

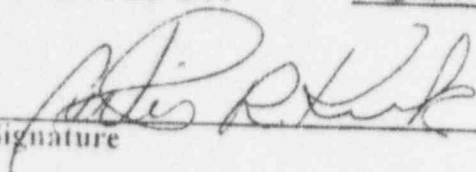
PROCEDURE: BPW-2 11e.(2) Incoming Waste Acceptance Control

REVISION NUMBER: 5

AFFECTED PAGES: _____

PURPOSE: Incorporate changes from the CAP and annual review.

SUBMITTED BY: CURTIS HIRK

Signature  Date 12-10-96

FORWARDED:

Site Manager _____ Date _____

Site Radiation Safety Officer _____ Date _____

Quality Assurance Officer _____ Date _____

CONCURRENCE: _____ Date _____

REVIEW: _____ Date _____

Corporate Radiation Safety Officer _____ Date _____

APPROVAL: _____ Date _____

Project Manager/Operations Director _____ Date _____

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A. **PURPOSE:** This procedure is designed to provide a consistent method for acceptance control of 11e.(2) incoming-shipment wastes to ensure the waste shipment's condition and parameters comply with governmental regulations for acceptance of the waste.

B. **REFERENCES OR AUTHORITY:**

1. 11e.(2) Radioactive Material License SMC-1559, ~~dated 11/19/93~~, as amended;
2. Application for 11e.(2) Radioactive Material License SMC-1559, ~~dated 12/23/91~~, as amended;
3. Envirocare of Utah, Inc. Quality Assurance Manual, as revised;
4. 49 CFR 173.425, as revised;
5. 40 CFR 264, as revised;
6. 10 CFR 20.1902, as revised;
7. Ground Water Quality Discharge Permit No. UGW450005, ~~dated 9/10/93~~, as amended;
8. 10 CFR 20, Appendix F;
9. Waste Management Plan, ~~dated 9/10/93~~, as amended;
10. Envirocare of Utah, Inc. Operating Procedures Manual, as revised.

C. **PRECAUTIONS AND LIMITATIONS:**

1. Review the ~~generator's pre-shipment analysis and the manifest/shipping papers~~ Waste Profile Record, the Pre-Shipment Waste Profile Evaluation, and the Radioactive Waste Shipment and Disposal Record (RSR) for potential health and safety hazards prior to inspection and sampling activities.
2. Where off-site analysis is required, the samples must be sent to the laboratory within five working days of the shipment's arrival at the South Clive Site. Laboratory results, ~~must be received within 45 days of the applicable shipment's arrival at the Clive Site~~, showing that the material is within the parameters of the license, must be received within 45 days of the shipment's arrival at the South Clive Site.
3. All incoming-shipments should have the proper labeling and marking as required by the U.S. Department of Transportation (DOT). A Problem Report shall be initiated, in accordance with the Problem Reporting Plan, when a problem is identified ~~If not, the Clive Site ARCS or RSO shall inform Envirocare Business Development via a Problem Report (EC-2700), and Business Development shall notify the generator for resolution.~~
4. Rail cars or trucks which are found on the arrival survey to have external exposure rates of greater than 5 mR/hr at 30 cm from any surface will be posted as a Radiation Area, in compliance with reference 6, until disposed. Additional precautions shall be taken for disposal as outlined in reference 10OP-Manual, procedure BPW-5.

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5. Wear safety eye wear, gloves, protective clothing, a respirator with a HEPA filter, and protective footwear during sampling or handling waste to prevent skin contamination.
6. When sampling inside an enclosed conveyance, the sampling team should be comprised of at least two team members. One team member should be positioned outside the waste conveyance and observe the sampling performed by the other team member. The observer should maintain visual contact with the sampler at all times. The team member performing the actual sampling shall be a qualified sampler in accordance with procedure TRAIN-1 of this manual.

