

August 18, 1999

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

EA-1999-06

Subject: Preliminary Notice of Violation and Imposition of Civil Penalty-
\$82,500 (NTS-RFO-KHLL-FACOPS-1998-0001)

Dear Mr. Card:

This letter refers to the Department of Energy's (DOE) evaluation of a number of deficiencies related to the procurement, design control, work processes, and quality improvement aspects of nuclear waste containers and nuclear waste components during 1997 and 1998. Kaiser-Hill Company, L.L.C. (KHLL) procured many of these items for initial use at the Rocky Flats Environmental Technology Site and for eventual shipment to the Waste Isolation Pilot Plant (WIPP).

On August 18-19, 1998, DOE conducted an onsite investigation of these deficiencies and issued an Investigation Summary Report dated May 6, 1999. An Enforcement Conference was held with you and members of your staff on May 27, 1999. The conference included a discussion of deficiencies related to the procurement of TRUPACT II and other waste containers identified in 1998, as well as more recent events involving your procurement process. An Enforcement Conference Summary Report is enclosed.

Based upon DOE's investigation and the information you provided during the Enforcement Conference, DOE concluded that violations of 10 CFR 830.120 (Quality Assurance Rule) occurred. These violations are described in the enclosed Preliminary Notice of Violation (PNOV).

Section I of the enclosed PNOV describes violations pertaining to a series of breakdowns with your procurement and design control processes for items that have the potential to impact safety to both workers and the environment. Although the violations did not result in any actual consequences to workers or the public, DOE is concerned because the violations indicate a significant lack of adherence to your established procurement processes resulting in the potential for a reduction in the

margins of safety. For example, KHLL procured 69 TRUPACT II Standard Waste Boxes (SWBs) to be used for temporary onsite storage of transuranic (TRU) waste and the eventual shipment of the waste-filled SWBs to WIPP for long-term storage. KHLL failed to properly evaluate the supplier of the SWBs or to apply adequate quality controls to ensure the SWB's were manufactured to specification requirements. The SWBs provided by the supplier were ultimately determined to be defective and not useable for their intended purpose. For example, welds were identified that lacked penetration and fusion, were cracked or had a welding rod protruding from the weld area. The determination that the SWBs were defective was made only after nine of the SWBs had been filled with TRU waste and only after KHLL learned of the potential problems with the SWBs from a contractor at another DOE site. KHLL subsequently tagged the SWBs as nonconforming to ensure they will not be used in the manner originally intended.

Section II of the enclosed PNOV describes violations associated with breakdowns with work processes and quality improvement. With respect to these violations, DOE is concerned that many opportunities were missed to identify and control the quality deficiencies associated with the procurement of the SWBs. Failure to follow KHLL established administrative controls and procedure requirements significantly contributed to these events. For example, KHLL procured the first three SWBs using a Certificate of Conformance as the basis for ensuring that the vendor met the specification technical requirements without first ensuring that the vendor had an adequate quality assurance program. At the time of the first purchase only a procurement quality assurance pre-award audit had been performed because no production was taking place. The audit focused on the quality assurance program documentation. As another example, KHLL accepted a vendor design change to pipe weldment containers. The design of these containers had been certified by the Nuclear Regulatory Commission (NRC), and KHLL failed to obtain the required review and approval from the NRC before accepting the vendor's design change. Moreover, KHLL did not self-identify the quality deficiencies relating to the procurement of the SWBs. DOE recognizes that KHLL took initiative in self-identification of quality deficiencies related to the other radioactive waste packaging once it learned of the problems with the SWBs. However, DOE is concerned that KHLL did not evaluate potential programmatic deficiencies with the procurement process until the problems were first identified at another DOE site. As a result KHLL failed to implement comprehensive and timely corrective actions as evidenced by recent similar occurrences including the procurement of a metal greenhouse for use as an aid for radiological control during glovebox size reduction activities in Building 771 and the installation of a radiation generating device in Building 663.

