

SHIPMENT SCHEDULING AND SHIPPING PAPER PREPARATION  
FOR RADIOACTIVE MATERIAL SHIPMENTS (49 CFR 172 PART C)

1.0 GENERAL

Radioactive material shipping is subject to many State and Federal regulations. Shipping papers are among the items examined for accuracy by carriers, radwaste contractors, and government inspectors. Improperly prepared shipping papers can result in fines, and if violations are repetitive, even exclusion from burial facilities.

Therefore, it is important to be accurate and complete when preparing the shipping papers.

2.0 PURPOSE

The purpose of this procedure is to enable a person to accurately and completely prepare shipping papers for radioactive material shipments. Additionally, this procedure will enable a person to make required telephone notifications and make proper file entries for documentation of the shipment.

3.0 REFERENCES

- 3.1 Act No. 499, South Carolina Radioactive Waste Transportation and Disposal Act
- 3.2 Chem-Nuclear Site Criteria and License for Barnwell Facility
- 3.3 U.S. Ecology, Inc., Site Criteria and License for Richland Site
- 3.4 Procedures HP 3.1 and RDW 5.1
- 3.5 49 CFR Parts 100 to 178
- 3.6 State of Washington Section WAC 402-19-500, Preparation of Radioactive Material for Transport
- 3.7 Forms CHP-11c and CHP-11d, Radioactive Material Shipment Checkoffs
- 3.8 10 CFR 71, Packaging of Radioactive Material for Transport and Transportation of Radioactive Material under Certain Conditions
- 3.9 NUREG-0923, Advance Notifications of Shipment of Nuclear Waste and Spent Fuel
- 3.10 10 CFR 20.311, Transfer for Disposal and Manifests

- 3.11 HPSO 2, Completing Shipping Papers for Radioactive Material Shipments
- 3.12 Chem-Nuclear letter dated March 19, 1982, referring to certifications required to use high integrity containers
- 3.13 Chem-Nuclear letter dated February 12, 1982, referring to resin and filter disposal

4.0 SHIPMENTS OF LOW LEVEL WASTE TO U.S. ECOLOGY AT RICHLAND, WASHINGTON

- 4.1 Transportation will normally be arranged by the Nuclear Plant Specialist or engineer assigned to radwaste.
- 4.2 Forms are listed below.

<u>Form Number</u>	<u>Form Title</u>
CHP-11	Radioactive Material Shipment Record
CHP-11d	Radioactive Material Shipment Checkoff for Shipments to U.S. Ecology
CHP-138	Carrier/Driver Instructions for Radioactive Material Shipments
CHP-21 Area 35	Radiological Survey
CHP-21 Area 36	Radiological Survey for Casks & Liners
-----	U.S. Ecology, Inc. Radioactive Waste Shipment and Disposal Form
-----	U.S. Ecology Inc. Waste Shipment Continuation Sheet
CHP-16	Waste Permit Form
CHP-156	Highway Route Controlled Quantity Radioactive Material Shipment Checkoff
CHP-158	Advance Notification of Highway Route Controlled Quantity Shipment
DSHS RHF-31A	Washington State Low Level Radioactive Waste Shipment Certification for Commercial Generator/Packages and Brokers and Carriers
CHP-131 (series)	Cask Checkoff Sheets
CHP-136	Pre-solidification Checkoff

- 4.3 Forms are to be completed as fully as possible before the shipping date. They must be fully complete before the shipment leaves the plant.

Telephone notifications noted on CHP-11d, Radioactive Material Shipment Checkoff, may be completed as soon as practicable after the shipment leaves PBNP.

- 4.4 Distribute copies of the forms as specified by the Radioactive Materials Checkoff Sheet, CHP-11d.
- 4.5 Telephone notifications are listed below. They should be made as soon as possible after the shipment leaves.

4.5.1 Richland Site - 509/377-2411

Give:

- a. Bill of lading number
- b. Dates of shipment and expected arrival
- c. Quantity
- d. Carrier
- e. Tractor and trailer number
- f. Special unloading instructions, if any

4.5.2 Ready Stores, Point Beach Nuclear Plant

Give:

- a. Date
- b. Cubic feet shipped
- c. Destination

4.5.3 Control Room Duty Shift Superintendent PBNP

Give:

- a. Departure time
- b. Cask type, if any
- c. Contents

4.5.4 Weigh Station, State of Washington

Depending on the route the carrier uses, call Spokane (on I-90) phone number 509/266-3366, or Plymouth phone number 509/783-6492. Give:

- a. Arrival time
- b. Carrier
- c. Tractor and trailer number

4.6 File entries are listed below.

- 4.6.1 File the Waste Permit Form, CHP-16, in file HP 2.4. This form is not a part of the shipping papers.
- 4.6.2 File the white copy of CHP-21 in file HP 1.9.
- 4.6.3 Place applicable copies of the other forms listed in Section 4.2 above into file HP 2.1.1.
- 4.6.4 Enter the date of shipment, PBNP bill of lading number, consignee, volume, activity in Curies, and contents description in file HP 2.1.
- 4.6.5 When the acknowledgment of shipment receipt is received from U.S. Ecology, file it with the other shipment records in file HP 2.1.1. Any reports of trace investigations should also be filed with the shipment records. See Section 4.8 below. [10 CFR 20.322d(7)]
- 4.6.6 Checkoff the items shipped on CHP-43, (Waste Operations Report, file HP 2.5).

