

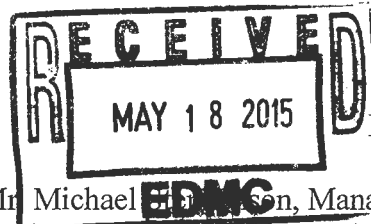


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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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May 13, 2015



15-NWP-088

By certified mail

Ms. Stacy Charboneau, Manager  
Richland Operations Office  
United States Department of Energy  
PO Box 550, MSIN: A7-50  
Richland, Washington 99352

Mr. Michael Stephenson, Manager  
Environmental Protection and  
Regulatory Programs  
Pacific Northwest National Laboratory  
PO Box 999, MSIN: J2-25  
Richland, Washington 99352

Re: Response to United States Department of Energy – Richland Operations Office  
(USDOE-RL) Letter 15-ESQ-0054, Dated April 3, 2015, “Response to State of Washington,  
Department of Ecology (Ecology) Notice to Comply Dated February 19, 2015, Regarding  
Pacific Northwest National Laboratory (PNNL) 300 Area Generator Locations”

1229281

Dear Ms. Charboneau and Mr. Stephenson:

The Department of Ecology (Ecology) inspected the 300 Area dangerous waste generator locations on October 29, 2014 (NWP Compliance Index No. 14.507), to determine compliance with the Dangerous Waste Regulations, Chapter 173-303 Washington Administrative Code (WAC).

Ecology issued letter 15-NWP-038 – Reissue and Compliance Certificate, dated February 19, 2015 to the Department of Energy Pacific Northwest Site Office and PNNL. Ecology did not receive the completed, signed Compliance Certificate and documentation required to close out the listed violations from the 300 Area inspection, as instructed in the Compliance Certificate.

Instead, Ecology received and reviewed the USDOE-RL and PNNL response letter 15-ESQ-0054 and enclosures, dated April 3, 2015. The letter and enclosures address correcting the items of non-compliance identified in Ecology’s Compliance Certificate. Ecology has determined that the violations identified in the Compliance Certificate have returned to compliance.

Ecology provides the following regarding the one concern documented in the inspection report. The April 3, 2015 response, submitted by USDOE-RL regarding the United States Department of Transportation Class 9 Miscellaneous Dangerous Goods (DOT Class 9) label, stated, “*This point is elaborated in the supplemental information recently requested by Ecology and provided by the Hanford Site, as a result of the inspection of the 214-T facility.*” Ecology has not completed the inspection report for T Plant, which includes the 214-T building nor provided



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USDOE-RL a final determination on that inspection, which is not associated with the 300 Area generator inspection and findings.

Documented in the inspection report, Mr. Grohs stated that container #177103; containing personal protective equipment contaminated with cadmium from a machining process was consolidated with container #16786. Container #16786 is one of the three containers I observed and documented as labeled with a DOT Class 9 label. I was told by Mr. Grohs during the inspection, these three containers were prepared for shipment. My observation regarding container #16786 is as follows.

“Towards the center of the 90 Day Area were two pallets with 12 containers. According to Mr. Grohs the containers and waste were prepared for transport to the off-site TSDF. I observed that all of the containers but one had accumulation start dates no earlier than September 2014. I observed one 35 gallon container (# 16786) had no accumulation start date, which I point out to Mr. Grohs and Mr. Swanson.”

“I also observed three container labels with a United States Department of Transportation (DOT) ‘Class 9’ risk label (Photos above and below). I observed no other risk labels on the three containers. I ask Mr. Grohs about the three containers with the ‘Class 9’ risk labels. Mr. Grohs said the three containers on the two pallets were prepared for shipment.”

WAC 173-303-200(1)(d) states, “While being accumulated on site, each container and tank is labeled or marked clearly with the words ‘dangerous waste’ or ‘hazardous waste.’ Each container or tank must also be marked with a label or sign which identifies the major risk(s) associated with the waste in the container or tank for employees, emergency response personnel and the public (note: If there is already a system in use that performs this function in accordance with local, state, or federal regulations, then such system will be adequate).”

The enclosed Ecology publication number: 12-04-016, states on page 2 under heading, Unacceptable risk labeling systems, “The U.S. DOT has a ‘Class 9’ risk label for shipping purposes. This label would not adequately identify risk(s) associated with the waste inside for the container and should not be used.”

The Federal Motor Carrier Safety Administration website <[www.fmcsa.dot.gov](http://www.fmcsa.dot.gov)>, states the following regarding the Class 9 Miscellaneous Dangerous Goods category:

“Category includes Environmentally Hazardous Substances, Elevated Temperature Material, Hazardous Wastes, and Marine Pollutants.”

