



JENNIFER M. GRANHOLM  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



STEVEN E. CHESTER  
DIRECTOR

September 9, 2008

Mr. Patrick L. Loudon, Chief  
Decommissioning Branch, Region III  
U.S. Nuclear Regulatory Commission  
2443 Warrenville Road, Suite 210  
Lisle, Illinois 60532-4352

Dear Mr. Loudon:

The purpose of this letter is to provide information about the kitchen grater containing cobalt-60 discovered at a scrap metal yard in Flint, Michigan. We also request that the U.S. Nuclear Regulatory Commission (NRC) investigate the apparent importation of this item from China and that the NRC determine appropriate action to be taken by members of the public owning similar devices containing cobalt-60.

On August 25, 2008, Ferrous Processing and Trading Company (FPT) staff notified us that they found a radioactive piece of scrap metal that looked like a kitchen grater at Genesee Recycling Industries, 5107 North Dort Highway in Flint, Michigan. Our staff requested additional information about the item including exposure rates and isotope identification. On August 26, 2008, Ms. Linda George (248-335-8141x246) of FPT responded that the exposure rate at 6 inches from the grater was about 70 microrentgens per hour ( $\mu\text{R}/\text{h}$ ) with a background exposure rate of about 7  $\mu\text{R}/\text{h}$ . Their Exploranium 135 identified the isotope as cobalt-60. Our staff arranged to visit Genesee Recycling to verify the findings of the FPT staff.

On August 28, 2008, Mr. T.R. Wentworth of our staff visited Genesee Recycling and met Ms. George, Regulatory Coordinator for FPT, and Mr. John Banner, the Site Manager. The stainless steel kitchen grater was being stored in a metal drum. According to Mr. Banner, FPT staff had been clearing part of the scrap yard when they discovered the grater. He had no estimate of how long the grater had been at the site.

Mr. Wentworth used an Exploranium 130 to obtain a spectrum of the grater. The Exploranium identified cobalt-60. The two high energy photopeaks of cobalt-60 were clearly visible on the instrument display. Mr. Wentworth measured the exposure rate as 230  $\mu\text{R}/\text{h}$  (background 5  $\mu\text{R}/\text{h}$ ) near contact using an Eberline E-600 with a SHP-270 GM "bullet" probe. He frisked the grater using a SHP-360 GM "pancake" probe attached to the E-600. The readings ranged from 2,000 to 3,000 counts per minute (cpm) over the entire surface. No hot spots were identified on the grater. The background reading was about 50 cpm.

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The wire frame was separated from the grater panel. After separating the parts, it was apparent that the radiation emanated from the wire frame. Pancake probe measurements on the grater panel were background. Two wipe samples were taken to determine if removable contamination was present - one each of the panel and the wire frame. Field readings using the pancake probe on the wipes indicated no removable contamination from either piece.

FPT staff gave Mr. Wentworth the grate and wire frame which were brought to our Radiological Laboratory in Lansing, Michigan. The grater has "EKCO®" stamped on one end. The other end has the phrases "STAINLESS STEEL" and "MADE IN CHINA" stamped on it. The grater is roughly flat and rectangular. The wire frame is made of 1/8-inch diameter stainless steel wire and the rectangle it forms is 11 inches by 4 inches. Pictures, including an online advertisement for the grater, are enclosed with this letter.

Additional exposure rate measurements were taken in Lansing using a GM bullet probe, beta shield closed, and the E-600. The background exposure rate was 14  $\mu$ R/h. The net exposure rate with the "bullet" probe, beta shield closed, laying centered in the frame on a flat surface was 550  $\mu$ R/h.

Our Radiological Laboratory performed a qualitative analysis of the wire using a high purity germanium detector. Their results confirmed the presence of cobalt-60. The two wipes were analyzed for gross alpha and gross beta. No contamination was found on the wipes.

We request that the NRC investigate the apparent importation of this item from China and that the NRC determine appropriate action to be taken by members of the public owning similar graters containing cobalt-60.

If you have any questions, please contact me.

Sincerely,



Robert D. Skowronek, Chief  
Radioactive Materials Unit  
Radiological Protection Section  
Waste and Hazardous Materials Division  
517-241-1253

RDS:JK  
Enclosures

cc: Ms. Linda George, Ferrous Processing and Trading  
Mr. Darrel G. Wiedeman, NRC  
Mr. Thor M. Strong, MDEQ  
Mr. T.R. Wentworth, MDEQ