4.7 Shipment Acknowledgment (10 CFR 20.311)

- 4.7.1 The U.S. Ecology burial site should acknowledge receipt of the radioactive waste within one week after receiving the shipment. A signed copy of the manifest or equivalent documentation should be sent to PBNP. The returned copy should indicate any discrepancies between the materials listed on the manifest and the materials actually received.

- 4.7.2 Place the signed copy of the manifest along with the other documents for that shipment in File HP 2.1.1. Place a photocopy of the signed manifest in File HP 2.14.6.

Enter the date that the signed manifest was returned to PBNP on form CHP-11B in File HP 2.1.

Complete the shipment checkoff sheet (CHP-11c or 11d).

- 4.7.3 If within 17 days following a shipment, a notification of receipt is not received, contact Richland, Washington by phone to determine whether the shipment did arrive or any cause that has delayed PBNP receiving the notification of receipt.

If possible, Richland should telecopy a notification of receipt.

- 4.7.4 If within 20 days following a shipment a notification of receipt is not received, then the following steps must be taken.

- a. Conduct an investigation and trace the shipment.
- b. Notify the NRC Region III Office.
- c. File a written report of the trace investigation with the NRC Region III Office within 2 weeks of the completion of the investigation.

## 5.0 SHIPMENTS OF LOW LEVEL WASTE TO CHEM-NUCLEAR, BARNWELL, SOUTH CAROLINA

### 5.1 Scheduling Barnwell Shipments

Scheduling shipments to the Chem-Nuclear disposal site in Barnwell, South Carolina, normally must be done between one and three months before the date of shipment. Scheduling date deadlines are set by Chem-Nuclear and can be obtained from the Nuclear Plant Specialist or engineer assigned to radwaste.

Two things are done to schedule the shipment. First, obtain a volume allocation plan (VAP) number from Chem-Nuclear. Second, arrange for a carrier to transport the load to Barnwell, South Carolina.

- 5.1.1 Obtain the volume allocation plant number from Chem-Nuclear allocations section. The telephone contact number is 803/259-3577.

5.1.2 Selection of a carrier can be made through the Chem-Nuclear dispatcher by calling 803/259-1781. It is not mandatory to select a carrier through Chem-Nuclear. Contact the Nuclear Plant Specialist or engineer assigned to radwaste for details on other carriers.

## 5.2 Forms Required

Listed below are forms required for radwaste shipments to Chem-Nuclear in Barnwell, South Carolina.

<u>Form Number</u>	<u>Form Title</u>
RHA-PNC or DHEC 802	South Carolina Prior Notification and Manifest
RHA-CT or 803	South Carolina Waste Shipment Certification DHEC
CHP-11	Radioactive Material Shipment Record
CNS-201	Barnwell Management Facility Radioactive Shipment Record
CHP-21 Area 35	Radiological Survey
CHP-136	Pre-solidification Checkoff
CHP-21 Area 36	Radiological Survey
CHP-131 Series	Cask Checkoff Sheets
CHP-138	Carrier/Driver Instructions for Radioactive Material Shipments
CHP-157	Resin and Filter Disposal Checkoff
CHP-11c	Radioactive Material Shipment Checkoff Sheet for Chem-Nuclear Shipments
CHP-156	Large Quantity Radioactive Material Shipment Checkoff
CHP-158	Advance Notification of Large Quantity Shipment Bill of Lading

NOTE: THE SOUTH CAROLINA PRIOR NOTIFICATION AND MANIFEST, RHA-PNC, MUST ARRIVE AT THE CHEM-NUCLEAR, BARNWELL, SOUTH CAROLINA, OFFICES THREE DAYS BEFORE THE SHIPPING DATE.

THE SOUTH CAROLINA PRIOR NOTIFICATION AND MANIFEST MUST BE IN THE SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL, COLUMBIA, SOUTH CAROLINA, OFFICES THREE DAYS BEFORE THE LOAD ENTERS SOUTH CAROLINA, BUT NOT MORE THAN 30 DAYS AHEAD OF TIME.