I observed a DOT Class 9 label on container #16786 and I could not identify the major risks. I could only identify the possibility that the contents within the container are an environmentally hazardous substance, elevated temperature material, hazardous waste, and/or a marine pollutant.

The contents of container #177103 were observed and documented in the inspection report as labeled and identified as toxic. Also documented in the inspection report is the following regarding container #177103, "*Mr. Grohs told me the container was consolidated with cadmium (D006) contaminated DW in container # 16786, which also has a September 9, 2014 start date. Mr. Grohs' photos and follow up information indicated the correction was complete for the accumulation start date.*" When container #177103 was consolidated with container #16786, I could not identify the major risk, toxic, by observing a DOT Class 9 label on container #16786.

Based on the new information from USDOE-RL's response letter, Ecology's documented concern in the inspection report on the DOT Class 9 labeling for the three containers, including container #16786, is no longer a concern and is now a violation. The following is the violation and required corrective action needed to return to compliance.

**Violation:** WAC 173-303-200(1)(d), "While being accumulated on site, each container and tank is labeled or marked clearly with the words 'dangerous waste' or 'hazardous waste.' Each container or tank must also be marked with a label or sign which identifies the major risk(s) associated with the waste in the container or tank for employees, emergency response personnel and the public (note: If there is already a system in use that performs this function in accordance with local, state, or federal regulations, then such system will be adequate). The department may also require that a sign be posted at each entrance to the accumulation area, bearing the legend, 'danger—unauthorized personnel keep out,' or an equivalent legend, written in English, and legible from a distance of twenty-five feet or more;"

**Observation:** I observed three containers labeled with a DOT Class 9 label. I observed no other risk labels on the three containers. I asked Mr. Grohs about the three containers with the DOT Class 9 labels. Mr. Grohs said the three containers on the two pallets were prepared for shipment. USDOE-RL addressed this concern documented in the inspection report and provided further information in letter 15-ESQ-0054, dated April 3, 2015. This response led to the disclosure that the generator continued to accumulate waste in container #16786. Container #16786 is one of the three containers I observed with a DOT Class 9 label. I documented in my inspection report that container #177103 was consolidated with container #16786.

**Action Required:** Label all containers and tanks of dangerous waste in accordance with WAC 173-303-200(1)(d). Within 60 days upon receipt of this letter, USDOE-RL and PNNL must provide a written description to Ecology on how labeling of all containers and tanks of dangerous waste will be in accordance with WAC 173-303-200(1)(d).

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Failure to comply with these requirements within 60 days could result in an administrative order and a penalty of up to \$10,000 per day for each violation.

Ecology may re-inspect the 300 Area generator locations to verify that these steps were actually taken and that your facility remains in compliance with the dangerous waste regulations.

If you have any questions, please contact me at [edward.holbrook@ecy.wa.gov](mailto:edward.holbrook@ecy.wa.gov) or (509) 372-7909.

Sincerely,



Edward Holbrook  
Dangerous Waste Compliance Inspector  
Nuclear Waste Program

tkb  
Enclosure

cc electronic w/enc:

Dave Bartus, EPA  
Jack Boller, EPA  
Dennis Faulk, EPA  
Thomas Davies, USDOE-SC-PNSO  
Thomas McDermott, USDOE-SC-PNSO  
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Stacy Nichols, Ecology  
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John Price, Ecology  
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Environmental Portal  
Hanford Facility Operating Record

cc w/enc:

Steve Hudson, HAB  
Administrative Record: 300 Area  
NWP Central File  
NWP Compliance Index File: 14.507  
PNNL Correspondence Control

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Rod Skeen, CTUIR  
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NWP Reader File

## Risk Labels Required for Dangerous Waste Containers

Dangerous waste may be accumulated on site without a permit for up to 90 days for large quantity generators (LQGs) or up to 180 days for medium quantity generators (MQGs) provided certain conditions are met. One such condition is that the accumulation containers be properly labeled.

Each accumulation container must be clearly labeled or marked with the words “Dangerous Waste” or “Hazardous Waste” and the date waste was first put into the container. In addition, each container must have a label or sign on it that identifies the major risk(s) associated with the waste. Satellite accumulation containers and tanks are also subject to the risk labeling requirement.

The purpose of this focus sheet is to provide guidance on adequate risk labeling and does not replace any dangerous waste regulation regarding risk labeling. For details about accumulating dangerous waste and risk labeling see the Dangerous Waste Regulations, Chapter 173-303-200.

### State-only dangerous wastes vs. federal hazardous wastes

Washington law uses the term *dangerous waste*. Federal law uses the term *hazardous waste*. Washington’s definition of dangerous waste includes some wastes that are not included in the federal definition (state-only dangerous waste).

