United States Government | Department of Energy

Memorandum

Rocky Flats Office

53188

DATE APR 1 8 1994

REPLY TO ATTN OF EGD PMP-03678

SUBJECT Non Subpart D Environmental Assessment Determination

TO C M Borgstrom Director Office of NEPA Oversight, EH 25 HQ

We are writing to submit an environmental assessment determination recently completed by the Rocky Flats Office for your review A copy of the Action Description Memorandum for interim remediation activities at Operable Unit 1 used in making the determination is also attached for your information

for Mark N Silverman
Manager

2 Attachments

cc w/Atts
R S Scott, EM 20 HQ
L E Harris EM 431 HQ
A Rampertaap EM-453 HQ
S Grace ERD RFO
P Powell EGD RFO
S Nesta, EG&G

ADMIN RECORD

DOE NEPA REGULATIONS SUBPART D
ENVIRONMENTAL ASSESSMENT DETERMINATION
Operable Unit 1 Feasibility Study/Corrective Measures Study

Based upon the description of the project contained in the attached Action Description Memorandum I have determined that the proposed action fits the description of an action requiring the preparation of an environmental assessment as defined in 40 CFR 1508 9 Therefore I approve the preparation of an environmental assessment of the proposed action

Date April 6, 1994

Signature [signature]
Mark N Silverman
Title Manager Rocky Flats Office

Project Sponsor
I concur with the recommendation to prepare an environmental assessment

Date April 12, 1994

Signature [signature]
Jessie Roberson
Title Acting Assistant Manager for
Environmental Restoration

I have reviewed the project description and recommend an environmental assessment as the appropriate level of NEPA documentation

Date March 30, 1994

Signature [signature]
Patricia M. Powell
Title NEPA Compliance Officer

Regulatory citation that applies

____ This EA is listed in 10 CFR 1021 Appendix C to Subpart D as C__

_X_ This EA is not listed in 10 CFR 1021 Appendix C to Subpart D

PROJECT DESCRIPTION OU1 REMEDIATION

Purpose and Need for the Proposal

Preparation of the Feasibility Study/Corrective Measure Study for Operable Unit (OU) 1 will center on the development of remedial action alternatives their analysis and consideration under criteria specified by CERCLA and selection of combined alternatives to remediate contamination at the OU In order to prepare an integrated NEPA/CERCLA document for the OU a determination of the level of NEPA documentation that should be incorporated into the FS/CMS is needed.

Because contamination above actionable levels exists in two media (groundwater and soil) at OU 1 media specific remedial alternatives will be developed but a single combined alternative will be selected. Since the FS/CMS is in the early stages of preparation complete and detailed remedial alternatives do not yet exist. However preliminary alternatives have been developed to include the anticipated worst case scenario from an environmental impact standpoint, and illustrate a likely reasonable counterpoint to the worst case The four remediation scenarios described below are examples of potential alternatives that are believed to constitute the set of alternatives capable of achieving a post remediation risk level of $1x10^{-6}$ (selected in the absence of established ARARs) and are illustrative of the range of alternatives which are to be considered in the FS/CMS All four alternatives assume continued operation of the OU 1 interim action the French drain system.

Groundwater remediation by air sparging and thermal or physical treatment of collected vapors This alternative would target volatile organic compounds in groundwater and would involve the installation of between two and ten horizontal or vertical injection wells for the purpose of forcing large volumes of pressurized air into the water saturated zone under IHSS 119 1 The air flow up through the saturated zone would increase volatilization of the contaminants while providing a source of oxygen to enhance natural biodegradation After passing through the saturated zone vapors containing volatilized contaminants would be collected by between two and ten extraction wells and transferred by pipe to a thermal or physical off gas treatment unit Sampling for residual contamination to monitor the effectiveness of the remedial activity would be accomplished through existing wells for the same reason Emissions from the thermal treatment unit would be within allowable discharge limits Invasive activities of this alternative would include drilling up to 20 wells (injection and extraction) to a depth not greater than 25 feet over an area of approximately one acre on IHSS 119 1 All damaged areas would be revegetated

