

STATE OF COLORADO

COLORADO DEPARTMENT OF HEALTH

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January 8, 1990

Roy Romo
Governor

Thomas M. Vernon M.D.
Executive Director

Mr. David P. Simonson
Manager
Rocky Flats Area Office
U.S. Department of Energy
P.O. Box 928
Golden, Co. 80402-0928

Re: Review of the 903 Pad, Mound, and East Trenches Interim Measure/Interim Remedial Action Plan (December, 1989).

Enclosed are the Colorado Department of Health, Hazardous Materials and Waste Management Division's (the "Division") comments on the December 1989 draft of the 903 Pad, Mound, and East Trenches Interim Measures/Interim Remedial Action Plan and Decision Document for the Rocky Flats Plant.

The Division recognizes DOE's efforts in beginning an interim measure/interim remedial action (IM/IRA) at the 903 Pad, Mound, and East Trenches (Operable Unit 2) per the requirements of the Federal Facilities Agreement and Consent Order (the Interagency Agreement) between the Colorado Department of Health (CDH), EPA and DOE and the Agreement in Principle between Governor Romer and DOE. The Division strongly supports implementation of a ground-water cleanup action at Operable Unit 2. Because of the limited available hydrogeologic information and knowledge of the nature and extent of contamination at Operable Unit 2, the Division recommends that the IM/IRA initiate with hydrogeologic tests. Pump tests should be implemented to gather information regarding aquifer conditions and for treatability studies. Such information is necessary to determine what the best cleanup design is and the details of the design.

Outlined below are some major concerns the Division has regarding the proposed preferred plan.

- (1) The plan lacks a detailed sampling and analysis plan for effluent sampling.
- (2) Treatment for radionuclide contamination is not addressed.
- (3) No provisions are included for preventing dispersion of contaminated soils during cleanup activities.
- (4) The possibility of treating the pumped contaminated ground water at the 881 Hillside treatment system is not addressed.
- (5) No provisions are included for disposal of land ban wastes generated during cleanup activities.
- (6) There is no explanation of how the preferred treatment option will cleanup contamination in both the alluvial and bedrock aquifers.

ADMIN RECORD

A-DU02-000038

The Division is concerned about the potential impacts of spraying at the East Spray Field and would like to discuss this issue further.

These issues were discussed with members of your staff, EG&G, and EPA in a meeting on January 8, 1990. A follow-up meeting is scheduled for January 19, 1990 to discuss changes to the December, 1989 proposal. Should you or members of your staff have any questions regarding the the Division's position, please contact Ms. Patricia Corbetta at 331-4843.

Sincerely,



Gary W. Baughman, Unit Leader
Hazardous Waste Facilities Unit
Hazardous Materials and Waste Management Division

Encl.

cc: Nat Miullo, EPA, w/encl.
Tom Olsen, DOE, w/encl.
Tom Greengard, EG&G, w/encl.

GB:PC/pc
5786K/p1-6

CDH Comments on
Proposed Interim Measures/Interim Remedial Action Plan and
Decision Document - OU 2 Rocky Flats Plant

1/5/90

Section 2.0

Site Characterization

Section 2.1.1 Location and Facility Type

The final IRAP will need to acknowledge the change in contractors from Rockwell International to EG&G.

Section 2.1.2 East Trenches Area

Soil cleanup requirements at SWMU's 216.2 and 216.3 must be based on the amount of total chromium in the soil rather than EP toxicity limits. Chromium remaining in the soil may leach into ground water through time.

Section 2.1.3 Surrounding Land Use and Population Density

Distances to the nearest housing developments are not stated in the text.

Section 2.2.2.1 Surficial Materials

Cross sections illustrating the paleogeomorphology aid in the understanding of ground-water flow directions. Site the references for the paleogeomorphological descriptions.

Section 2.2.3.2 Ground Water

The potentiometric surface elevation contours shown in Figure 2-5 are extended beyond known data points (well locations). Other information used to produce Figure 2-5 should be referenced and the text must state the level of certainty depicted. The potentiometric surface elevation contours are not consistent with the locations of paleovalleys and ridges described in section 2.2.2.1.

It cannot be concluded from figure 2-5 that ground water from colluvial material south of the East Trenches flows to the south interceptor ditch. The general direction of flow, southeast, is the only conclusion that can be made. If more information was used to reach the conclusion stated, the information should be referenced or included.

Tables 2-1 through 2-6 must include quarterly data to show seasonal fluctuations. This may also be done graphically.

Wells 66-86, 38-66 and 44-86 are not shown on figure 2-5.

Surface water station SW-1 is not on Plate 1.

Section 2.3.4 Surface-Water Contamination

It has been shown that radionuclide concentrations in ground water do not exceed ARARs but do exceed background levels. This is not reflected in point 1 on page 2-66.

Section 2.5 Site Conditions that Justify an IRA

The area near well 36-87 in the East Trenches Area also contains high VOCs in ground water.

