary sewer lines have done a good job of controlling groundwater inflow to the system.

Insert: The flow entering the treatment plant is split...

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Third paragraph (3.3.2.2):

Needs clarification:

It is no longer true that the dried sludge is boxed for shipment off-site for disposal as low level radioactive waste. Traces of organics have rendered this low-level mixed waste; currently no RCRA permitted DOE disposal facility exists for this waste. Interim storage of this waste form has been approved by CDH (RCRA Part B permit application).

Fourth paragraph (3.3.2.2):

Insert: (at end of first sentence)

...by spray irrigation per the RFP EPA NPDES permit issued by the EPA

Page 3-61

Top paragraph (from page 3-59):

Insert: (at end of last sentence:)

...and 1983, respectively, per the RFP EPA NPDES permit specifications.

First paragraph (3.3.2.2):

Needs clarification:

Little reference is made of the RFP NPDES permit.

Insert: (as new paragraphs after first paragraph)

**The Rocky Flats National Pollutant Discharge Elimination System (NPDES) permit is issued and regulated by the Environmental Protection Agency and requires the Rocky Flats Plant to monitor for specific non-radioactive pollutants at seven discharge locations. These seven locations consist of Pond B-3 (Discharge 001), Pond A-3 (Discharge 002), Reverse Osmosis Pilot Plant (Discharge 003), Reverse Osmosis Plant (Discharge 004), Pond A-4 (Discharge 005), Pond B-5 (Discharge 006), and Pond C-2 (Discharge 007).**

Pond B-3 (Discharge 001) primarily receives treated sanitary sewage waste water from the sewage treatment plant which is spray irrigated most of the time.

Pond A-3 (Discharge 002) receives only surface runoff water from North Walnut Creek which collects runoff from the northern portion of the plantsite. The Reverse Osmosis Pilot Plant (Discharge 003) is an experimental station designed to treat water from any designated pond. The Reverse Osmosis Plant (Discharge 004) receives treated sanitary sewage wastewater from the sewage treatment plant which is further

purified and used as cooling tower make up water. Pond A-4 (Discharge 005) receives only the discharged water from Pond A-3 (Discharge 002).

Pond B-5 (Discharge 006) receives surface runoff water from the central portion of the plantsite and sporadic discharges from Pond B-3 (Discharge 001) via South Walnut Creek. Pond C-2 (Discharge 007) receives surface runoff water from the southern portion of the plantsite and is discharged to Woman Creek.

The NPDES permit operating parameters are routinely met. There have been minor violations, usually of a technical type. Review of the NPDES discharge reports indicates no significant environmental impact associated with offsite discharges from the permitted discharge locations described above.

Second paragraph (3.3.2.2):

Replace: ...or is stored in an emergency in Pond 207-C.

With: ...or can be stored in the event of an emergency in Pond 207-C.

Page 3-62

First paragraph (3.3.2.2):

Insert: (in the second sentence:)

...A previous problem with high bacteria...

Replace: (the last sentence with the following:)

The 300 gallons per day of effluent discharged from these treatment facilities do not enter navigable streams or waters of the State of Colorado and are therefore not covered by the NPDES permit.

Second paragraph (3.3.2.3):

Erroneous statement

The holding ponds of Walnut Creek and Woman Creek control runoff water not pollution in the runoff water. This paragraph leads the reader to believe that all runoff waters are polluted.

Replace: (entire paragraph)

With: (new paragraph)

All storm water runoff from either rainfall or snowmelt from the Rocky Flats Plant is contained in a series of retention ponds (Figure 3-7). Before these waters are discharged downstream, they are sampled for radioactive and nonradioactive pollutants. The water in each pond will not be discharged if the control guide for any parameter (pollutant) is exceeded. The radioactive and nonradioactive parameters are listed in Table 3-15.

Fourth paragraph (3.3.2.3):

Replace: The five ponds on S. Walnut Creek...

With: The five ponds on South Walnut Creek...

Replace: ...exceeds the irrigation capacity, the excess water is transferred to Pond B-5 for discharge.

With: ...exceeds the irrigation capacity or when water can not be irrigated due to saturation and runoff potential, the excess water is discharged to Pond B-5.

Page 3-64

First paragraph (3.3.2.3):

Replace: ...Pond C-1 has been built to contain...

With: ...Pond C-1 was initially built to contain...

Second paragraph (3.3.2.4):

Replace: ...is purchased from the City of Denver and...

With: ...is purchased from the Denver Water Board and ...

Page 3-65

Third paragraph (3.3.3):

Insert: (after last sentence of paragraph:)

However, the State of Colorado has a water quality limit of 40 pCi/l for uranium. Results of these water monitoring analyses are reported at the monthly State Exchange of Information meetings.

**Page 3-74**

First paragraph (3.4.1):

Needs clarification:

The seventh sentence indicates that some of groundwater monitoring wells are not completed solely in the shallow system. This is not true of the new RCRA-quality wells that have been installed on plantsite during 1986-1987. The survey team needs to review Section E of the RCRA Part B Permit application and the ongoing status of new wells drilled and add the appropriate new information.

