

- 6.1.2 Each completed ASN indicating the shipment contains U-Nat must ensure that the U-Nat meets the definition listed in section 4.6 above. Shipped uranium not meeting the definition of U-Nat herein shall be manifested by each applicable uranium nuclide.
 - 6.1.3 Shipments arriving at the TMMC that do not meet the requirements of 5.1 and 5.1.1 above SHALL NOT be permitted access to the TMMC site.
 - 6.2 Radioactive material meeting the acceptance criteria may be delayed if receipt would cause radioactive material inventory limits to be exceeded. Other business or process related factors may cause delay. The TMMC RSO will inform customer's Radioactive Material Manager if any of these factors will cause a delay in shipping at the time of review of the ASN.
 - 6.3 Approval for shipment of standard radioactive material is made by the TMMC RSO, who will return a copy of the approved ASN to the customer's Radioactive Material Manager prior to shipment.
- 7.0 Acceptance of Non-standard Radioactive Material
- 7.1 Not all radioactive material meets the standard acceptance criteria. In many cases, TMMC may still be able to receive this non-standard material. It is important that non-standard material receive special approval prior to shipment to ensure that the material can be processed safely, license/permits limits are not exceeded, radiation and radioactive material exposures to TMMC personnel can be minimized, and the material can be processed by the method requested by the customer. This review and approval will also insure that a specific contract/purchase order is in place. TMMC may accept non-standard material by the following steps.
 - 7.1.1 The Vice President – TMMC will work with the customer to determine and document information required by the Non-standard Radioactive material Acceptance Form (NRAF).
 - 7.1.2 The Radiation Safety Officer will review the NRAF considering ALARA and safety, regulatory/license/permit limitations, and waste disposal/shipping.
 - 7.1.3 When review of the NRAF is complete and appropriate approvals are obtained, the TMMC RSO will notify the customer.

- Thanksgiving Day and the day after; and
- Christmas Day

9.0 Records

Completed forms generated as a result of this document are project records and shall be retained with the appropriate shipment file.

STANDARD ACCEPTANCE CRITERIA

Applicability

These are general criteria for all material received at the TMMC. Each of TMMC's processing methods has specific criteria that must also be met.

RCRA/TSCA Limits

TMMC is not a permitted Treatment, Storage, or Disposal Facility (TSDF) under RCRA regulations. Material received at TMMC must not be classified as listed and/or characteristic hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) or the Toxic Substances Control Act (TSCA). The criteria are those specified in U.S. Environmental Protection Agency regulations (40 CFR 261/761).

Radiological Limits

All incoming material shall meet Class A waste acceptance criteria, unless the waste has been approved per Appendix B; “*Non-standard Radioactive Material Acceptance Form*” by both the Radiation Safety Officer and Vice President – TMMC.

The radiological material acceptance criteria at the Toxco Materials Management Center (TMMC) are determined by the amount of each radionuclide or groups of radionuclides on site at any one time. To ensure compliance with our Tennessee radioactive materials license each manifest of radioactive material must be reviewed and compared to the current site inventory.

TMMC maximum on site inventory is:

Material Radioactive	Maximum Radioactivity (Curies) or Quantity (grams)
1. Hydrogen 3	1500 Curies
2. Carbon 14	50 Curies
3. Radioactive materials with atomic numbers 93 and 95-100 inclusive	100 Curie
4. Radioactive materials with atomic numbers 84-91 inclusive (excluding Source material)	10 Curies
5. Source Material (natural or depleted uranium, thorium)	10 Curies
6. Mixed activation and fission products with atomic numbers 3-83 (excluding C-14)	200 Curies
7. Uranium-233	200 grams*
8. Uranium-235	350 grams*
9. Plutonium	200 grams* or 2 Curies

*Special nuclear material shall not exceed unity of “1”

Packaging

All material shall be packaged per U.S. Department of Transportation regulations 49 CFR 173 sub-part I. Package radiological conditions must be in accordance with U.S.D.O.T. criteria.

Paper product containers, including fiberboard drums and corrugated fiberboard boxes, when used as an outer container, IS NOT ACCEPTABLE for delivery to TMMC. Paper product containers arriving at TMMC will be rejected as nonconforming material.

Material should be loaded so that it may be removed from the delivering vehicle by fork truck. Containers should be arranged on flat bed trailers so that a fork truck can unload from the side. Materials requiring a crane for off-loading (items < 40,000 pounds on a flat bed excepted) require specific prior approval.

Shipments containing items greater than 40,000 pounds and casks must be pre-approved and documented by the RSO and Vice President-TMMC on an Appendix B.

SHIPPING DOCUMENTATION

Advance Notification

See Section 8.0 above.

