



Department of Energy

Albuquerque Operations Office
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OCT 10 1991

RECEIVED

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pls review +
coordinate w/
John Parker
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Ms. Judith M. Espinosa, Secretary
New Mexico Environment Department
P.O. Box 26110
Santa Fe, NM 87502

Dear Secretary Espinosa:

The Waste Acceptance Criteria Certification Committee (WACCC) has reviewed the latest submission of the Los Alamos TRU-Waste Certification Plan, Identification Number WCP-WSE-CP-01, Revision 5. The WACCC has granted conditional approval to this plan.

The WACCC requests that you review the enclosed document and submit any comments that you may have within 30 days from the date of this letter.

If you have any questions regarding this document, please contact Mike McFadden of my staff at 885-7302.

Sincerely,

Arlen Hunt
Arlen Hunt

Project Manager

report in magazine file
never reviewed, received info that report was being
Enclosure *completely rewritten*

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LOS ALAMOS
TRU WASTE CERTIFICATION PLAN

Effective Date:

11-13-90

Los Alamos National Laboratory

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1.0 INTRODUCTION

1.1 Background

In the operation of the Los Alamos National Laboratory, large amounts of transuranic (TRU) waste are generated. Since 1970, both contact-handled and remote-handled TRU wastes have been segregated from low-level wastes and have been stored retrievably in accordance with federal (AEC/ERDA/DOE) requirements. The eventual disposition of TRU waste is now planned to be temporary storage at Los Alamos, followed by permanent emplacement at the Waste Isolation Pilot Plant (WIPP).

The prerequisites for transfer of the waste to the WIPP are well defined:

- o DOE Order 5820.2A (9-26-88)¹ states, "All transuranic waste certification sites shall prepare a certification plan which describes how the waste meets each waste acceptance criterion described in the WIPP-DOE-069."
- o The acceptance criteria are defined in WIPP-DOE-069, "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant," (as updated)² which specifies basic requirements for disposal of contact-handled and remote-handled transuranic waste at the WIPP.

- o The criteria have been supplemented by WIPP-DOE-114, "TRU Waste Certification Compliance Requirements for Newly-Generated Contact-Handled Waste for Shipment to the WIPP," (as updated)³ and by WIPP-DOE-158, "TRU Waste Certification Compliance Requirements for Remote-Handled Waste for Shipment to the WIPP," (as updated)⁷, which detail the procedures required to demonstrate compliance with WIPP-DOE-069.

- o DOE Order 5700.6B - (9-13-88)⁴ requires the establishment of Quality Assurance (QA) programs for all DOE programs. WIPP-DOE-120, "Quality Assurance Requirements for Certification of TRU Waste for Shipment to the WIPP," (as updated)⁵ details the requirements for the QA plan and for quality related documentation required for demonstrating compliance with WIPP-DOE-069.

- o DOE Order 5820.2A specifies that "Certification plans, including associated quality assurance plans, shall be submitted for review, comment, and approval by the Waste Isolation Pilot Plant-Waste Acceptance Criteria Certification Committee."

1.2 Overview

1.2.1 The Laboratory's Waste Management Group (HSE-7), as the receiver, holder, producer, and eventual certifier of the TRU waste, must assure that the waste received from the waste generators meets all of the WIPP criteria so that the required certification statement can be made to the WIPP.

1.2.2 The certification statement will be signed by the Los Alamos Waste Management Group (HSE-7) Leader, or by his designee, before the waste package is shipped to the WIPP. Certification will be based on an accumulated set of documentation provided by the waste generator personnel responsible for the data gathering and packaging, and the HSE-7 personnel who receive the waste, supported by a system of inspections, tests, and audits.

1.2.3 This certification plan, with its attachments, defines the Los Alamos plan for assuring the WIPP operators that the waste shipped to them from Los Alamos complies with the WIPP waste acceptance criteria (WAC) defined by the DOE. Only unclassified, TRU waste is covered by this issue of the plan.

1.2.4 This plan details the certification requirements and activities that apply uniformly to all TRU waste generators. Waste generators must each develop and submit attachments to this plan, wherein they define the details of the certification functions and controls that apply to their specific processes and waste streams. Guidance for

preparing and processing those attachments is contained in Section 9.0.

1.2.5 The QA Plan applicable to TRU waste certification is defined in Section 3.0.

1.2.6 Certified waste will be segregated from other TRU waste and will be stored at the TA-54 storage site until shipment to the WIPP begins. Because actual shipment to the WIPP is still a number of years off, only a general description can be given of the anticipated procedure for final waste package preparation and certification transportation criteria (see Section 7.0). Later, the plan will be extended to provide the necessary details of inspection of the certified waste packages upon removal from storage.

1.2.7 Nothing herein is intended to prohibit waste generators from implementing any additional controls dictated by safety or process control needs.

2.0 ORGANIZATION

2.1 The Los Alamos organizational chart (Appendix G) depicts a simplified structure (as of this date) showing only the organizations that are major TRU waste generators or are otherwise involved in the production of certified waste. Their functions are listed briefly below. Not shown are a number of other organizations throughout the Laboratory which occasionally produce small quantities of TRU waste.

Appendix G also depicts those organizations within the Inhalation Toxicology Research Institute (ITRI) which affect TRU Waste generation, processing, and packaging. ITRI produces a very small volume of TRU waste which is shipped to Los Alamos for certification and transshipment to the WIPP with Los Alamos TRU waste. The ITRI certification effort is documented as an attachment to the Los Alamos Certification Plan.

Each waste generating organization shown shall prepare, and maintain current, an organization chart showing personnel associated with TRU waste generation and certification. The chart shall indicate levels of authority and lines of communication. Interfaces and lines of communication with other organizations in the TRU Waste Certification Program, including the quality assurance organization, shall also be included on the chart.

2.1.1 The Heat Source Technology Group (NMT-9), the Nuclear Fuels Technology Group (NMT-1), the Nuclear

Materials Processing-Nitrate Systems Group (NMT-2), the Nuclear Materials Processing-Chloride Systems Group (NMT-3), the Plutonium Metallurgy Group (NMT-5), the Actinide Materials Chemistry Group (NMT-6), and the Nuclear Materials Management Group (NMT-7) are the major generators of contact-handled TRU Waste outside of the Waste Management Group (HSE-7). The Materials Process and Science Group (MST-5) is the only significant generator of remote-handled TRU Waste.

2.1.2 The Quality Assurance Group (MEE-9) operates a quality assurance program (covering both production and waste) for the MST and NMT Division waste generators and for other waste generators that work closely with NMT. MEE-9 also performs QA audits of the overall TRU Waste Certification Program at Los Alamos and of the waste generating operations within HSE-7 (see Section 3.9).

2.1.3 MAT-2, the Property Management Group is the official shipper of the waste to the WIPP. MAT-14, the Supply Distribution Group, is the group responsible for stocking containers.

2.1.4 The Health, Safety, and Environment Division Leader is the Laboratory contact for TRU waste certification correspondence.

2.1.5 The Waste Management Group (HSE-7), by virtue of its position as the receiver and holder of the TRU waste, is the focal point for the TRU Waste Certification Program. The group's functions have been expanded to include development

and maintenance of the Certification Plan, review of attachments and waste generator processes for completeness and compatibility with the plan and the waste management program, and preparation and loading of the waste shipments. The certification statement will be signed by the Group Leader or his designated representative (see Section 1.2.2).

