PACIFIC GAS AND ELECTRIC COMPANY

DEPARTMENT OF NUCLEAR POWER GENERATION
DIABLO CANYON POWER PLANT

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UNITS 1 AND 2

TITLE: RADIATION CONTROL PROCEDURE
COLLECTION, PACKAGING, STORAGE, AND
ACCOUNTABILITY OF RADIOACTIVE WASTE

APPROVED: _____
PLANT MANAGER DATE EFFECTIVE DATE

SCOPE

This procedure covers the administrative details concerning the collection, packaging, storage and accountability of solid radioactive waste. It does not include instructions for the actual shipment of solid radwaste.
This procedure and changes thereto require PSRC review.

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DISCUSSION

It is the policy of DCPP to operate at high efficiency, with a focus on cost effectiveness, and a continual emphasis on personnel safety.

To achieve this with respect to radwaste, waste minimization is of prime importance. It is the responsibility of every individual to use common sense, good housekeeping practices, and preplanning in assuring the realization of this goal.

With the large number of radwaste packages to be generated, a code system has been developed to uniquely identify each package. The code system consists of three parts; a two digit number identifying the year of packaging, a letter identifying the kind of package and a serial number for that particular kind of package in that particular year.

Example:	85	B	052
	year of package	kind of package	serial number

The letter codes are:

B - 90 ft^3 metal box (B-25)
D - 55 gallon drum
L - Disposable shipping liner
T - Containers filled with radwaste stored temporarily for future processing and/or packaging (i.e., segregation, compaction, absorption, encapsulation, etc.)
P - Packages for which specific curie content is determined prior to consolidation or encapsulation (i.e., expended cartridge filters)
M - Miscellaneous packages

RESPONSIBILITIES

1. Radwaste Handlers are responsible for:

   a. Collection of radwaste
   b. Transfer of radwaste to the processing areas
   c. Segregation of waste
   d. Packaging of waste for shipment
   e. Movement of packaged radwaste

2. C&RP technicians are responsible for:

   a. Radiological Controls in the above listed responsibilities.

   b. Tagging and labeling all containers and packages of radwaste.

   c. Accountability and Inventory of all packaged radwaste.

PRECAUTIONS

1. "Item Controlled Area" must not be used for storage of radioactive waste without the permission of the "SNM" Custodian as per Procedure AP D-7S1, "Control and Accountability of Special Nuclear Material."

2. Radioactive waste containing reportable amounts of SNM must not be removed from "Item Controlled Area" without the approval of the "SNM" Custodian.

PROCEDURE

1. GENERAL

a. Clean, (not radioactively contaminated) waste generated within the RCA must be deposited in green containers marked "NON-RADIOACTIVE WASTE ONLY" which are lined with clear poly bags. Once full, the bags are to be taped shut and transferred to the segregation area. At the segregation area the contents of each bag will be surveyed to assure that no radioactively-contaminated items are released from the site.

NOTE: Every object to be removed from the RCA must pass a final survey. The survey is to be performed by a qualified Radiation Protection technician, who will release the object outside of the RCA.

b. The radioactive trash will be collected in a yellow bag at the point of generation. When full or > 50 mrem/hr on contact, this bag will be removed, sealed, and placed into a second, outer bag.

CAUTION: Care must be taken to assure that there is no cross contamination from the inner bag to the outside of the outer bag.

The outer bag is to be sealed, tagged with a "BAGGED RAD WASTE" tag (Form #69-10351) and surveyed by a C&RP technician. The results of the survey are to be recorded on the tag. Based on the contents and the survey of the bag the C&RP technician is to assign a destination of the bag indicating it on the tag.

NOTE: There is no need to double bag and tag those radioactive trash bags which are placed directly into a tagged covered container (e.g., covered 4 wheel cart) and transported directly to a single location (e.g., transporting radioactive bagged trash from the segregation area to the compactors).

2. THE "BAGGED RAD WASTE" TAG (Form #69-10351)

NOTE: The "BAGGED RAD WASTE" tag may be used for various radwaste packages which include (but not limited to) bags, drums, boxes, buckets,...etc.

a. Every bag of radioactive waste shall be tagged with a completed "BAGGED RAD WASTE" tag (Form #69-10351).