**Page 3-76**

Third paragraph (3.4.2):

Needs clarification:

The sentence "The solar ponds are described below" is misleading here and can be deleted.

Delete: **The solar ponds are described below.**

**Page 3-77**

Third paragraph (3.4.2):

Replace: (in first sentence:)

Plant liquid waste streams are stored and treated ...

With: Plant liquid waste streams were historically stored and treated ...

Insert: (after first sentence:)

The holding capacity previously provided by the solar evaporation ponds has been replaced with two hazardous waste storage tanks (950,000 gallons and 250,000 gallons). The solar evaporation ponds are no longer used at the plant and are undergoing RCRA Closure.

Fourth paragraph (3.4.2):

Insert: (at end of last sentence)

...to Pond 207B North and Pond 207B Central for treatment in Building 774.

**Page 3-78**

First paragraph (3.4.2):

Needs clarification:

It is no longer true that Pond 207B South contains product or test water from the reverse osmosis facility.

Second paragraph (3.4.2):

Needs updated:

Replace: ...April 1987...

With: ...September 1987...

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Third paragraph (3.4.2):

Needs updated:

Replace: ...wells in the vicinity of the solar ponds is in progress, and a closure plan for the ponds has been developed.

With: ...22 new RCRA-quality wells in the vicinity of the solar ponds has been completed, and a RCRA closure plan for the ponds has been developed and submitted to CDH/EPA (11/86). Pond 207A is being actively closed.

Fourth paragraph (3.4.3):

Needs clarification/Update:

Only the original sampling and analysis of the groundwater monitoring program was performed by subcontractors for the RCRA Part B Permit Application. All routine sampling and analysis are performed by RFP personnel.

Pages 3-81 to 3-84:

Table 3-17 (3.4.3):

Needs clarification:

The old wells cited in this table are being phased out and sealed, in favor of the new RCRA quality wells. The survey team should update these tables with the latest date prior to completing the interim report.

Page 3-89:

Figure 3-16 (3.4.3):

Needs clarification:

This figure misrepresents the location of the Mound area which actually encompasses more area to the NW of that outlined.

Page 3-98

Top paragraph continued from p. 3-90 (3.4.3):

Needs clarification:

Referring to the last sentence, it is not true that the water quality of Pond 207B is necessarily better than in Ponds 207A and 207C. Ponds contain nitrate water from the collection system.

Page 3-100

Fifth paragraph (3.4.3):

This paragraph leads to the perception that contamination was found in all 33 of the wells tested. This, infact, is incorrect. Only a few of the 33 wells indicated VOC contamination.

Second paragraph (3.4.3):

Needs DOE HQ/Environmental survey team clarification:  
The impacts of these findings need to be discussed. It should be pointed out specifically that the groundwater contamination exists at parts per billion levels and is contained onsite. Current data indicates no immediate potential for offsite migration. Comprehensive RI/FS projects are currently underway at all priority contamination areas at the Rocky Flats Plant.

Section 4

Page 4-1

Third paragraph, fifth bullet (4.1.1):

Needs clarification:

Replace: Nonradioactive/nonhazardous wastes contain no radioactive or chemical contamination.

With: Nonradioactive/nonhazardous wastes contain no radioactive or hazardous chemical contamination.

Page 4-2

Fourth paragraph (4.1.1):

Insert: (at end of fifth sentence:)  
This application presents data on only low-level mixed (not transuranic mixed waste. Under the USDOE, USEPA, and CDH Compliance Agreement (7/31/86), TRU waste was specifically exempted from the RCRA Part B permit.)

Insert: (at end of sixth sentence:)  
...submittal for the state and USEPA.

Insert: (at end of seventh sentence:)  
...was not available to the DOE Environmental Survey team since it was not yet completed. This permit application was completed on schedule and submitted to the state and USEPA on November 28, 1986. It is a public document.

Page 4-3

Second paragraph (4.1.2.1):

Replace: Hazardous wastes cannot be disposed of at the plant. The RFP has not applied for a RCRA permit to dispose of such wastes on-site. It is possible for some hazardous wastes to be disposed of at the landfill as nonhazardous waste because of insufficient controls (refer to Section 4.1.2.4).

With: Hazardous wastes cannot be disposed of at the plant because the RFP has not applied for a RCRA permit to dispose of such wastes on-site. Some hazardous wastes were disposed of in the past at the landfill as nonhazardous waste because of insufficient controls (refer to Section 4.1.2.4). This practice was discontinued in November 1986. Hazardous waste collection areas and procedures for segregation of waste have been established. The landfill is now only accepting nonhazardous and nonradioactive solid waste. The portions of the landfill used previous to November 1986 are currently undergoing RCRA closure.