In accordance with the "General Statement of Enforcement Policy" 10 CFR 820, Appendix A, the violations described in Section I and Section II of the PNOV have been classified in the aggregate as two Severity Level II problems. In determining the Severity Level of these violations, DOE considered the programmatic and recurring nature of these deficiencies and the potential safety significance associated with these events.

In order to emphasize DOE's concern that items important to safety must have adequate design control and are procured with the necessary quality controls, I am issuing the enclosed Preliminary Notice of Violation and Imposition of Civil Penalty in the amount of \$82,500. The base civil penalty for the two Severity Level II violations is \$110,000. Full mitigation is not warranted because the deficiencies with the SWBs were identified by another site. However, DOE determined that 25% mitigation was warranted for KHLL's initiative in self-identification of the quality deficiencies related to similar items found after you learned of the problems with the SWBs, reducing the civil penalty to \$82,500. Full mitigation was not appropriate because the programmatic procurement deficiencies were not identified in a timely manner. DOE also determined that no mitigation was warranted for corrective actions because the corrective actions were not timely nor were they sufficiently comprehensive to prevent recurrence.

Provided that corrective actions are properly implemented, DOE is deferring enforcement action on your two recent NTS reports (NTS-RFO-KHLL-FACOPS-1999-0001 and NTS-RFO-KHLL-SITELWIDE-1999-0001) which identify procurement quality problems because they were identified by you as a result of your heightened awareness for the potential of breakdowns in the procurement process. Should your corrective actions prevent recurrence, DOE will close these NTS reports without further action.

You are required to respond to this letter and follow the instructions specified in the enclosed PNOV when preparing your response. Your response should document any additional specific actions taken to date. Corrective actions will be tracked in the Noncompliance Tracking System (NTS). You should enter into the NTS (1) any additional actions you plan to prevent recurrence and (2) the target completion dates of such actions. After reviewing your response to the PNOV, including your proposed corrective actions entered into the NTS in addition to the results of future assessments or inspections, DOE will determine whether further enforcement action is necessary to ensure compliance with DOE nuclear safety requirements.

Sincerely,



David Michaels, PhD, MPH
Assistant Secretary
Environment, Safety and Health

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Enclosures:
Preliminary Notice of Violation
Enforcement Conference Summary Report
List of Attendees

cc: M. Zacchero, EH-1
K. Christopher, EH-10
S. Hurley, EH-10
D. Stadler, EH-2
O. Pearson, EH-3
J. Fitzgerald, EH-5
J. Owendoff, EM-1
L. Vaughan, EM-10
J. Roberson, RFFO
K. Klein, RFFO
L. Bressler, DOE-RFFO PAAA Coordinator
F. Casella, RF-KHLL
J. Lieberman, NRC
D. Thompson, DNFSB
Docket Clerk, EH-10

PRELIMINARY NOTICE OF VIOLATION

Kaiser-Hill Company, L.L.C.
Rocky Environmental Technology Site

EA-1999-06

As a result of the Department of Energy's (DOE) evaluation of activities and events associated with the procurement of Transuranic Packaging Transporter II (TRUPACT II) Standard Waste Boxes (SWB) and other waste commodities by the Kaiser-Hill Company, L.L.C. (KHLL) in 1997, violations of DOE nuclear safety requirements were identified. In accordance with the "General Statement of Enforcement Policy," 10 CFR 820, Appendix A, DOE is issuing this Preliminary Notice of Violation. The particular violations are set forth below.

I. VIOLATIONS ASSOCIATED WITH PROCUREMENT AND DESIGN CONTROL

- A. 10 CFR 830.120(c)(2)(iii) Procurement requires that procured items and services shall meet established requirements and perform as specified. Prospective suppliers shall be evaluated and selected on the basis of specified criteria. Processes to ensure those approved suppliers continue to provide acceptable items and services shall be established and implemented.