NOTE: "BAGGED RAD WASTE" tag is not required for:

1) Radioactive trash bags which are being compacted; and

2) Radioactive trash bags being placed into covered containers and transported to a single location (e.g., covered 4 wheel cart transporting radioactive trash bags from the segregation area to the compactors). In this case the covered container is tagged.

b. The tag is to be completed as follows:

1) Upper section - physical description of waste. Check the applicable box:

a) "Dry Compactable"

Waste which contains no observable liquid or dampness and contains no non-compressible items (i.e.: tools, wood, equipment parts, etc...)

b) "Dry Non-Compactable"

Non compressible waste that has no observable moisture.

c) "Wet"

Waste including liquids, wet mop heads, wet rags, oily rags, absorbent used for spill clean up, etc.

d) "Other"

Waste not included in the above 3 categories such as filters as well as bags of unknown content.

2) Radiation Level

Record the highest contact dose rate.

3) Middle section - waste destination

Unless Radwaste Supervision specifically assigns the destination of the above types of waste, check the applicable boxes as follows:

a) "To Wet Waste Absorbing Area"
Wet waste including Radwaste filters

b) "To Segregation Area"

Waste with contact dose rate not exceeding 2 mrem/hr over background (maximum background being $\leq$ 0.5 mrem/hr)

c) "To Box Compactor"
Sorted or Segregated Dry Compactable Waste <100mrem/hr

d) "To Drum Compactor"
Dry Compactable waste >100mrem/hr and <1000mrem/hr

e) "To High Rad Storage Area"
Waste >1000 mrem/hr

f) "To Decon"
Objects or materials which can be decontaminated

g) "Other"

For waste which falls into the categories listed below the destination is to be written in the blank space next to the "other" box.

(1) To Drying Area
Damp Waste
(2) To Sorting Area
Waste with contact dose rate >2 and <100 mrem/hr
(3) Material to be transferred to other areas not addressed above.

4) Comments section

State the origin of the waste and any other pertinent information.

c. The Radiation Protection Technician must sign, date and time the tag.

3. COLLECTION OF RADWASTE

NOTE: A "BAGGED RAD WASTE" tag (Form #69-10351) shall be completed and attached to each bag to ensure the waste is disposed of properly and consistent with the above categories.

a. The bags are to be transferred to the designated areas, as indicated on the tags, using carts for ALARA considerations and ease of handling.

b. Unless otherwise specified by Radwaste Supervision, transfer the bagged radwaste in accordance with the tag information to the following areas:

1) Wet waste (i.e., mop heads, rags, absorbent, spill clean up materials, etc...) is to be transferred to the designated radwaste drying or absorbing areas.

2) Dry compactible waste (i.e., waste with no observable water or dampness and contains no non-compressible items such as tools, wood, equipment parts, etc....) is to be transferred to the following areas:

a) Waste with a contact dose rate not exceeding 2 mrem/hr over background, in a maximum background of $\leq$ 0.5 mrem/hr, should be transferred to the designated waste segregation area.

b) Waste with a contact dose rate from > 2 mrem/hr to $\leq$ 100mrem/hr is to be transferred to the waste sorting area.

c) Sorted or segregated compactible dry active waste with a contact dose rate $\leq$ 100 mrem/hr is to be transferred to the box compactor area.

d) Waste with a contact dose rate > 100mrem/hr and ≤ 1000mrem/hr is to be transferred to the drum compactor area.

e) Waste with a contact dose rate > 1000mrem/hr is to be transferred to the designated high radiation storage area, and the method of packaging will be decided on a case by case basis.

3) Dry non-compactible waste (i.e.: waste with no observable water or dampness) may be normally placed in a metal box, equivalent or drum.

a) Small amounts of non-compactible waste < 150 mrem/hr contact dose rate is to be transferred to the box compactor area.

b) Large amounts of non-compactible waste < 150 mrem/hr contact dose rate may be neatly stacked in a box designated for non-compactible waste only.

c) Large amounts of non-compactible waste ≥ 150 mrem/hr contact dose rate may be neatly stacked in a drum designated for non-compactible waste only.

4) Radwaste Filters

NOTE 1: Filters exceeding 100rem/hr will be handled on a case by case basis, consulting the procedure RCP D-220 in every case.

NOTE 2: If the suspected contact dose rate of the filter to be removed is greater than 1000mrem/hr the filter transfer cask may be used to keep radiation exposure ALARA.

a) Remove the filter in accordance with the appropriate Operations/Mechanical Maintenance procedure and/or SWP.

b) If the filter transfer cask is not used, obtain the radiation level at 6 inches from the end of the filter.

NOTE: Radiation reading 6 inches from the end of the filter is needed for curie calculation (RCP RW-8). Record the 6 inch reading in the "Comments" section of the "BAGGED RAD WASTE" tag. If this information is not available, it shall be obtained prior to the final disposition of the filter.

(1) Bag the filter and attach a completed "BAGGED RAD WASTE" tag (Form #69-10351) to the outside of the packaged filter. Ensure that the comments section includes the following items:

(a) The filter name and number (i.e., Refueling Water Purif. Fltr. #1-1, Rad Waste Discharge Filter 0-2, etc.)

