

Cobalt-60 Contamination Event



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Wisconsin Radioactive Material Program
August 14, 2025

Agenda

Initial Notification



Scrapyard Response



Site Visits

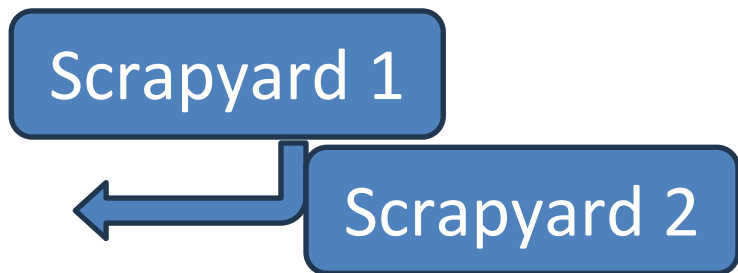


Follow-up and Disposition

Abbreviations

- CFR – Code of Federal Regulations
- NRC – Nuclear Regulatory Commission
- RPS - Radiation Protection Section
- $\mu\text{R/hr}$ – microRoentgen per hour
- pCi/g – picocuries per gram

Initial Notification



October 4, 2024:

- Scrapyard 1 notified RPS of rejected scrap metal from Scrapyard 2.
- RPS instructed Scrapyard 2 to segregate and secure material.

Scrapyard Site Visit

October 18, 2024:

- RPS visited Scrapyard 2 to help identify material.
- Two 3x3 boxes of metal shavings had been segregated.