Group HSE-7 also has two waste treatment facilities that produce TRU waste. The Size Reduction Facility and the Liquid Waste Treatment Plant are treated as waste generators because that waste is uncharacterized until it is processed. In addition, HSE-7 operations in the NDE/NDA facility at (TA-54 West) generate data needed to certify waste.

2.1.6 The Chemistry Health Protection Group (HSE-10) provides radiation protection and monitoring support services to CLS-1, MST, and NMT Divisions.

The Health Physics Group (HSE-1) provides radiation protection and monitoring support services to all other waste generators and to waste management; and maintains and calibrates the health physics instrumentation used for certification purposes¹⁷. HSE-3 also controls packaging and on-site transfers of radioactive materials through their Hazardous Materials Packaging and Transportation section (HAZPACT).

2.1.7 The Laboratory Quality Assurance Officer serves to implement the Laboratory quality assurance policy and to promote an awareness of the benefits to be realized from developing and implementing appropriate quality plans. This

position is the major laboratory point of contact with outside agencies for matters relating to quality.

2.2 Administrative Requirement (AR) 10-5 of the Health and Safety Manual⁹ lists the responsibilities of TRU waste producing and handling organizations at the Laboratory. Waste generating operations within HSE-7 are subject to all of the responsibilities and controls incumbent upon all other waste generators.

2.3 The final approval authority for the Certification Plan and its attachments rests with the WAC Certification Committee (WACCC).

3.0 QUALITY ASSURANCE PLAN

3.1 Quality Assurance Program Plan

3.1.1 This QA plan was developed specifically to meet the requirements of WIPP-DOE-120⁵. This QA Plan applies only to the Los Alamos TRU Waste Certification Program.

3.1.2 Deleted

3.2 Organization

Quality assurance is a line management responsibility. Line management, as used here, is comprised of all of those persons who are directly responsible for assuring accurate and timely performance of the organization's assigned functions. Quality assurance functions are performed either by members of line organizations following procedures defined in the appropriate attachments to this plan, or by trained QA personnel. Routine review of certification activities is normally performed by qualified members of line organizations who do not actually perform those activities. In addition, the laboratory has QA organization personnel available for assisting in program development and TRU waste certification program audits, as requested.

3.2.1 The QA program applied to TRU waste certification is the responsibility of the HSE-7 Group Leader. Because most waste generators are outside the line of authority of the HSE-7 Group Leader, control is exercised by HSE-7 both directly and indirectly by:

- o defining, in this QA plan, the requirements for the QA activities to be included in the generators' attachments to the certification plan;

- o review of generators' attachments before they are forwarded to the WACCC (see Section 9.4)
- o review of each generator's data package before accepting the waste²²;
- o inspection of the waste packages when they are received by HSE-7¹⁶;
- o audits of the waste generator's certification activities (see Section 3.9.2); and,
- o certification of the waste (see Section 2.1.5).

Waste processing functions within the HSE-7 Liquid Waste Treatment Plant, the Stored Waste Certification Facilities, and the Size Reduction Facility, shall be subject to the same controls as other waste generators (see Section 2.2).

3.2.2 Development of attachments to this plan which define the QA activities associated with specific waste streams and the ongoing documentation of those activities is the responsibility of the appropriate waste generating organizations (see Section 9.1).

3.2.3 QA activities associated with procurement of waste containers are defined in the HAZPACT Quality Assurance Manual.¹⁰ Pre-use inspection for shipping and handling damage is the container user's responsibility (see Section 4.3.2).

3.2.4 QA for new facility design, construction, and maintenance at Los Alamos is the responsibility of the ENG Division which has its own QA program in place.⁸

3.2.5 When maintenance of equipment important to certification is the responsibility of the operating organization, the scheduling and documentation must be defined in the operating group's procedures. Equipment maintained by other organizations which is important to certification shall be identified in the appropriate attachment to the plan.

3.2.6 Los Alamos radiation survey instrumentation is maintained by HSE-1 which has a calibration recall and documentation system in place¹⁷. ITRI instrument calibration is done by the Health Protection Operations (HPO) Unit.

3.2.7 Responsibility for initial documentation of levels of surface contamination and external radiation, belongs to HSE-1 or to HSE-10 according to the Los Alamos Health and Safety Manual⁹. At ITRI this is the responsibility of HPO.

3.2.8 Verification of the completeness of the data provided by the waste generator, of the waste package marking, and of the physical condition of the waste package are responsibilities of HSE-7^{16, 22}.

3.2.9 HSE-7 will provide and document the initial indoctrination on the waste certification program for the TRU waste generating organizations. The generating organizations have the responsibility for training their personnel and maintaining their training documentation (See Section 9.3).

3.3 Control Measures

3.3.1 Design Control

This section will apply to waste certification activities that include, but are not limited to, the design or modification of the equipment and processes used to convert wastes into certifiable forms. Not included is the design of processes or equipment that are already in use and producing certifiable waste forms. Design of quality affecting processes and equipment shall be governed by the following.

3.3.1.1 Applicable design inputs, such as performance requirements, codes, and standards, shall be identified and documented.

3.3.1.2 Design analysis documentation should be sufficiently detailed as to purpose, methods, assumptions, design input, references, and units such that a person technically qualified in the subject can review and understand the analyses and verify the adequacy of the results without recourse to the originator.

3.3.1.3 Design verification shall be performed by individuals or groups not responsible for the original design. At a minimum, this will include Group HSE-7 personnel, along with other personnel as requested by management of the originating organization and/or HSE-7, based upon expertise with the equipment and/or process involved.

3.3.1.4 Design verification will be a two step process. Initial verification will be through reviewer sign-off on a review record. Final verification will be through a determination of the certifiability of the output product; HSE-7 has this overall responsibility. The verification method used shall be documented.

3.3.1.5 Technical management has overall responsibility for resolving individual review comments.

3.3.1.6 Changes to final designs, including field changes, shall be reviewed in the same manner as the original design. Minor changes, such as changing to a different acceptable waste container require approval of HSE-7. Changes involving waste form must be approved by the WACCC.

3.3.2 Control of Purchased Items and Services

Areas where this section is expected to apply to waste certification include, but are not limited to, the procurement of waste containers, liners, and other designated materials used in waste processing that might affect the certification of the waste packages.

3.3.2.1 Commercial items produced to established industry standards, such as bolts, Portland cement, gypsum cement, vermiculite, welding rods, and plastic bags are excluded from this requirement.

3.3.2.2. Drums and steel boxes used for waste packaging are purchased from DOE facilities that maintain approved QA programs for waste package procurement. Purchase orders for waste containers shall require a statement from the DOE

supplier that the containers were procured according to approved procedures. Receiving inspections at MAT-14 are under the control of the HSE-1 HAZPACT Office.

3.3.2.3 When waste packaging is procured directly from a commercial supplier by the user, documentation establishing that the QA requirements of the HSE-1 HAZPACT Office have been met shall be provided to HSE-7 by the user.

3.3.3 Identification and Control of Items

This requirement will apply to, but not be limited to, the identification of waste containers, waste packages, and/or unique packages or forms of waste. This requirement also helps prevent the mixing of non-TRU with TRU waste streams.

