OUTGOING LTR NO

92 RF 14397

DIST

BENEDETTI R.L.
BENJAMIN, A
BERMAN, H.S
BRANCH D B
CARNIVAL G.J
DAVIS J G
FERRERA D W
HANNI B J
HARMAN, L K
HEALY, T.J
HEDAHL, T. G
HILBIG, J G
IDEKER E H
KIRBY W.A.
KUESTER, A.W
LEE, E M
MANN H P
MARX G.E
McDONALD, M M
McKENNA F.G
MONTROSE J.K
MORGAN R V
POTTER G L
PIZZUTO, V M
RILEY J H
SANDLIN, N B
SHEPLER R.L
STEWART D L
SULLIVAN M T
SWANSON E R
WILKINSON, R.B
WILLIAMS S. (ORC)
WILSON J M
ZANE J O
Setlock, GH X
Costa, SM X X
Moore WA X X
Smith DM X X
Sec, RL X X
Benedetti, RL X X
Sudley, MS X

NCC X X
EEWM
CORRES CONTROL
TRAFFIC

CLASSIFICATION

UCNI
UNCLASSIFIED
CONFIDENTIAL
SECRET

AUTHORIZED CLASSIFIER SIGNATURE

12/11/92
DATE

IN REPLY TO RFP CC NO
6015

ACTION ITEM STATUS
X OPEN ☐ CLOSED
☐ PARTIAL
LTR APPROVALS

ORIG & TYPIST INITIALS

RF-46469 (Rev 9/92)

7322

EG&G ROCKY FLATS

EG&G ROCKY FLATS INC
ROCKY FLATS PLANT P O BOX 464 GOLDEN COLORADO 80402-0464 (303) 966 7000

December 11 1992 92 RF 14397

Robert M Nelson Jr
Manager
DOE RFO

Attn J K Hartman

NEPA DOCUMENTATION FOR OPERABLE UNIT ONE, 881 HILLSIDE (13643) RLB-0767 92

Your recent letters (ERD.BKT 12086 and ERD SG 13643) requested information about the proposed action at Operable Unit 1 (881 Hillside) to make a determination regarding the appropriate level of National Environmental Policy Act (NEPA) documentation for the OU 1 Feasibility Study/Corrective Measure Study (FS/CMS) As you are aware the OU 1 Remedial Investigation/RCRA Facilities Investigation was completed only a few weeks ago and the FS/CMS is just underway We are just now in a position to provide the requested information

Because of the early stage of the OU 1 FS/CMS definitive remedial actions or even the absolute technical need for such actions for soil and groundwater have not been completely determined However pursuant to your direction EG&G has assumed that remediation of OU 1 will be required sufficient to achieve a risk level of $1X10^{-6}$ or less and has developed conceptual alternatives designed to achieve that level of risk The attached Environmental Checklist describes in as much detail as is presently possible two potential alternative actions for remediation of groundwater (*in situ* air sparging with vapor burning or passage through a granulated activated charcoal unit and excavation of overburden with pumping and treatment of collected water) and two potential alternative actions for remediation of soils (placement of a soil cap and excavation followed by thermal treatment solidification and storage off site if possible otherwise on site)

It is also felt that the no action alternative for groundwater (*i e* continued operation of the French drain) will achieve the requested risk level of $1X10^{-6}$ but that the time required to do so may exceed the requirements of DOE s regulatory and public constituencies

Because definitive proposed actions for the two media cannot be presented at this time we have presented these alternatives We believe that the two excavation alternatives present the "worst case scenarios from the point-of view of environmental impacts that can be expected from remediation of OU 1 We suggest that an analysis of the environmental impacts based on these "worst cases and on the other more moderate alternatives will provide a reasonable envelope within which any foreseeable environmental impacts from whatever actions are actually proposed should be expected to fall

