

December 7, 2022  
U.S. Nuclear Regulatory Commission  
Director, Office of Nuclear Material  
Safety and Safeguards  
Attn: Document Control Desk  
Washington, D.C. 20555

To whom it may concern:

**Subject: 60-day follow-up report for a incident reported under 10 CFR 70 Appendix A (c) Concurrent Report (NRC Event No. 56713); Framatome Richland Facility; License No. SNM-1227; Docket No. 70-1257**

On October 21, 2022, the Framatome Richland facility concurrently reported to the NRC Operations Center that on August 5, 2022, an undeclared hazardous material was discovered following a completed waste shipment. The undeclared material was 18.3 grams of U-238 (depleted uranium).

On September 22, 2022, at about 11:30, a Framatome Waste Engineer informed Framatome EHS&L Management that a Hazardous Waste shipment to an offsite waste processor on August 5, 2022, may have included undeclared radioactive waste as this shipment included waste that had not passed the free release criteria.

The initial report was made because it was related to the conditions of 10 CFR 70 Appendix A (c) Concurrent Reports.

This follow up report is being submitted to comply with 10 CFR 70.74 (b) regarding submittal of a written follow-up report within 60 days of the initial report.

Attached is the 60-day follow-up report, following the written report requirements of 10 CFR 70.50 (c)(2).

If you have questions about this incident or Framatome's response, please contact Calvin Manning of my staff at (509) 375-8237 or me at (509) 375-8550.

Very truly yours,



T. J. Tate, Manager

Environmental, Health, Safety & Licensing

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**Framatome's 60-day follow-up report for an incident reported to NRC on October 21, 2022 (Event No. 56173)**

**10 CFR 70.50(c)(1) related information:**

Caller Identification

The condition was reported to the NRC Operations Center by Calvin Manning, Framatome Manager of Licensing and Compliance, on October 21, 2022, at 0935 ET. Mr. Manning's telephone number is (509) 375-8237.

Date, Time, and Exact Location of Incident

The reportable condition was discovered on September 22, 2022, at approximately 1130 local time. The location was Framatome's Richland facility at 2101 Horn Rapids Road, Richland WA 99354.

Description of Event

An undeclared hazardous material was discovered following a completed waste shipment. The undeclared material was 18.3 grams of U-238 (depleted uranium).

A hazardous waste shipment left the Framatome site on August 5, 2022, for Clean Earth Specialty Waste Solutions in Tacoma, Washington.

On September 22, 2022, at about 1130 [PDT], a Framatome Waste Engineer informed Framatome EHS&L (Environmental Health Safety and Licensing) management that this shipment included waste that had not passed the free release criteria for radioactive waste. The shipment included seven containers that went to an offsite waste facility on August 5th, 2022. To date, assay of six of the seven waste containers has confirmed that no detectable uranium was present.

The remaining waste package included material not regulated by Department of Transportation, (WA state dangerous waste only, Toxic). This package had UN specification markings; UN 1H2/X65/S/22/USA/M4990 1610 2.2mm; 27-Package Capacity:15 Gallons. This container and contents are not retrievable as the contents have been incinerated. However, samples of the resultant ash were sent to two independent labs and each lab using a different analytical technique confirmed that the ash met the free release limit of 30 picocuries per gram.

This condition was reported under the requirements of 10CFR70 Appendix A (c) concurrent reports since the reporting requirements within 49 CFR 171.16 for an undeclared hazardous material required a Hazardous Materials Incident Report be submitted to DOT.

Radiological and Chemical Hazards

Release of material is highly unlikely.

The radiological hazards associated with this failure to declare a radiological hazard remains minimal. Approximately 18.3 grams U-238 (depleted uranium) may have been shipped in a container that would have been authorized for the shipment had it been correctly labeled.

The physical form is solid, the chemical composition is likely Urania, but this could not be confirmed.

#### Health and Safety Consequences

The potential health and safety consequences of this undeclared radiological hazard remains minor as accidental release of this material remained highly unlikely. There was no degradation or failure related to the packaging.

#### Sequence of Events

**8/5/22 morning** Clean Earth arrives at Framatome's Richland site.

**8/5/22 morning** Framatome's Environmental Engineer reviewed shipping paperwork and approves the shipment.

**8/5/22 09:18** Clean Earth Truck Departed Framatome.

**8/6/22-9/22/22** Clean Earth dealt with the Framatome generated waste as follows:

5-Framatome containers remained at the Tacoma Facility; one of which is combined with waste material from other customers pending final disposition.

1 container's contents are combined with other customer's waste and shipped to a Clean Earth facility in Calvert City, Kentucky.

1 container's contents are shipped to Ross Incinerator Services Inc, in Grafton, Ohio, with other customer's waste and are processed through their incinerator.

**9/22/22 ~11:30** Framatome's waste Engineer informed Framatome's EHS&L Licensing and Compliance Manager that the Isocart gamma assay results for Lab Drum 1724 had not passed the free release criteria and that the contents of that drum had been shipped off site.

**9/22/22 ~13:00** Framatome's Environmental Engineer informed Clean Earth's Account Manager for Framatome that a waste shipment may have contained small amounts of depleted uranium and was not labeled as "Radioactive White I" when it was shipped on August 5, 2022 and requested that they place any further processing of this waste on hold and make it available to be returned to Framatome.