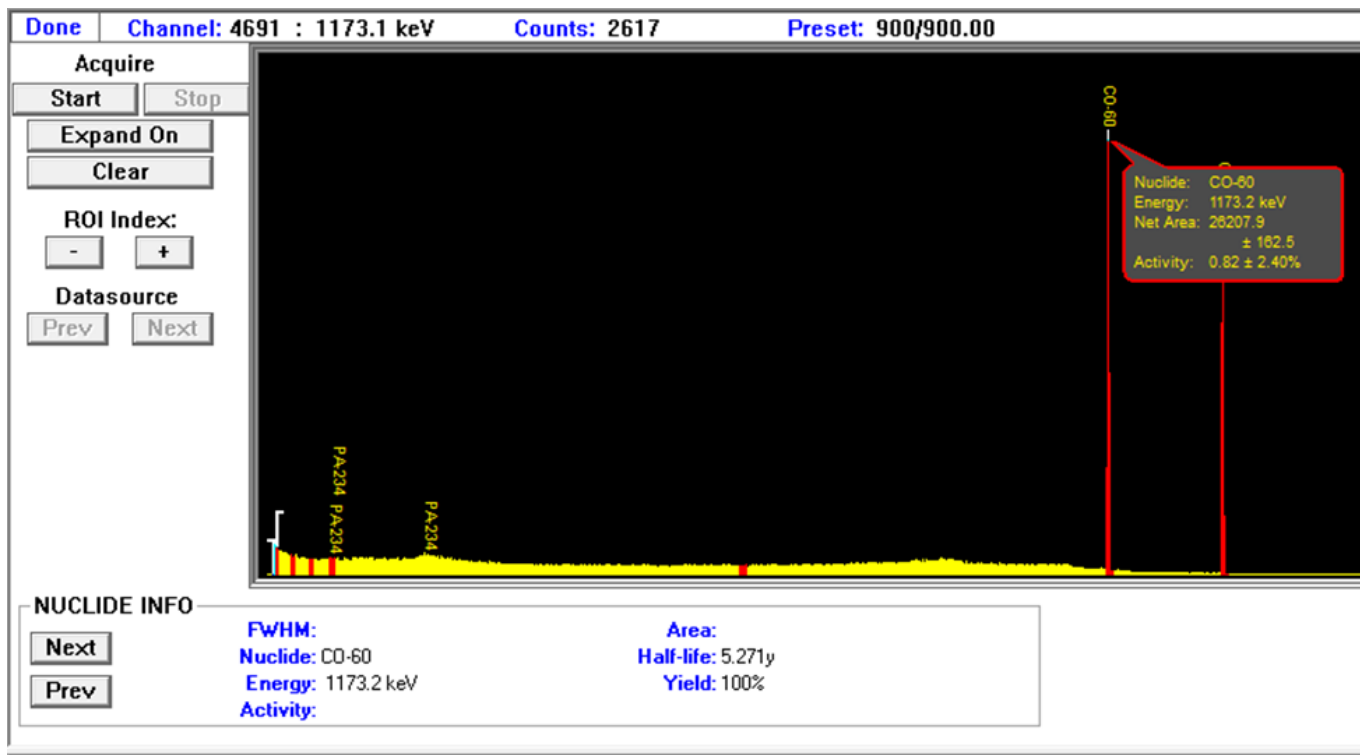


On-site Analysis

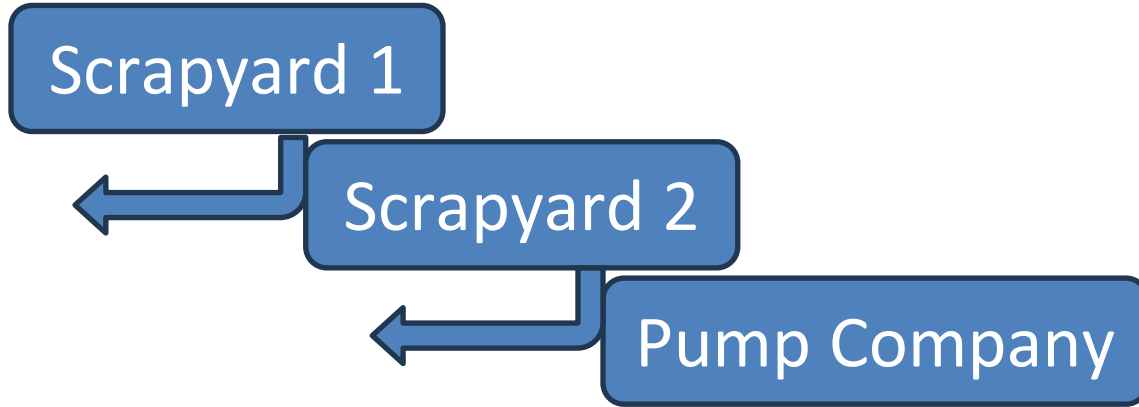


- Radionuclide identifier indicated cobalt-60.
- RPS collected a sample.

Gamma Spec Analysis



Following the Trail



Metal shavings were tracked back to a local pump manufacturing plant, which we visited on October 25.

Material Roundup



RPS staff identified:

- 33 individual castings
- 8 boxes of up to 8 castings each

Pump Co

Wisconsin Foundry

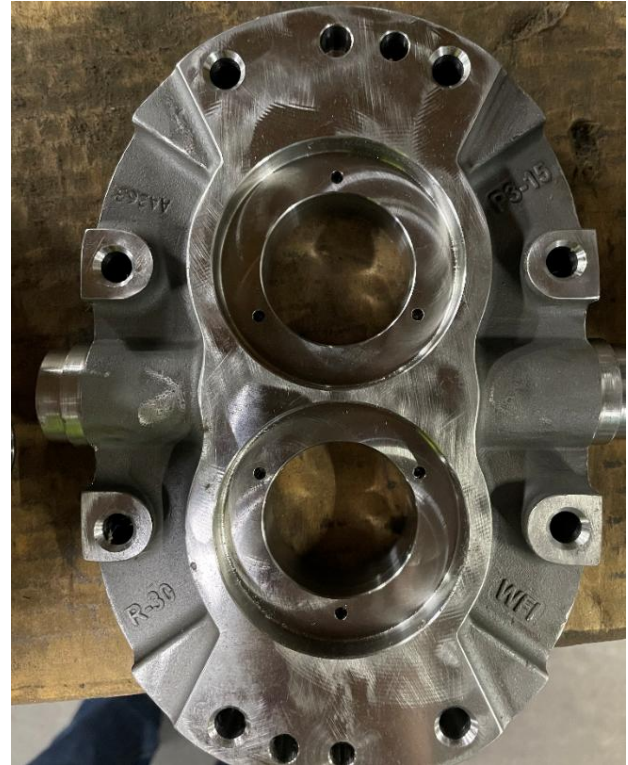
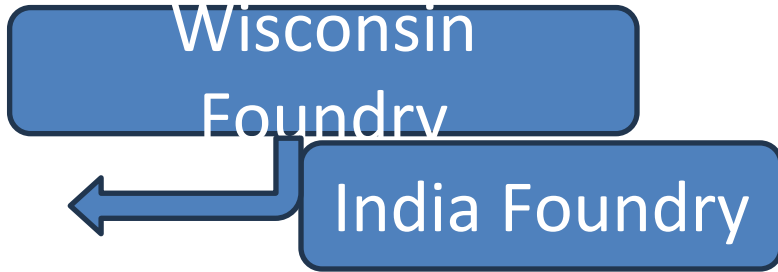
Foundry Site Visits



October 30, 2024 and
November 27, 2024:

- Foundry set aside 31 boxes of contaminated castings.
- RPS identified an additional 25 boxes of castings.

Following the Trail



Material Classification

- 10 CFR 30.18 requires that *any quantity* of radioactive material incorporated into a product requires a specific license for exempt distribution for domestic use.
- 10 CFR 30.14(b) does not authorize the import of byproduct material at exempt concentration levels.

Disposition

- Local waste broker packaged material from all three facilities.
- Independent analysis indicates a highest concentration of 41.4 pCi/g.
- Total waste volume of approximately 270 cubic feet of material.
- No removable contamination identified.
- High exposure readings of 700 μ R/hr.
- \$85,000 cost to associated sites.

Disposition



Contaminated material from the local foundry not transferred to other customers.



Notifications made to international foundry and to NRC.



No public dose limits exceeded.

Lessons Learned

Ensure proper
equipment is
available

Maintain shared
staff
documentation

Follow import
rules for
byproducts

Conduct
research to set
screening levels

Questions



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