Page 4-4

Table 4-1 (4.1.2.1):

Erroneous statement:

Replace: Magnesium Chips... ...Storage/Offsite TSDF

With: Magnesium Chips... ...Commercial Recycle

Page 4-6

Second full paragraph (4.1.2.1):

Replace: ...in small photographic shops on-site (including Building 11), are reportedly disposed of in the...

With: ...in small photographic and radiographic shops on-site (including Building 111), were historically disposed of in the...

Insert: ...was not obtained by the DOE Environmental Survey team because investigations/corrective actions were still underway. These activities were completed in August 1987. Fixer solutions are now collected and silver recovered from them.

Fourth paragraph (4.1.2.1):

Replace: (at end of seventh sentence:)

...cyanide salts and off-spec sulfuric acid).

With: ...cyanide salts, off-spec sulfuric acid, and solid PCB wastes), and also use INTEMCO (Ellwood City, PA) for electrochemical machining (ECM) sludge.

Page 4-7

First paragraph (4.1.2.1):

Replace: ...These containers are fitted with air vents and catch basins and are electrically grounded.

With: ...These containers are fitted with air vents, catch basins, and placards and are electrically grounded.

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Insert: (after third sentence:)  
...These containers are located in a remote storage area near the active landfill (Since the environmental survey, these containers have been moved onto the 384-acre plantsite).

Insert: ...Excess chemicals are stored for off-site disposal or plant recycle in their original containers...

Replace: (last sentence of paragraph:)  
A weekly...each storage area.

With: A weekly inspection log sheet is maintained for each storage area (Waste Operations maintains inspection sheets for all areas in one log.).

Second paragraph (4.1.2.1):

Replace: (the first sentence:)  
Construction of a ... is planned for the site.

With: RFP is evaluating the construction of either an asphalt pad or a storage facility for interim storage of hazardous and mixed (radioactive and hazardous) wastes.

Delete: (in the second sentence:)  
The word centralized.

Fourth paragraph (4.1.2.2):

Replace: (third sentence:)

With: The EPA now has the authority to regulate TRU mixed wastes and has delegated this authority to the State of Colorado. A Part B Permit application for this waste will be submitted to the State by July 1, 1988.

Fifth paragraph (4.1.2.2):

Replace: (entire paragraph)

With: Until the fall of 1986, the low-level mixed wastes were being managed as LLW and sent to the Nevada Test Site (NTS) for shallow land burial. However, waste analyses have indicated that these wastes contain listed RCRA hazardous constituents. The State of Colorado, which has authority to enforce the RCRA regulations prior to the Hazardous and Solid Waste Amendments of 1984, takes a rigorous interpretation of 40CFR 261.32 (d) and (e) and feels that no de-minimus level of hazardous organics exists. Therefore, a detectable amount of a listed hazardous organic makes the waste a hazardous waste. These low-level mixed wastes can no longer be sent to NTS and are now being stored on-site

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in compliance with RCRA and DOE requirements. The major mixed wastes stored on plantsite include pondcrete, saltcrete, uranium chips, and sewage sludge. Pondcrete is the solidified pond sludge being removed from Solar Pond 207A pursuant to Compliance Agreement schedules. Saltcrete is the solidified end-product (dried salts) from Building 374 liquid waste processing. Permitting of a DOE low-level mixed waste facility is being pursued at NTS. Until interim RCRA status is obtained at NTS, these wastes will continued to be stored at RFP.

Page 4-8

Table 4-2 (4.1.2.2):

Replace: (under Disposition of Building 374 Wet Sludge:)

INEL

With: INEL, NTS<sup>1</sup>

Replace: (under Waste:)  
Saltcrete

With: Saltcrete and some Building 374 wet sludge

Page 4-9

Heading

Needs clarification:

Liquid process wastes at RFP consist of a majority of radioactive liquid process wastes. with some mixed liquid process wastes from other sources.

Replace: **Mixed Liquid Process Wastes**

With: **Liquid Process Wastes**

First full paragraph (4.1.2.2):

Replace: (first sentence:)

With: **RFP's basic strategy for management of liquid process wastes is concentration of the contaminants into sludges and solidification of the sludges.**

Insert: (after second sentence:)

...management at RFP. Liquid process wastes at RFP consist of a majority of radioactive liquid process wastes, with some mixed liquid process wastes from other sources. Solids resulting...

Second paragraph (4.1.2.2):

Replace: ...This system, which is isolated from the sanitary waste collection system, collects mixed liquid wastes from...

With: ...This system, which is double-contained and isolated from the sanitary waste collection system, collects liquid process wastes from...

Insert: ...The process waste collection system also accepts any water that may be used in fire-fighting in these areas...

Third paragraph (4.1.2.2):

Replace: (in first sentence:)  
**Most of the mixed liquid process wastes are piped to either Building 374 or ...**

With: **Liquid process wastes are piped or trucked to either Building 374 or ...**

Delete: (in seventh sentence:)  
...volumes of mixed liquid process wastes...