3.3.3.1 Items requiring identification and control shall be specified in the attachment if not specified in this plan.

3.3.3.2 Identification shall be maintained on the item when practical, otherwise in documents traceable to the item.

3.3.3.3 Process batch identification shall be referenced in each appropriate waste generator's data package so that all waste packages from a batch can be identified after closure.

3.3.4 Control of Processes

Processes that affect waste characteristics or container quality shall be controlled by written procedures, drawings, or checklists, that define limits of acceptability and the method used to verify conformance.

3.3.5 Handling and Storage

Waste packages, packaging, and waste handling and storage shall be controlled to prevent damage to the containers or changes in the waste that may affect certifiability.

3.4 Inspections and Tests

Inspections and/or tests shall be planned and performed at appropriate points in the certification process to ensure conformance to applicable waste acceptance and certification criteria.

3.4.1 Procedures for inspections and/or tests, the responsible organization unit, and the standards for acceptance/rejection, shall be defined or referenced in the appropriate attachment to the certification plan. If sampling is used, the sampling method shall be similarly defined.

3.4.2 The identity of the inspector shall be documented and the documentation retained by the generating organization, or as specified in the attachment to the plan.

3.4.3 The results of inspection and/or tests shall be included in the waste generator's data package.

3.5 Control of Measuring and Test Equipment (M&TE)

3.5.1 General

3.5.1.1 Appropriate controls over the accuracy and precision of M&TE are necessary to assure that conforming items are accepted and that nonconformities are detected. This section applies to M&TE used for purposes of

determining waste and waste package characteristics and acceptability. It also applies to the standards used for calibrating such M&TE.

3.5.1.2 The waste generator shall establish a calibration program, including requirements and controls, for M&TE used for certification.

3.5.1.3 Radiation detection instruments maintained and calibrated by HSE-1 need not be included in the waste generator's program.

3.5.1.4 Calibration and control measures are not required for rulers, tape measures, levels, and other such devices if normal commercial equipment provides adequate accuracy for certification.

3.5.2 Requirements

3.5.2.1 Adequacy of Standards - Standards established for calibrating M&TE shall be accurate and stable over the range of calibration necessary to ensure that certification needs are met, and that any deviations from certification requirements are known. Standards referenced in applicable procedures shall be appropriate to the relative importance of the equipment with respect to certification activities and/or health and safety.

3.5.2.2 Intervals of Calibration - Calibration periods shall be established on the basis of stability, purpose, and frequency of usage.

3.5.2.3 Calibration Procedures - M&TE shall be calibrated to written calibration procedures. The procedures may be

the equipment manufacturer's instructions, subcontractor's procedures, or they may be written by program personnel. All procedures shall be referenced in the attachment to the certification plan.

3.5.2.4 Records - The application of these requirements shall be supported by records demonstrating that established schedules are followed and the results documented.

3.5.3 Use of Calibrated M&TE

M&TE shall have a calibration sticker that identifies the date calibrated and the date due for recalibration, along with identification of the person who performed the calibration.

3.6 Inspection, Test, and Operating Status

When it is necessary to assure that inspections and tests have been performed or to assure that items that have not passed the required inspections and tests are not inadvertently used or shipped, status indicators, such as a physical location, tags, markings, shop travelers, stamps, inspection records, or other suitable means, shall be used. The authority for application and removal of tags, markings, labels, and stamps shall be specified or referenced in the attachment to the certification plan.

3.7 Records Management and Document Control

3.7.1 Procurement Document Controls

Purchase orders for materials or equipment which affect certifiability of the waste shall specify the

appropriate characteristics and limits of acceptability. In critical cases, it may be necessary to require the suppliers to have a QA program. Documentation of compliance shall be maintained by the purchaser's group for materials other than those drawn from Laboratory stocks (see Section 4.3.1).

3.7.2 Instructions, Procedures, and Drawings

Those activities affecting significant waste characteristics or certifiability shall be performed according to a documented procedure that shall be part of, or referenced in, the attachment to this plan. This requirement applies to all applicable activities from the initial determination of waste composition, through package closure.

3.7.3 Document Control

The preparation, issue, and change of documents such as procedures, data form formats, and attachments to the plan, shall be controlled to assure that only current issues of documents are being used and that current approved documents shall be available in areas where work affecting certification is to be performed. A hard copy of computer program listings shall be stored as a back-up for computer software.

3.7.3.1 Waste generators within MST and NMT divisions or participating in the MEE-9 QA program shall utilize the MST or NMT system for document identification when developing their document control systems.

3.7.3.2 Waste generators within HSE-7 shall utilize the group document control system¹⁹ for all certification related procedures.

3.7.3.3 The ITRI attachment to this certification plan (Attachment No. 10) is part of the HSE-7 document control system. ITRI procedures referenced in the attachment are controlled within that organization.

3.7.3.4 Group HSE-7 shall be responsible for issuing, updating, and obtaining the required approvals for this certification plan in the manner defined in the group document control system.

3.8 Nonconforming Items and Corrective Action

3.8.1 Nonconforming items are waste packages and data packages that do not meet the requirements of the Certification Plan because:

- o the waste form differs from that defined in the appropriate attachment to the certification plan; or
- o the waste package does not meet the WIPP acceptance criteria; or
- o the documentation does not meet the requirements defined in the certification plan or its appropriate attachment; or
- o the waste was not prepared and certified according to approved procedures.

3.8.2 A Nonconformance Report (NCR) is a written report identifying the nonconforming item, the nature of the nonconformance, and the point at which the nonconformance

was detected. The NCR generated in each case must be attached to the Waste Generator's Data Package.

3.8.3 An NCR is not required for nonconformances detected prior to an established inspection point or prior to container closure if the waste is re-worked to make it conform to the original requirements.

3.8.4 Nonconformances detected within facilities covered by the MEE-9 QA program shall be reported to MEE-9 and handled according to that program.

3.8.5 Nonconformances detected at ITRI are handled in the manner described in Attachment No. 10.

3.8.6 Nonconformances detected elsewhere shall be handled through HSE-7 on the current issue of the HSE-7 NCR form shown in Appendix E.

3.8.6.1 Nonconformances in the data package, detected when it is received at HSE-7, require an HSE-7 NCR and a case by case evaluation by HSE-7.

3.8.6.2 Nonconformances identified after the waste package is received at the TA-54 storage and disposal site shall require HSE-7 NCR's.

Minor problems (defective or missing labeling, damaged seal, etc.) may, at HSE-7's discretion, be corrected by either the storage site personnel or by the waste generator.

Unacceptable waste packages (leaking, damaged in transit, etc.) may require action by both the waste generator and by HSE-7. An HSE-7 NCR shall be initiated by the storage site supervisor and forwarded, according to

procedure, to the waste generator. The disposition of the nonconforming item shall be determined by HSE-7 and the waste generator.

3.8.6.3 If a package of unacceptable waste originated in an organization covered by the MEE-9 QA program, the HSE-7 NCR will be sent to MEE-9 where it may be used within that system.

3.8.7 Nonconformances that result in individual waste packages which do not meet WIPP waste acceptance and certification requirements shall render that waste package non-certified. The waste package will not be shipped to the WIPP until the problem has been identified and corrected.