Radioactive Material Manifest:

Radioactive material must be accompanied by a manifest (when required) that meets the current NRC and DOT requirements for the material being transported. Low level radioactive waste intended for ultimate disposal at a licensed low-level radioactive waste land disposal facility must be manifested on applicable NRC Low Level Waste Manifest forms 540, 541 and 542. If not included in a manifest, additional documentation must be provided that identifies each package or bulk container by a unique number and supplies the following information for each package:

- Radionuclides and activity of each radionuclide (minimum listing is that required by 49 CFR 173.433;
- Detailed description of contents such as: serial numbers and inventory with contamination levels for equipment; or composition% paper, plastic, cloth, wood, metal, resin (provide the specific activity in $\mu\text{Ci/cc}$ for each isotope present in resins), etc. for waste,
- Estimated weight and volume,
- Grams of Special Nuclear Material,
- Radiation levels and removable contamination levels,
- Any special conditions that require precautionary handling requirements.

Permits

Waste defined as low-level radioactive waste in accordance with the Low-Level Radioactive Waste Policy Amendments Act of 1985 or in DOE Order 435.1 requires a copy of a LLRW Compact Export letter to be submitted, if applicable.

All radioactive shipments shall include a current and valid Tennessee License for Delivery permit number.

EQUIPMENT STORAGE ACCEPTANCE CRITERIA

Applicability

These criteria apply to equipment received for storage/maintenance/repair/decontamination (not intended for waste processing).

The customer must certify that the equipment has a continuing use and value (other than scrap value).

Equipment will be packaged in containers that meet US Department of Transportation (DOT) regulations 49 CFR 173, subpart I (minimum requirement is 49 CFR 173.410)

COMPACTABLE DAW STANDARD ACCEPTANCE CRITERIA

Applicability

These criteria apply to Dry Active Waste (DAW) intended for compaction. These criteria also apply to the compactable portion of shipments consisting of commingled compactable and non-compactable wastes.

DAW suitable for compaction includes paper, plastic, and cloth. DAW must meet the criteria for Low Specific Activity (LSA) in 49 CFR 173.403.

Non-Standard Material Examples

The following wastes are non-standard for compaction:

- RCRA/TSCA Hazardous Wastes
- Explosives
- Pyrophoric material
- Liquid
- Biological Materials
- Resins
- Material with a dose rate greater than 400 mR/hr on contact.
- Gas cylinders
- Flammable solids
- Absorbed Liquids
- Sludges
- Radioactive Sealed Sources

NON-COMPACTABLE DAW STANDARD ACCEPTANCE CRITERIA

Applicability

These criteria apply to non-compactable waste and to equipment that will be scrapped following decontamination or processing.

Non-Standard Material

Wastes or equipment containing the following are non-standard for processing:

- RCRA/TSCA Hazardous Wastes
- Explosives
- Pyrophoric material
- Components with a stored energy source (i.e., snubbers, springs, compressed air or liquids).
- Material with a dose rate greater than 400mR/hr on contact.
- Gas cylinders
- Gas sources
- Flammable solids

NON-STANDARD RADIOACTIVE MATERIAL ACCEPTANCE FORM

CUSTOMER INFORMATION

Company: _____ Plant/Unit # _____

Address: _____

Address: _____ Contact person: _____

Telephone: _____ Facsimile: _____ e-mail: _____

Material description: _____

TMMC ACCEPTANCE AUTHORIZATION

Conditions for acceptance: _____

Vice President – TMMC _____

Signature

Date

Radiation Safety Officer _____

Signature

Date

Appendix C
ADVANCE SHIPMENT NOTIFICATION

TMMC Material Acceptance Criteria

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Generator: _____ TN License for Delivery ID: _____
Shipment Weight: _____ Total Activity (mCi): _____
Highest Contact Dose Rate: _____ SNM Grams: _____

- A) **Material Properties:** WASTE (For waste material, complete sections C through J below.) RECYCLABLE
1. Physical State: Solid Semi-Solid Powder/Dust Free Liquid Other: _____
2. Flash Point (°F): ≤ 72° >72° - 100° >100° - 140° >140° - 200° > 200° N/A N/D
3. Reactivity: Water Reactive Acid Reactive Alkaline Reactive Oxidizer Pyrophoric
 Explosive Shock Sensitive Thermally Sensitive Autopolymerizable N/A
4. Odor - describe: _____ None Mild Strong
5. pH: ≤ 2 2.1 - 5.0 5.1 - 9.0 9.1 - 12.4 ≥ 12.5 N/A N/D
6. Contains Asbestos?: Yes No If Yes, Is the Asbestos Friable?: Yes No
- B) Does the material contain, or is it suspected to contain any of the following: Yes No
- Free Cyanide Free Sulfide Organic Compounds OSHA Substances Infectious Agents
 Virgin Oils Used Oils PCBs Oxidizing Agents Solvents
 Pesticides Reducing Agents Volatile Organics Herbicides None of the Above

Waste Material

- C) Is the waste subject to LLRW Compact Export Approval?: Yes No
- The following states require permits: AK, AR, AZ, CA, CO, HI, ID, KS, LA, MT, NO, NV, NM, ND, OK, OR, SD, TX, UT, VT, WA, WY
(If yes, list generators and **attach permits**.) _____