Groundwater remediation by excavating overburden and pumping and treating exposed groundwater at IHSS 119 9 This alternative would involve excavation of unsaturated soils at the area of highest concentrations of VOC contaminants beneath a discrete portion of IHSS 119 1 to provide direct access to the most contaminated area of groundwater at OU 1 and would represent the worst case scenario for groundwater remediation at the OU Such an approach could be required based on the current understanding of the geology of OU 1 Approximately 50 000 cubic yards of soil would be excavated and stored nearby Groundwater would then be collected from the excavation Standard pumps would direct the collected groundwater to the existing ultra violet radiation/hydrogen peroxide/ion exchange treatment system used to treat water collected by the French drain and a related collection well After treatment the water would be discharged in the same manner as other waters presently treated at the OU 1 water treatment facility A system of pipes buried to a sufficient depth to prevent freezing would be required to transport the collected water from the excavation to the treatment facility and a control system would probably be installed to permit the pumps to operate as needed with minimal manual oversight Excavated soil would be analyzed for contaminants and contaminated soils if any would be segregated for appropriate treatment and

disposal Clean excavated soils would be used for back filling the excavation following termination of the treatment activities If this alternative were adopted, a decision would have to be made about the appropriateness of implementing the selected soil remediation activity before or after this alternative The excavation would have an areal extent of up to one half of IHSS 119 1 or 1 55 acres The excavation would remain open for up to one year

Soil remediation by covering This alternative would be aimed at reducing the risk from polynuclear aromatic hydorcarbons (PAHs) and PCBs in surficial soils by placing a liner over approximately 32 acres of the OU and then covering the liner with a minimum of one foot of clean soil A one foot covering would require 51 000 cubic yards of soil. Particular care could have to be taken in placing the liner and transporting and placing the soil to avoid resuspension of both contaminated and uncontaminated particulates The soil cover would be vegetated and maintained to prevent wind and water erosion

Soil remediation by excavation thermal treatment and disposal This alternative would eliminate the source of surficial soil contamination by PAHs and PCBs by removing the top six inches of soil in and around OU 1 Common construction equipment would be used to remove approximately 50 000 cubic yards of soil from approximately 32 acres of the OU The soil would be transported by conventional equipment to a thermal treatment unit requiring an area of 5 10 000 square feet The thermal treatment unit would be equipped to receive soil from the transporting vehicles The treatment unit would include air emissions equipment to meet applicable standards Soil may have to be staged prior to treatment depending on the capacity of the treatment unit. Dust suppression techniques sufficient to prevent resuspension of contaminated or uncontaminated particulates would be implemented for soils being excavated, staged and treated After treatment for PAHs and PCBs the soil may still contain radionuclides and could require permitting and construction of an on site facility to store the treated soil if an off site facility were not available This possibility would depend in part on whether the treated soil were classified after treatment as a low level mixed waste or simply a low level waste If an on site storage facility is required the soil could be stored in a mound measuring approximately 150 yards by 150 yards The 22 500 square yards thus occupied would be covered by a foot of clean soil requiring approximately 7 500 cubic yards of imported fill and would be vegetated. The excavated area would be revegetated A cover system such as a liner could also be used in conjunction with the soil cover

Potential Issues

Rocky Flats Office does not have concurrence from the Environmental Protection Agency that the alternatives described above will be the alternatives that are considered in an FS/CMS document. However the alternatives described should provide the outer limits of the range of alternatives that will be considered, and therefore should be valid for the purpose of estimating impacts and making a NEPA determination

Evaluation of the remediation at OU1 has been scheduled to be contained in a Site Wide Environmental Impact Statement. Due to delays in the schedule for the EIS the NEPA analysis for OU1 can no longer be included in the EIS and still maintain the schedule for remediation in the IAG