Finally we feel that presenting such conceptual alternatives upon which to initiate NEPA is the most direct way to bring NEPA into the decision making process at the earliest possible time rather than awaiting development of a "proposed alternative because it assures NEPA s role in the formulation of alternatives not just in their later consideration

ADMIN RECORD

The four alternatives were presented to EG&G s NEPA Compliance Committee on December 10 1992 and the Committee recommended preparation of an environmental assessment as the appropriate level of NEPA documentation as indicated on the attached EC Review Form

R L Benedetti
Associate General Manager
Environmental Restoration Management
EG&G Rocky Flats Inc

WAM agm

Org and 1 cc R M Nelson Jr

Attachment
As Stated

cc
S R Grace DOE RFO
P M Powell DOE RFO
B K Thatcher DOE RFO

EG&G ROCKY FLATS
NEPA COMPLIANCE COMMITTEE
ENVIRONMENTAL CHECKLIST REVIEW FORM

EC #. EC986532

EC Date. 12/10/92

Project Name OU 1 FS/CMS

Authorization or EJO# 986532 Project PA. Cindy Gee, RPD

Initiating Line Manager. Dennis Smith, RPD

NEPA compliance Committee Review (Sign & date applicable space)

	CX Recommended	Date	EA Recommended
Environ Doc		12/10/92	Claire Reno
Fac Proj Mgmt		12/10/92	E. Dawn Elliott
General Counsel		12/10/92	
Fac Safety Eng		12/10/92	Gordon X. Day

Comments

CEQ Section 1506 1(c) Review	Yes	No
1 Project justified independently	X	
2 Project will prejudice program decision		X
10 CFR 1022 Review (wetlands issue) needed		X

NCC Recommendation _____ CX recommended.

X EA recommended

END Mgr Approval/Date. 12/11/92

ROCKY FLATS PLANT
ECOLOGY & NATIONAL ENVIRONMENTAL POLICY ACT DIVISION
ENVIRONMENTAL CHECKLIST

EC Number 986532

Charge number 986532

I Date December 10 1992

II Activity/Project Name OU 1 FS/CMS

III Authorization/Project Number 986532

IV A. EG&G Project Administrator Cindy Gee

B ADS Number (E&WM only) 1001

C DOE Program Sponsor James Hartman

V Initiating Line Manager Dennis Smith

VI A Project/Activity Description

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 finally selection of combined alternatives to remediate contamination at the OU 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 1) include the anticipated "worst case scenario from an environmental impact standpoint and 2) 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 While many important details of the alternatives remain to be developed it is believed that the information provided is sufficient to identify the general environmental impacts that would result from implementation of the alternatives and permit identification of the appropriate level of NEPA documentation required

Reviewed For Classification /UCNI
By [signature]
Date 12/11/92 UNU

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 This unit would most likely be located at the base of the 881 Hillside just below IHSS 119 1 but out of the Woman Creek floodplain in order to minimize disturbances to the area The unit would likely be mounted on a concrete pad approximately 25 by 25 feet 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 in a manner that would not interfere with any surface soil remedial activity 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 backfilling 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 7 500 square yards 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 (154 000 square yards) 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 soil from approximately 32 acres of the OU The soil would be transported by

conventional equipment to an as yet undetermined treatment unit requiring an area of 5 10 000 square feet The thermal treatment unit would rest on a concrete pad and 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 onsite facility to store the treated soil if an offsite facility were not available This possibility would depend in part on whether the treated soil were classified after treatment as a mixed low level waste or simply a "low level waste If an onsite 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