D. GENERAL INSTRUCTIONS:

1. This procedure applies to all 11e.(2) incoming-shipments of waste destined for disposal at the Envirocare South Clive Disposal Facility.
2. When a shipment of 11e.(2) waste arrives, it is not considered to be accepted for disposal until this acceptance procedure has been completed and the material has been documented as acceptable. A transportation vehicle may be physically located on Envirocare site property and still not be considered "accepted" for disposal at Envirocare pending resolution of any outstanding issues. Should non-accepted 11e.(2) waste be dumped or unloaded without direction or permission from Envirocare, a Problem Report shall be initiated in accordance with the Problem Reporting Plan for any discrepancy that is identified the NRC, the Utah Division of Radiation Control and the Utah Division of Water Quality will be immediately (within 24 hours) contacted.
3. The procedure for accepting incoming 11e.(2) waste shipments is outlined as follows:

- a. File review
- b. Review of manifest and shipping papers.
- c. Survey of freight container.
- d. Smear testing of external surface of the freight container.
- e. Visual inspection of freight container and packages for physical integrity and/or for signs of visible material on the exterior or loose in the conveyance.
- f. Inspection and sampling of the waste.
- g. Sample analysis.
- h. Acceptance/Rejection of the shipment.

File review;

- b. Review of manifest and shipping papers (Radioactive Waste Shipment and Disposal Record (RSR);
- c. Determination that the individual truck or rail car (or string of rail cars) meets the criterion of having an average concentration of no more than 2,000 pCi/g of the Uranium series or 6000 pCi/g of the Thorium series.

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d. Survey of freight container;

e. Smear testing of external surface of the freight container.

f. Visual inspection of freight container and packages for physical integrity and/or for signs of visible material on the exterior or loose in the conveyance, and for the presence of any free-standing liquid;

g. Inspection for compliance with the Department of Transportation (DOT) shipping regulations. All shipments will be required to meet the packaging requirements for Low Specific Activity Shipments described in reference 4, regardless of the actual radioactivity concentrations.

Note--If any shipment has radioactivity concentrations of greater than 2,000 Pci/g, it will be required to meet all DOT regulations of marking, labelling and placarding.

h. Inspection and sampling (if required) of the waste;

i. Sample analysis (if required) of the waste;

j. Acceptance/Rejection of the shipment.

4. Rail cars or trucks which have external exposure rates greater than 5 mrem/h at 30 cm, and which cannot be disposed of within 24 hours, will be posted as a Radiation Area in compliance with 10 CFR 20.1902(a) until disposed. Additional precautions shall be taken for disposal as outlined in OP-Manual-reference 10, procedure BPW-5.

5. When sampling, use approved sampling and analytical methods as outlined in references 1 and 9 above, and in OP Manual procedure BPW-3.

6. During the inspection of the shipment, identify discrepancies associated with the shipment. A Problem Report shall be initiated in accordance with the Problem Reporting Plan for any discrepancy that is identified. All discrepancies must be addressed or resolved prior to accepting the shipment. A qualified ARCS Coordinator, the Site RSO, or Site Manager will inform Business Development of any discrepancy and it will be resolved with the generator by Business Development. The shipment should not be unloaded or disposed until such discrepancies have been settled, either through written documentation which reflects the necessary changes in the manifest or through a generator representative visit to the disposal site. The types of these possible discrepancies are described below:

a. Manifest Discrepancies:

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- 1) incomplete manifests;
 - 2) count discrepancies;
 - 3) significant weight or volume discrepancies; and,
 - 4) other manifest accuracy discrepancies (Phone #, address, names, etc.).
- b. Inspection Discrepancies:
- 1) free liquids present;
 - 2) damaged or open containers;
 - 3) containers with holes or penetrations;
 - 4) waste outside of the container;
 - 5) leaking containers; and,
 - 6) packaging or placarding not in accordance with DOT regulations.
- c. Appearance Discrepancies: Different appearance than is described in the Waste Profile Record and/or Pre-Shipment Waste Profile Evaluation.

76. Signed manifests (RSR's)(originals or copies) and applicable additional documentation (i.e. EC-18, Bill of Lading-(if applicable), etc.) for shipment acceptance must be kept on file at the Envirocare Site in accordance with reference 100P Manual, procedure ADMIN-3.

The RSR serves several functions, including:

- a. complies with the requirements of a manifest as outlined in reference 8;
- b. describes the number, types, and volumes of containers;
- c. provides estimated weights, activities, and isotopes of the material;
- d. documents generator's certification of packaging, classification, markings, labels, conditions of containers, and compliance with the applicable regulations and Envirocare's license and permits;
- e. documents the generator's certification as to the RCRA or non-RCRA status of the material;
- f. documents the generator's certification that the waste is 11e.(2);
- g. documents the generator's warranty that the information provided in the RSR is true and correct;
- h. provides a checklist for Envirocare for inspection of the incoming material and for possible discrepancies;
- i. documents Envirocare's acceptance or rejection of the shipment;
- j. identifies the parameters which will be analyzed (if required) by the independent, third-party laboratory; and,
- k. alerts receiving staff to probable concentrations and gamma exposure rates.

