

**INFORMATION  
ONLY**

<b>ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE HEALTH AND SAFETY PLAN ACCIDENT PREVENTION SAFETY PROGRAM PLAN INT. OPER. UNITS</b>	<b>Manual No Section No Page: Effective Date Organization: Environmental Restoration Mgmt</b>	<b>RFP/ERM-94-00019 Table of Contents, R1 1 of 1 1/12/95</b>
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ACCIDENT PREVENTION SAFETY PROGRAM PLAN  
INTEGRATED OPERABLE UNITS**

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ADMIN

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PER R B HOFFMAN, CLASSIFICATION OFFICER  
JUNE 11 1995

A-DU09-000170

# INFORMATION DOCUMENT MODIFICATION REQUEST (DMR)

**ONLY**

95-AMR- Page 1 of 3

Refer to 1-A01-PR for Processing Instructions  
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Existing Document Number/Revision RFP/ERM-94-00019			1 Date 12/9/94	25 DMR No <del>94-DMR</del> <i>ERM-0004</i> <i>Am. 1/1/95</i>	
4 Originator's Name/Phone/Page/Location <i>Bruce D. Peterman 8659/5472/080</i>			3 New Document Number or Document Number if it is to be changed with this Revision N/A		
6 Document Type <input type="checkbox"/> Procedure <input checked="" type="checkbox"/> Other <i>H&amp;S Plan</i>			5 Document Title Integrated Operable Units Health & Safety Plan		
7 Document Modification Type (Check only one) <input type="checkbox"/> New <input type="checkbox"/> Revision <input type="checkbox"/> Intent Change <input checked="" type="checkbox"/> Nonintent Change <input type="checkbox"/> Editorial Correction <input type="checkbox"/> Cancellation					
8 Item	9 Page	10 Step	11 Proposed Modifications		
1	2-2	F2-1	Change names as shown on revised F2-1 OU9 Project Manager is John Zimmerman, Field Team Leader is Simon Bell, H&S Coordinator is Lisa Nelowet OU14 Project Manager is Bill Fieselman, HSS's are David Spruce, Tom Waddel		
2	Sec 6 p 4	6 3	Delete 1st two sentences of Personal Sampling paragraph Modify third sentence to read as follows "Personal sampling will be conducted only when Level C action Levels are reached with direct reading instruments or when otherwise noted in Appendix A "		
3	Sec 6 p 7	6 4 4	Insert new first sentence "Personal sampling will only be performed when directed to by EG&G Radiological Engineering "		
4	Sec 6 p 8	6 4 6	Insert new first sentence "Ambient air sampling for airborne alpha radioactivity will only be performed when directed to by EG&G Radiological Engineering or if action levels for dust are exceeded in an RCA		
5	Sec 5 p 42	5 5 9 1	Delete the word "strenuous" from the first sentence of "Heat Stress Monitoring and Work Cycle management "  Delete "even if workers are not wearing impervious clothing "  Delete "and body water loss" from 2nd paragraph under "Heat Stress Monitoring "  Change "oral temperature" to "oral or ear canal temperature "		
6	Sec 6 p 3	6 3	Delete paragraph 6, " The fact that contaminants are listed "		
12 Justification (Reason for Modification EJO# TP# etc ) Incorporating changes to improve compliance with 29CFR1910 120 and reflect current personnel and site conditions					
13 then Concurror prints and signs in Block 14 and dates in Block 15					
If modification is for a new procedure or a revision list concurring disciplines in Block 13 and enter N/A in Blocks 14 and 15 If modification is for any type of change or a cancellation organizations are listed in Block 13 then Concurror prints and signs in Block 14 and dates in Block 15					
13 Organization	14 Print and Sign (if applicable)			15 Date (if applicable)	
EOM	K D Anderson <i>[Signature]</i>			12/22/94	
RE	D Hyder <i>[Signature]</i>			12/22/94	
IH	M D Schreckengast <i>[Signature]</i>			1/3/95	
IA OU	B D Peterman <i>[Signature]</i>			12/20/94	
QA	R S. LUKER <i>[Signature]</i>			1/9/95	
16 Originator's Supervisor (print sign/date) Bruce D Peterman <i>[Signature]</i> B.D. Peterman 12/22/94					
17 Assigned SME/Phone/Page/Location Craig Cowdery/6953/5466/080		18 Cost Center 3113	19 Charge Number 95903600	20 Requested Completion Date 1/1/95	21 Effective Date 1/12/95
22 Accelerated Review? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		23 ORC Review N/A			
4 Responsible Manager (print sign date) Craig Cowdery <i>[Signature]</i> 12/22/94					