3.8.8 When a nonconforming item or series of nonconforming items indicate that the certification process is inadequate or unreliable, certification (not production) of that waste stream shall be halted. Such waste shall not be shipped to WIPP until it has been certified by procedures approved by the WACCC. Further, no subsequent waste generated by the nonconforming process or procedure can be certified until the nonconformance has been identified to the WACCC and appropriate corrective actions are approved by the WACCC. Nonconformances that may affect the certification status of waste already shipped to WIPP shall require the submittal (to the WACCC for approval) of proposed corrective actions that, as a minimum, either include a rationale for

acceptance by WIPP or plan for return shipment of the waste for certification at the generating facility.

3.8.9 Nonconforming items shall be segregated from conforming items until the required disposition is approved and completed. Control of nonconforming items by tagging, marking, or other means of identification is acceptable where physical segregation is not practical.

3.8.10 Supervisors of waste generating or waste handling organizations shall review NCR's and/or audit findings and when necessary, require that corrective action be taken (and documented) to prevent recurrence of nonconformances. The documentation shall include a statement of the condition requiring corrective action, the action taken, and the name of the individual responsible for implementing that action. Completed NCR's or audit findings shall be forwarded to either MEE-9 or HSE-7, as appropriate, for filing.

3.9 Audits

3.9.1 DOE or DOE-appointed auditors may perform audits at DOE's discretion. Copies of internal audits shall be available to them.

3.9.2 Internal audits of the program or any part of the program, including HSE-7 activities, shall be performed by MEE-9 to assure compliance with the certification plan and its attachments, especially items related to program controls. Internal audits at ITRI shall be performed by the ITRI Internal Auditor and QA Officer. The adequacy of the

plan and its attachments shall be determined only by the WACCC.

3.9.3 The certification activities of HSE-7 shall be audited twice each year with some of the waste generation operations being audited with each so that all components of the program are audited at least annually. More audits may be conducted if the scheduled audits disclose serious or recurring problems. The ITRI certification program shall be audited by Los Alamos preceding transfer of the waste to Los Alamos. The HSE-7 Group Leader, from his review of the audit reports, will identify whether any part of the program should be audited more frequently.

3.9.3.1 Los Alamos audits shall be performed in accordance with written procedures or checklists by personnel who do not have direct responsibility for performing the activities being audited as defined in the MEE-9 Quality Assurance Manual²⁰.

3.9.3.2 Los Alamos auditors shall be trained and qualified as defined in the MEE-9 Quality Assurance Manual²⁰.

3.9.3.3 The auditors' findings shall be documented and reported to the HSE-7 Group Leader, the HSE Division Leader, and the affected Group Leaders and Division Leaders of all divisions being audited.

4.0 WASTE PACKAGING

Drums and liners used for packaging TRU waste are, whenever possible, obtained from EG&G, Rocky Flats, Colorado, because EG&G has an approved program for procurement of waste containers. Drums with or without liners are available to users through the Supply and Distribution Group (MAT-14). Other containers may be purchased directly from EG&G by the user organization. Containers not available from RFP, such as bolt-lid boxes and the RH Canister, may be obtained through other DOE contractors that have approved procurement programs or (with HSE-7 approval) from a commercial supplier.

4.1 The following are the preferred containers for packaging certified TRU waste. Each container type has passed DOT Specification 7A testing/analysis^{13,21} with simulated waste.

4.1.1 DOT-17C steel drums (55 gal), Los Alamos stock no. LG 1115.

4.1.2 Standard Waste Box (SWB), bolted closure, 71" long x 54-1/2" wide x 37" high.

4.1.3 The RH-TRU waste canister, 26" dia x 121" long, defined by Rockwell Hanford²¹. (This container will be used with several internal configurations which will be defined before any canisters are used for waste.)

4.2 Other containers that meet the WIPP criteria may be used with written approval from HSE-7.

4.3 Each TRU waste generating organization must show, in its attachments to the plan, that each of the following package-use conditions are met.

4.3.1 Documentation showing that the container was produced and procured according to approved procedures must be available. If the container was drawn from Los Alamos stock, the procurement records (with a statement from the supplier that the containers have been procured according to the approved procurement plan) will be maintained by the HSE-3 HAZPACT Office.

If the container is ordered directly from a DOE contractor by the user, the user must obtain and maintain on file, the statement that the containers have been procured according to an approved procurement plan (See also 3.3.2.3).

4.3.2 The user must visually inspect the container prior to use for shipping and handling damage that would affect the ability of the container to meet the DOT container requirements or the WIPP storage requirements. The inspection shall be documented on the packaging condition inspection form (PCI) (Appendix C). Rejected containers shall be clearly marked as such.

4.3.3 The user must have on file an analysis that shows that the waste to be packaged is closely simulated by the test contents defined in the packaging certification document¹³.

4.3.4 The user must reference written procedures that specify the use of liners or internal packaging similar to that used in the packaging certification tests.¹³

4.3.5 The container may not be loaded beyond the appropriate gross weight limit specified in the packaging certification document.¹³

4.3.6 Each container used shall be identified in the generator's data package by either serial number or lot code as specified in the instructions for completing the CWSR form (Appendix D).

4.4 If the waste differs significantly from the test contents, the user must reference, and have on file, documentation of testing/analysis showing that the package meets the type A requirements when loaded with appropriately simulated contents.

4.5 If the internal packaging including shielding materials, differs significantly from the internal packaging used in the tests, the user must reference, and have on file, documentation of testing/analysis showing that the package meets the type A requirements for containers with the appropriate internal packaging configuration.¹³

4.6 Special packaging for unusual waste is not expressly forbidden but the cost and effort of development, testing, and certification are the responsibility of the waste generator. The Waste Management group's approval and the WIPP project office's approval are both required in all cases.

4.7 Corrosive waste (pH 4.0 or less) is unacceptable unless the waste has been neutralized or otherwise rendered noncorrosive, or it has been packaged to ensure package integrity through the packaging design life. Corrosive and hazardous materials must be listed on the CWSR form.

4.8 Contamination Control

4.8.1 The level of removable radioactive contamination on the external surfaces of each closed waste package shall be kept below WIPP limits and as low as reasonably achievable.

4.8.2 The level of removable radioactive contamination may be determined by first wiping a 100 cm² area of the surface with an absorbent material, using moderate pressure, and then measuring the activity on the wiping material.

4.8.3 At least three measurements shall be taken in the most appropriate locations to yield a representative assessment of the removable contamination levels.

4.8.4 The amount of radioactivity measured on any single wiping material, when averaged over the surface wiped, shall not exceed 50 pCi/100 cm² of alpha contamination or 450 pCi/100 cm² of beta gamma contamination.

4.8.5 Other methods of assessment of equal or greater efficiency may be used if they are defined fully in an approved attachment to the plan.

5.0 LABELING

Waste packages shall be labeled as defined in the Laboratory HS&E Manual,⁹ except as noted in this section.

5.1 The waste package labeling consists of a unique package serial number (barcode labeling) and the package weight (in whole pounds).

5.1.1 Drum labeling shall consist of barcode labels provided by HSE-7. Three of the large labels shall be evenly spaced around the circumference, approximately 4" (but not more than 6") above the bottom rim. One large label shall be placed on the top, near the center. The 5th label may be placed on the side of the drum below the bolt or destroyed or discarded.