87. Portable instruments may be used to measure the external contamination on the shipment. This direct survey will be performed in addition to the smear survey if determined to be necessary by the Site RSO.

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E. OPERATING PROCEDURES:

1. When a shipment of waste arrives at Envirocare, the ARC Shipping & Receiving Department Coordinator obtains the RSR and applicable shipping papers from the transporter and commences filling out the top of form EC-18. If desired, the form EC-18 may be initiated upon receipt of the facsimile copy of the RSR. The waste shipment is posted with a Bates number into the Incoming Shipment Book to facilitate tracking of the shipment through the acceptance procedure. Where applicable, and as a courtesy, the driver should be instructed about the delay expected to perform the detailed acceptance procedures.

(Note: A "shipment" refers to a single rail car, flatbed, dump truck, etc., loaded with incoming waste for possible management at Envirocare. When a shipment includes a trailer or "pup", the trailer or "pup" is considered to be a separate shipment from the primary load and an additional EC-18 needs to be completed.)

2. File Review - (completed by the Shipping & Receiving Department ARCS Coordinator or qualified designee).

- a. Ensure that a completed copy of the generator's characterization and radiologic analysis Waste Profile Records are in the Site operating record files.
- b. Ensure a completed Pre-Shipment Waste Profile Evaluation is in the operating record files. The form should include the Immediate Chemical Screening Parameter Tolerances.
- c. Check to see whether the previous shipment of the same waste material (if not the first shipment) was accepted without special consideration or discrepancies. If so, prepare to deal with the problems encountered previously.

3. Review of manifest (RSR) and shipping papers - (completed by the Shipping & Receiving Department ARCS Coordinator or ~~qualified designee~~). This review may be performed concurrently with E.2 above:

- a. Before a shipment may be accepted, a completed RSR and Continuation Sheet for the shipment must be received by Envirocare. The RSR may either accompany the shipment or ~~may be received by Envirocare prior to arrival of the time that the shipment is accepted~~ (such as by facsimile).
- b. Complete the top of form EC-18, if not completed previously.
- c. ~~The Site RSO notes the disposal cell location on the EC-18 and signs for completion of this review.~~

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- ~~d. The ARCS Coordinator r~~views the RSR for completeness and ensures the form is properly signed.
4. Survey of Freight Container (completed by a qualified Health Physics Specialist radiation technician).
- The freight container is externally surveyed for gamma exposure rates for comparison to RSR values and to assure compliance with DOT regulations. Other ~~p~~Portable instruments appropriate to measure the radionuclides expected in the shipment will be used as necessary to measure for external surface contamination. If the external radiation exposure rate exceeds 1,000 $\mu\text{R/hr}$ at any point on the freight container surface, the surveyor must contact the Site RSO or the Shipping & Recieving Manager (SRM)~~ARCS Coordinator~~ for additional verification and direction.
 - Compare the gamma survey measurements with those on the RSR Continuation Sheet. The readings should be in reasonable agreement, ~~such as~~(for example, within a factor of two for shipments with a gamma measurement greater than 100 $\mu\text{R/h}$) microRem/hr. If they aren't, ~~d~~Determine the reason if they are not, record it on the form, and report it to the Site RSO.
5. Freight Container Smear Testing (completed by a qualified Health Physics Specialist radiation technician).
- ~~Each incoming freight container is smear tested for removable contamination,-- Should the result of a smear test exceed acceptance standards of the Department of Transportation, the Site RSO or the ARCS Coordinator must be contacted for additional verification and direction.~~
 - Select an area on the vehicle exterior where surface contamination would likely be found (if present). Obtain a smear sample, using moderate pressure, from an area of 100 cm^2 square centimeters.
 - Identify the smear sample by vehicle number and save it for radiological laboratory counting.
 - After all inspections are complete, ~~turn~~deliver smear samples into the radiological counting lab for counting. The data are then entered on the EC-18 and the removable activity in $\text{dpm}/100 \text{ cm}^2$ square cm is calculated.
 - If excessive removable radioactive contamination is found on the external surfaces of the package as delineated in 49 CFR 173.443, initiate a Problem Report in accordance with the Problem Reporting Plan ~~notify the shipper and Corporate RSO~~