(b) Radiation level at 6 inches from the end of the filter.

(2) Transfer the filter to either designated filter processing area, packaging area, or to a designated storage container maintaining exposure to all personnel ALARA. Select a 17H drum with a bung hole lid as a storage container.

(3) If the filter is to be stored prior to processing or packaging, fill in the required information (about the filter) on the FILTER STORING PACKAGE form (#69-10372) generated for this storage container.

c) If the filter transfer cask is used, raise the filter to the 1 foot reading on the grapple height gage. This will position the filter 6 inches above the bottom of the cask. Obtain the radiation level from the filter, at the bottom of the filter transfer cask.

CAUTION: If the filter transfer cask is empty hang an INFORMATION tag on the outside of the transfer cask indicating that the transfer cask is empty. If the filter cask contains a filter, hang the completed BAGGED RAD WASTE tag on the outside of the transfer cask, indicating its contents in order to permit individuals handling the cask or working in the vicinity to take precautions to avoid or minimize exposure.

(1) Load the filter into an appropriate shield (e.g., concrete lined drum, transfer cask, etc.) having the appropriate identification marked on the outside.

(2) Attach a completed "BAGGED RAD WASTE" tag (Form #69-10351) to the outside of the shield containing the filter. Ensure that the comments section includes the following items:

(a) The filter name and number (i.e., Refueling Water Purif. Fltr, #1-1, Rad Waste Discharge Filter 0-2, etc.).

(b) Radiation level at 6 inches from the end of the filter.

(3) Fill in the required information (about the filter) on the FILTER STORAGE PACKAGE form (#69-10372) generated for this storage container.

(4) Transfer the shielded filter to the Solid Radwaste Storage Facility and store in accordance with Section 5 of this procedure (Storage of Packaged Radwaste).

NOTE: Filters may be stored in the segmented Filter Storage cask located in Bay 2 of the Solid Radwaste Storage Facility.

5) Contents Unknown

Assign the "Sorting Area" to be the destination of unknown contents in a waste package (bag, drum, box, etc.), having contact dose rate of $\leq$ 100 mrem/hr.

6) Uncommon Waste Material

Contact Radwaste Supervisor for the destination of waste packages containing uncommon material (i.e., contaminated oil, contaminated chromated water, Tritium vials, paint, thinner, etc.).

4. PACKAGING OF RADWASTE

a. Wet Waste

NOTE 1: Radiation Protection restrictions will be in accordance with the RWP or SWP for Packaging of Rad Waste.

NOTE 2: Depending on the RWP or SWP limiting conditions, wet waste may be dried or have the liquid squeezed out prior to packaging.

1) Choose a 17H drum with a bung hole lid for the radwaste container.

NOTE: This will facilitate venting of these containers 10, days prior to shipment.

2) Label with the next sequential package I.D. number found in the "RADWASTE PACKAGE LOG" (form No. 69-9391) and with a minimum of 1 "Radioactive Material" label.

3) Fill in the upper section of a "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form (No. 69-9373) with the Package ID number. Then inspect the container checking off each item in the "PRIOR TO PACKAGING" section and initial in space provided.

4) Line the drum with a plastic bag of at least 4 mil thickness.

5) Place approximately 2 to 3 inches of absorbent in the bottom of the container.

6) Alternate layers of wet waste and absorbant using twice the absorbant needed to completely absorb all of the liquid present. (As an average use approximately 2" of absorbant to 6" of wet waste.) Continue this process until the container is filled to within 1" of the top.

7) Seal up the bag.

8) Verify that the requirements of the "DURING PACKAGING" section of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form are satisfied checking off each item and initial in the space provided.

9) After checking that the lid gasket is intact and in good condition, place the lid on the container. Check to see that there is a tight seal on the entire mating surface.

10) Secure the lid to the container using a ring and bolt.

11) Verify that the requirements of the "CLOSING CONTAINER" section of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form are satisfied checking off each item and initial in the space provided.

12) Perform a radiation and contamination survey of the package exterior using the techniques outlined in procedures RCP G-500.

NOTE: Assure that the contamination levels of the package are below the uncontrolled release limits before releasing the package for storage or shipment.

13) Record the survey results of the package exterior on line 1 of the "PACKAGE EXTERIOR SURVEY RESULTS" Section. Fill in all spaces in the RADIATION and CONTAMINATION sections and initial.

14) Store the package in accordance with Section 5 of this procedure (Storage of Packaged Radwaste).

b. Compacting Dry Active Waste with the Box and Drum Compactors

NOTE: Radiation Protection restrictions will be in accordance with the RWP or SWP for Packaging of Radioactive Waste.