5.1.2 Box barcode labeling shall be placed near the center of the box lid and near the center of the four sides. The barcode labels on the sides shall not be placed on the raised bars on the curved box sides.

5.2 The package serial number consists of a barcode label with thirteen characters in the form LA000000XXXXX, where:

- o LA is our site code assigned by DOE.
- o 000000 is for later expansion.
- o XXXXX is a five-digit number taken from a barcode label

supplied by HSE-7. The manufacturer's serial number which is on the steel boxes, is not part of the package serial number.

5.3 The package weight in pounds shall be written with a waterproof marker, preferably on the top of the waste package.

5.4 Deleted.

5.5 Deleted.

5.5.1 Deleted.

5.5.2 Deleted.

5.6 When waste packages are overpacked by HSE-7, the new package shall be assigned a new serial number.

6.0 STORAGE

6.1 Certifiable TRU waste is received, inspected, and stored by HSE-7 according to the requirements of the Area G Procedures¹⁶.

7.0 RETRIEVAL OF PRECERTIFIED WASTE FROM STORAGE

The method of removal of precertified TRU waste from storage is only vaguely defined because much depends on the capabilities of facilities not yet designed. Although at least one revision of this section is anticipated before waste is retrieved for shipment to the WIPP, the following outlines the expected procedure.

7.1 The order of package withdrawal will be determined by its placement in storage. No attempt will be made to select packages in any numerical sequence.

7.2 Data concerning the selected packages will be obtained from the TRU Waste Data Base.

7.3 Waste packages will be cleaned and at least visually inspected. Some form of nondestructive examination (NDE) will be used on a sample of each type of waste retrieved. The nature of this NDE will be determined later.

7.4 Surface contamination levels and contact radiation levels, including neutron dose rates, will be determined and documented.

7.5 WIPP data package entries derived from the radioisotope content (thermal power, PE-Ci, alpha curies, and fissile gram equivalent) will be calculated.

7.6 Paint and labeling will be touched up or corrected as required. The serial number tags will be removed when the labeling is verified and touched up. Appropriate DOT labels and barcode labels (if required) will be added.

7.7 Security seals will be applied to drums if required by WIPP or DOT.

7.8 Drums will be assembled into drum assemblies that meet all of the TRUPACT II limits. The drum assembly weights will be determined to verify the computer generated expected weight.

8.0 CERTIFICATION RECORDS

8.1 Record Categories and Retention Requirements

Certification consists of providing a complete, auditable set of records documenting that all WIPP criteria² have been considered and that the compliance requirements^{3,7} have been met. This documentation can be divided conveniently into the following four categories.

8.1.1 Waste Generator Supporting Records

This category includes those records which provide detailed information on the processing of the waste (e.g., routine assays and inspections of individual packages placed in a container, internal audit reports, which do not require retention after the waste is permanently emplaced in the WIPP. Waste is not considered permanently emplaced until (a) the waste is emplaced in the underground room; and (b) the demonstration period has ended and the facility has been declared a repository.

When a process generates homogeneous waste in quantities greater than one full container, each process batch shall be assigned a code that shall appear on all of the data packages pertaining to that batch. Process batch records shall be retained by the waste generator in a form suitable for audit for a period of 25 years.

8.1.2 Waste Generator's Data Package

The records that contain the definitive information about the waste and its packaging shall be collected into a single "data package" by the generator. As a minimum, a

Generator's Data Package consists of a CWSR with the Generator's Package Information section and Generator Site Health Physics Information section properly completed and signed and a PCI with generator's pre-use visual inspection properly completed and signed. The data package may also contain supplementary documentation to support the data contained on the CWSR. Nonconformance reports, if they occur, shall be attached to the data package. This data package, when completed, shall be retained by HSE-7 for 25 years so that it will be available for audits and for analysis throughout the WIPP retrieval period and the intervening storage period. A copy of each data package's CWSR which contains the definitive information for the WIPP Waste Information System (WWIS) will be stored on microfilm²².

8.1.3 Subsequent Storage and Handling Records

Processors who handle the waste packages after the waste generator shall provide a signed statement to HSE-7, indicating that the work performed in their operations was done correctly and according to approved procedures. The CWSR form provides for signatures of appropriate storage site personnel. These and similar records produced during receiving, repackaging, overpacking, and withdrawal from storage, shall be attached to, retained with the Waste Generator's Data package.²²

8.1.4 WWIS Data Package

The WWIS Data Package is produced by HSE-7 according to the requirements of WIPP-DOE-157¹² for electronic transmission to the WIPP. The WWIS Data Package contains waste package data, drum assembly make-up data, and shipment make-up data. The information contained in the transmission shall be duplicated on paper, attached to the signed certification statement, and sent to the WIPP with the waste. A second copy of each WWIS Data Package shall be retained on microfilm for 25 years.

8.1.5 Miscellaneous Program Records

Those records relating to current operations (equipment calibrations, personnel qualifications) must be available for periodic WACCC audits but do not require retention beyond the next WACCC re-audit.

8.2 General Requirements for Records

8.2.1 Each page of the generator's data package shall bear the Waste Package Serial Number (i.e., the barcode number).

8.2.2 Each set or block of data entered on the data forms shall be accompanied by the initials or signature of the person who collected that data.

8.2.3 Each data sheet shall be reviewed for validity and compliance with certification plan requirements. The reviewer shall be independent of the work being reviewed and sufficiently knowledgeable of the operation to recognize

inappropriate data entries and shall have sufficient organizational freedom and authority to perform his task.

8.2.4 Every signature and initial that is required in the data package must be matched with the appropriate printed name.

8.2.5 The original waste generator's data package, signed by the waste generator (not initialed) shall be sent to HSE-7 where it must be received, reviewed, and approved before the waste package may be transferred to HSE-7. (See CWSR form instructions in Appendix D).

8.2.6 The original CWSR and PCI forms, signed by HSE-7, shall be returned to the waste generator to indicate acceptability of both the data package and the waste package²². A copy of the CWSR and PCI forms shall be retained by HSE-7 with the remainder of the Generator's Data Package.

8.2.7 The original CWSR and PCI forms shall accompany the waste to the storage and disposal site.

8.2.8 After the waste is placed in storage, the original CWSR and PCI forms, signed by appropriate storage site personnel, shall be returned to HSE-7 for retention with the Generator's Data Package¹⁶.

9.0 INSTRUCTIONS FOR PREPARATION OF ATTACHMENTS

9.1 Most of the details of the data gathering, documentation, and packaging of the waste must be provided by the waste generating organizations. Each generator of a TRU waste stream shall develop an attachment to this plan, identifying each waste form produced and describing how it will be packaged, and what controls will be used to ensure that it meets the WIPP acceptance criteria.² The QA requirements of Section 3.0 of this plan shall be applied to the certification activities described in the attachment.

9.2 Each attachment to the plan shall include at least the following:

9.2.1 Introduction

Identify the organization producing the waste. Provide an organization chart as described in Section 2.1, showing the relationships among individuals who generate, package, and verify the waste, and who assemble and sign the Generator's Data Package (by position, not name.) Include interfaces with other organizations that affect the certifiability of the waste (see Section 2.1).

9.2.2 Waste Form Description

Describe the waste form(s) produced. A content code will be assigned to the waste form by HSE-7.