Contrary to the above,

1. The Technical Specification (E-I-343) for TRUPACT-II SWB used by KHLL requires the sellers of these SWBs to have an approved quality assurance program. KHLL failed to evaluate and approve the supplier for three Waste Isolation Pilot Plant (WIPP) SWBs. On February 13, 1997, KHLL selected Vulcan Industries to supply the three SWBs. However, Vulcan Industries had not been evaluated and determined to be an approved supplier with an approved quality assurance program on February 13, 1997.
2. During 1997 KHLL procured and accepted 69 TRUPACT-II SWBs from Vulcan Industries that were later determined to be noncompliant with the procurement technical specification (E-I-343) requirements. NCR-98-0058 was issued by KHLL, which identified that all 69 SWBs failed to conform to the procurement requirements.
3. During 1998 KHLL procured B88/B12 radioactive waste storage containers from Container Products Corporation (CPC), which were determined to be noncompliant with the procurement design drawings and specification. KHLL

determined these waste storage containers were being fabricated at a CPC facility that had not been evaluated and approved.

- B. 10 CFR 830.120(c)(2)(ii), Design, requires that items and processes shall be designed using sound engineering/scientific principles and appropriate standards. Design work, including changes, shall incorporate applicable requirements and design bases. Design interfaces shall be identified and controlled. The adequacy of design products shall be verified or validated by individuals or groups other than those who performed the work. Verification and validation work shall be completed before approval and implementation of design.

Contrary to the above,

1. On June 10, 1997, KHLL failed to ensure that design requirements for TRUPACT II pipe weldments were correctly translated into specifications. Specifically, pipe weldment design for TRUPACT II packaging is approved by the Nuclear Regulatory Commission (NRC). The NRC approved design for pipe weldments to be procured by KHLL required pipe wall thickness to be $\frac{1}{4}$ in minimum. However, KHLL approved a vendor to manufacture the pipe weldments using Schedule 20 pipe, which did not comply with the approved, and NRC certified, design requirements.
2. On October 15, 1997, KHLL failed to ensure that WIPP Safety Analysis Report hydrogen diffusivity requirements were incorporated into a procurement specification for these filters. KHLL was notified of these requirements in February 1997. Consequently, KHLL accepted 3000 filters to be used on TRUPACT II components that were procured to incomplete design requirements.

Collectively, these violations represent a Severity Level II problem.
Civil Penalty - \$41,250

II. VIOLATIONS ASSOCIATED WITH WORK PROCESSES AND QUALITY IMPROVEMENT ISSUES

- A. 10 CFR 830.120(c)(2)(i), Work Processes, requires that work shall be performed to established technical standards and administrative controls using approved instructions, procedures, or other appropriate means. Items shall be identified and controlled to ensure their proper use. Items shall be maintained to prevent their damage, loss, or deterioration.
1. Rocky Flats Plant Procedure 2-C93-COEM-DES-273, Engineering Standards for Procurement, Revision 0, requires that certifications [Certificates of Conformance] must be from approved suppliers if they are to be credited for verification in the purchase of safety class items, and Procedure 10W36-APR-111, requires when PL-2 is applicable to procurement of Safety Class and/or

Augmented Quality Items or Services. Acceptance is via dedication upon receipt.

Contrary to the above,

On February 26, 1997, KHLL accepted Certificates of Conformance for three SWBs from Vulcan Industries, an unapproved supplier, as assurance that the SWBs met the established requirements. No dedication process was implemented to insure these SWBs conformed to the procurement requirements.

2. Rocky Flats Site Procedure 1-M12-WO-4034, Rev. 1, Solid Radioactive Waste Packaging Requirements, requires that the receiving warehouse will affix Waste and Environmental Management System (WEMS) bar codes to waste containers, and CAO-94-1012, U. S. DOE Quality Program Document, Revision 1, requires that items shall be identified and traced from the time of receipt, up to and including, installation or end use. Records shall be maintained to ensure that the item can be traced at all times from its source through installation or end use.

Contrary to the above,

On or about February 27, 1997, SWBs without WEMS bar codes installed was issued to site users.

- B. 10 CFR 830.120 (c)(1)(iii), Quality Improvement, requires that processes to detect and prevent quality problems shall be established and implemented. Items, services, and processes that do not meet established requirements shall be identified, controlled, and corrected according to the importance of the problem and the work affected. Correction shall include identifying the causes of problems and working to prevent recurrence. Item characteristics, process implementation, and other quality-related information shall be reviewed and data analyzed to identify items, services, and processes needing improvement.