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~~who will immediately notify the final delivering carrier and also inform the Utah Division of Radiation Control.~~

6. Shipment Container Visual Inspection (completed by a qualified Health Physics Specialist/radiation technician).

a. The information on the RSR shall be verified for accuracy by inspecting the container/car ID numbers and the number of cars or containers.

b. Each incoming shipment shall be visually inspected to access verify whether there is any evidence of physical damage to the container (for example, a packaging breach) that might jeopardize its integrity. ~~This is accomplished by visually examining the containers for any appearance of packaging breach or any such potential problem.~~

c. Each incoming shipment is also inspected to verify the proper DOT labeling and placarding has been affixed. ~~For any discrepancies, the ARCS Coordinator or Site RSO shall contact Envirocare Business Development who will inform the generator and/or shipper for resolution.~~

d. ~~If any Ddiscrepancies that are found in the documentation, certification, or shipment, shall be documented on a Problem Report, which will be initiated in accordance with the Problem Reporting Plan. the discrepancies must be resolved prior to acceptance of the material by Envirocare. Envirocare will not unload/dispose of a shipment until such discrepancies have been resolved. Resolution must be accomplished either through a generator visit to the disposal site, or through written documentation which reflects necessary changes in the manifest.~~

~~e. If there are any problems with the integrity of an incoming shipment, the problems will be immediately reported to the shipper. The Corporate RSO will also provide immediate notification to the regional office of the NRC and the Utah Division of Radiation Control.~~

~~f. If a shipment arrives on site that is unacceptable under the conditions of the license, Envirocare will notify the generator and the regional office of the NRC by phone within 24 hours and by letter within one week.~~

7. Waste Inspection and Sampling (completed by a qualified Sample Control Technician/Officer).

a. Prepare to safely inspect and sample the waste. Follow ~~Precautions and Limitations~~ C.1, 4 and 5, and 6 above, prior to inspection of the 11e.(2) waste.

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- b. Open and visually inspect the contents of the containers of waste to be sampled and determine conformance to the Waste Profile Record. Assess whether the shipment contains, to determine if the waste has any free-standing liquids. Any shipment determined to contain free standing liquids or leaking shall be managed in accordance with reference 9. Any container having free-standing liquid or which fails a Paint Filter-Liquid Test will not be accepted by Envirocare for storage or disposal. For problems with free liquids, the Laboratory Supervisor (or designated alternate) will inform the Site Manager, the Quality Assurance Officer, and Envirocare's Business Development. A Customer Service representative will then notify the generator for resolution. Discrepancies that are found with the incoming shipment shall be documented on a Problem Report, which will be initiated in accordance with the Problem Reporting Plan. The Laboratory Supervisor (or designated alternate) or the Site Manager shall also notify the Utah DRC and the regional office of the NRC.

Ensure that the manifest accurately matches the waste on the shipment as far as the number of containers and the kind of waste observed during the forthcoming waste inspection.

- 1) For closed containers, dDuring the initial waste inspection of closed containers, the inspectors must monitor each container with the sniffer after it is opened. The monitoring must be done at the plane of opening of the container (i.e. where the lid sits or where the bag opens). If an equivalent value of 10 ppm benzene is encountered, organic cartridges must be worn with the respirators. If organic cartridges are worn during sampling or inspection, monitoring with the sniffer is not required.
- 2) In most cases, appearance discrepancies should result in the rejection of the waste since, at the time of the incoming-shipment inspection, pre-shipment samples of the waste have already been observed by Envirocare and complete descriptions of eh waste should have been provided in the Waste Profile Record.
- 3) Appearance discrepancies can be resolved, by makingg a change or addition, when directed by the generator, to the description in the jWaste Profile Record to make the description more complete. However, such a change may not be done where there is an analytical discrepancy with a parameter beyond the established tolerances.

- c. Sample the waste according to reference 10, OP Manual procedure BPW-3, "11e(2) Incoming Waste Sampling and Analysis".