1) Label an empty container (box or drum) with the next sequential Package I.D. number found in the RADWASTE PACKAGE LOG (form No. 69-9391) and a minimum of (1) "Radioactive Material" label.

2) Fill in the upper section of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY", Form No. 69-9373. Then inspect the container, checking off each item in the "PRIOR TO PACKAGING" section, and initial in the space provided.

3) Compact the waste using either procedure RCP RW-6, if compacting into boxes, or procedure RCP RW-9, if compacting into drums.

4) After the container is closed, verify that the requirements of the "DURING PACKAGING" and "CLOSING CONTAINER" sections of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form are satisfied checking off each item, and initial in the space provided.

5) Perform a radiation and contamination survey of the package exterior using the techniques outlined in Procedures RCP G-500.

NOTE: Assure that the contamination levels of the package are below the uncontrolled release limits before releasing the package for storage or shipment.

6) Record the survey results of the package exterior on line 1 of the "PACKAGE EXTERIOR SURVEY RESULTS" Section. Fill in all space in the RADIATION and CONTAMINATION section and initial.

7) Store the package in accordance with Section 5 of this procedure (Storage of Packaged Radwaste).

c. Non Compactable Waste Packaging

NOTE 1: Radiation Protection restrictions will be in accordance with the RWP or SWP for Packaging of Radioactive Waste.

NOTE 2: As much as is possible, decontaminate the objects to uncontrolled releasable limits. Non-metallic objects, attached to the metallic objects and which cannot be decontaminated, may be removed and disposed of as radwaste.

1) Small amounts of non-compactible waste may be carefully placed between layers of compactible waste during the compaction process. Waste <150 mrem/hr contact dose rate should be compacted in boxes. Waste of higher contact dose rate should be compacted in drums.

CAUTION: Non-compactible waste, when placed in the box with compactible waste, must be strategically placed so that the walls of the box are protected from being punctured.

2) Large amounts non-compactible waste <150 mrem/hr contact dose rate may be neatly stacked in a box or similar container as follows:

a) Place a box or similar container in an area setup as per the RWP or the SWP for radiological controls.

b) Label the container with the next sequential package ID number from the RADWASTE PACKAGE LOG (form no. 69-9391) and a minimum of one "Radioactive Material" label.

c) Fill in the top of a "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form No. 69-9373, with the package I.D. number. Then inspect the container, checking off the items in the prior to packaging section and initial in the space provided.

d) Neatly place the material with the highest contact radiation readings in the center of the box.

e) Pack the box in such a way so as to maintain contact radiation readings <150mrem/hr and 2 meter readings <5mrem/hr.

f) When the box is full verify that the requirements of the "DURING PACKAGING" section of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form are satisfied checking off each item and initial in the space provided.

g) After checking that the lid gasket is intact and in good condition, place the lid on the box. Check to see that there is a tight seal on the entire mating surface.

NOTE: If the gasket will not completely seal use caulking to insure even contact.

h) Secure the lid to the box using the retainer clips. Assure that they have been driven in completely and are holding tightly.

i) Verify that the requirements of the "CLOSING CONTAINER" Section of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form are satisfied checking off each item and initial in the space provided.

j) Perform a radiation and contamination survey of the package exterior using the techniques outlined in Procedures RCP G-500.

NOTE: Assure that the contamination levels of the package are below the uncontrolled release limits before releasing the package for storage or shipment.

k) Record the survey results of the package exterior on line 1 of the "PACKAGE EXTERIOR SURVEY RESULTS" Section. Fill in all spaces in the RADIATION and CONTAMINATION section and initial.

l) Store the package in accordance with Section 5 of this procedure (Storage of Packaged Radwaste).

3) Large amounts of non-compactible waste $\geq$150 mrem/hr contact dose rate may be neatly stacked in a drum as follows:

a) Place a drum in an area set up as per the RWP or the SWP for radiological controls.

b) Label the container with the next sequential package ID number from the RADWASTE PACKAGE LOG (form no. 69-9391) and a minimum of one "Radioactive Material" label.

c) Fill in the top of a "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form no. 69-9373, with the package ID number. Then inspect the container, checking off the items in the prior to packaging section and initial in the space provided.

d) Neatly place the material with the highest contact radiation readings in the center of the drum.

e) When the drum is full verify that the requirements of the "DURING PACKAGING" sections of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form are satisfied checked off each item and initial in the space provided.

f) After checking that the lid gasket is in tact and in good condition, place the lid on the container. Check to see that there is a tight seal on the entire mating surface.

g) Secure the lid to the container using a ring and bolt.

h) Verify that the requirements of the "CLOSING CONTAINER" section of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form are satisfied checking off each item and initial in the space provided.

i) Perform a radiation and contamination survey of the package exterior using the techniques outlined in procedures RCP G-500.