Page 4-12

First full paragraph (4.1.2.2):

Replace: (in first sentence:)  
**Mixed liquid wastes are ...**

With: **Liquid process wastes are ...**

Page 4-13

First paragraph (4.1.2.2):

Replace: (last sentence:)  
**RFP is evaluating all liquid waste streams to identify those which might be segregated and treated with small-scale local treatment centers.**

Delete: (entire last sentence)

Second paragraph (4.1.2.2):

Replace: (fourth sentence:)  
**Planned improvements include the installation of new storage tanks to receive excess process liquid and to provide emergency storage capacity.**

With: **Two RCRA-approved hazardous waste storage tanks (250 and 950 gallons) have been installed to receive excess process liquid and to provide emergency storage capacity.**

Replace: (entirety of last two sentences:)  
After these tanks are installed ... terms of  
the compliance agreement.  
With: Closure and post-closure plans were submitted  
to the state and USEPA on November 28, 1986.  
Closure at the solar ponds is currently being  
implemented.

Fourth paragraph (4.1.2.2):

Insert: (at end of third sentence:)  
...and return the water to Ponds 207-B North  
and 207-B Center.

Page 4-14

First paragraph (4.1.2.2):

Replace: (in last sentence:)  
...intercepted groundwater might be  
considered a radioactive mixed waste.  
With: ...intercepted groundwater would be  
considered mixed waste.

Second paragraph (4.1.2.2):

Replace: (in first sentence:)  
...and sludges will be included...  
With: ...and sludges are included...

Third paragraph (4.1.2.2):

Replace: (in first sentence:)  
...period to dispose of excess water from the  
solar evaporation ponds (i.e. Ponds 207-B  
North and Center).  
With: ...period to spray irrigate intercepted  
groundwater intercepted from the solar  
evaporation ponds (i.e. Ponds 207-B North and  
Center) and some treated sanitary effluent.

Replace: (third, fourth, and fifth sentences:)  
Excess water ... groundwater samples.

With: Excess water from the ponds is now pumped to  
Building 374 for flash evaporation.  
Investigations in 1986 found no soil  
contamination at the west spray field. A RCRA  
closure plan for the area was submitted to the  
State of Colorado in November 1986. No soil  
contamination was found in the 1986 sampling,  
and samples of the applied wastewater  
indicated hazardous organic contamination  
only up to 35 ppb for the methylene chloride,  
the contaminant with the highest  
concentration. Additional sampling will  
be conducted in 1987 as part of the closure plan.

Page 4-15

Top paragraph (from page 4-14) (4.1.2.2):

Replace: (last two sentences)  
If the waste is ... solar evaporation ponds).

With: If the waste is not reclassified or delisted, it must stay on-site until NTS or another facility obtains a RCRA permit for disposal of mixed wastes. In the interim, saltcrete is being stored in Building 964, a renovated equipment storage shed and on the 750 Pad area.

First full paragraph (4.1.2.2):

Insert: (in second sentence:)  
Pondcrete contains many of the same ...

Second full paragraph (4.1.2.2):

Replace: (in second sentence:)  
...in a raked-hearth incinerator in Building 447.

With: ...in a raked-hearth tank in Building 447.

Heading of third full paragraph (4.1.2.2):

Replace: Sewage Sludge  
With: Sanitary Sewage Sludge

Third full paragraph (4.1.2.2):

Replace: The sewage sludge contains...  
With: The sanitary sewage sludge contains...

Page 4-16

Top paragraph (from Page 4-15) (4.1.2.2):

Replace: (entire last sentence:)  
The sewage sludge is currently being stored in Building 884.

With: The sanitary sewage sludge is currently being stored at the 750 parking lot area.

First full paragraph (4.1.2.2):

Insert: (at end of second sentence:)  
...in Building 774 and in cargo containers near Building 861.

Insert: (in third sentence:)  
...will be placed in RCRA-approved, modified cargo containers.

Insert: (at end of fifth sentence:)  
...stored in Building 884 and Building 776.

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Replace: (entire sixth sentence:)  
RFP is in the process ... at the earliest  
(Ficklin, 1986).

With: RFP is in the process of preparing the  
fluidized bed incinerator in Building 776 to  
burn all of these mixed waste combustibles,  
but because of the lengthy trial burn  
process, the incinerator cannot be operated  
until late 1987 at the earliest (Ficklin,  
1986).

Second full paragraph (4.1.2.2):

Replace: (in first sentence:)  
...non-TRU wastes disposed of at INEL.

With: ...non-TRU wastes shipped to INEL.

Page 4-17

First paragraph (4.1.2.3):

Replace: (entirety of third sentence:)  
After liquid ... waste proportions change.

With: After liquid waste processing reduces the  
volume of the wastes through evaporation and  
solidification, the radioactive waste  
proportions change.

Insert: (in fourth sentence:)  
...60 percent of the treated wastes are...

Second paragraph (4.1.2.3):

Replace: (in last sentence:)  
...Survey and may have determined that...