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BY NA  
DATE NA

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Jan 17/95

2 or 3 Document Number/Revision RFP/ERM-94-00019			3 Document Title Integrated Operable Units Health & Safety Plan
8 Item	9 Page	10 Step	11 Proposed Modifications
7	Sec 9 p 2	9 1 1	Change "dispose of glove" to "dispose of outer gloves"  Add bullet after "Remove respirator bullet" to read "Remove and dispose of inner gloves "
8	Sec 8 p 2	8 1 1	Change first paragraph to read "For activities to be conducted under this plan, personnel will wear Level D as defined in Section 8 1 3 "  Delete paragraphs 2 and 3
9	Sec 8 p 5	8 1 3	Add bullet after dosimeter badge bullet to read "nitrile gloves if hand contact with potentially contaminated materials is likely "
10	Sec 5 p 14	5 2 2	Integrate new chemicals as shown into Section 5 2 2 alphabetically
11	Sec 5 p 2	5 2 Table 5-1	Integrate new chemicals as shown into Table 5-1 chemical Exposure Hazard Summary alphabetically
12	Sec 5 p 38	5 5 3	Change "Utility clearance will be completed before work begins " to "Utility clearance will be completed by the client before work begins "
13	Sec 5 p 38	5 5 3	Change (SOP 7 7) to read SOP 7 7a
14	Sec 5 p 38	5 5 3	Delete "which uses hand-augering to confirm the absence of buried utilities," Change the last sentence to read "A copy of Jacobs' SOP 7 7a is provided in Appendix C
15	Appendix C	SOP 7 7	Delete SOP 7 7, add new SOP 7 7a Utility Clearance at Rocky Flats Plan (7 pages)
16	Sec 7 p 4	7 1 5	The fourth bullet will read as follows "All visitors will receive a site specific safety briefing, and will be escorted at all times Visitors in areas requiring Level A, B or C PPE must have the equivalent training and PPE as the onsite worker to gain entry "
17	Sec 7 p 4	7 1 5	Add bullet after above statement that reads, "Visitors in areas requiring Level D PPE must have Level D PPE, receive a site specific safety briefing, and will be escorted at all times
18	Sec 7 p 4	7 1 5	Add paragraph/sentence after "All site visitor access must be clearly documented " bullet to read "If visitor does not supply current documentation but insists that he/she enters area the following actions are to be taken "
19	Sec 7 p 4	7 1 5	Add bullet after above new statement to read, "On site HSS or HSST will shut down activities, secure area by monitoring with instrumentation, and contact HSO/HSS or Site Manager
20	Sec 7 pg 5	7 2	Is first sentence delete "heavy equipment or"
21	Sec 6 p 4	6 3	Add new text to end of <u>Action Levels</u> paragraph <u>When</u> action levels are reached which, according to Appendix A require "evacuation and reevaluation," site workers must move to an area where direct reading instrumentation shows airborne concentrations are below the action levels of concern The HSS/HSST must contact the Health & Safety Coordinator to determine further action

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or 3 Document Number/Revision  
 RFP/ERM 94-00019

