

April 14, 1998

Mr. Robert Card
[]
Kaiser-Hill Company, L.L.C.
Rocky Flats Environmental Technology Site
P.O. Box 464
Golden, CO 80402-0464

EA 98-03

Subject: Consent Order Incorporating Agreement between U.S. Department of Energy
and Kaiser-Hill Company, L.L.C.

This letter refers to the Department of Energy's (DOE) evaluation of the facts and circumstances presented to DOE by Kaiser-Hill Company, L.L.C.'s (Kaiser-Hill) internal investigation reports of three events that occurred at the Rocky Flats Environmental Technology Site between January 1996 and January 1998.

These events involved (1) an unplanned [radioactive material] uptake by two workers during a CERCLA Tank Remediation Project conducted by Rocky Mountain Remediation Service (RMRS), a sub-contractor to Kaiser-Hill; (2) seventeen workers receiving small radiation exposures as a result of inadequate assessment of area dosimetry data for several offices adjacent to rooms containing radioactive material and; (3) an RMRS sealed source custodian receiving unnecessary exposure while performing a radioactive source inventory and leak test.

While the actual safety significance of these events was low and none of these incidents resulted in radiation exposures at or near the limits specified in the Occupational Radiation Protection Rule (10 CFR 835), DOE is concerned because these events collectively indicate significant weaknesses in the controls necessary to perform work safely.

DOE has evaluated the results of the internal investigations of these events conducted by the Kaiser-Hill team and has concluded that the findings and conclusions with respect to these events have been comprehensive. DOE has concluded that these investigations disclose all relevant facts and objectively assess the actual, potential, or programmatic safety significance of these events. DOE's approval of the Kaiser-Hill team's aggressive investigation of these events, coupled with similar results in a number of prior cases, leads DOE to conclude that any further investigation into these matters by DOE is unnecessary and unwarranted.

DOE has also evaluated and agrees with the adequacy of the corrective actions completed and scheduled for implementation to correct work control deficiencies and to prevent recurrence of these or similar events in the future. As a result of the Kaiser-Hill team's aggressive response to these three events and during previous events, and to encourage similar responsiveness in the future, DOE has elected to issue the enclosed Consent Order in accordance with 10 CFR 820.23 in lieu of possible enforcement proceedings, Notice of Violation, or civil penalties. With this Consent Order, Kaiser-Hill has agreed to remit a \$100,000 monetary remedy in recognition of the programmatic work planning and control problems identified as a result of their internal investigations.

No written response to this letter is required. As provided by Section VI of the enclosed Consent Order, the Kaiser-Hill team is to remit the \$100,000 monetary remedy to the Treasurer of the United States.

In accordance with the terms and conditions of the enclosed Consent Order, any required changes to corrective action completion dates regarding these three events must receive prior written approval from the Manager, DOE Rocky Flats Field Office. The original of the Consent Order signed by the parties has been filed with the Office of the Docket Clerk.

Sincerely,

A black rectangular box containing a white handwritten signature, which appears to be "Peter N. Brush".

Peter N. Brush
Acting Assistant Secretary
Environment, Safety and Health



U.S. Department of Energy

Office of Enforcement and Investigation

In the matter of) Report No. NTS-RFO--KHLL-ENVOPS-1997-0001
) NTS-RFO--KHLL-SITEWIDE-1997-0009
Kaiser-Hill Company, L.L.C.) NTS-RFO--KHLL-371OPS-1998-0001
Rocky Flats Environmental
Technology Site) Enforcement Action 98-03

CONSENT ORDER INCORPORATING AGREEMENT BETWEEN U.S. DEPARTMENT OF ENERGY AND KAISER-HILL COMPANY, L.L.C.

I

Kaiser-Hill Company, L.L.C. (Kaiser-Hill), is the integrating management contractor for the Department of Energy (DOE) at the Rocky Flats Environmental Technology Site (RFETS), Golden, Colorado. Kaiser-Hill is responsible for all activities related to the environmental restoration of contaminated areas and facilities, and maintaining [radioactive materials] at RFETS.