While being accumulated on-site all “dangerous waste,” (including federal RCRA<sup>1</sup> hazardous waste and state-only dangerous waste) is subject to the risk labeling requirements. Keep in mind this is an *on-site* requirement only. Labeling containers for transporting dangerous waste is different and addressed later in this document.

<sup>1</sup> Resource Conservation and Recovery Act

### Why It Matters

Washington’s Dangerous Waste Regulations require proper labeling of containers used to accumulate dangerous waste. Proper labeling – including risk labels – protects workers and alerts people to the hazards associated with a particular waste. Is it toxic or flammable? Does it contain ingredients known to cause cancer?

**Inadequate labeling is THE most common violation found during compliance inspections.** Avoid violating the regulations by labeling your containers properly. This guidance will tell you how. And, help yourself to free labels that can be downloaded from our Web site.

### For more information on container labeling:

- [Label Dangerous Waste](http://www.ecy.wa.gov/programs/hwtr/manage_waste/labeling.html) at [http://www.ecy.wa.gov/programs/hwtr/manage\\_waste/labeling.html](http://www.ecy.wa.gov/programs/hwtr/manage_waste/labeling.html).
- [Accumulating dangerous waste on site](http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303-200) at <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303-200>.
- [Preparing waste for transport](http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303-190) at <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303-190>

### Contact information

Tom Cusack  
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[tcus461@ecy.wa.gov](mailto:tcus461@ecy.wa.gov)

### Special accommodations

*If you need this document in a format for the visually impaired, call the Hazardous Waste and Toxics Reduction Program at 360-407-6700. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.*

## Examples of appropriate risk labels

Under the dangerous waste regulations, there is no set list or required number of risk labels for accumulation containers on site. Each major risk associated with the waste must be identified on the container. A container labeled “Toxic” could also be labeled “Flammable.” Risks a waste may exhibit can include one or more of the following:

- ◆ Toxic
- ◆ Poison
- ◆ Ignitable
- ◆ Flammable
- ◆ Carcinogenic (causes cancer)
- ◆ Reactive (volatile or unstable)
- ◆ Explosive
- ◆ Corrosive or solid corrosive
- ◆ Contains nano-particles

“Persistence” is a dangerous waste criteria describing the longevity of a chemical compound in the environment. Persistent constituents are either halogenated organic compounds (HOC) or polycyclic aromatic hydrocarbons (PAH) (see the Dangerous Waste Regulations, WAC 173-303-040). However, “persistence” is not a “risk” a container should be labeled with. In the case of a persistent dangerous waste, the more common risk label associated with regulated PAH chemical constituents is “Carcinogenic” not “Persistent,” although other risks may also apply such as, “Mutagenic”<sup>2</sup> and “Teratogenic”<sup>3</sup>. Common risk labels associated with regulated HOC chemical constituents may be “Toxic” or “Reactive.”

## Risk labeling systems

An acceptable risk labeling system must clearly and quickly identify the risk(s) associated with the contained waste and be easily seen and understood by employees, emergency response personnel, and the public. It must also comply with all local, state, and federal regulations. For example, the U.S. Department of Transportation (DOT) and the International Fire Code labels are acceptable for use in most cases.

Another option is the OSHA Global Harmonization System (GHS) hazard labels and pictograms. GHS labels will be required on chemical products by December 2015, but are not required on containers of dangerous waste. GHS pictograms can serve as risk labels when used with a risk word or words, as described above. GHS pictograms alone are not enough, as they do not adequately and clearly describe the possible risks.

## Unacceptable risk labeling systems

The U.S. DOT has a “Class 9” risk label for shipping purposes. This label would not adequately identify risk(s) associated with the waste inside the container and should not be used.

Other unacceptable examples include a simple color dot or a color-coded container, even with a nearby sign explaining the color code. The color code is meaningless to the public, time-consuming to emergency response personnel, and could possibly confuse employees. The sign could also be destroyed, obscured or moved and the color code system fails. The risk label must be affixed to or written directly on the container.

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<sup>2</sup> Mutagenic refers to the risk of a change in the genetic material, usually DNA, of an organism that may increase the frequency of mutation above the natural background level for that species.

<sup>3</sup> Teratogenic refers to the risk of disturbing the growth and development of an embryo or fetus, causing birth defects.

**Labeling containers for transport**

The dangerous waste regulations (WAC 173-303-190(2)) require that a container to be transported must be labeled according to the U.S. DOT labeling requirements (see also 49 CFR Part 172). Risk labels that could be confused with or conflict with U.S. DOT labeling standards must be removed prior to transporting containers. GHS labels are an exception to this rule, and can be left on containers during shipment.

**Label size**

There is no size limit or requirement for risk labels. But they need to be clearly visible and legible so that individuals can recognize, avoid, and properly respond to the risk(s) from a safe distance.