3 Document Title  
 Integrated Operable Units Health & Safety Plan

8 Item	9 Page	10 Step	11 Proposed Modifications
22	Sec 6 p 2	6 3	Add to end of 1st paragraph "All monitoring will be in the breathing zone unless otherwise specified in Appendix A "
23	Sec 10 p 2	10 2 1	Add EG&G Operations Manager Representative Change "Kent Mahana" to "Lisa Nelowet "
24	Sec 10 p 3	10 2 1	Add EG&G Operations Manager Representative
25	Sec 10 p 8	10 3 1	Add Operations Manager Representative, as listed in Tables 10-1, 10-2, must be notified of any unplanned releases
26	Sec 10 p 9	10 3 2	Change "Kent Mahana" to "Lisa Nelowet"
27	Sec 5 p 5-31	T5-4	Modify as shown
28	Sec 6 p 3	6 3	Replace "every 15 minutes" to "whenever site conditions change" in first paragraph
29		F7-1	Delete figure
30	Sec 7 p 5	7 2 1	Delete 1st sentence
12 Justification (Reason for Modification EJO# TP# etc )			

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**APPENDIX C Jacobs Engineering Group Standard Operating Procedures**

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TOC viii	1/12/95	95-DMR-ERM-0004
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Section 6: 2-4, 7-8	1/12/95	95-DMR-ERM-0004
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Appendix C. SOP 7 7a	1/12/95	95-DMR-ERM-0004

## UTILITY CLEARANCE AT ROCKY FLATS PLANT

### 1 0 PURPOSE

- 1 1 This standard operating procedure (SOP) describes procedures to reduce the risk of contact with buried utility service lines and process waste lines at Rocky Flats Plant (RFP)

### 2 0 SCOPE

- 2 1 This SOP applies to soil gas sampling activities for the Integrated Operable Unit (IOU) project at RFP where there is a possibility of contact with sub-surface utilities

### 3 0 REFERENCES

- 3 1 OSHA 1926 650 - 1926 652 Excavations
- 3 2 OSHA 1910 333 Selection and Use of Work Practices in Sub-part S - Electrical
- 3 3 Jacobs SOP Number 7 7
- 3 4 Jacobs Health & Safety Plan for RFP Integrated Operable Units 8, 9, 10, 12, 13 & 14 Phase I RFI/RI, September 1993
- 3 5 EG&G Health and Safety Practices Manual
- 3 6 March 29, 1994 meeting with EG&G Construction Management personnel to discuss EG&G utility clearance procedures

### 4 0 RESPONSIBILITIES

- 4 1 It is the responsibility of the Project Manager (PM) to assure full compliance with this SOP
- 4 2 The Site Manager (SM) shall implement this SOP on site
- 4 3 The Site Health and Safety Officer (SHSO) shall assure full compliance with this SOP and report any deficiencies to the Health and Safety Manager and the PM

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Jacobs Engineering Group Inc  
Standard Operating Procedure Number 77a  
Utility Clearance at Rocky Flats Plant  
Issuing Department: Environmental Health & Safety

Issue Date April 8, 1994

Revision Number 0

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Approved by: \_\_\_\_\_

## 5 0 PROCEDURES

### 5 1 Buried Utilities

5 1 1 Prior to initiating any sub-surface field activities, EG&G Construction Management (CM) must be contacted. Two people need to be contacted and made aware of the extent and location of the work to be performed. They are Carl Heufel (966-2210) and Bob LaBorde (966-2538). Bob LaBorde is responsible for utility clearances. After providing them with information on the type of and the location of work to be conducted, Bob LaBorde and his assistant, Gary Parson will conduct the utility clearance for the area to be sampled. This clearance consists of reviewing existing records, as-builts, red-lines, and classified information, for sub-surface utilities. Any utilities identified by this review will be located and marked in the field by Mr. LaBorde or Mr. Parson using a Metrotech Model 810 or 850 pipe and cable locator and a Metrotech Model 8180 metal detector, and standard RFP utility marking procedures. Mr. LaBorde will then provide Jacobs with signed approval (see attached Utility Clearance Approval Form) that the area to be sampled has been cleared.

