

October 7, 1996

Mr. John McKibbin
[]
Safe Sites of Colorado
Rocky Flats Environmental Technology Site
P.O. Box 464
Golden, CO 80402-0464

EA 96-05

Subject: Preliminary Notice of Violation and Proposed Imposition of Civil Penalty - \$37,500 (NTS-RFO--KHLL-771OPS-1996-0001)

Dear Mr. McKibbin:

This letter refers to the Department of Energy's (DOE) evaluation of the circumstances surrounding a number of radiological and work control deficiencies associated with two incidents, one in [a building] on March 4, 1996, and the other in [a different building] on April 18, 1996. The evaluation also considered a substantial number of other recent failures to adhere to established worker radiological protection program requirements. On June 5-7, 1996, the DOE Office of Enforcement and Investigation conducted an on-site review of these matters, and issued an Investigation Summary Report. This report was provided to Kaiser-Hill Company, L.L.C. (KHLL) on August 22, 1996.

Based on our evaluation of these matters, DOE has concluded that violations of DOE's Occupational Radiation Protection Rule (10 CFR 835) and Quality Assurance Rule (10 CFR 830.120) likely occurred. An enforcement conference was held with you, as well as senior management of KHLL and Rocky Mountain Remediation Services (RMRS), on September 10, 1996. This conference included a discussion of the facts and circumstances surrounding these incidents, potential violations and weaknesses, safety significance of radiological and work control problems, and the status of corrective actions. A conference summary report is enclosed.

As a subcontractor to KHLL, SSOC has obligations for compliance under 10 CFR Parts 830 and 835. For example section 835.3(a) states that no person (defined to include any corporation, firm etc.) shall take or cause to be taken any action inconsistent with the requirements of this part or any program established by this part. Section 830.4(a) has similar requirements.

Section I of the enclosed Preliminary Notice of Violation (PNOV) and Proposed Civil Penalty describes violations involving radiological and work process controls that transpired on March 4, 1996, in [a building] when workers were venting and aspirating 12 [radioactive material] waste drums containing what was characterized in the ORPS report as [] waste. During these operations, an unexpected release of contamination, including [a radioactive material], in excess of [limits] occurred. The actual levels released were unknown since the RCT's instruments read off-scale high. A high potential for the workers to receive significant unplanned exposures ensued because neither the KHLL radiological control staff overseeing the work, nor the personnel performing the work, adhered to requirements established in the Radiation Work Permit (RWP) to stop the work and notify RCT supervisory personnel when the established contamination levels were exceeded. Additionally, SSOC facility management did not adhere to established RWP and procedural requirements in that, when notified of the contamination release, they allowed

personnel to continue working, did not promptly notify RCT supervision, and allowed workers to supervise most of the decontamination rather than RCT supervision. Further, the work place atmosphere was not monitored for radionuclide concentration, nor were the workers' protective clothing levels increased as required by operating instructions, when the spread of contamination occurred. As a result, two workers involved in this activity, and others nearby, continued to work under substantially greater hazard conditions. KHLL and SSOC management did not recognize the significance of this event or the associated noncompliances, and did not undertake comprehensive root cause evaluation and implementation of corrective actions to preclude recurrence. This incident is of particular concern to DOE because the significance of this event and associated noncompliances were not identified by SSOC or KHLL but by DOE during its investigation conducted June 5-7, 1996.

Section II of the enclosed PNOV describes similar violations that occurred on April 18, 1996, in [another building] associated with failure to adhere to radiological and work process controls. During this incident, five SSOC workers received varying levels of unexpected [radioactive] contamination and uptakes while performing a bag-out operation that involved placing [radioactive material] contaminated waste into plastic bags, gram estimating and disposal in drums. The contaminations occurred when one of the bags was inadvertently breached allowing for the spread of contamination. [Exposure] for one of the workers was as high as [% of the DOE annual dose limit]. Significantly, higher levels of exposure were prevented only by the limited size of the bag breach rather than by radiological work control practices. The KHLL RCT, who was required by procedure to be present during the entire bag-out operation, left the area prior to completion of the work. Equally important, several of the SSOC employees performing the work were aware of the requirement for the presence of the RCT but consciously chose to continue the work in his absence. Additionally, workers removed their respirators when material had been placed in bags, but prior to completing the tasks of gram estimating and disposal in storage drums in violation of the work control procedure and the RWP.