MAIL THE FORMS TO THE ABOVE LOCATIONS WELL AHEAD OF TIME SINCE FAILURE TO MEET THESE DEADLINES CAN RESULT IN DELAYS IN WASTE BURIAL OR FINES.

- 5.3 Forms should be filled out as completely as possible before the shipping date. This will allow more time to accurately finish completion of the forms on the actual shipping day.

NOTE: CERTIFICATIONS REQUIRE INSPECTION OF THE LOAD WITHIN 48 HOURS OF THE SHIPMENT. PERFORM THE INSPECTION, SIGN, AND DATE SUCH FORMS IN THE PRESCRIBED TIME LIMITS.

5.4 Bill of Lading

Occasionally drivers have bills of lading which require attention. Look over the forms carefully and provide necessary information. Identify waste material accurately. If the driver has no bill of lading, CHP-11, Radioactive Material Shipment Record, is the bill of lading.

5.5 Distribution

Distribute copies of forms as specified by CHP-11c, Radioactive Material Shipment Checkoff for Shipments to Chem-Nuclear.

5.6 Telephone Notifications

Telephone notifications should be made as soon as possible after the truck leaves the site. The calls are listed below.

5.6.1 Barnwell Allocation Section 803/259-3577

Give:

- a. Allocation number
- b. Changes and additions to South Carolina Prior Notification Form, RHA-PNC, if any

5.6.2 Barnwell Dispatcher 803/259-1781

Give:

- a. Trailer number
- b. Cask number, if any
- c. Departure time
- d. Estimated date of arrival

5.6.3 South Carolina Bureau of Radiological Health 803/758-7806 or 803/758-7951

Give:

Changes and additions to South Carolina Prior Notification Form, RHA-PNC, if any. Typically, the trailer number and owner must be updated since these items may not be known until the truck arrives. Update other information as necessary.

5.6.4 Ready Stores, PBNP

Give:

- a. Date
- b. Cubic feet shipped
- c. Destination

5.6.5 Control Room Duty Shift Superintendent PBNP

Give:

- a. Departure time
- b. Cask type, if any
- c. Contents

5.7 File Entries

5.7.1 File the waste permit forms, CHP-16, in file HP 2.4. These forms are not part of the shipping papers.

5.7.2 File the white copy of CHP-21 in file HP 1.9.



- 5.7.3 Place the applicable copies of all other forms listed in Section 5.2 above in file HP 2.1.1.
- 5.7.4 Enter the date of shipment, PBNP bill of lading number, consignee, volume, activity in Curies, and contents description in file HP 2.1.
- 5.7.5 When the acknowledgment of shipment receipt is received from Chem Nuclear, file it with the other shipment records in file HP 2.1.1. Any reports of trace investigations should also be filed with the shipment records. See Section 5.8 below. [10 CFR 20.322d(7)]
- 5.7.6 Checkoff the items shipped on form CHP-43, (Waste Operations Report, file HP 2.5).
- 5.7.7 Advance notification of a highway route controlled quantity shipment, if any, should be attached to the shipping papers and put in file HP 2.1.1.

5.8 Shipment Acknowledgment (10 CFR 20.311)

- 5.8.1 The Chem Nuclear burial site should acknowledge receipt of the radioactive waste within one week after receiving the shipment. A signed copy of the manifest or equivalent documentation should be sent to PBNP. The returned copy should indicate any discrepancies between the materials listed on the manifest and the materials actually received.
- 5.8.2 Place the signed copy of the manifest along with the other documents for that shipment in File HP 2.1.1. Place a photocopy of the signed manifest in File HP 2.13.6.
- Enter the date that the signed manifest was returned to PBNP on form CHP-11B in File HP 2.1.
- 5.8.3 If within 17 days following a shipment, a notification of receipt is not received, contact Barnwell, South Carolina by phone to determine whether the shipment did arrive or any cause that has delayed PBNP receiving the notification of receipt. If possible, Barnwell should telecopy a notification of receipt.

5.8.4 If within 20 days following a shipment a notification of receipt is not received, then the following steps must be taken.

- a. Conduct an investigation and trace the shipment.
- b. Notify the NRC Region III Office.
- c. File a written report of the trace investigation with the NRC Region III Office within 2 weeks of completion of the investigation.

6.0 SHIPMENTS OF RADIOACTIVE MATERIAL TO PLACES OTHER THAN BURIAL SITES  
(VENDORS, CONTRACTORS, LABORATORIES, ETC.)

6.1 Scheduling the Shipment

6.1.1 Call the consignee to which the shipment will be made to arrange a date.

6.1.2 Contact Ready Stores, PBNP. They will arrange for a carrier.

6.2 Required forms are listed below.

<u>Form Number</u>	<u>Form Title</u>
CHP-11	Radioactive Material Shipment Record
CHP-11e	Non-Radwaste Radioactive Material Shipment Checkoff Sheet
CHP-138	Carrier/Driver Instructions for Radioactive Material Shipments
CHP-21	Radiological Survey

- NOTE:
- A. IF THERE ARE MORE ITEMS THAN CAN BE LISTED ON CHP-11, THE LIST CAN BE CONTINUED ON CHP-11a.
  - B. LIMITED QUANTITIES OF RADIOACTIVE MATERIAL DO NOT REQUIRE CHP-138.