Every soil gas sampling location will need to be cleared by Mr. LaBorde. Soil gas probes will not be allowed to be driven within 10 feet of a high hazard utility (i.e., gas pipelines, buried electrical lines, etc.), or within 3 feet of other utilities (i.e., process waste lines, telephone lines, etc.). Sample locations that fall within these limits will need to be relocated to an acceptable distance from the utility-or abandoned.

5 1 2 In addition to the EG&G utility clearance, Jacobs personnel will conduct an independent review of existing records, as-builts, red-lines, etc., for sub-surface utilities. Due to the scope of Jacobs work for Operable Units (OUs) 8, 9, and 13, Jacobs has been able to identify many sources of information on sub-surface utilities that may contribute to the buried utilities identification. However, EG&G Construction Management has access to classified files and Engineering Department CAD drawings which Jacobs cannot access. Therefore, EG&G Construction Management review is expected to be much more inclusive than Jacobs review. Any utilities identified during Jacobs review that are in addition to those identified by EG&G, will be brought to EG&G's attention and located and marked in the field.

5 1 3 The lithology of the soil at RFP consists of unconsolidated fine sand through cobbles to a diameter of approximately 6 inches. The cobbles make up (conservatively) 60 percent of the soil matrix. Due to the extent of cobbles in the soil at this site, field

personnel cannot implement the hand auguring as required by Jacobs SOP No 77. However, at sampling locations where the field crew has any doubts in the EG&G utility clearance, they will attempt to hand auger in the event that the auger can be advanced to 5 feet. Jacobs will have the discretion to abandon sampling locations if there is any question in the validity of the utility clearance.

- 5.1.4 Soil gas probes will be driven to the required 5 ft depth by either a hydraulic drive mechanism mounted on a pickup truck, or using an electric percussion drill to pre-drill the hole prior to probe insertion. All tools will be grounded so as to prevent an electrical hazard should sub-surface electric utilities be encountered by the soil gas probe or percussion drill.
- 5.1.5 Drilling with a percussion drill has the potential to generate sparks. Jacobs will water mist the ground surface at the drilling location to control dust and reduce the risk of spark at the surface. However, the potential for sparks in the subsurface, when the drill bit grinds against rocks, cannot be mitigated.
- 5.1.6 From experience, the soil gas drill operator should be able to tell when the drill bit is encountering cobbles versus when it is encountering metal (i.e., pipelines, conduit, etc.). The operator of the soil gas drill will be instructed to cease drilling/soil gas probe insertion if resistance due to any material other than cobbles is encountered. If resistance on any suspected sub-surface utility is encountered, probes/drill bits will be removed from the subsurface, Mr. LaBorde will be contacted, and the utility clearance for the sampling location in question will be re-evaluated. If any evidence suggests the potential for encountering a sub-surface utility, the sampling location will be relocated, if possible, or abandoned.

## 5.2 Emergency Response Plan

- 5.2.1 In the event that a buried utility is contacted during the soil gas sampling work, Jacobs has been instructed by EG&G Construction Management to implement the following procedures:
  - 1 Stop all work immediately
  - 2 Back away from the soil gas sampling rig a safe distance
  - 3 Immediately call Carl Heufel, EG&G Construction Management on the portable radio at EMAD 4, number

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Jacobs Engineering Group Inc  
Standard Operating Procedure Number 7 7a  
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4503, or digital pager number 1903, or telephone number 966-2210

- 4 Call Bob LaBorde or Gary Parson, EG&G Construction Management on the portable radio at EMAD 4, number 4532 or 4533
- 5 Contact David Spruce, Jacobs SHSO on the portable radio at EMAD 4, JAKE 13, or cellular telephone number 594-9355 or Kathryn Rogers, Jacobs Field Team Leader on the portable radio at EMAD 4, JAKE 00, or cellular telephone number 594-9354 and explain the situation
- 6 Call Pam McCorkle, EG&G Environmental Restoration Management at telephone number 966-5302, or digital pager number 1753 and explain the situation
- 7 Do not approach the soil gas sampling rig until Mr Heufel, Mr LaBorde, or Mr Parson has identified the problem and instructed Jacobs personnel what to do
- 8 Call the EG&G OU Manager, for the OU work is being conducted in, and explain the situation