II

The following incidents were reported voluntarily by Kaiser-Hill to the DOE Noncompliance Tracking System (NTS) for evaluation:

CERCLA Tank Remediation Project
NTS-RFO--KHLL-ENVOPS-1997-0001

Internal intakes of [radioactive material] occurred in two workers participating in Rocky Mountain Remediation Services' underground tank remediation activities on August 12, 1996. Doses of [specified amounts] committed effective dose equivalent were assigned. Although radiological hazards associated with the work had escalated over a period of several months, compensatory radiological planning and controls were not adequately reviewed and implemented. Radiological work control

program weaknesses identified by the Kaiser-Hill root cause analysis included inadequate monitoring to document radiological conditions in the work place and to

detect changes in radiological conditions of the workplace; inadequate As Low As Reasonably Achievable (ALARA) measures including both the use of ventilation and confinement; failure to follow procedures to maintain exposures ALARA; failure to generate and maintain radiological records; and less than adequate area monitoring for airborne radioactive materials.

The uptakes were discovered through routine bioassay for one worker and by special request for bioassay by the second worker; i.e., the intake event was unrecognized. The investigation report points out that a significant amount of time lapsed between the submittal of excreta and notification of the workers of their bioassay results--more than one year. The report states that confirmation that an intake occurred requires the recount of the original positive sample, and acquisition of two additional follow-up urine samples. In this case, the confirmatory process was lengthy: For one worker, recount of the original positive urine sample required seven weeks, acquisition of the first follow-up urine sample was not initiated for an additional ten weeks, and acquisition of the second follow-up sample occurred 25 weeks after that. Consequently, the internal dose evaluation program was not adequate to demonstrate timely compliance with 1996 occupational exposure limits.

[Buildings] Area Monitoring
NTS-RFO--KHLL-SITEWIDE-1997-0009

Forty-one individuals in 1996 and 39 in 1997 (including one declared pregnant worker) were evaluated for unmonitored radiation exposures as a result of inadequate assessment of area monitoring data for several offices adjacent to rooms containing radioactive materials. Six individuals for 1996 and 11 for 1997 were assigned doses greater than [a specified amount] effective dose equivalent (EDE) (maximum doses were [specified amounts] EDE, respectively). Safe Sites of Colorado (SSOC) was assigned responsibility for the RFETS radiological control program in late February 1997. The area monitoring report for the first quarter of 1997 was issued on July 30, 1997, and described high dosimeter measurements for several office areas in Buildings []. On September 15, 1997, the second quarter area monitoring report was issued and conveyed similar results. SSOC initiated an investigation and utilized a combination of area postings, personnel relocations, and interim administrative controls to reduce occupational exposures within the affected office areas. Dose reconstructions began in mid-September 1997. The reconstructions revealed two pregnant workers who were within the office areas; one was working in an affected area for a short period of time and was assigned [a specified amount] EDE, and the second employee, a declared pregnant worker, received an estimated [specified amount] EDE. SSOC's root cause analysis identified the following radiological control programmatic deficiencies: monitoring of individuals and areas, monitoring of declared pregnant workers, administrative controls, and work processes.

Exceedance of RWP Suspension Limits
NTS-RFO--KHLL-371OPS-1998-0001

On January 14, 1998, a sealed source custodian conducted a semi-annual inventory and leak test of several [radioactive material] sealed sources, and was supported by a radiological control technician (RCT) who had no prior source inventory experience. The general radiological work permit for the job required a pre-job briefing and established a 100 mrem/hour beta/gamma dose rate limiting condition of operation. No pre-job briefing was conducted. Prior to the inventory and leak testing, the RCT measured exposure rates in excess of 100 mrem/hour yet failed to halt any further work. The custodian proceeded to verify each source's labeling by physically handling each source and then swabbing it for leak testing purposes. One source had an exposure rate of [a specified amount] at 30 centimeters. Afterwards, the RCT discussed the event with another RCT to verify proper procedures. Dose estimates for the custodian were [a specified amount] EDE to the hand, [a specified amount] EDE to the wrist, and [a specified amount] EDE to the lens-of-eye. The following radiological control deficiencies were identified: area monitoring of the workplace, radiation safety training, administrative controls, and work processes.

III

DOE has evaluated the results of the investigations conducted by Kaiser-Hill and has concluded that the findings and conclusions with respect to these incidents are comprehensive. DOE has concluded that these investigations fully and accurately disclose all relevant facts, including the identification of potential violations of nuclear safety requirements in the areas of radiation protection and quality assurance, and objectively assess the actual, potential, or programmatic safety significance of these potential violations. DOE's approval of Kaiser-Hill's aggressive investigation of these events, coupled with similar results in a number of prior cases, leads DOE to conclude that a full independent investigation by DOE into these matters is unnecessary and unwarranted.

