RDW 3.7 MINOR Revision 2 03-09-84

PREPARATION OF RADWASTE WOOD BOXES

1.0 GENERAL

Wood boxes are used to transport noncompactable trash and HEPA type filters to the burial grounds.

2.0 REFERENCES

- 2.1 RDW 5.1, Radioactive Material Shipments and related appendices
- 2.2 Form CHP-21, Miscellaneous Survey Form

3.0 PACKAGING PROCEDURE

- 3.1 Box Preparation
 - 3.1.1 Line the box carefully and thoroughly with plastic. Leave enough plastic to fold over the top when the box is full.
 - 3.1.2 The box is now ready to be filled with either trash or HEPA filters.
- 3.2 If the box is to be used for HEPA filters, the filters should first be crushed in the compactor. They are then placed in the box in a volumn efficient manner. When no more filters will fit in the box, add low-level scrap (<50 mR/hr), either compressible or noncompressible, to brace the filters in the box so that they will not shift during transport.
- 3.3 Fold the ends of the plastic over the top and tape in place.
- 3.4 Secure the box lid with nails and band the box using metal banding.
- 3.5 Use silicone sealant, or equivalent, to seal shut joints or crevices in the box.
- 3.6 Weigh the box and record the gross weight on both sides of the box in the upper right corner.
- 3.7 Measure the box and record the length, width and height (including skids) and record this information on both sides of the box in the upper right corner and on form CHP-16, Waste Permit. Measurements should be to the closest half-inch.

8411120345 841105 PDR ADDCK 05000266 PDR 3.8 Contact the control room and obtain a waste permit number. Record the permit number on both sides of the box in the upper right corner.

NOTE: USE A WATER RESISTANT MARKER FOR RECORDING THE ABOVE INFORMATION.

- 3.9 If box will be prepared for shipment the same day it is filled, go to Step 4.0.
- 3.10 If preparation of the box for shipment is not going to be completed at this time, place "Caution - Radioactive Material" markings on both sides of the box. If the box is to be placed outside, cover the box with plastic sheeting.

4.0 PREPARATION FOR SHIPMENT

- 4.1 Move the box containing the filters or trash to an area of low background radiation (<1 mR/hr) and perform a beta gamma survey as follows and record results on form CHP-21, Miscellaneous Survey Form.
 - 4.1.1 Highest contact
 - 4.1. Average contact at middle of box
 - 4.1.3 Highest at one meter (3.3 feet)
 - 4.1.4 Average around middle at one meter (3.3 feet)
 - NOTE: FOR PURPOSES OF ACTIVITY CALCULATIONS, CONTACT AND ONE METER (3.3 FEET) READINGS MUST BE TAKEN AT THE CENTER OF EACH LONG SIDE OF THE BOX, NOT INCLUDING THE ENDS.
 - 4.1.5 Send the completed yellow copy of form CHP-21 to the Nuclear Plant Specialist or Engineer assigned to radwaste.
- 4.2 Perform a removable contaminaton survey and record results on form CHP-21, Miscellaneous Survey Form.
 - 4.2.1 Contamination Limits

Contaminant	Maximum Permissible Level dis/min/100 cm ²
Beta Gamma	2,200*
Alpha	220*

*The policy at Point Beach Nuclear Plant is to reduce external contamination levels to as low as practicable. Therefore, contamination levels in excess of 10% of those listed above require Health Physics Supervisor approval prior to release.

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4.3 Activity Calculation

- NOTE: WHEN PERFORMING THE ACTIVITY CALCULATIONS, USE THE AVERAGE OF THE RADIATION READINGS TAKEN AT THE CENTER OF EACH OF THE TWO LONG SIDES OF THE BOX. DO NOT INCLUDE THE READINGS TAKEN AT THE TWO ENDS OF THE BOX.
- 4.3.1 The formula for calculating activity contained in a wood box made of 3/4" plywood with approximate interior dimensio 24" wide X 24" high X 85.5" long is:
 - a. Average l meter (3.3 feet) radiation reading (mR/hr) X
 1.1E-5 [Ci/(mR/hr)] X Box Weight = Curies
 - b. Average contact radiation reading (mR/hr) X 1.1E-6
 [Ci/(mR/hr)] X Box Weight = Curies
- 4.3.2 The formula for calculating activity contained in a larger wood box made of 3/4" plywood with approximate interior dimensions 48" wide X 48" high X 85.5" long is:
 - a. Average 1 meter (3.3 feet) radiation reading (mR/hr) X 3.8E-6 [Ci/(mR/hr)] X Box Weight = Curies
 - b. Average contact radiation reading (mR/hr) X 6.5E-7 [Ci/(mR/hr)] X Box Weight = Curies
- 4.3.3 Contact the Nuclear Plant Specialist or Engineer assigned to radwaste to determine Curie content of box sizes different from Section 4.3.1 & 4.3.2.
- 4.3.4 Use the 1 meter (3.3 feet) reading to calculate Curie content, unless the reading is close to background.
- 4.3.5 If the 1 meter (3.3 feet) reading is within 0.5 mR/hr of background, use the contact reading to calculate activity.
- 4.4 Confirm that the contents meet the requirements of LSA material (reference procedure RDW 5.3).
 - 4.4.1 Mark "Radioactive LSA U 2:12" ... the two long sides and the top of the box. Wathin 6" of each of these markings, mark "Class A Waste Unstable."
 - 4.4.2 Remove the "Caution Radioactive Material" markings if they are present.
 - 4.4.3 If the box does not meet LSA requirements, inform the Nuclear Plant Specialist or Engineer assigned to radwaste.

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- 4.5 Cover the box completely with plastic sheeting and place it in the radwaste storage area outside the west side of Unit 2 facade for shipment.
- 4.6 Complete the required entries on the following CHP forms.

4.6.1 Waste Permit (CHP-16)4.6.2 Waste Operation Report (CHP-43)

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