Section 3

Section 3.3.1.3 Colorado Surface and Ground-Water Quality Standards

In the case where standards are lower than detection limits for contaminants of concern, the ARAR must be lower than the detection limit. The detection limit cannot be considered the ARAR if the detection limit varies. A set value for the ARAR is necessary.

Table 3-2.1 must be updated to reflect the CDH standards adopted 1/3/90.

Section 4

Section 4.3 Preferred Ground-Water Treatment Technology

GAC system is an appropriate treatment technology for OU2 because of the variability of ground-water flow rates. However, costs for the interim action would be significantly decreased if the ground water could be treated under the system designed for the 881 Hillside. Review of this option is appropriate.

Section 4.3.1.2 Effectiveness

If the spent carbon is determined to be a mixed waste, explain how the waste will be disposed in compliance with land ban requirements.

Further discussion of the effectiveness of the system to remove radionuclide contaminants is needed.

All secondary containment must be coated with an epoxy or other type of coating approved in writing by the Division.

In Table 4.3, Estimated Costs for Alternative 1, influent/effluent tanks should be listed under capitol costs rather than annual costs.

Section 4.4.1 Alternative 1: Selective Pumping of Existing Wells, Treatment, Discharge Treated Water into South Walnut Creek at Pond B-5

Because little is known about the hydrogeologic conditions in the aquifer at OU2, it is recommended to run pump tests to evaluate aquifer characteristics.

A monitoring program must be submitted for monitoring affects of pumping on the water table and contaminant plume.

Provisions must be made to pump contaminated ground water from the area near wells 34-86 and 35-86.

Section 4.4.2 Alternative 2: Collect Ground Water from French Drains, Treatment, Discharge Treated Water into South Walnut Creek at Pond B-5.

Explain what is meant by footnote b in Table 4-5, Chemical Characteristics of combined Flow for Alternative 2.

Explain how 1.25 x background was arrived at for limits of TDS.

Provisions must be made to collect and treat contaminated ground water from the area near wells 34-86 and 35-86.

Section 4.4.2.1 Description

The timing for installation of a third carbon unit needs to be estimated.

Calculations showing that the ion exchange unit can operate for 21 hours prior to regeneration must be provided. Also, schedules for testing the effluent and regeneration of the unit must be established.

The design must account for possible failure of the system in meeting effluent levels at any given time. Discharge of treated effluent on a continuous basis in not acceptable. Testing must be completed prior to discharge.

Section 4.4.2.2 Effectiveness

The plan must address preventative steps for dispersion of radioactive contaminated soils.

All secondary containment must be coated with an epoxy or other type of coating approved in writing by the Division.

The cost for the influent/effluent tanks should be capitol rather than annual.

Section 4.4.3 Alternative 3: Collect Ground Water form Well Arrays, Treatment, Discharge treated Water into Walnut Creek Drainage at Pond B-5.

Section 4.4.3.2 Effectiveness

Information gathered during pumping would allow analysis of aquifer conditions and would speed up the RFI/RI process.

All secondary containment must be coated with an epoxy or other type of coating approved in writing by the Division.

The cost for the influent/effluent tanks should be capitol rather than annual in Table 4-8.

Section 6

A detailed plan for sampling effluent from the carbon units and from the effluent equalization tank must be established. The plan must address the type of sampling (i.e. field GC or GC/MS) and analysis, sampling frequency, sample parameters, turn around time for results, and representativeness of the samples.

Treated effluent must be tested proper to use as the water supply for regeneration of the ion exchange resin.

Continuous discharge of effluent to the ditch and Pond B-5 is not acceptable without prior analysis of effluent. A contingency plan must be in place in the event the discharge does not meet effluent standards and is released to the ditch and Pond B-5.

An inspection plan, which includes schedules, for the system operations must be established.

The impact on the integrity of Pond B-5 by discharging to Pond B-5 must be addressed.

Section 7

Section 7.2 Water Quality

The reference must be cited regarding the adsorbtive qualities of phthalates (p.7.3).

Because of the known radioactive contamination in soils at OU2 and potential risk to workers, the JSA procedures used in detecting and handling radioactive contamination must be reviewed by the Division. The JSA must include provisions to prevent dispersion of contaminated dust.

Show what the brine constituents are estimated to be.

Explain the criteria used in selecting the shorter term in determining exposure levels (exposure time being averaged over the period of release or over one year, p.7-6).

Section 7.5.1 Worker Exposure Risks

The text is not specific to the inhalation hazard levels of metals in dust.

Procedures must be established in the IM/IRA to prevent suspension and exposure of radioactive-contaminated dusts to those conducting remedial action tasks, onsite employees and the public. The JSA and OSA must reflect these procedures.

The calculations used to arrive at effective rad doses to employees and the public must be made available for review and be included in the administrative record.

Section 7.5.2 Site Employee Exposure Risks

See comments under section 7.5.1.

Section 7.9 Cumulative Impacts

See comment under Section 6.0 regarding Pond B-5.

Section 8

Section 8.1 Environmental Effects of no Action

The Agreement in Principle also requires an interim measure/interim remedial action at OU2.