9.2.3 Waste Form and Packaging Control Methods

9.2.3.1 This section should include a waste stream description and/or flow chart that illustrates the waste package progression, beginning at the point it becomes

waste, through packaging, and including preparation of the Waste Generator's Data Package for HSE-7. List the packaging to be used, including liners and inner containers. Reference the documents specified in Section 4. Provide copies of data collection forms, process control forms, and other related forms. List the instruments important to certification. Define or reference the frequency of instrument calibrations and the method of ensuring current calibrations. When using references to other documents, be specific. Include a list of references.

Be brief. Do not include unnecessary details that do not affect the certifiability of the waste. Do not include a detailed description of the process that produced the waste.

9.2.3.2 Address each WIPP criterion separately and specify how each will be met. WIPP-DOE-114³, WIPP-DOE-137¹¹, and WIPP-DOE-158⁷ clearly define the information needed to demonstrate compliance with each criterion.

- o When a demonstration can establish compliance with a given criterion, for all waste of a given form, perform that demonstration, document it, and add the documentation as an appendix to the attachment or reference it as a memo to file.
- o When periodic sampling can demonstrate compliance, establish and document the sampling method, frequency, and applicable limits.
- o When measurement or analysis of the contents of each container is required to demonstrate compliance, the attachment shall define the method used, and the limits of acceptability.

- o If a criterion is not applicable, demonstrate that this is so. Nothing is assumed to be obvious.

9.2.3.3 Define the procedure for handling nonconforming waste packages (see Section 3.8).

9.2.4 Waste Generator's Data Package Requirements

The waste generator's data package is described in section 8.1.2. The attachment must:

9.2.4.1 Define which record forms are to be included in the data package and which are not. For example, instrument calibration data are not included. Measurements made with the instrument are included. Define who will store supporting documentation and where it will be kept.

9.2.4.2 Define who (by organizational description) assembles the data package, who reviews it, and who signs the CWSR before it is sent to HSE-7.

9.2.4.3 Provide a place for the Waste Package Serial Number on every page in the data package.

9.2.4.4 Establish and define a method for handling data packages found to be nonconforming because they have incomplete or apparently erroneous entries.

9.3 The attachment must address training of personnel, and must include, either in the attachment or on file for auditing purposes, training content and retraining schedules. A list of trained personnel shall be on file.

9.4 Attachments require approval within the generating organization, by HSE-7, and by the WACCC.

9.5 A completed Attachment Check List (see Appendix F) verifying that all the requirements of the Certification Plan have been addressed in the attachment or in referenced documents must be part of the attachment. Only the document and section where each item is addressed need be given. Every item on the check list must be addressed. If an item is not applicable, enter N/A and explain why.

REFERENCES

1. DOE Order 5820.2A "Radioactive Waste Management," with Attachment 1, (09/26/88).
2. DOE Report WIPP-DOE-069, "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant," (as updated).
3. DOE Report WIPP-DOE-114, "TRU Waste Certification Compliance Requirements for Newly Generated Contact-Handled Wastes for Shipment to the WIPP," (as updated).
4. DOE Order 5700.6B, "Non-Weapons Quality Assurance," (September 13, 1988).
5. DOE Report WIPP-DOE-120, "Quality Assurance Requirements for Certification of TRU Waste for Shipment to the WIPP," (as updated).
6. Deleted.
7. DOE Report WIPP-DOE-158, "TRU Waste Certification Compliance Requirements for Remote-Handled Wastes for Shipment to the WIPP," (as updated).
8. "Quality Assurance Manual for Engineering and Construction," Facilities Engineering Division, Los Alamos National Laboratory document (as updated).
9. "Health and Safety, Los Alamos National Laboratory Manual," Chapter 1 (as updated).
10. "Quality Assurance Program Plan for Radioactive Materials Shipping," Group HSE-1, Los Alamos National Laboratory, (as updated).
11. DOE Report WIPP-DOE-137, "TRU Waste Certification Compliance for Acceptance of Contact-Handled Wastes Retrieved from Storage to be Shipped to the WIPP," (as updated).
12. DOE Report WIPP-DOE-157, "Data Package Format for Certified Transuranic Waste for the Waste Isolation Pilot Plant (WIPP)," (as updated).
13. "DOE Evaluation Document for DOT 7A Type A Packaging," MLM-3245, DOE/DP/00053-H1, Edling, Don A., et al., US Department of Energy, (as updated).
14. Deleted.
15. Deleted.

REFERENCES cont.

16. "Operating Instructions for Receiving, Stacking, and Covering Contact-Handled Certified Waste at TA-54, Area G," SWD-HSE7-0I-02, Waste Management Group (HSE-7), Los Alamos National Laboratory.
17. "Instrumentation and Calibration Section Instrument Recall and Issue Procedures," HSE1-ICS-QP-02, Radiation Protection Group (HSE-1), Los Alamos National Laboratory, (as updated).
18. Deleted.
19. "Waste Management Group (HSE-7) Document Control Procedure." GOP-HSE7-DC-01, Waste Management Group (HSE-7), Los Alamos National Laboratory.
20. "MEE-9 QA Manual," Quality Assurance Group (MEE-9), Los Alamos National Laboratory, (as updated).
21. "User's Manual for Remote-Handled Transuranic Waste Container," RHO-RE-MA-7, Rockwell Hanford Operations, (September 1984).
22. "Procedure for Review and Processing of Waste Generators' Data Package." WCP-HSE7-0I-01, Waste Management Group (HSE-7), Los Alamos National Laboratory.

APPENDIX A

ATTACHMENTS TO THE PLAN

INDEX

1. Transuranic Waste Size Reduction Facility (SRF)
Attachment Includes Content Code 001.
2. Liquid Waste Treatment (LWT) Plant Attachment
Includes Content Code 002
3. NMT Division Attachment
Includes Content Codes 004 and 005
4. Analytical Chemistry TRU Waste Attachment, CLS-1
Includes Content Codes 004 and 005
5. Stored Waste Attachment
Includes Content Codes 002, 003, 004, and 005
6. NMT Division Process Residue Attachment
Includes Content Code 006
7. MST-5 Contact and Remote-Handled Waste Attachment
Includes Content Codes 007, 004, and 005
8. Treatment Development Facility (TDF) Attachment
Includes Content Code 008
9. NMT Division Attachment for PU^{238} Wastes
Includes Content Codes 004 and 005
10. Inhalation Toxicology Research Institute Attachment
Includes Content Codes 004 and 005
11. TBD
12. CMP Saw Attachment
Includes Content Code TBD
13. Dewatered Sludge Attachment
Includes Content Code 003

APPENDIX B

WASTE CONTENT CODES

<u>Code</u>	<u>Description</u>
001	Mixed metal scrap and combustibles primarily from operations at the TRU Waste Size Reduction Facility. Contains primarily metals or metal equipment, either whole or sectioned, along with its combustible components and the combustibles generated during decommissioning, sectioning, and packaging.
002	Cemented sludges Caustic sludge solidified with Portland cement to form a noncorrosive solid monolith in a 55-gal. drum.
003	Dewatered sludges Caustic sludge from a liquid waste treatment facility. Contains 30-45% solids. Packaged in drums with 90 mil and 5 mil plastic liners and dry Portland cement added to stabilize any liquids that may separate.
004	Combustible Solids - Paper, rags, plastic, rubber, etc., which may contain some small fraction of noncombustible solids as scrap metals, etc.
005	Noncombustible Scrap - Small tools, cans, small equipment items, broken glass, etc., which may contain some small fraction of combustible solids.
006	Cemented Process Residues - Process leached solids, filter cakes, evaporator bottoms, etc., stabilized in Portland or Gypsum cement.
007	Contact and remote-handled solids from hot-cell operations.
008	Cemented Incinerator Ash - Incinerator ash as stabilized with Portland cement.