5 2 3 If response is required in addition to that outlined in Sections 5 2 1 and 5 2 2, refer to Section 10 0, Emergency Response Plan, of the RFP Integrated OU, Phase I RFI/RI Health & Safety Plan, and the EG&G Health and Safety Practices Manual

### 5 3 Approval

A completed and signed-off copy of the Utility Clearance Approval Form (attached), and a completed and signed-off copy of the Jacobs SOP No 7 7 Utility Clearance Form 7-1 (attached), must be

- 1 Filed with Mr Laborde prior to commencement of work
- 2 Filed with the Site Health & Safety Officer (SHSO), David Spruce, prior to commencement of work
- 3 Carried by the field crew at all times during performance of work

Any deviations from this SOP must be approved by the Project Manager after collaboration with Health and Safety Manager Approval via telephone is acceptable in the event the Project Manager is not on site

### 5 4 Utility Repair

Any utilities damaged during the course of soil gas sampling will be repaired by EG&G personnel

UTILITY CLEARANCE FORM 7-1

Project \_\_\_\_\_ Completed by \_\_\_\_\_

Site Location: \_\_\_\_\_ Date \_\_\_\_\_

- |    |  | <u>Circle One</u> |    |     |
|----|--|-------------------|----|-----|
|    |  | yes               | no | n/a |
| 1. | Review of Existing Maps                            |                   |    |     |
| 2. | Above Ground Utilities                             |                   |    |     |
|    | a) marked on site maps                             | yes               | no | n/a |
|    | b) necessary to lockout                            | yes               | no | n/a |
|    | c) document procedures used to lockout or re-route | yes               | no | n/a |
| 3. | Underground Utilities                              |                   |    |     |
|    | a) State Agency called by _____                    | yes               | no | n/a |
|    | Date: _____ Ticket Number _____                    |                   |    |     |
|    | b) Geophysical clearance method(s) used            | yes               | no | n/a |
|    | By _____ Date _____                                |                   |    |     |
|    | c) Utilities marked on site                        |                   |    |     |
|    | map (attached) by _____ Date _____                 | yes               | no | n/a |
| 4. | Hand auguring completed to _____ feet              | yes               | no | n/a |
|    | By whom _____ Date _____                           |                   |    |     |
| 5. | Trench/excavation probed                           | yes               | no | n/a |
| 6. | Approval   |                   |    |     |

\_\_\_\_\_  
Site Manager Date

\_\_\_\_\_  
Client Rep Date

7. Deviations from SOP Approval
- \_\_\_\_\_  
Project Manager Date
- \_\_\_\_\_  
Health and Safety Manager Date

cc Project File

DRAFT

ROCKY FLATS  
UTILITY CLEARANCE APPROVAL FORM

PROJECT TITLE \_\_\_\_\_

\_\_\_\_\_

LOCATION/WORK DESCRIPTION \_\_\_\_\_

\_\_\_\_\_

CONTRACTOR \_\_\_\_\_

\_\_\_\_\_

CAUTIONS/SPECIAL INSTRUCTIONS \_\_\_\_\_

\_\_\_\_\_

RESPONSIBLE CONTRACTOR SUPERVISOR \_\_\_\_\_

\_\_\_\_\_

OPERATOR/WORKER(S) \_\_\_\_\_

\_\_\_\_\_

EG&G CONSTRUCTION MANAGEMENT \_\_\_\_\_

\_\_\_\_\_

EG&G EXCAVATION SPECIALIST \_\_\_\_\_

\_\_\_\_\_