Rocky Flats Procedure 1-A65-ADM-15.01, Control of Nonconforming Items, Rev. 3, states that items must meet approved design specifications and regulatory requirements prior to use at the Site. When these items do not conform to the approved specifications or requirements, they are considered nonconforming, and NCRs are generated for the condition in accordance with this procedure.

Contrary to the above,

1. On February 13, 1997, KHLL failed to identify items, services, and processes needing improvement. Specifically, KHLL procured three SWBs from Vulcan Industries, and failed to take into account six manufacturing problems that

were known to KHLL personnel to have been experienced by the Idaho Engineering and Environmental Laboratory with the manufacture of identical items by the Vulcan Industries.

2. In March 1997, KHLL failed to implement processes to identify items that did not meet established requirements. Specifically, SWB users at Building B707 experienced difficulty when attempting to torque the lid bolts on the three SWBs. However, no NCRs on this problem were issued, as required.
3. Several subcontractors of KHLL at RFETS failed to issue NCRs detailing manufacturing problems with SWBs manufactured by Vulcan Industries. Specifically, KHLL became aware on March 27, 1998, of problems that INEEL had been experiencing with the SWBs. However, some SWB users at KHLL failed to initiate NCRs for several weeks on the SWBs. As a result, the nonconforming SWBs were available for use during the delay.
4. On or about November 11, 1997, KHLL was aware that pipe weldments procured for use in TRUPACT II containers did not meet the required design drawing specifications. However, nine pipe weldments shipped to Building 707 for use in TRUPACT II containers were not promptly tagged with NCR tags after the problems with the pipe weldments were identified.

Collectively, these violations represent a Severity level II problem.
Civil Penalty - \$41,250

Pursuant to the provisions of 10 CFR 820.24, Kaiser-Hill Company, L.L.C. is hereby required within 30 days of the date of this Preliminary Notice of Violation (and Proposed Imposition of Civil Penalty), to submit written statement or explanation to the Director, Office of Enforcement and Investigation, Attention: Office of the Docketing Clerk, P. O. Box 2225, Germantown, MD 20875-2225. Copies should also be sent to the Manager, DOE Rocky Flats Field Office, and to the DOE Cognizant Secretarial Office at Headquarters for the facility that is the subject of this notice. This reply should be clearly marked as a "Reply to a Preliminary Notice of Violation" and should include the following for each violation: (1) admission or denial of the alleged violations; (2) any facts set forth which are not correct and (3) the reasons for the violations if admitted, or if denied, the basis for denial. Corrective actions that have been or will be taken to avoid further violations will be delineated with target and completion dates in DOE's Noncompliance Tracking System. In the event the violations set forth in this Preliminary Notice of Violation (PNOV) are admitted, this Notice will constitute a Final Notice of Violation in compliance with the requirements of 10 CFR 820.25.

Any request for remission or mitigation of the civil penalty must be accompanied by a substantive justification demonstrating extenuating circumstances or other reasons why the assessed penalty should not be paid in full. Within the 30 days after the issuance of this Notice and Civil Penalty, unless the violations are denied, or remission or mitigation is requested, Kaiser-Hill Company, L.L.C. shall pay the civil penalty of \$82,500.00 imposed under Section 234a of the Act by check, draft, or money order payable to the

Treasurer of the United States (Account 891099) mailed to the Director, Office Enforcement and Investigation, Attention: Office of the Docketing Clerk at the above address. Should Kaiser-Hill Company, L.L.C. fail to answer within the time specified, the contractor will be issued an order imposing the civil penalty.

If requesting mitigation of the proposed civil penalty, Kaiser-Hill Company, L.L.C. should address the adjustment factors described in Section VIII of 10 CFR 820, Appendix A.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Michaels', written in a cursive style.

David Michaels, Phd, MPH
Assistant Secretary
Environment, Safety and Health

Dated at Washington, D.C.
this 18th day of August 1999