B Total Estimated Cost unknown

C Funding Source EM

	CHECKLIST		
	Yes	No	
VII Statutes applicable			
A Will the project require or potentially require an application for permit or permit modification under			
1 Clean Air Act?	___	X	(see Note 1)
2 Clean Water Act?	___	X	
B Does the project involve RCRA permitting ? (if no skip to C)	X	___	(see Note 2)
1 Will a RCRA permit or modification be required?	X	___	(see Note 2)
2 Does the project include a removal?	___	X	
3 Does project include RCRA closure?	___	X	
partial?	___	___	
full?	___	___	
4 Does project include excavation or capping to meet RCRA requirements?	X	___	(see Note 3)
5 Will cost and duration stay within $2 million and 12 months? (Explain in project description)	___	X	
C Does the project involve CERCLA? (if no skip to D)	X	___	(see Note 4)
1 Does project include CERCLA removal?	X	___	(see Note 5)
2 Will cost and duration stay within $2 million and 12 months? (Explain in project description)	___	X	
D Does the project threaten to violate statutory regulatory or permit requirements or DOE Order?	___	X	
E Will the action be in or near a IHSS?	X	___	(see Note 6)

		Yes	No	
	F Does the project potentially impact threatened & endangered species or habitat the Migratory Bird Treaty Act or Fish and Wildlife Coordination Act?	___	X	
VIII	Will the project construct or require a new or expanded waste disposal recovery storage or treatment facility?	X	___	(see Note 7)
IX.	Is the project needed for IAG AIP FFCA or other federal or state agreement? (Specify and explain any schedule urgency and deadlines in project description)	X	___	(see Note 8)
X.	Is the project a			
	A new process building etc ?	X	___	(see Note 9)
	B modification to an existing?	___	X	
	C capital equipment/machinery installation?	X	___	(see Note 9)
XI	Location Items			
	A Will the project result in or have the potential to result in long term changes to the environment?	X	___	(see Note 10)
	B Will the action occur outside the security zone/ protected area (i e outside Gate 8 at Post 100 and Gate 10 at Post 900)?	X	___	(see Note 11)
	C Will the action take place in a wetland or floodplain?	___	X	
XII	Will the project result in changes and/or disturbances to the following existing considerations?			
	A. noise levels	___	X	
	B air emissions	X	___	(see Note 12)
	C liquid effluents	X	___	(see Note 13)
	D solid wastes	___	X	
	E radioactive wastes (including contaminated soil)	X	___	(see Note 14)
	F hazardous waste	X	___	(see Note 15)
	G mixed waste (radioactive and hazardous)	X	___	(see Note 16)
	H chemical or petroleum product storage	___	X	
	I water use (withdrawal of groundwater or diversion or withdrawal of surface water)	X	___	(see Note 17)
	J drinking water system	___	X	
	K sewage disposal system	___	X	
	L soil movement outside facility fences or beyond IHSS boundaries	X	___	(see Note 18)
	M site clearing excavation or other physical alterations to grade	X	___	(see Note 19)
XIII	Will the project threaten public health or safety?	___	X	

		Yes	No	
XIV	Will the project have possible effects on the environment which are likely to be highly controversial?	___	X	
XV	Will the project establish a precedent for future actions that will have significant effects or represent a decision in principle about a future consideration?	___	X	
XVI	Will the project be substantially related to other actions that have individually insignificant but cumulatively significant impacts?	___	X	(see Note 20)
XVII	Will the project adversely affect federal state or locally designated natural areas prime agricultural lands special water sources or historic archeological or architectural sites?	___	X	

Note 1 It is likely that an Air Pollution Emission Notice (APEN)would be required for the project Determination as to whether a permit would be required would be made by the Colorado Department of Health based on information in the APEN

Note 2 The project could involve RCRA permitting if it becomes necessary to store soil classified as low level waste on plantsite

Note 3 One of the soil remediation alternatives includes a soil cap or cover

Note 4 The project would be undertaken pursuant to the remedial action requirements of RCRA and CERCLA

Note 5 Either of the excavation alternatives could be construed as including a removal" action Application of the term removal to such actions remains to be resolved

Note 6 The action will take place within IHSS 119 1 in OU 1 and possibly other OU 1 IHSSs also

Note 7 The project could require installation/construction of one or more of several types of waste treatment facilities including a granular activated carbon unit for air or water or a thermal treatment unit for vapor or soil