6.3 Contact a Health Physics Supervisor to complete the forms.

6.4 Distribute copies of forms as specified on CHP-11d.

6.5 Send Health Physics' copies to the Nuclear Plant Specialist or engineer assigned to radwaste for review and filing in file HP 2.1.4.

7.0 SHIPMENT NOTIFICATIONS

7.1 Fissile, Type "B", and Highway Route Controlled Quantity Shipment

7.1.1 Prior to each shipment of fissile, Type "B," and highway route controlled quantity radioactive materials, notify the consignee of the date of shipment and expected arrival date. Also, prior to the first shipment, notify the consignee of any special loading or unloading requirements.  
[49 CFR 173.22(c)]

7.1.2 Within 90 days following the shipment of a highway route controlled quantity radioactive material, notify the Associate Director for Hazardous Materials Regulation, MTB by mail of the shipment. [49 CFR 173.22(d)]

The information required to be transmitted is specified on CHP-158, Advance Notification of Highway Route Controlled Quantity Shipment, and shall include:

- a. The shipment route plan and supplements, if any.
- b. A statement identifying the name and address of the shipper, carrier and consignee.
- c. A copy of the shipping paper.

7.1.3 In addition, on the shipping papers for shipments of highway route controlled quantities, the words "Highway Route Controlled Quantity" must be entered in association with the basic description of the hazardous material.  
[49 CFR 172.203(d)(iv)]

7.2 Nuclear Waste Shipments (10 CFR 71.97)

7.2.1 In certain situations, notifications must be made in writing to NRC Region III and to the office of the governor of each state into or through which a shipment of radioactive waste will be made. Notification is required only if all of the following three circumstances occur.

- a. The radioactive waste is required by 10 CFR 71 to be in Type B packaging for transportation purposes;
- b. The radioactive waste is being transported across state boundaries to a burial site; and

- c. The quantity of radioactive waste in a single package exceeds:
1. 5,000 Curies of special form radionuclides;
  2. 20 Curies of normal form radionuclides for which  $A_2$  is less than or equal to 4 Curies;
  3. 200 Curies of normal form radionuclides for which  $A_2$  is greater than 4 Curies;
  4. 5,000 Curies of uncompressed gases of Ar-41, Kr-85m, Kr-87, Xe-131m, or Xe-135; or
  5. 50,000 Curies of Ar-37 or of uncompressed gases of Kr-85, Xe-133 or H<sub>3</sub> as a gas, as luminous paint, or absorbed on solid material.
- 7.2.2 Fill in the information requested on form CHP-159, Advance Notification of Nuclear Waste Shipment.
- 7.2.3 The form shall be sent by registered mail postmarked at least 7 days before beginning of the 7-day period in which the shipment is to occur.
- 7.2.4 Changes to the shipping schedule must be telephoned to the appropriate governors offices and NRC. Record the names of the individual contacted on form CHP-159.
- 7.2.5 If the shipment is canceled, a written cancellation notice shall be sent to NRC and the appropriate governor's offices.
- 7.2.6 Copies of the notifications should be kept with the shipping papers.
- 7.2.7 A list of state officials to be notified can be found in file HP 2.18.

### 7.3 Alternate Notification Method

A notification required by Section 7.2 above can be made by messenger provided that it arrives in the appropriate official's office at least 4 days before the 7-day period in which a shipment will occur. A telecopy can be considered a "messenger."

### 7.4 File Entries

Attach copies of advance notifications to the shipping papers for filing.

## 8.0 SCINTILLATION FLUIDS

- 8.1 In addition to the requirements listed in Sections 1.0 through 7.0 of this procedure, shipments of xylene-based scintillation fluids in liquid form should include the hazard class, "Flammable liquid" on the shipping papers. [49 CFR 172.201(a)(4)(ii)].
- 8.2 Enter the words, "Waste Xylene," and the identification number, UN-1307, to the proper shipping name on the shipping papers. [49 CFR 172.101(c)(10)]
- 8.3 The information required on the shipping papers (49 CFR 172.200) may be entered on a separate sheet to maintain legibility. The sheet should be attached to the other shipping papers.
- 8.4 If over 1000 pounds of xylene is in a single package, the basic description must be preceded by the letters "RQ". [49 CFR 172.101(c)(9) and 172.203(c)(2)]