With: ...Survey and have determined that...

Third paragraph (4.1.2.3):

Insert: (in third sentence:)  
...(including TRU mixed waste (Note: USEPA  
has recently received jurisdiction of the  
hazardous portion of TRU mixed wastes  
under RCRA)).

Replace: (in last sentence:)  
...RFP will send TRU waste (including  
TRU mixed waste) directly there.

With: ...RFP will send TRU waste directly there.  
TRU mixed waste will also be sent to the WIPP  
site when it becomes operational.

Page 4-23

First full paragraph (4.1.2.3):

Replace: (in second sentence:)  
One, located in Building 771, burns low-level  
plutonium-contaminated plastic, paper,  
rubber, and cloth.

With: One, located in Building 771, is used for  
plutonium recovery operations.

Insert: (in third sentence):  
Two others, located in Building 776, were  
designed to burn plutonium contaminated  
solid and liquid waste.

Insert: (in fourth sentence):  
The RFP is in the process of trying to  
conduct a trial burn and obtain a ...

Third full paragraph (4.1.2.3):

Erroneous statement: (last sentence):

The lining of the crates are filled with  
carbon dioxide NOT argon.

Replace: ...backfilled with argon...

With: ...backfilled with carbon dioxide...

Page 4-24

First full paragraph (4.1.2.3):

Insert: (at end of third sentence):

All of these packages undergo real-time  
radiography for detection of free liquids in  
the packages. No free liquids can be shipped  
out.

Second full paragraph (4.1.2.3):

Replace: (in sixth sentence):

... to resist damage by contact with other  
cars in a train.

With: ... to resist damage in accident situations.

Third paragraph (4.1.2.4):

Replace: (entire fifth bullet)

With: Emptied gas cylinders (with valves removed)  
and empty chemical containers

Insert: (in seventh bullet):  
... removed from sanitary sewage ...

Fourth paragraph (4.1.2.4):

Insert: (after first sentence):

Any chemical containers that qualify as a  
hazardous waste are triple rinsed before  
disposal in the landfill.

Page 4-25

Top paragraph (from page 4-24) (4.1.2.4):

Insert: (in third sentence of paragraph):

... materials be monitored for radioactivity  
at the landfill before burial.

Replace: (in fifth sentence:)  
Procedures also require that all wastes  
disposed in the landfill ...  
With: Procedures also require that nonroutine wastes  
disposed in the landfill ...

Second full paragraph (4.1.2.4):  
Insert: (after last paragraph:)  
Siting studies for a new landfill began in  
the spring of 1987.

Fifth paragraph (4.1.2.4):  
Replace: (in first sentence:)  
Insufficient controls are in place to prevent  
the disposition ...  
With: Controls prior to November 1986 were not  
adequate to prevent the disposition ...

Page 4-26

Top paragraph (continued from fifth paragraph of  
page 4-25) (4.1.2.4):  
Replace: (in third sentence:)  
... the controls in the non-PSZ areas are  
inadequate ... material may get covered ...  
With: ... the controls in the non-PSZ areas were  
inadequate ... material may have been covered  
...  
Replace: (in fourth sentence:)  
... there is no access control at ...  
With: ... there was no access control at ...  
Insert: (after fourth sentence:)  
However, the results of a detailed waste-  
stream analysis were used to segregate out  
wastes unacceptable for disposal in the  
landfill. It is currently believed that no  
low-level radioactive or hazardous wastes are  
placed in the landfill.  
Delete: (entire fifth sentence:)  
Wastes that have not ... hazardous wastes).  
Insert: (New paragraph after top paragraph:)  
Due to the identification of these  
problems in the fall of 1986, the RFP  
submitted a RCRA Closure Plan for the  
landfill as a portion of the Post-Closure  
Care Permit in November 1986. Likewise,  
waste management procedures were updated to  
prevent the disposal of low-level radioactive  
or hazardous wastes in the landfill.

Page 4-33

First full paragraph (4.2.2.1):

Needs updated by Rockwell International:

Insert: (at end of paragraph:)

All 113 pole-mounted transformers at RFP have been sampled and analyzed; 9 were found to contain PCB's, and these have been replaced with new units. All large PCB capacitors will be removed by September 30, 1987. All hydraulic fluids and radiation-producing devices (total about 1300) have been sampled and analyzed. PCB's were found in 7 units. These have been or are being drained and cleansed.

Second full paragraph (4.2.2.1):

Replace: (in second sentence:)

...located near the landfill.

With: ...located near the Building 750 parking lot.

Insert: (at end of fourth sentence:)

... for disposal in Building 776 and Building 884.

Replace: (last sentence of paragraph:)

No radioactive liquid PCB wastes are stored at the RFP.

With: Small amounts of radioactive liquid PCB wastes are stored presently at the RFP in Building 776. These wastes will be shipped to Los Alamos for disposal pending the approval of a new container for transportation. Currently, no approved container exists for the transportation of radioactive liquid PCBs.