IV

DOE acknowledges Kaiser-Hill's aggressive and comprehensive investigation to determine the causes of these incidents, and open and objective assessment of the operational shortcomings involved. DOE has also evaluated and agrees with the adequacy of the corrective actions completed and the schedule for implementation of those corrective actions that remain yet to be completed as described in the above referenced NTS reports. In consideration of the foregoing, DOE and Kaiser-Hill have reached agreement on this matter under which both have agreed to issuance of this Consent Order to avoid potentially protracted and otherwise unnecessary additional investigation by DOE; and potential challenges on the part of Kaiser-Hill to findings by DOE, possible enforcement proceedings, Notice of Violation, and any imposed civil penalties. DOE and Kaiser-Hill agree and recognize that in recognition of the response

by Kaiser-Hill to these matters, the payment included by Kaiser-Hill has been significantly reduced from what could have been proposed through the formal enforcement process.

V

DOE acknowledges that Kaiser-Hill's execution of and payment in accordance with this Consent Order does not constitute or imply admission by Kaiser-Hill of potential regulatory violations. Both DOE and Kaiser-Hill agree that the sum paid by Kaiser-Hill to resolve this matter shall not be considered a reimbursable cost.

VI

This Consent Order is issued under DOE's authority in Section 234A of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2282a), and 10 CFR Part 820.23. Kaiser-Hill agrees to pay to the Treasurer of the United States (Account Number 891099), mailed to the Director, Office of Enforcement and Investigation, U.S. Department of Energy, an amount of \$100,000 reflecting an agreed amount in lieu of any subsequent investigation, Notice of Violation, and imposition of civil penalty.

This Consent Order does not preclude DOE from investigating or pursuing enforcement action against Kaiser-Hill for cases other than those described in the above referenced NTS reports, or if Kaiser-Hill fails to proceed with corrective actions as outlined in their plans as described in the above referenced NTS reports.

DOE agrees that it will not pursue an enforcement action or civil penalty for any potential violations pertaining to the above referenced matters. DOE may subsequently consider enforcement action if it later becomes known that any of the facts or information provided regarding the described events were knowingly false or inaccurate in any material way.

ACCORDINGLY, it is hereby Ordered as follows:

1. In accordance with its authority under the Price-Anderson Amendments Act (42 U.S.C. 2282a) and 10 CFR 820.23, DOE issues this Consent Order. In accordance herewith, Kaiser-Hill will proceed with the corrective actions detailed in NTS reports NTS-RFO--KH-ENVOPS-1997-0001, NTS-RFO--KHLL-SITEWIDE-1997-0009, and NTS-RFO--KHLL-371OPS-1998-0001. Any required changes to

completion dates established in the subject NTS reports shall receive the prior approval of the Manager, Rocky Flats Field Office. The subsequent failure to timely complete such corrective actions may, in the sole discretion of DOE, constitute a sufficient basis to reopen the investigation with respect to the subject potential violations.

2. Kaiser-Hill agrees to pay \$100,000 to the Treasurer of the United States within 15 days of the issuance of this Order. It shall be mailed to the Director, Office of Enforcement and Investigation, Office of the Assistant Secretary for Environment, Safety and Health, U.S. Department of Energy, P.O. Box 2225, Germantown, MD 20874-2225, Attention: Office of the Docketing Clerk.
3. Upon completion of all corrective actions to the satisfaction of DOE, the payment made to DOE under this Consent Order shall completely resolve and serve as a full and final settlement of any and all enforcement actions taken under 10 CFR 820 arising from the referenced NTS reports.
4. This Consent Order shall become a Final Order upon receipt of said amount referenced in Item 2.
5. Kaiser-Hill hereby waives any and all rights to appeal or otherwise seek judicial review of this Consent Order. However, both DOE and Kaiser-Hill retain the right to judicially enforce the provisions hereof by all legal means.

On behalf of my respective organization, I hereby agree to and accept the terms of the foregoing Consent Order.

FOR DOE-EH

FOR Rocky Flats Field Office

_____/ /98
 R. Keith Christopher
 Director, Office of Enforcement
 and Investigation
 U.S. Department of Energy

_____/ /98
 Jessie M. Roberson
 Manager, Rocky Flats Field Office
 U.S. Department of Energy

FOR Kaiser-Hill

_____/ /98
 Robert G. Card
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 Rocky Flats Environmental Technology Site