



July 23, 2007  
REL:06:028

U.S. Nuclear Regulatory Commission  
Director, Office of Nuclear Material  
Safety and Safeguards  
Attn: Document Control Desk  
Washington, D.C. 20555

Gentlemen:

**Subject: Thirty-day Follow-up Report to June 21, 2007 Incident Reported Under 10 CFR 70.50 (NRC Report Number 43438); AREVA NP Inc. Richland Facility; License No. SNM-1227; Docket No. 70-1257**

On June 21, 2007, the AREVA NP Inc. Richland facility reported a small fire in the feed hopper hood of its waste incinerator that destroyed a 3.5 ft<sup>3</sup> box of combustible waste that contained about 3.3 grams U-235.

This report was made because the condition met the 24 hour reporting requirements of 10 CFR 70.50 (b) (4).

#### Caller Identification

This incident was reported to the NRC Operations Center by R.E. Link, Manager, Environmental, Health, Safety & Licensing (EHS&L) June 21, 2007 at 1326 hours local time.

#### Date, Time, and Exact Location of Incident

The reportable event occurred June 21, 2007 at 0142 hours local time. The combustible waste incinerator is located in a dedicated portion of the Specialty Fuels Building, which in turn is located in the northwest portion of the site's restricted area.

#### Background

AREVA NP Richland routinely processes combustible waste through an incinerator. The feed material is sorted and packaged in cardboard boxes that contain approximately 3.5 ft<sup>3</sup>. Boxes are placed on a conveyor that feeds the incinerator. Prior to being fed into the incinerator feed hopper, the boxes are assayed and the U-235 content is determined for each box. After the assay, each box is moved into a feeding station; when it is time for the box to be fed, the feed hopper lid opens, the box is pushed into the feed hopper, the feed hopper lid then closes. After the feed hopper lid closes, the fire door opens and the feed ram pushes the box into the incinerator. After the box has been placed into the incinerator and the feed ram retracts, the fire door closes and the process repeats.

**AREVA NP INC.**  
An AREVA and Siemens company

2101 Horn Rapids Road, Richland, WA 99354  
Tel.: 509 375 8100 - Fax: 509 375 8777 www.aveva.com

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### Incident Description

At ~0142 hours on 6/21/2007, during Solid Waste Uranium Recovery (SWUR) incinerator operations, a sequencing problem caused a 3.5 ft<sup>3</sup> cardboard box containing combustible waste with about 3.3 grams U-235 to be fed on top of a closed feed hopper lid. As the equipment cycled the incinerator fire door, a box still inside the feed hopper as a result of the previous feed cycle not being completed, ignited. The heat from the burning box in the feed hopper resulted in enough heat being applied to the feed hopper lid to ignite the box on top of the lid. The box was inside the feed hopper containment hood when it ignited. The integrity of the containment hood remained intact during the fire. However, some smoke did escape into the room.

Operational personnel put out the fire using several hand-held fire extinguishers and then exited the building.

The plant emergency response team (PERT) was activated via the plant paging system at 0145 and the Richland Fire Department was called. With appropriate personal protective equipment (SCBA), two PERT members entered the facility and found that the box on the top of the feed hopper lid had re-ignited. They re-extinguished the fire using hand-held fire extinguishers.

The Richland Fire Department arrived at 0155. After they had donned appropriate PPE, two Richland fire fighters, accompanied by two PERT members, entered the facility and confirmed that the fire had been previously extinguished.

The SWUR process is currently shut down and will remain down pending completion of an ongoing investigation and completion of appropriate corrective actions.

### Safety Significance of the Incident

The safety significance of this condition is low because the fire was contained in the feed hopper hood, the amount of uranium involved was small, room air samples were collected and indicated levels were well below action levels for the room, and stack air samples were collected and indicated no release to the environment.

### Incident Response Actions

A number of actions were taken in direct response to this incident, as follows:

- As previously noted, the NRC Operations Center was notified of this incident on June 21, 2007. No other regulatory agencies were notified nor was a press release issued. The condition precipitated response by the plant emergency response team but did not meet the criteria for a declared emergency classification.
- The plant emergency response team extinguished the fire.
- The municipal fire department responded and assisted in assuring that the fire was extinguished.
- The SWUR process was immediately shut down.
- HEPA filters were inspected and verified to not be damaged.
- Stack samples were collected to verify no release to the environment.

- The incident site was appropriately cleaned.
- Room air samples were collected and indicated levels were well below action levels for the room.
- The incident was entered into AREVA's corrective action program.
- AREVA commissioned a Root Cause Analysis (RCA) team to evaluate the cause of this event.

#### Interim and Near-Term Corrective Actions

The incinerator remains shut down while the RCA continues.

#### Incident Cause

The RCA team is continuing to investigate the root cause(s) of the fire. The investigation to this point has determined that a box remained in the feed hopper after the feed sequence was interrupted due to a potentially malfunctioning limit switch. This problem was not noticed by the operator, and the operator attempted to reset the control system. After the system was reset the sequence which would have inserted the previous box in the feed hopper was lost. The next box was fed on top of the feed hopper lid, again potentially due to the malfunctioning limit switch.

At this time it appears that a mechanical problem existed with a limit switch on the feed hopper lid, thereby initiating the sequencing problem. Determination of the exact cause has been complicated by the fire damage to the limit switch suspected of having the mechanical problem. The RCA team has identified a repeatable inconsistency in the control which results in an incomplete feed cycle.

Final conclusions as to the causes of the incident will be documented in the RCA report.

#### Corrective Actions to Prevent Recurrence

Corrective actions are still being determined and will be documented in the RCA report. The system will remain down until completion of the appropriate corrective actions.

If you have questions about this incident or AREVA NP's associated response, please contact me on 509-375-8409.

Very truly yours,



R. E. Link, Manager  
Environmental, Health, Safety, & Licensing

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USNRC  
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cc: U.S. Nuclear Regulatory Commission, Region II  
Attn: D. A. Ayres, Chief  
Fuel Facility Branch 1  
Sam Nunn Atlanta Federal Center, 23 T85  
61 Forsyth Street, SW  
Atlanta, GA 30303-8931