Fourth paragraph, first bullet (4.2.2.1):

Replace: Six transformers were leaking.

With: Six transformers were weeping.

Page 4-34

First paragraph, eighth bullet (4.2.2.1):

Replace: (entire third sentence:)

Sixteen older PCB-filled ... will be replaced.

With: All 25 PCB transformers containing >3000 ppm PCBs will be replaced by 9/30/88.

Page 4-35

Third paragraph (4.2.2.1):

Replace: (entire paragraph)

With: All 113 pole-mounted transformers at RFP have been sampled and analyzed; 9 were found to contain PCB's, and these have been replaced with new units. All large PCB capacitors

will be removed by September 30, 1987. All hydraulic fluids and radiation-producing devices (total about 1300) have been sampled and analyzed. PCB's were found in 7 units. These have been or are being drained and cleansed.

Fourth paragraph (4.2.2.1):

Erroneous statement/Needs clarification:

Insert: (at end of paragraph:)

A thorough inventory (2 men for 2 months) of large PCB capacitors located 470 such units. USEPA requires no inventory or any other precautionary measures for small capacitors. The 75 to 100 large capacitors that were "replaced" were not "known to be leaking." Possibly 2 or 3 were leaking. They were removed (not replaced) because the equipment in which they were used was obsolete and was discarded (power units for the big induction furnaces in Building 444). RFP has no "pole mounted capacitors," leaking or otherwise.

Page 4-36

Top paragraph (from Page 4-35) (4.2.2.1):

Insert: (before fourth sentence:)

The forge shipped to the Oxnard facility was sampled at RFP, and the hydraulic fluid was found to contain about 8 percent PCBs. The forge was drained and shipped empty. At the Oxnard facility, a fork lift was used to tilt the reservoir and, at most, drain one pint of hydraulic fluid from the tank.

Page 4-38

Fourth paragraph (4.2.2.2):

Insert: (after last sentence:)

However, records of the dates of disposal of asbestos have been maintained.

Note: No other records are required for this site.

Page 4-40

Top paragraph (from Page 4-39) (4.2.2.2):

Insert: (after fourth sentence:)

The disposal of asbestos at the landfill is inspected monthly by an industrial hygienist.

Page 4-43

Top paragraph (from Page 4-40) (4.2.2.4):

Insert: (after sixth sentence:)

As of April 6, 1987, use of pesticides and herbicides at RFP has been contracted out.

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**Page 4-44**

First full paragraph, third bullet (4.2.2.5):

Replace: (entire bullet:)

With: **Hazard Ratings - a National Fire Protection Association hazardous rating is required for every hazardous material which is transferred from the manufacturer's container to an unmarked container. The unmarked container is then labeled with the name of the material and with health, fire, and reactivity hazard ratings. In addition, a MSDS is required for every hazardous material on plant-site.**

**Page 4-45**

Second paragraph (4.2.2.5):

Insert: (in sixth sentence:)

**Inventory irregularities and groundwater monitoring would also indicate underground fuel-oil leaks.**

**Page 4-55**

First full paragraph (4.3.1):

Replace: (in sixth sentence:)

**... 100 mrem per year whole body dose-equivalent.**

With: **... 100 mrem per year effective dose-equivalent.**

Second full paragraph (4.3.1):

Insert: (in fourth sentence:)

**The sum of the risk-weighted dose equivalents ...**

Replace: (in the fifth sentence:)

**This is referred to as a whole body dose equivalent.**

With: **This is referred to as an "effective dose equivalent."**

Replace: (in sixth sentence:)

**... on a basis of the whole body dose equivalent.**

With: **... on a basis of the effective dose equivalent.**

Page 4-56

Top paragraph (from Page 4-55) (4 3 1):

Replace: (last two sentences:)

Rocky Flats is currently ... approval by EPA.

With: For CY1985, RFP based its dose assessments on actual monitoring data. This approach was accepted for interim use by DOE's Albuquerque Operations Office, (Daugherty, 1986). For CY1986, the AIRDOS-EPA code was run to confirm the low doses projected from environmental monitoring data and to provide data for the CY1986 Annual Emissions Report.

First full paragraph (4.3.2):

Insert: (after third sentence:)

However, the gamma radiation associated with the radionuclides used at RFP is minimal and the potential exposure to the public from RFP gamma radiation is insignificant.

Page 4-59

Top paragraph (from Page 4-57) (4 3 3):

Replace: (in fifth sentence:)

As for the inhalation pathway.

With: For the inhalation pathway, ...

Insert: (in fifth sentence:)

. . all of the measured plutonium activity originates ...

Third full paragraph (4 3 3):

Insert: (in first sentence:)

. . as the 50-year committed effective dose equivalent ...

Insert: (at end of fourth sentence:)

... exposure is 0.1 rem/yr (100 millirem/yr effective dose equivalent).