Note 8 Preparation of the FS/CMS and subsequent remedial activities are specifically mandated and scheduled in the IAG

Note 9 The project would require new construction unless the no action alternatives are selected which appears unlikely The extent to which capital equipment would be required would be depend on the alternative selected but significant equipment could be required as in the case of a thermal treatment unit

Note 10 The goal of the project is to have short and long term beneficial effects on the environment by reducing risks to the natural environment and to human health from contaminants in soil and groundwater at OU 1

Note 11 The IHSSs of OU 1 are located well outside the Protected Area but nominally within the Security Controlled Area The IHSS of greatest interest 119 1 is adjacent to the fence between the Security Controlled Area and the Buffer Zone and remedial activity could involve areas on both sides of that fence

Note 12 Expected air emissions would be those associated with normal construction activity of a similar type possible release of volatile organic compounds in the case of excavation of deeper soils and the possibility of small permitted releases from the vapor treatment unit Because of the surficial nature of plutonium contamination to soils it is expected that dust suppression techniques would be implemented to prevent resuspension of particulates during remedial activities

Note 13 The project could generate liquid effluents in the course of remediating groundwater contamination under the excavation pump and treat alternative After treatment for VOCs the water would be released to a nearby steam if it met applicable standards (as are other waters presently treated at the OU 1 water treatment facility) otherwise it would be sent for further treatment or alternative disposal (such as to an evaporator) on plantsite

Note 14 The top 6 inches of soil in some areas of OU 1 is contaminated with plutonium in addition to PAHs and PCBs One of the soil remediation alternatives is to excavate such soil thermally treat it for the PAHs and PCBs and put it into long term storage Storage could be required since the soil would still contain radioactive contaminants after treatment The amount of contaminated soil is estimated not to exceed 50 000 cubic yards

Note 15 The project could generate hazardous waste by its use of the ion exchange element of the existing OU 1 water treatment system The ion exchange resin retains contaminants removed from water thereby becoming a hazardous waste itself The volumes of such material would be quite small

Note 16 Mixed waste could be generated by the project if excavated soils were to be classified as low level mixed waste The volume of such material could be as great as 50 000 cubic yards

Note 17 Groundwater would be withdrawn perhaps permanently under the excavation pump and treat alternative After treatment at the OU 1 water treatment facility water would be returned to streams on plantsite as is presently the case with water from the OU 1 interim action At this time groundwater diversion is expected to be limited to IHSS 119 1 and estimates of quantities of water that might be involved are not available

Note 18 The two excavation alternatives (one for groundwater and one for soils) and the soil capping alternative would involve soil movement and it is most likely that such soil movement would be beyond IHSS boundaries The soil excavation alternative would involve the permanent removal of surficial soils for treatment and permanent storage elsewhere on plantsite or off site The groundwater excavation alternative would involve permanent removal of surficial soils and temporary removal of all other soil in IHSS 119 1 The deeper soil presumed to be uncontaminated would be stored at a nearby site pending completion of groundwater remediation after which it would be replaced Sampling will be undertaken to confirm or deny the uncontaminated state of this soil at the time of excavation Soil found to be contaminated would

be handled accordingly (i e stored or treated) The soil capping alternative for soil remediation would involve the importation of uncontaminated soil to the OU to cover and hold in place the contaminated soil

Note 19 The two excavation alternatives (one for groundwater and one for soils) and the soil capping alternative would involve site clearing excavation and/or alterations to grade The soil excavation alternative involves the permanent removal of the top six inches of soil The groundwater excavation alternative would require the temporary removal of 18 to-25 feet of soil to reach bedrock Such soil would be replaced after treatment of the underlying groundwater expected to take less than one year

Note 20 Remedial actions at OU 1 identified in the FS/CMS will be significantly related to the interim action already taken at OU 1 (construction of the French drain)

EC Prepared by Bill Moore Date 12/10/92

Organization EM/END Bldg 080 Extension 8599