APPENDIX B

WASTE CONTENT CODES (CONTINUED)

009	(Deleted)
010	(Deleted)
011	Soil Stabilized with Portland cement.

APPENDIX C

PACKAGING CONDITION INSPECTION FORM

PACKAGING CONDITION INSPECTION

Waste Package Serial Number
--

Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

I. GENERATOR'S PRE-USE VISUAL INSPECTION

Drum Lot Code	Inspection Items	Initials
Year Of Mfg.	Ring, Bolt, & Nut	
Box Serial No.	Lid & Gasket	
Comments:	Chime	
	Dents	
	Gouges	
	Paint	
<i>This container has been visually inspected and has been found to be free of damage that would make it unsuitable for TRU waste packaging.</i>		
Name	Signature	Date

II. DRIVER'S VISUAL INSPECTION

Inspection Items	Initials	<i>This waste package was visually inspected at time of pickup as required by approved procedures, and was found to be free of obvious damage or defects.</i>
Filter		
Labels		Comments
Damage		
Closure Ring		
TID Seal No.		
Name	Signature	Date

III. TA-54 INSPECTION

Weight (lbs.)	<i>This waste package was visually inspected for handling damage before shipping, and, if the package is a drum, the closure ring bolt was tightened as required by approved procedures.</i>	
TID Seal No.		
Comments:		
Name	Signature	Date

APPENDIX C

PACKAGING CONDITION INSPECTION FORM (CONTINUED)
Packaging Condition Information Form
Page 2

PROCEDURES AND INSTRUCTIONS

This form must be used to document packages of TRU waste that have been generated according to the Los Alamos TRU Waste Certification Plan. Accompany all signatures with a typed or printed name. Use black ballpoint or ink.

I. Generator's Pre-Use Inspection

The waste generator shall complete this entire section as explained here, then attach this form to the CWSR form (HS Form Number 10-5A).

Drums: *NOTE: Defective lids, bolts, nuts, and closure rings may be replaced. Make note of replacements in the "Comments section."*

- Obtain the drum lot code from the side of the drum, above the top rolling hoop. The year of manufacture is the last two digits in the code stamped in the bottom head of the drum. Example: 16-55-88.
- Remove the closure ring and inspect the welds on the lugs for cracks, verify that the bolt and nut are present and in good condition, and observe the general condition of the ring.
- Remove the lid and inspect for deformation that would interfere with proper closure. Look for tears in the gasket. Inspect the threads on the bung hole to ensure that a filter can be installed.
- Inspect the body for damage to the chime (top curl) that could cause leakage. Look for dents that might permit leakage along the sideseam and the bottom rim seams. Reject drums with gouges that significantly reduce the remaining thickness of the drum wall. Severe corrosion or badly damaged paint is unacceptable.
- Defective drums must be clearly marked to ensure that they are not inadvertently used for TRU waste.

Boxes:

- Inspect boxes in much the same manner as drums except that box lids may not be interchangeable and the filters may already be installed.

II. Driver's Inspection

- Verify that the waste package contains a filtered vent and that the labels are properly applied to the package and the paperwork.
- Visually inspect the package for handling damage severe enough to bring into question the safety of the package.
- If the package is a drum, check the closure ring to ensure that it is well tightened.
- Enter the tamper seal number.

III. TA-54 (West) Inspection

- Enter the weight in whole pounds.

APPENDIX D

CERTIFIED WASTE STORAGE RECORD FORM

Waste Package
Serial Number

CERTIFIED WASTE STORAGE RECORD

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

I. GENERATOR'S PACKAGE INFORMATION

ORIGIN OF WASTE		ADDITIONAL INFORMATION	
Group			
TA			
Building			
Program Code			

CODE	CONTAINER	INTERNAL SHIELDING		RADIONUCLIDE CONTENT			C-Curie M-Gram	
		Type	Thickness (in.)	Nuclide	Amount	Uncertainty	Uncertainty	Uncertainty
01	<input type="checkbox"/> Steel Drum (55 gal.)							
02	<input type="checkbox"/> Steel Overpack (Drums)							
03	<input type="checkbox"/> Steel Box (68 in. x 54 in. x 38.5 in.)	<input type="checkbox"/> None						
04	<input type="checkbox"/> Steel Overpack (FRP Box)	<input type="checkbox"/> Lead						
05	<input type="checkbox"/> Standard Waste Box	<input type="checkbox"/> Steel						
	<input type="checkbox"/> Other (Describe)	<input type="checkbox"/> Concrete						
		<input type="checkbox"/> Other						

Process Batch Code		HAZARDOUS MATERIALS	
Gross Wt. (lb.)		Name	EPA Code
Organic Mat'l Wt. (lb.)			Quantity (g)
Organic Mat'l Vol. (L)			
Content Code			
Date Closed (MMDDYY)			

The data in this section were collected, and the waste described herein was packaged and labeled according to the procedures defined in the Los Alamos TRU Waste Certification Plan and its appropriate attachments. The data are correct and complete to the best of my knowledge.

Printed Name _____ Signature _____ Date _____

II. GENERATOR SITE HEALTH PHYSICS INFORMATION

Gamma Dose Rate (mrem/h)		Survey Meter Model	Property No.
Neutron Dose Rate (mrem/h)		Survey Meter Model	Property No.
Total Dose Rate (mrem/h)		The data in this section were collected as prescribed in approved procedures.	
Alpha Contamination (dpm/100cm ²)		Printed Name	Date
Beta-Gamma Cont. (dpm/100cm ²)		Signature	

III. HSE-7 AUTHORIZATION

The date package for this waste has been reviewed by HSE-7. The generator is authorized to arrange transportation to TA-54 per AR 10-5.

Printed Name _____ Date _____
Signature _____

IV. RECEIVING SITE HEALTH PHYSICS INFORMATION

Gamma Dose Rate (mrem/h)		Survey Meter Model	Property No.
Neutron Dose Rate (mrem/h)		Survey Meter Model	Property No.
Total Dose Rate (mrem/h)		The data in this section were collected as prescribed in approved procedures.	
Alpha Contamination (dpm/100cm ²)		Printed Name	Date
Beta-Gamma Cont. (dpm/100cm ²)		Signature	

V. STORAGE SITE INFORMATION

Received by	Date received	Pad No.	Layer	<input type="checkbox"/> E <input type="checkbox"/> C <input type="checkbox"/> W
This package was visually inspected and found to be properly labeled and in good condition. It was accepted according to approved procedures.		Pool No.	Date Stacked	
Printed Name		The waste package was stored at this location according to approved procedures.		
Date	Signature	Printed Name	Date	
Signature		Signature		

VI. HSE-7 REVIEW

The data entered in Sections IV and V have been reviewed according to approved procedures.

