



## Department of Energy

Washington, DC 20585

August 12, 2004

Ms. Nancy Tuor, [            ]  
Kaiser-Hill Company, LLC  
10808 Highway 93  
Unit B  
Golden, CO 80403-9200

Subject: Enforcement Letter for Water Treatment System Breach and Foam Fire

Dear Ms. Tuor:

The Office of Price-Anderson Enforcement (OE) has reviewed the details and circumstances regarding two recent site events: the Building 771 unauthorized breach of the Water Treatment System in December 2003; and the February 2004 Building 991 foam fire.

Both of these events represent significant breakdowns in your safety programs. Additionally, the general failure to adequately recognize hazards and implement effective controls observed in association with the Building 991 foam fire was an underlying deficiency in the 2003 Building 371 glovebox fire, for which this office has already taken enforcement action. The events are summarized below.

### I. Building 771 Water Treatment System Breach

During 2003, decontamination activities in Building 771 included the use of a high pressure hydrolasing system for radioactive contamination removal. Waste water generated during hydrolasing was filtered and treated for reuse by the Water Treatment System (WTS). These hydrolasing activities and WTS operations were being conducted by subcontractors.

During the week of December 8, 2003, a WTS operator accessed the internals of a large settling tank in an attempt to identify and remove an obstruction blocking a tank outlet. During the repair attempt, other employees rigged a temporary hose connection in an effort to back flush the clogged tank. These work activities were performed without Radiological Control Technician (RCT) coverage, proper clothing or respiratory protection as required by written procedures and the radiological work permit. Elevated air samples prompted follow-up bioassay, which subsequently identified six individuals who received intakes of radioactive material ranging from 0 to 180 millirem committed effective does equivalent (CEDE).

On January 6, 2004, Kaiser-Hill (KH) submitted a Noncompliance Tracking System (NTS) report (NTS-RFO-KHLL-771OPS-2004-0001), which documented work control deficiencies related to this event. Your subsequent investigation into the event identified that procedural violations associated with the WTS system were not limited to the December 8, 2003 activities.

Rather, numerous WTS system breaches or other repairs had been conducted during the summer and fall of 2003 without implementing required radiological controls and without utilizing appropriate RCT coverage. In many cases, these activities had been conducted with the knowledge or involvement of subcontractor supervision. Deficiencies were also identified in general radiological hazard recognition and oversight/assessment of radiological activities on the part of KH and subcontractor management.

## II. Building 991 Foam Fire

During early February 2004, a polyurethane foam agent was used to seal specific areas of Building 991, including room [ ] and associated subterranean tunnels. The foam was intended to make the areas inaccessible and prevent future “slumping” of the ground above the areas. Building 991 had previously been decontaminated, radiologically surveyed, and released from radiological controls as a “clean” building. Foaming activities in Building 991 were completed on February 5, 2004.

On February 12, 2004, smoke was observed emanating from small wall penetrations above the door of room [ ] in Building 991. Response actions identified the source of the smoke as burning polyurethane foam, ignited by the exothermic foam curing process in Corridor B West. The fire, which was monitored by the site Fire Department, smoldered and smoked for several days until the reaction eventually ended. No injuries, chemical exposures, visible flames, or spreads of contamination were associated with the fire.

Your subsequent investigation into the fire identified that the foam manufacturer’s recommended controls related to the depth of foam application and minimum curing time had not been incorporated into the body of the work package nor implemented during the actual foaming. Earlier versions of site foaming procedures had recognized the exothermic hazard and incorporated the manufacturer’s controls; however, they had dropped out of the body of the current work package. Additionally, although listed as a Type I (job-specific) work package, the work package used for the Building 991 foaming was intended to cover general foaming activities, including foaming of “tanks, cargos, ductwork, piping, gloveboxes, etc.” Site personnel failed to recognize the unique large-scale applications associated with the planned Building 991 foaming activity, instead attempting to conduct the work using a generic work package. This failure was similar to the failure observed in association with the Building 371 glovebox fire, in which a standard work package was used to size reduce a unique glovebox configuration.

Your staff also failed to report the performance deficiencies associated with the Building 991 foam fire as potential Price-Anderson noncompliances using the NTS. Discussion with your staff indicated that the identified deficiencies were not viewed as nuclear safety related since Building 991 had been free-released from radiological controls at the time of the fire.

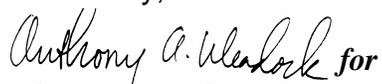
OE takes a somewhat broader approach when evaluating deficiencies for Price-Anderson applicability by considering both the actual and potential vulnerabilities associated with the deficiency. In this situation, although Building 991 was non-radiological at the time of the fire, the inadequate work package that served as an underlying deficiency contributing to the event had applicability to and was being used in several nuclear applications (foaming of waste containers and gloveboxes). Consequently, we viewed the deficiency as having a nuclear nexus. OE notes that subsequent to our discussions on this topic in May 2004 you have reported details of the foam fire to the NTS (NTS-RFO-RFETS--D&DOPS-2004-0001).

With respect to the above events, OE has concluded that violations of 10 CFR 830.122 (Quality Assurance Criteria) and 10 CFR 835 (Occupational Radiation Protection) may have occurred. Typically, OE would consider pursuing enforcement for one or both of the above events, based on their programmatic nature and similarity to prior events. OE recognizes, however, that you are currently involved in the implementation of the "Comprehensive Corrective Action Plan" that was developed in response to previous deficiencies, including the Building 371 glovebox fire. You briefed this office on your corrective action plan on May 26, 2004, and during the briefing I was encouraged by your progress on the plan and by your personal commitment to improving nuclear safety performance. It is also encouraging that your investigations into the Building 991 foam fire and the Building 771 WTS breach were comprehensive, and that developed corrective actions appear broad and, once fully implemented, should facilitate improvement in a number of areas, including training, procedures, and assessments.

For these reasons, I do not feel that further formal investigation at this time would be appropriate. Consequently, OE will exercise enforcement discretion on these matters consistent with the DOE Enforcement Policy. It should be understood, however, that my office will continue to monitor nuclear safety performance at Rocky Flats and will take enforcement action as necessary if nuclear safety violations continue to occur at Rocky Flats.

No response to this letter is required. Should you have any questions, please contact me at (301) 903-0100 or have your staff contact Roy Gibbs at (301) 903-6231.

Sincerely,

Handwritten signature of Anthony A. Wierlock in cursive script, followed by the word "for" in a smaller font.

Stephen M. Sohinki

Director

Office of Price-Anderson Enforcement

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