NOTE: Assure that the contamination levels of the package are below the uncontrolled release limits before releasing the package for storage or shipment.

j) Record the survey results of the package exterior on line 1 of the "PACKAGE EXTERIOR SURVEY RESULTS" section. Fill in all spaces in the RADIATION and CONTAMINATION sections and initial.

k) Store the package in accordance with Section 5 of this procedure (Storage of Packaged Radwaste).

d. Radwaste Filter Packaging by Absorption

1) General Radwaste filters will come from 4 waste streams. They are:

a) Spent Fuel Pool Waste Stream
   (1) Spent fuel pool skimmer filters
   (2) Spent fuel pool resin trap filters
   (3) Spent fuel pool filters
   (4) Refueling water purification filters

b) Reactor Coolant Waste Stream

   (1) Boric acid evap concentrates filters
   (2) Boric acid evap feed I.X. filters
   (3) R.C. pump sealwater inj. filters
   (4) R.C. pump sealwater rtn. filters
   (5) R.C. system letdown filters
   (6) Boric acid evap cond demin filters

c) Radwaste Waste Stream

   (1) Radwaste discharge filters

d) Steam Generator Blowdown Waste Stream

   (1) Steam generator blowdown pre-filters
   (2) Steam generator blowdown resin trap filters

When the filter is changed out in accordance with Section 3 of this procedure (Collection of Radwaste) it will have a "BAGGED RAD WASTE" tag (Form #69-10351) attached to it with the filter name, number and contact dose rate. Based on this information the filter will be placed in the appropriate drum for packaging.

NOTE: Radiation protection restrictions will be in accordance with the RWP or SWP for Packaging of Radwaste.

2) Assure that the designated drum for the filter to be disposed of in is:

a) A 17H drum with a bung hole and marked with the next sequential package I.D. number, obtained from the "RADWASTE PACKAGE LOG" (Form No. 69-9391);

b) Identified (or marked) as drum for either Unit 1 or Unit 2 filters if appropriate.

c) Labeled with a minimum of one "RADIOACTIVE MATERIAL" label; and

d) lined with a polybag (>4 mil thick) having 2 - 3 inches of absorbent on the bottom.

3) Assure that:

a) The top section of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form (No. 69-9373) is completed with the package I.D. number;

b) The container has been inspected, with the items in the "PRIOR TO PACKAGING" section checked off and initialed in the spaces provided.

4) Remove the grapple plate from the filter element and place each filter in the drum with the open side facing up.

5) After the last filter has been placed in the drum, pour in absorbant to within one inch from the top of the drum.

6) Seal the poly bag with tape.

7) Verify that the requirements of the "DURING PACKAGING" section of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form are satisfied checking off each item and initial in the space provided.

8) After checking that the lid gasket is intact and in good condition, place the lid (with bung hole) on the drum and secure the lid into place with a drum ring. Tighten down drum ring bolt and nut.

9) Verify that the requirements of the "CLOSING CONTAINER" Section of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form are satisfied checking off each item and initial in the space provided.

10) Perform a radiation and contamination survey of the package exterior using the techniques outlined in Procedures RCP G-500.

NOTE: Assure that the contamination levels of the package are below the uncontrolled release limits before releasing the package for storage or shipment.

11) Record the results of the package exterior on line 1 of the "PACKAGE EXTERIOR SURVEY RESULTS" section. Fill in all spaces in the RADIATION and CONTAMINATION section and initial.

12) Store the package in accordance with Section 5 of this procedure (Storage of Packaged Radwaste).

14) Set up a replacement packaging drum following Steps 4.d.2), a), b), c) and d) of this procedure.

e. Packaging of DCPP solid radioactive sources for disposal

1) Any source to be disposed of must be logged-off on the Rad. Protection Source Inventory in accordance with RCP D-10.

2) Solid radioactive sources packaged in containers for disposal will be listed and attached to the "Solid Radioactive Waste Inventory" (form 69-9373). Include in this information the source accountability number, the isotope, the activity and the date on which the activity was calculated or measured.

5. STORAGE OF PACKAGED RADWASTE

a. General Precautions

1) The choice of storage locations will be made based on the type of container and the radiation dose rate. The designation of these areas will be as per the Radwaste Foreman. Accountability will be maintained utilizing the "RADWASTE PACKAGE LOG" (Form No. 69-9391).