***** Waste received without a Required Export Permit or NORM Exemption Letter WILL BE REJECTED at TMMC *****

- D) Is this waste a characteristic hazardous waste per 40 CFR 261.21 - 24? Yes No
Has a TCLP analysis been performed? Yes No (If yes, attach the results.)
- E) Is this waste an F, K, P, or U Listed hazardous waste per 40 CFR 261.31-33? Yes No N/A
- F) Is this waste derived from the treatment, storage or disposal of hazardous waste as described in 40 CFR 261?
 Yes No If yes, explain: _____
- G) Is this a "Hazardous Waste" as defined by State, Provincial, or Local Regulations? Yes No
If yes, enter the waste identification number, if one has been assigned: _____
- H) If the waste is a sewer sludge, has analyses been performed in accordance with 40 CFR 503.8 Yes No
(If yes, please submit a copy of the analyses.) If no, explain why sampling has not been performed: _____
- I) Does the shipment meet or exceed the NRC Quantities of Concern Criteria? Yes No
- J) Does the shipment contain Natural Uranium (U-Nat) as defined in the TMMC MAC section 4.6? Yes No

²Customer's Certification: *I certify that all information submitted on this form is complete and accurate and that material being offered is in compliance with the TMMC Material Acceptance Criteria (MAC). Additionally, I acknowledge and agree that TMMC must, in accordance with its Tennessee Radioactive Materials License, retain the right to return radioactive material (processed or unprocessed) to the prior licensed or exempt processor (e.g., generator).*

Customer Representative Printed Name _____ Signature _____ Title _____

Approved By: _____ Date: _____ TMMC Shipment ID: _____

Email completed ASN forms to Shipping@toxcommc.com or fax the information to 865-482-5605. Phone: 865-482-5532. To expedite our review, please attach applicable laboratory analyses, MSDSs and any additional information regarding this material.

² Material received at the TMMC that is determined to be not as represented on this ASN or other associated contractual document is considered to be nonconforming and will be subject to rejection and return unless TMMC and the customer establish an acceptable alternative.

Appendix C
TOXCO SERVICES MENU

TMMC Material Acceptance Criteria
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Customer Shipment ID(s): _____ Customer Reference PO: _____ Est. Arrival Date: _____

SERVICE OPTIONS

- | | | | |
|---|--|---|---|
| <input type="checkbox"/> Asbestos | <input type="checkbox"/> DAW | <input type="checkbox"/> Resin | <input type="checkbox"/> Waste Characterization |
| <input type="checkbox"/> Best Way | <input type="checkbox"/> Lead | <input type="checkbox"/> Sort & Segregate | |
| <input type="checkbox"/> Bonded Space Lease | <input type="checkbox"/> Liquids - <input type="checkbox"/> Oil <input type="checkbox"/> Water | <input type="checkbox"/> Special: (Describe Below) | |
| <input type="checkbox"/> Bulk Survey For Release (BSFR) | <input type="checkbox"/> Metals | <input type="checkbox"/> Storage of Asset Materials | |
| <input type="checkbox"/> Container Rental/Lease/Repair | <input type="checkbox"/> PCB Capacitors | <input type="checkbox"/> Survey for Release | |

NOTES:

FINAL DISPOSITION OPTIONS

- | | | | | |
|--|---|-------------------------------|--|---|
| <input type="checkbox"/> Unrestricted Release* | <input type="checkbox"/> Recycle/Reuse* | <input type="checkbox"/> BSFR | <input type="checkbox"/> EnergySolutions | <input type="checkbox"/> Return To Customer |
|--|---|-------------------------------|--|---|

NOTES:

* Surface Contamination Only. No activated materials are permitted.

SPECIAL HANDLING

- | | | |
|---------------------------------------|--|---|
| <input type="checkbox"/> Live Offload | <input type="checkbox"/> Laboratory Analysis | <input type="checkbox"/> Increased Controls |
|---------------------------------------|--|---|

NOTES:

CONTAINER DISPOSITION

- | | |
|---|---|
| <input type="checkbox"/> TMMC Owned or Dispose of Container | <input type="checkbox"/> Return Container(s) to: (List Below) |
|---|---|

NOTES:

SERVICE TYPE

- | | |
|--|---|
| <input type="checkbox"/> ³ Standard | <input type="checkbox"/> ⁴ Expedited |
|--|---|

NOTES:

Advanced Shipment Notification:

Customers must submit and have approved an Advanced Shipment Notification (ASN) form five (5) working days prior to the associated shipment's arrival at the TMMC.

A complete Advanced Shipment Notification includes: A completed ASN form, an electronic shipping file in LowTrack format; a reference to the customer's associated PO/contract ID and a shipment summary spreadsheet.

Administrative Fees:

Customers who do not submit LowTrack compatible electronic shipping papers shall be assessed an administrative document handling at standard professional staff billing rates per submitted manifest/shipping paper.

Customer Representative Signature/Date

Toxco Reviewer Signature/Date

³ Length of services: Standard Services takes up to 365 days from site arrival to complete.

⁴ For "Expedited Service" (i.e., the Customer's service must be completed within 1 to 90 days from the date of receipt) shall be assessed an additional 50% charge applied to the standard services rate.