**9/28/22 06:30** Framatome sent staff to the Clean Earth Facility in Tacoma, Washington, to facilitate the return of the material sent to Clean Earth back to Framatome. (Containment Action 2)



**9/29/22 ~10:00** Framatome received four containers back from the Clean Earth Facility in Tacoma, Washington.

**9/29/22 later in the day** Waste Operator 2 completed Isocart gamma assay analysis. Results were verified by Waste Engineer and Health Physicist to not have any detectible uranium in the container. They later authorized free release of this material.

**9/29/22** Framatome provided Clean Earth a peer reviewed evaluation of the potential safety and environmental impact that the material sent to them may have on personnel and the environment. Doses to workers would be less than NRC limits for doses to members of the public (Clean Earth workers) and that the resulting incinerator ash would meet the free release limits of 30 pCi/gram.

**9/29/22 14:19 PDT** Framatome's EHS&L Manager called Region II Inspection Branch Chief and informed him of this shipment and the need to make a 30-day report to DOT and that we had provided information to Clean Earth that could be forwarded to facilities in Kentucky and Ohio and we did not want the NRC to potentially be surprised by questions about this issue if they were to receive an inquiry from either of these states.

**10/06/22** Clean Earth Tacoma workers completed the unpackaging, sorting and repackaging of the Framatome waste in preparation for its return to Framatome in Richland, Washington.

**10/12/22** Framatome again sent staff to the Clean Earth Facility in Tacoma WA to facilitate the return of the remainder of the Framatome material still on site at the Clean Earth facility in Tacoma Washington.

**10/13/22 ~1 1:50** Framatome received one container back from the Clean Earth Facility in Tacoma, Washington.

**10/13/22 12:03** Waste Operator 2 initiated a scan of the container returned to Framatome (ISO 6640) using the portable Isocart. Results were verified by Waste Engineer and Health Physicist to not have any detectible uranium in the container. They later authorized free release of this material.

**10/24-26/22** Framatome sent a health physicist with appropriate PPE and instrumentation to assay the waste drum containing waste material from Framatome that was at the Clean Earth facility in Calvert City, KY.

**10/25/25/2022** Framatome's health physicist completed gamma assay of the container that included waste material from Framatome and determined that it did not contain detectible uranium and the contents met free release limits.

**12/01/2022** the incinerator services company provided Framatome with the final gamma/alpha spec results for samples of the resultant ash that included Framatome's waste. Both lab results indicated that the free release limit was met.

#### Remaining Structures, Systems, Equipment, Components, and Activities of Personnel

There was no degradation or failure related to the packaging. Activities of personnel have been reviewed and found to be sufficient to prevent potential accidents or mitigate their consequences. See probable cause of event section below.

#### External Conditions

Those offsite recipients of the Framatome waste shipment were contacted and arrangements were made to either retrieve the waste material, confirm that it did not have detectable uranium, or to confirm that the ash from incinerated waste met the NRC's environmental free release limits of 30 picocuries/gram.

#### Additional Actions

Framatome retrieved five of seven containers and re-assayed them confirming that these containers met free release limits. Framatome also sent a health physicist and a multi-channel gamma assay device to a waste handling site and confirmed that a drum whose contents included waste from Framatome did not contain detectable uranium.

Framatome also completed an extent of condition evaluation and determined that this was the only shipment where this error was made.

#### Status of the Event

This event is over. Six of seven containers have been confirmed to not contain detectable uranium. The material from the seventh container has been processed at a commercial incinerator and the resulting ash has been confirmed to meet free-release limits of 30 picocuries/gram.

#### Current and planned site status

The current and planned site status remains in normal operating conditions.

#### Notifications to Other Agencies

DOT was informed of this shipment as required by 49 CFR 171.16.

#### Press Releases

A press release was not issued, and none are planned that are related to this event.

## 10 CFR 70.50(c)(2) related information:

### Probable Causes of Event

The following are the identified causes of this event:

- Inadequate free release process for material that originates from a contamination control area that are not handled as radioactive.
- Inadequate overchecks during day-to-day activities and when authorizing hazardous material shipments.
- Inadequate set up and use of the Portal Monitoring system used to detect radioactive material movements exiting the site's controlled area.

### Corrective and Mitigating Actions

Five of the seven containers that were shipped were returned to Framatome and verified to not contain detectable uranium using a multichannel gamma assay device.

Framatome deployed a Health Physicist and a multichannel gamma assay device to a commercial waste handling site and confirmed that the material shipped to that site did not contain detectable uranium.

Framatome evaluated laboratory results provided by an independent Lab contracted by the commercial incinerator and confirmed that the ash resulting from processing waste that originated at Framatome met the free release criteria of 30 picocuries/gram.

### Interim Preventative Actions Taken:

1. Require free-release items to be tagged with the free release documentation when the free release determination has been made.
2. Require dangerous/hazardous waste shipment authorization to include confirmation of free release documentation for any items that have been in a contamination control area prior to authorizing the shipment.

### Long Term Corrective Actions Planned:

1. Transform Framatome's free release process such that it has adequate overchecks and hold points to prevent recurrence.
2. Transform Framatome's dangerous/hazardous waste shipment authorization process such that it has adequate overchecks and hold points to prevent recurrence.
3. Revise the portal monitor alarm response instructions to assure that alarm conditions result in the vehicle being contained until a release authorization from health physics is obtained.
4. Train the appropriate personnel in a face-to-face setting to assure that procedure and program changes are adequately understood and will be implemented.

Inclusion in Integrated Safety Analysis

This was a shipping issue and is not associated with the Integrated Safety Analysis.