8. Sample Analysis (completed by a qualified iLab aAnalyst)

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- a. Where off-site analysis is required, the samples must be sent to the Laboratory within five working days of the shipment's arrival at the South Clive Site.
 - b. If the established sampling procedures are not followed, the Laboratory Supervisor or Site Manager must sign the laboratory log book and describe the alternative sampling technique which was used ~~must be described~~.
 - c. Analyze the samples (~~when required if applicable~~) in accordance with reference 10OP Manual, procedure BPW-3. Ensure that the results are within the established tolerances.
 - d. Notification is made to the Shipping & Receiving Department as to acceptability of the shipment for this section.
9. Acceptance/Rejection of the Shipment (completed by a qualified Shipping & Receiving Department ARCS).
- a. ~~The Lab Analyst notifies the ARCS Coordinator or Site Manager that the shipment is ready for acceptance and management.~~
 - ba. When the waste has been evaluated as outlined above and the EC-18 has been completed and signed (documenting that the waste is acceptable and any discrepancies have been resolved or addressed), the shipment must then be made ready for movement (i.e. closing the containers, shutting the van-body doors, connecting to a locomotive, etc.) ~~to document that the waste is acceptable and that any discrepancies have been resolved or addressed, the shipment must then be made ready for movement (i.e. closing the containers, shutting the van-body doors, connecting to a locomotive, etc.).~~
 - cb. The shipment proceeds as directed to the correct waste management area of the facility. Truck transports should be escorted to the management area.
 - cd. Note any discrepancies observed during the acceptance procedure on form EC-18 and on the manifest. The Shipping & Receiving Department ARCS Coordinator signs the RSR.
 - e. ~~Give the yellow copy of the signed manifest to the transporter.~~
 - fd. The Shipping & Receiving Department Clive Administrative Assistant sends (mails) a photocopy of the signed manifest to the generator. The generator's copy of the manifests must be sent to the generator within 7 days of the date of arrival at the South Clive Site.

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- ge. ~~The Administrative Assistant Shipping & Recieving Department~~ sends (mails) the pink copy of the signed manifest to the Corporate Controller's office for billing purposes. ~~This pink copy is then returned to the generator with the invoice.~~
- hf. Place ~~at the~~ white copy of the signed manifest in the operating record.
- gi. If the shipment is rejected, document the rejection on a Problem Report and implement the Problem Reporting Plan (EC-2700), and ~~inform Envirocare Business Development who will immediately notify the regional office of the NRC, the Utah Division of Radiation Control, and the generator for resolution.~~
- hj. If a shipment is found to be in violation of DOT shipping regulations, but is otherwise acceptable it will not be accepted until:
 - 1) the generator or generator's agent has made necessary corrections to bring the shipment into compliance with DOT regulations; or,
 - 2) the Nuclear Regulatory Commission has approved acceptance of the shipment, as is.

Pending such corrective action, the shipment will remain on Envirocare property in order to eliminate the potential risk associated with transporting the waste, but will **not** be admitted to the Restricted Area.

However, if such a shipment is in violation of DOT regulations due to leakage of radioactive materials, it will be placed over an approved (contained) surface in the Restricted Area until the situation is resolved to prevent contamination of the environment.

10. The Facility Operator notes the disposal cell location on the EC-18 and signs for completion of this review.

F. QUALITY CONTROL:

- 1. QC Process Control: Prior to using the instruments for radiological surveys, ensure that they are in current calibration and the daily constancy check has been performed.
- 2. Sample Control:
 - a. Samples are taken directly to Sample Control for distribution to the appropriate lab(s) for analysis. Ensure that Chain of Custody procedures are followed.

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- b. The samples are disposed of along with the waste from which the samples were originally drawn after counting data have been recorded on form EC-18.
 3. Data Control:
 - a. Records of shipments accepted are entered in the "Incoming Shipment Book" with the assigned Bates Numbers.
 - b. ~~For truck deliveries, yellow copies of the signed RSR's are returned to the driver.~~
 - be. ~~The white~~A copy of the signed RSR with the attached acceptance forms is ~~entered~~delivered to the Administrative Assistant for entry into the computer data base and ~~filed~~ing. ~~Pink and green e~~Copies are sent to the Corporate Office each day where the ~~pink~~a copy is returned to the generator for billing and the ~~green~~a copy is filed.
 - de. Records are maintained in accordance with reference 1C2, procedure ADMIN-3.
 4. Audit Requirements:
 - a. Quarterly, the QA Department will observe the performance of this procedure to ensure compliance, and proper documentation, and records control.
 - b. Semiannually, the QA Department will coordinate a comprehensive review of the filed shipment records and supporting documentation to ensure a complete record exists.