In accordance with the "General Statement of Enforcement Policy", 10 CFR 820, Appendix A, the violations described in Section I of the enclosed PNOV involving [a building] have been classified in the aggregate as a Severity Level II problem. Similarly, the violations described in Section II of the PNOV have separately been classified in the aggregate as a Severity Level II problem.

In determining the Severity Level of these violations, DOE considered the actual or potential exposure consequences to the workers. Additionally, as described in the Enforcement Policy, DOE considered KHLL and SSOC performance in the area of radiological work controls compliance, whether prior notice of the potential problem had been provided and whether there were multiple examples of related violations as opposed to isolated occurrences.

DOE recognizes the complexities and challenges associated with the variety of hazards (both nuclear and non-nuclear) and the need to prioritize management attention to those hazards at Rocky Flats. However, DOE is particularly concerned that similar and repetitive problems involving radiological work controls have been identified over the past several months, indicating a broader problem regarding the control of work activities in the facilities. The collective significance of these issues was not fully recognized by KHLL or SSOC prior to incidents that resulted in increased risk to workers as a result of the unplanned release of radioactive material. Specifically, in February 1996 DOE concerns regarding potential programmatic problems in the area of radiological work controls were communicated to KHLL by the DOE RFFO. However, at that time KHLL and SSOC concluded that the deficiencies were isolated issues and were not indicative of larger work control problems in the facilities.

DOE acknowledges that subsequent to these events, a clear management commitment was made by SSOC and KHLL to improve the control of work at the facility level and to instill workforce accountability into the process. Nonetheless, to ensure that (1) management expectations are established and effectively communicated and followed by the workforce, (2) problems are promptly identified and corrected, and (3) facility level managers and supervisors maintain appropriate command and control of hazardous activities, I am issuing the enclosed PNOV and Proposed Imposition of Civil Penalties in the total amount of \$75,000 (\$37,500 for the violations described in Section I of the PNOV and \$37,500 for the violations described in Section II of the PNOV).

Based on the investigation of these matters, including the information provided during the enforcement conference, DOE has concluded that KHLL, as the integrating contractor and accountable for the radiation protection program, and SSOC, the subcontractor responsible for facility operations and implementation of program requirements, share mutual and equal responsibility for the violations described in the enclosed PNOV. Therefore, I have concluded that it is appropriate to assign 50 percent (i.e., \$37,500) of the total civil penalty to SSOC and the remaining 50 percent (\$37,500) to KHLL.

The base civil penalty for each of the Severity Level II violations described in the PNOV is \$37,500. The penalty adjustment factors set forth in the Enforcement Policy were considered and no adjustments were considered appropriate. Specifically, while KHLL reported certain of the noncompliances described in Section II of the Notice, the problems were disclosed as a result of an event involving multiple personnel contaminations, rather than as a result of proactive efforts to identify work control deficiencies and prevent these from recurring. Additionally, the violations identified in Section I of the PNOV and the programmatic implications of both of these issues were identified by DOE. While you have expressed a clear commitment to undertake aggressive management action to resolve the broader programmatic work control problem, DOE is unwilling to predict or assume the success of these future actions at this time as a basis for mitigation of the civil penalty. At issue is whether the corrective actions will be effective in changing the work practices and culture that these multiple incidents reflect.