NOTE: Packaged radwaste, pending further processing and/or repackaging for shipment, may be temporarily stored in designated areas. There is no need to generate the SOLID RADIOACTIVE WASTE PACKAGE INVENTORY form for such temporarily stored packages.

2) Complete the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form with the exception of the "PRIOR TO SHIPMENT", "FINAL DISPOSITION OF PACKAGE", AND "Survey at the time of shipment" sections. Fill in all other spaces. If not applicable mark as N/A.

3) Place the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form along with any isotopic sample results in the Radwaste Foreman's office.

4) Complete the "RADWASTE PACKAGE LOG" located in a folder at the storage area.

b. Drum Storage (<1000mrem/hr contact)

1) Move the drum to designated low level drum storage area and store with the Package I.D. No. facing out.

2) Record the Package I.D. No., Contents, Locations, highest contact radiation reading, highest 1 m reading and date in the "RADWASTE PACKAGE LOG". Initial in the space provided.

3) A map may be utilized to document the actual storage location of each drum.

c. Drum Storage (>1000mrem/hr contact)

1) Move the drum to the locked high rad storage area and store with Package I.D. Number facing out.

2) Record the Package I.D. No., Contents, Location, highest contact radiation reading, highest 1 m reading, and date in the "RADWASTE PACKAGE LOG". Initial in the space provided.

3) A map may be utilized to document the actual storage location of each drum - this map will be kept with the "RADWASTE PACKAGE LOG.

d. Box Storage

1) Move the box to the designated box storage area and store with the package ID Number facing out.

2) Record the Package I.D. No., Contents, Location, highest contact radiation reading, highest 1 m reading, and date in the "RADWASTE PACKAGE LOG." Initial and Date.

3) A map may be utilized to document the actual storage location of each box.

6. ACCOUNTABILITY OF RADWASTE PACKAGES IN STORAGE

Accountability of the radwaste packages in storage shall be conducted twice yearly.

a. Low level waste packages (< 1000 mrem/hr contact) shall be accounted for by visual verification of each package identification number.

b. Packages stored in very high radiation areas can be accounted for by verifying the number of packages as compared to the map, and verifying the Package I.D. Numbers that can be seen. It is not intended for very high radiation level packages to be moved for inventory, unless there is doubt as to the identity of the packages.

c. Discrepancies between the "RADWASTE PACKAGE LOG", "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" forms, and the actual location of the packages, will be entered in the RADWASTE PACKAGE LOG, and reported to the Radwaste Foreman.

d. The accountability of packages shall include also a visual inspection, checking for damage or deterioration of the packages. These are to be identified and removed for repackaging.

e. A summary report shall be prepared and shall include the number of packages within each area and total activity present.

7. PREPARATION OF PACKAGED RADWASTE PRIOR TO SHIPMENT

a. Weigh the package and record the results in the upper section of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form.

b. Prior to shipment of a waste package drum, ensure that the drum lid bolt is wrench tight (~ 45 ft-lbs).

c. Prior to shipment, 10% of the packaged drums are to be turned upside-down to be tested for free standing liquid. The test must last for at least 48 hours.

1) If there is no detectable water leakage from any of the drums, complete the shipment.

2) If there is any detectable water leakage, test every packaged drum in storage.

CAUTION: Every drum found with any detectable water leakage must be repackaged in enough absorbent to absorb twice the free standing liquid.

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d. Record the survey results of the package exterior on line 2 of the "PACKAGE EXTERIOR RESULTS" section of the "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY" form. Refer to RCP RW-8 for proper location of the 1 foot reading.

e. Labeling of radwaste packages prior to shipment.

1) Mark or label each package of waste in accordance with procedure NPAP D-506, "Radioactive Material Shipment," as Radioactive, Radioactive-LSA, DOT White I, Yellow II or Yellow III.

2) Mark the package ID Number and weight on the same side as the shipping label or marking on each package of waste.

3) Place the appropriate Class A Stable, Class A Unstable, Class B or Class C label next to (within 6 inches) of the shipping label or marking.