Replace: (in sixth sentence:)

. . maximum community effective equivalent doses are 0.6 percent ...

With: . . maximum community effective dose equivalents are 0.6 percent ..

Fourth full paragraph (4 3 3):

Replace: (in third sentence:)

. . maximum community effective equivalent 50-year doses are only 0.23 ...

With: ... maximum community 50-year committed effective dose equivalents are only 0.23 ...

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Page 4-65

Top paragraph (from Page 4-64) (4.4.2):

Replace: (fifth sentence:)

With: Sampling and analysis ... until recently. Sampling and analysis efforts have always been integrated, coordinated, and monitored in the HS&E Labs. In 1986, sampling schedules were upgraded to include information needed by the General Labs personnel for a new computer system being developed. Disclaimers were placed on a few reports by the General Labs because of a conflict between the General Labs and Environmental Analysis & Control groups over proper preservation techniques. The HS&E labs were not involved, since they take their direction for sampling and preservation from EA&C.

Second full paragraph (4.4.2):

Insert: (after last sentence:)

A chain of custody procedure has been developed. The HS&E Laboratories are currently implementing this procedure. Training sessions for the bioassay technicians are currently being conducted as part of the implementation process.

Fourth full paragraph (4.4.2):

Needs clarification:

Replace: (the last sentence with:)

The laboratory technician collecting samples maintains a logbook that depicts sample location, time, date, weather conditions, any unusual conditions, and an amount of sample collected. Additionally, the computerized laboratory information system generates laboratory worksheets that indicate the scheduled collection day, location, and parameters to be analyzed. The laboratory worksheets are dated and travel with the sample through the laboratory.

Page 4-66

Fifth paragraph (4.4.2):

Delete: (entire third sentence:)

This manual was reportedly ... inadequate preservation.

Page 4-67

First paragraph (4.4.2):

Delete: (entire second sentence:)

This impression may ... in Building 123.

Fourth paragraph (4.4.2):

Insert: (at end of last sentence:)  
It is not required that RFP petition the USEPA regarding the acceptance of these non-EPA approved procedures.

Page 4-68

Top paragraph (from Page 4-67) (4.4.2):

Insert: (after the last sentence of paragraph:)  
The HS&E Lab personnel, however, must request reagents by use of a form that is sent to the Reagent Preparation Lab. This form provides for keeping track of how much and what kinds of reagents are needed, the lab requiring the reagents, and when the reagents are sent to the laboratory. The forms are maintained in the Reagent Preparation Lab.

Third full paragraph (4.4.2):

Insert: (at end of first sentence:)  
... for laboratory analysis and instructions for spiking samples are included in all necessary analytical procedures.

Page 4-69

Second paragraph (4.4.2):

Replace: (in first sentence:)  
... contemplated for calendar 1987.  
With: ... contemplated for calendar 1989.

Insert: (after last sentence:)  
All Pu, Am, and U results are logged into the 123 Laboratory Information System via computer to computer transfer. The only manual entry is to log in samples at the Receiving Station and enter lab info during data reduction.

Fifth paragraph (4.4.2):

Replace: (entire paragraph)  
As mentioned ... Transportation regulations.  
With: As mentioned in the introduction to this section, environmental samples for RCRA analyses have generally been sent to outside contract laboratories in the recent past. However, RFP laboratories are preparing to handle all RCRA analyses onsite. When such samples were packaged and shipped offsite, they were shipped according to U.S. Department of Transportation regulations.

Sixth paragraph (4.4.2):

Insert: (between second and third sentences:)  
However, procedures from the laboratories under contract (Roy F. Weston Labs - Lyonsville, PA and Stockton, CA; AccuLabs Research Inc. - Wheatridge, CO; and Colorado School of Mines - Golden, CO) were available on plantsite.

Page 4-70

Fifth paragraph (immediately above findings) (4.4.2):

Insert: (At end of third sentence:)  
Among the findings related to quality assurance were the following (Since the May 1986 DOE-Albuquerque audits, several of the QA findings have been rectified (1,4, and 6).):

Sixth paragraph, finding 1 (4.4.2):

Insert: (After finding:)  
This practice has been eliminated.

Sixth paragraph, finding 4 (4.4.2):

Insert: (After finding:)  
All typing of procedures is now current.

Sixth paragraph, finding 6 (4.4.2):

Delete: (This finding should be deleted.)  
Note: In September 1986, an outside contractor, Scientific Applications International Corp., conducted an audit of the HS&E Laboratories in Building 123.

Page 4-74

Second full paragraph (4.5.1):

Replace: (entire first sentence)  
With: The Environmental Survey considered 10 previously identified sites which are existing or possible sources of environmental contamination as a result of past waste disposal practices and releases (including spills and leaks).

Replace: (in third sentence:)  
... A discussion of most of these sites ...  
With: ... A discussion of these sites ...

Page 4-75

Third full paragraph (4.5.2):

Replace: (in first sentence:)  
The selection of these sites ...  
With: The previous selection (in CEARP Phase 1 and related RCRA studies) of these sites ...

Insert: (after second sentence:)  
There are currently no indications of any contaminant migration off the plant-site (RCRA Part B Permit application).

Page 4-76

First paragraph (4.5.2):

Replace: (third sentence:)  
Several of the site ... CEARP Phase 1 report.  
With: All of the site descriptions were previously described in the CEARP Phase 1 report.

Insert: (at end of paragraph:)  
The remedial investigations (RIs) are currently underway at RFP in a prioritized fashion (per RCRA Part B and Compliance Agreement). One RI report has been completed (881 Hillside - July 1987). A second Ri report is due December 1987 on priority 2 sites (903 Pad/mound/trenches).

Fourth paragraph (4.5.2):

Replace: (entire third sentence:)  
Documentation ... refute this report.  
With: Subsequently, laboratory results of environmental samples taken in this area reveal that no low-level radioactive wastes had been released at the Building 460 outfall. Laboratory results were pending during the survey visit. The Building 460 outfall is currently undergoing a comprehensive permanent repair which will be completed in September, 1987.

Page 4-78

First paragraph (4.5.2):

Insert: (at end of paragraph:)  
Waste disposal practices at the landfill were modified in the fall of 1986 to be consistent with the RFP RCRA Part B Permit application. These upgrades have precluded the disposal of RCRA wastes into the present landfill. In an agreement between RFP and CDH, the present landfill has been segregated (the old portion administratively closed) to handle only non-RCRA wastes. The present landfill is currently undergoing closure actively and a fence has been installed to enhance administrative controls.

Second paragraph (4.5.2):

Insert: (at end of paragraph:)  
RFP has not been named to the National  
Priorities List under EPA CERCLA as of July  
1987.

Page 4-79

Second full paragraph (4.5.2):

Insert: (at end of paragraph:)  
RFP has not been named to the National  
Priorities List under EPA CERCLA as of July  
1987.

Third full paragraph (4.5.2):

Replace: (in first sentence:)  
... aggregation of five inactive waste ...  
With: ... aggregation of ten inactive waste ...

Page 4-80

Third bullet on page 4-80 (4.5.2):

Insert: (as new paragraph after last 881 Hillside  
bullet:)

A remedial investigation was completed  
on the 881 Hillside on July 1, 1987. A report  
was transmitted to EPA and CDH on this date.  
Contamination was determined to be localized  
and a potential for an immediate health threat  
to the public was not identified. Three of the  
ten inactive waste sites will require additional  
remedial action. A feasibility study on the  
881 Hillside is due to CDH and EPA on March  
1, 1988.

Page 4-81

Second bullet on page 4-81 (4.5.2):

Insert: (as new paragraph after last Trenches  
bullet:)

A remedial investigation on the eleven  
burial trenches (T1 - T11). This remedial  
investigation report will be delivered to EPA  
and CDH in December 1987.  
technical schedule.

Page 4-82

First full bullet on page 4-82 (4.5.2):

Insert: (at end of fourth sentence:)  
... to the Idaho National Engineering  
Laboratory following plutonium recovery.

Third full bullet on page 4-82 (4.5.2):

Insert: (as new paragraph after last 903 Pad/Mound Area bullet:)

The 903 Pad/Mound/East Trenches areas comprise the priority 2 site presently undergoing remedial investigation. As previously referenced, this remedial investigation report will be delivered to EPA and CDH in December 1987.

Page 4-82

Last paragraph (4.5.2):

Delete: (1st sentence:)

Delete the words Environmental Survey.

Page 4-83

First paragraph (4.5.2):

Replace: (last sentence:)

With: Subsequent hydrogeological studies have not substantiated any environmental contamination in this Area. No further actions are envisioned for this area.

Third paragraph (4.5.2):

Insert: (at end of paragraph:)

An engineering estimate to remove this process waste system was completed in 1984 - removal estimate of \$34 million. Remedial investigation efforts at RFP are scheduled for this system, however, based on current knowledge, it represents a low priority source area. Environmental sampling is scheduled for 1989-1990.

Fourth paragraph (4.5.2):

Erroneous statement; needs clarification:

Replace: (entire paragraph:)

An active aboveground ... from this tank (DOE, 1986).

With: An active aboveground inspectable carbon tetrachloride tank is located within a cement-diked area north of Building 707. This 5,000 gallon tank is in good condition and has not ruptured. There is also an inactive 5000 gallon underground storage tank located south of Building 776 (in Structure 730). This inactive tank ruptured in June 1981, releasing less than 2500 gallons of solvent onto the ground. There were also some small releases from this tank during filling operations during the 1970s. This tank has been valved off and its use has been discontinued.

Fifth paragraph (4.5.2):

Insert: (at end of paragraph:)

**This area is currently undergoing closure activities that were scheduled in the RCRA Post-Closure Care Permit application. Environmental sampling of this site is currently underway.**