DOE notes that since these incidents, KHLL has identified and reported to DOE two additional related issues, indicating a more aggressive effort to identify and correct underlying problems associated with work control problems (reference NTS-RFO--KHLL-371OPS-1996-0001 and NTS-RFO--KHLL-SITEWIDE-1996-0001). These efforts are a positive step in the direction of recognizing potentially significant radiological protection and work control noncompliance conditions, in addition to taking proactive steps to correct these noncompliance conditions. We expect that the SSOC corrective actions in response to this PNOV will appropriately address SSOC implications for these other related reported noncompliance issues. DOE will forego any investigation and enforcement action on these particular contractor identified noncompliances, pending satisfactory development and completion of corrective actions for the violations in this PNOV.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response you should document the specific actions taken and any additional actions you plan to prevent recurrence. DOE expects that you will work closely with KHLL, and your corrective action plan will be integrated with that of KHLL. After reviewing your response to this Notice, including your proposed corrective actions, DOE will determine whether further action is necessary to ensure compliance with the applicable nuclear safety requirements.

Sincerely,

Dr. Tara O'Toole, M.D., M.P.H.
Assistant Secretary
Environment, Safety and Health

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Enclosures:
Preliminary Notice of Violation
and Proposed Imposition of Civil Penalty
Conference Summary Report

**PRELIMINARY NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY**

Safe Sites of Colorado
Rocky Flats Environmental Technology Site
EA 96-05

As a result of a Department of Energy (DOE) evaluation of activities associated with a March 4, 1996, spill/release of significant levels of contamination in [a building], and an April 18, 1996, spread of contamination and personnel uptake of [radioactive] contamination in [another building], violations of DOE nuclear safety requirements were identified. In accordance with "General Statement of Enforcement Policy," 10 CFR 820, Appendix A, DOE proposes to impose a civil penalty pursuant to Section 234A of the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2282a., and 10 CFR 820. The particular violations and associated civil penalties are set forth below.

I. [First Building] Contamination Spill/Release

- A. 10 CFR 835.1001(b) requires that where use of physical design features are demonstrated to be impractical, administrative controls and procedural requirements shall be used to maintain radiation exposures as low as reasonably achievable (ALARA).

10 CFR 830.120(c)(2)(i) requires work to be performed to establish administrative controls using approved procedures.

Contrary to the above, on March 4, 1996, during a drum venting and aspirating activity, administrative controls and procedural requirements to maintain personnel radiation exposures ALARA and to control work were not implemented or adhered to in that:

1. RWP 96-[]-0004 requires:

- a. Work to be stopped if contamination levels exceed [specified limits]; however, workers continued to decontaminate the area and to perform the venting and aspirating of the remaining drums.
- b. RCT Supervision to be notified if contamination levels exceed [specified limits]; however, the on-shift RCT Supervisor was not notified until approximately 80 minutes after the high contamination was identified.

2. Procedure HSP-18.02 requires that a single set of regular personnel protective clothing may only be used up to [specified limits]; however, personnel protective clothing was not increased after the area was found to have removable contamination [more than specified limits].

3. Procedure 4-S11-ROI-05.03 requires an RCT Supervisor to take control of and supervise response to a release of contamination; however, the on-shift Radiation Control Supervisor did not take control of and supervise the response to the release of contamination.

- B. 835.403(a)(1) requires air samples to be taken as necessary to detect and evaluate levels of airborne radioactive material at work locations.

Contrary to the above, on March 4, 1996, during a drum venting and aspirating activity, air sampling or monitoring was not performed to evaluate the levels of airborne radioactive material prior to or when the contamination release occurred.

Additionally, procedure HSP-7.03 requires measuring and evaluation of airborne concentrations of radiological contaminants during respirator use to ensure proper respiratory protection; however, no air monitoring or sampling was performed until 3 hours

after workers had left the area, and over 4 hours from when the contamination was detected.

- C. 830.120(c)(1)(iii) requires that items, services and processes that do not meet established requirements shall be identified, controlled and corrected according to the importance to the problem and the work affected. Correction shall include identifying the causes and working to prevent recurrence.