REFERENCES

1. Title 49, Code of Federal Regulations, Parts 173 and 178.

2. Title 10, Code of Federal Regulations, Part 20.

3. Radioactive Material License Issued by the State of Washington to U.S. Ecology for the Richland Facility.

4. Radiation Control Procedure D-10, "Handling and Accountability of Radioactive Sources."

5. Radiation Control Procedure RW-8, "Radioactive Waste Curie Content Calculations."

6. Radiation Control Procedure RW-9, "Use of the Drum Compactor."

7. Radiation Control Procedure G-500, "Radiation and Contamination Survey."

8. Administrative Procedure D-7S1, "Control and Accountability of Special Nuclear Material."

9. Radiation Control Procedure RW-6 "Use of the Box Compactor".

10. Radioactive Material License Issued by the State of Nevada to U. S. Ecology for the Beatly Facility.

ATTACHMENTS

1. Form No. 69-9373, "SOLID RADIOACTIVE WASTE PACKAGE INVENTORY", 6/86.

2. Form No. 69-9391, "RADWASTE PACKAGE LOG", 11/85.

3. Form No. 69-10351, "BAGGED RAD WASTE" Tag, 6/86.

4. Form No. 69-10372, "FILTER STORING PACKAGE", 8/86.

69-9373 6/86 (500)

DEPARTMENT OF NUCLEAR POWER GENERATION
DIABLO CANYON POWER PLANT
SOLID RADIOACTIVE WASTE PACKAGE INVENTORY

PACKAGE IDENTIFICATION NUMBER
[ ] [ ] - [ ] - [ ] - [ ] [ ]

DESCRIPTION OF CONTENTS: _____

WEIGHT _____ LBS

STORAGE LOCATION: _____

PACKAGE EXTERIOR SURVEY RESULTS

		RADIATION (mr/hr)					CONTAMINATION ($\frac{dpm}{100cm^2}$)					ACTIVITY	
Step	Date	Contact	@1ft*	@1m	Inst.	R.P.#	β γ	Alpha	Inst	R.P.#	Calc. mCi.†	Initials
1.			X								X	
2.												

1. Survey at time of packaging
2. Survey at the time of shipment
* See RCP RW-8 for locations of 1ft reading
† For calc. activity see RCP RW-8

WASTE CONTAINER QUALITY CHECKLIST

Drum	Metal Box or _____
PRIOR TO PACKAGING	
[ ] DOT drum specification 17C or 17H [ ] No bung holes in lid [ ] No major dents or creases [ ] Gasket free from defect, secure to lid [ ] Dry inside Initials:	[ ] DOT approved container [ ] Sturdy and without defects [ ] Retainer brackets intact and not bent [ ] Gasket free from defect, secure to lid [ ] Dry inside Initials:
DURING PACKAGING	
[ ] 2" of absorbant on bottom [ ] >4 mls plastic liner [ ] No free standing water [ ] Plastic liner sealed [ ] Cavity of concrete lined drum filled with concrete Initials:	[ ] 2" of absorbant on bottom [ ] No free standing liquid [ ] Non compactable items arranged so as not to move around or puncture container during shipment Initials:
CLOSING CONTAINER	
[ ] Lid with gasket installed, clamped [ ] Lock nut tightened [ ] Tamper proof seal attached (if necessary) [ ] "RADIOACTIVE MATERIAL" label applied Initials:	[ ] Lid with gasket installed (all surfaces make good contact) [ ] Retainer clips completely driven into retainer brackets & holding tightly [ ] "RADIOACTIVE MATERIAL" label applied Initials:
PRIOR TO SHIPMENT	
[ ] DOT shipping labels applied [ ] No damage or defects visable Initials:	[ ] DOT shipping labels applied [ ] No damage or defects visable Initials:

FINAL DISPOSITION OF PACKAGE

SHIPPED [ ]
DATE: _____ SHIPMENT NO. _____

REPACKAGED [ ]
DATE: _____ New Package No. _____

COMMENTS: _____

RADWASTE FOREMAN REVIEW _____ DATE _____

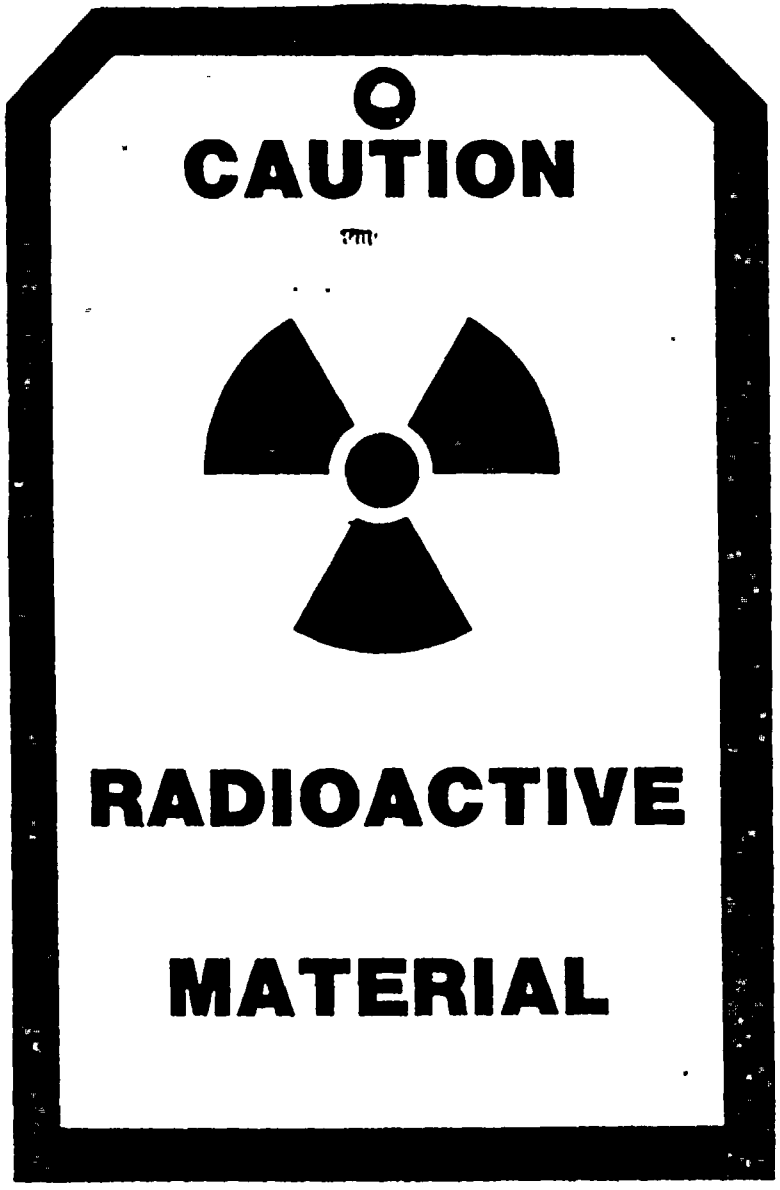
69-9391 11/85 (100)

PACIFIC GAS AND ELECTRIC COMPANY
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: RADWASTE PACKAGE LOG

PACKAGE I.D. NO. CONTENTS	LOCATION	RADIATION (mr/hr)		WEIGHT (lbs)	DATE	INITIALS
		contact	1 m			
	1					
	2					
	3					
	4					
	1					
	2					
	3					
	4					
	1					
	2					
	3					
	4					
	1					
	2					
	3					
	4					
	1					
	2					
	3					
	4					

COMMENTS



88-10361
RCP RW-1

6/88

BAGGED RAD WASTE

- ☐ Dry Compactable
- ☐ Wet
- ☐ Dry Non Compactable
- ☐ Other

- ☐ To Drum Compactor
- ☐ To Box Compactor
- ☐ To Wet Waste Absorbing Area
- ☐ To Segregation Area
- ☐ To High Rad Storage Area
- ☐ To Decon
- ☐ Other_____

Radiation: _____mr/hr on contact

Comments: _____

_____

_____

Technician: _____
Print Name Initial

Date: _____ Time: _____

PACIFIC GAS AND ELECTRIC COMPANY
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: FILTER STORING PACKAGE - RCP RW-1

PACKAGE IDENTIFICATION

[ ] [ ] - [T] - [ ] [ ] [ ]

INSTRUCTIONS

TECHNICIAN REMOVING FILTER FROM THE SYSTEM SHALL FILL IN THE NAME OF FILTER (ie, LRW 0-1), DATE REMOVED, APPROPRIATE DOSE RATES, LAST NAME AND INITIAL OF THE ENTRY.

NOTE: CONTACT AND 18" DOSE RATES MAY BE PLACED IN THE APPROPRIATE BOX FOR FUTURE ALARA CONSIDERATION.

NUMBER AND NAME OF FILTER.	DATE REMOVED	DOSE RATE (mr/hr) *	18"	END 6"	LAST NAME	INIT
[ ] [ ] - [P] - [ ] [ ] [ ]						
[ ] [ ] - [P] - [ ] [ ] [ ]						
[ ] [ ] - [P] - [ ] [ ] [ ]						
[ ] [ ] - [P] - [ ] [ ] [ ]						
[ ] [ ] - [P] - [ ] [ ] [ ]						
[ ] [ ] - [P] - [ ] [ ] [ ]						
[ ] [ ] - [P] - [ ] [ ] [ ]						
[ ] [ ] - [P] - [ ] [ ] [ ]						
[ ] [ ] - [P] - [ ] [ ] [ ]						
[ ] [ ] - [P] - [ ] [ ] [ ]						
[ ] [ ] - [P] - [ ] [ ] [ ]						
[ ] [ ] - [P] - [ ] [ ] [ ]						

COMMENTS: