

**Department of Energy**  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

12-AMRP-0064

**JUN 13 2012**

Ms. J. A. Hedges, Program Manager  
Nuclear Waste Program  
State of Washington  
Department of Ecology  
3100 Port of Benton  
Richland, Washington 99354

Dear Ms. Hedges:

**ADDITIONAL INFORMATION REQUEST, INVESTIGATION OF BOX 231-Z-DR-11**

This letter responds to the May 24, 2012, (12-NWP-081) request for additional information relative to both Container Box 231-Z-DR-11 and Container Box 7510DMA-06, which are currently stored in the Central Waste Complex (CWC) Expansion Area. These container boxes were retrieved several years ago from Low-Level Burial Ground 218-W-4C (231-Z-DR-11) and 218-W-3A (7510DMA-06) in fulfillment of milestones established by the State of Washington Department of Ecology (Ecology), U.S. Department of Energy (DOE) Richland Operations Office (RL), and the U.S. Environmental Protection Agency (EPA) in the Tri-Party Agreement.

The specific information requested by Ecology is as follows (numbers have been applied for ease of reference):

1. "Since the second box, 7510DMA-06, was retrieved from the burial trench, do radiological surveys support a conclusion that it released into the environment?"

No, the impetus for the posting of the contamination area (CA) sign would not meet the definition of a release under the Hazardous Waste Management Act. Further, it was not considered a release according to DOE procedures. An amount of radioactive contaminant invisible to the human eye was found through the use of a technical swipe. Radioactive materials emit alpha, beta, and gamma radiation without physical movement of the materials. Radiation can be emitted from elements within the matrix of a solid material or from substances that adhere to the surface of a solid material, without the source elements moving into ambient air, the soil, or water. For that reason, it is common for radiation to be detected without any physical "release" of radionuclides into the environment. In addition, your letter states an incorrect CA boundary. The actual CA boundary is one foot, while the Radiological Buffer Area (RBA) is roughly 10-30 feet.

2. "Have the boxes been 'up-posted' and/or 'down-posted' as CA areas since they arrived at the CWC expansion area, and was that done due to a known or suspected release into the environment?"

JUN 13 2012

The radiological CA around Container Box 7510DMA-06 was established when the container was delivered to the CWC Expansion Area, after radioactive contamination was identified on the surface of this container during the CWC receipt survey. There has been no change in the CA or its status since that time.

There was no detection of surface radioactive contamination on Container Box 231-Z-DR-11 until a routine inspection was conducted in December 2011. A CA around that container box was established at that time.

3. "Have the boxes been moved around from location to location within the CWC expansion area, and was this done because of a known or suspected release into the environment?"

Both Container Box 231-Z-DR-11 and Container Box 7510DMA-06 remain in the locations where they were originally placed when they were delivered to the CWC Expansion Area.

4. "Was Box 231-Z-DR-11 moved from the original storage location at the CWC in the spring of 2011? If so, was the move due to a known or suspected release into the environment?"

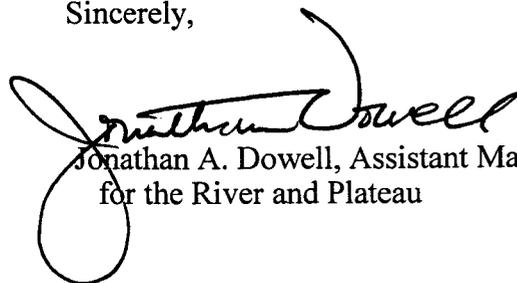
After Container Box 231-Z-DR-11 was removed from the Burial Trench 218-W-4C, it was placed in its current location in the CWC Expansion Area. It has not been moved since then.

5. "A 'May 2011' photograph of box 232-Z-DR-11 shows it posted as a CA. Was this posting due to a known or suspected release into the environment?"

After Ecology transmitted to RL, a copy of the photographs referred to in your letter, the original digital photographs were located. The photographs are "jpeg" files and the digital information attached to the photographs identify that they were taken using an Apple iPhone 4S on December 20, 2011, at 1:39 pm and 1:40 pm. The "May 2011" date was erroneously written on the photos supplied to Ecology. The photographs were taken after the discovery in December 2011 of a radiation source on the exterior of Container Box 231-Z-DR-11. In reviewing radiological records, there is no record that Container Box 231-Z-DR-11 was placed within a CA prior to the first discovery of a radionuclide source on its surface in December 2011.

If you have any questions, please contact me, or your staff may contact, Al Farabee, of my staff, on (509) 376-8089.

Sincerely,



Jonathan A. Dowell, Assistant Manager  
for the River and Plateau

AMRP:MSC

cc: See Page 3

JUN 13 2012

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