Contrary to the above, following a March 4, 1996, drum venting and aspirating activity, comprehensive root cause evaluation and determination of corrective actions were not instituted, in that:

1. No identification occurred of the significance of this event, the associated violations and other deficiencies, the causes of the violations or deficiencies, or the potential broader implications.
2. Comprehensive and timely corrective actions were not developed to address the root causes of the violations and deficiencies associated with this event.

Collectively, these violations constitute a Severity Level II problem and a civil penalty of \$37,500, with 50 percent due by Safe Sites of Colorado (SSOC) and 50 percent by Kaiser-Hill Company (KHLL). KHLL is being notified separately of their liability and obligation. The SSOC obligation for this Severity Level II problem is thus \$18,750.

II. [Second Building] Contamination Spread and Personnel Uptake

10 CFR 835.1001(b) requires that for specific activities where use of physical design features are demonstrated to be impractical, administrative controls and procedural requirements shall be used to maintain radiation exposures as low as reasonably achievable (ALARA).

10 CFR 830.120(c)(2)(i) requires work to be performed to established administrative controls using approved procedures.

Contrary to the above, on April 18, 1996, administrative controls and procedural requirements to maintain personnel radiation exposures ALARA and to control work were not implemented or adhered to in that:

1. Radiological Work Permit 96-[]-1118:

a. Requires full-time RCT presence during bag-out operations; however, although the RCT was present for the steps of placing contaminated material into plastic bags, the RCT was not present for the gram estimating and disposal stages of the bag-out operation.

b. Requires use of full-face particulate respirators for bag-out operations; however, workers removed respirators after placing material in plastic bags, and did not wear respirators for the gram estimating and disposal stages of the bag-out operation.

2. Work Control Procedure 4-61000-CO-1036, Section 6.5:

a. Requires donning of respirators at the start of bag-out operations, and wearing of the respirator until the bagged material is placed in the designated waste storage container; however, the procedure was not followed for the work in that personnel removed respirators before gram estimating and placement of material in storage drums.

Collectively, these violations constitute a Severity Level II problem and a civil penalty of \$37,500, with 50 percent due by SSOC and 50 percent by KHLL. KHLL is being notified separately of their liability and obligation. The SSOC obligation for this Severity Level II problem is thus \$18,750.

Pursuant to 10 CFR 820.24, SSOC is hereby required within 30 days of the date of this Notice and Proposed Imposition of Civil Penalty, to submit a written statement or explanation to the Director, Office of Enforcement and Investigation, Office of the Assistant Secretary for Environment, Safety and Health, U.S. Department of Energy, 19901 Germantown Road, Germantown, MD 20874-1290, Attention: Office of the Docketing Clerk, CXXI, Suite 305, with copies to the Manager, DOE Rocky Flats Field Office, and to the cognizant DOE Secretarial Office for the facilities that are the subject of this Notice. This reply should be clearly marked as a "Reply to a Preliminary Notice of Violation and Proposed Civil Penalty" and should include for each violation: (1) admission or denial of the alleged violations, (2) the facts set forth above which are not correct and the reasons for the violations if admitted, and if denied, the reasons they are not correct, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved.

Any request for remission or mitigation of civil penalties must be accompanied by a substantive justification demonstrating extenuating circumstances or other reasons why the assessed penalties should not be imposed in full. Unless the violations are denied, or remission or mitigation is requested within the 30 days after the issuance of the Preliminary Notice of Violation and Civil Penalty, SSOC shall pay the civil penalties totaling \$37,500 (imposed under Section 234a of the Act) by check, draft or money order payable to the Treasurer of the United States (Account Number 891099) mailed to the Director, Office of Enforcement and Investigation, U.S. Department of Energy. Should the contractor fail to answer within the time specified, an order imposing the civil penalty will be issued.

If requesting mitigation of the proposed penalty, SSOC should address the adjustment factors described in Section VIII.C. of 10 CFR 820, Appendix A.

Tara O'Toole, M.D., M.P.H.
Assistant Secretary
Environment, Safety and Health

Dated at Washington, D.C.
this day of 1996