Printed Name _____ Date _____
Signature _____

VII. CERTIFICATION STATEMENT

I certify that the above-described waste package has been prepared, packaged, and documented according to an approved TRU Waste Certification Plan and does, to the best of my knowledge, comply with the TRU Waste Acceptance Criteria as defined in the current approved issue of WIPP-DOE-069, "TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant."

Printed Name _____ Signature _____ Date _____

APPENDIX D

CERTIFIED WASTE STORAGE RECORD FORM (CONTINUED)

*Certified Waste Storage Record
Page 2*

PROCEDURES AND INSTRUCTIONS

This form must be used to document packages of TRU waste that have been generated according to the Los Alamos TRU Waste Certification Plan. Complete each section thoroughly in the order given on the form before proceeding to the next section. Accompany all signatures with a printed or typed name. Use scientific notation. Whenever the notation E is given in a data block, enter the plus or minus as appropriate. Examples: Record 0.012 as 1.2E-2; 1.23 as 1.23E+0; and 1240.0 as 1.24E+3. Where E+ appears in a data block, enter values less than E+0 as 0.0E+0.

I. GENERATOR'S PACKAGE INFORMATION

Waste Generator: Complete the entire section as follows; then send the form to the area Health Physics Representative.

Waste Package Serial Number. Apply one of the small barcode labels inside this block.

Origin of Waste. Give the data for the organization offering the waste to HSE-7. The program code is the one to be charged for handling and shipping of the waste to the WIPP.

Additional Information. Use this space to enter any information about the waste that may be useful later, such as shielding construction or the specific origin of the waste.

Container. Check the correct box. If "other" is checked, enter the correct code.

Internal Shielding. Check the appropriate box and enter the thickness in inches. If "other" is checked, describe the material in the "Additional Information" block.

Radionuclide content. List the radionuclides by using either the normally accepted notations (for example, U235, Pu239, Co60, H3, etc.) or, for accountable materials, by using the element identification plus the SS material type code (for example, Pu52 for plutonium code 52, U38 for uranium code 38, etc.). The acceptable code for mixed fission products is MFP. In cases where more than one contaminant is identifiable, list each (with appropriate data) on a separate line. Each listed radionuclide must have both an amount and the uncertainty on that amount. Where there are more than six (6) radionuclides, contact Group HSE-7 at 7-5397 for information about this entry. Identify units, that is, M = Grams, C = Curies.

Process Batch Code. Use this code only when a homogeneous batch of waste fills more than one container, otherwise, enter "N/A."

Gross Weight. Enter the weight of the complete package in pounds (lb).

Organic Mat'l Weight. Enter the total weight of organic material in the package, including the packaging, in pounds (lb).

Organic Mat'l Volume. Round off to the nearest 10% and enter.

Content Code. Enter the number assigned by the Certification Plan attachment.

Date Closed. Enter as MMDDYY without spaces or punctuation.

Hazardous Materials. Use name and code number as given in 40 CFR 261, Subparts C and D. If none are listed, enter NONE. Enter the weight in grams.

II. GENERATOR SITE HEALTH PHYSICS INFORMATION

The area Health Physics Representative at the generator's site completes and signs this section. The Waste Generator then sends the form to the HSE-7 TRU Waste Operations Section (MS E516) for review and approval.

III. HSE-7 AUTHORIZATION

The HSE-7 TRU Waste Operations Section representative completes and signs this section. This represents authorization to transport.

Waste Generator:

Arrange for transportation ONLY AFTER RECEIVING SUCH AUTHORIZATION FROM THE HSE-7 TRU WASTE OPERATIONS SECTION. Refer to Administrative Requirement 10-5.

Ensure that the Certified Waste Storage Record accompanies the waste to the TA-54 storage site.

IV. RECEIVING SITE HEALTH PHYSICS INFORMATION

The HSE-1 Health Physics Representative at the receiving site must complete and sign the Receiving Site Health Physics Information section.

V. STORAGE SITE INFORMATION

The HSE-7 Storage Site personnel must complete this section and sign (1) when the waste is accepted and (2) after the waste is stacked.

Sections VI and VII are reserved for HSE-7 TRU Waste Operations Section use.

APPENDIX E

NONCONFORMANCE REPORT
TRU WASTE CERTIFICATION PROGRAM
NON-CONFORMANCE REPORT

		LOG NO.
ORIGINATOR'S SECTION		
LOCATION:	HOLD TAG NO:	
WASTE PKG. SERIAL NO:		
DESCRIPTION OF NON-CONFORMANCE:		
PRINT NAME:	SIGNATURE:	DATE:
DISPOSITION SECTION		
INSTRUCTIONS FOR DISPOSITION:		
PRINT NAME:	SIGNATURE:	DATE:
THE ABOVE INSTRUCTIONS HAVE BEEN COMPLETED AS SPECIFIED.		
PRINT NAME:	SIGNATURE:	DATE:

INSTRUCTIONS

This form is intended to be used for documentation of the detection and correction of any nonconformance, in either the waste package or data package, that would effect the certifiability of the waste.

When completed, the form shall be attached to the CWSR and forwarded with the Waste to TA-54 and then to the Solid Waste Records Office at MS E516.

DESCRIPTION OF ENTRIES

Log No. - To be entered by the Solid Waste Records Office.

Location - Facility where the nonconformance was detected.

Hold Tag No. - Self explanatory. If no tag used enter N/A.

Waste Pkg. Serial No. - Use all 13 digits of number from CWSR form.

Description of Nonconformance - Be objective and concise but provide enough detail for a knowledgeable reader to understand without supplemental explanation.

Print Name - Rubber stamp, typewritten, or legible hand printing are acceptable.

Signature - Usual signature, not initials.

Date - Date when written.

Instruction for Disposition - Be precise. The person correcting the nonconformance may not be familiar with certification requirements for that waste stream.

Printed name, Signature, & Date - Same as above. Name of person who writes instructions.

Printed name, Signature, & Date - Same as above. Name of person who actually did the work.

APPENDIX F
ATTACHMENT CHECK LIST

<u>ITEMS REQUIRED TO BE ADDRESSED</u>	<u>WHERE ADDRESSED</u>
3.2.5 Requires maintenance scheduling and documentation for equipment maintained within the organization.	
3.2.5 Requires identification of equipment maintained by other parties.	
3.3.1.1 Requires identification of codes applicable to process or equipment design.	
3.3.1.3 Requires design verification.	
3.3.1.4 Requires design sign-off and output waste verification.	
3.3.3.1 Requires identification of items requiring control.	
3.3.3.3 Requires batch identification.	
3.3.4 Requires process controls.	
3.3.5 Requires controls to prevent waste package damage.	
3.4.1 Requires procedures for inspections and/or tests.	
3.4.2 Requires identification of inspectors.	
3.4.3 Requires reporting of inspection results.	
3.5.1.2 Requires calibration program for M&TE.	

ITEMS REQUIRED TO BE ADDRESSED

WHERE ADDRESSED

3.5.2.2 Requires that calibration be periodic.

3.5.2.3 Requires calibration procedures be referenced in the attachment.

3.5.2.4 Requires calibration records.

3.5.3 Requires calibration stickers on M&TE.

3.6 Requires that status indicators, where used, must be defined.

3.7.1 Requires quality documentation on purchase orders.

3.7.2 Requires that operating instructions be referenced in the attachment.

3.7.3 Requires a document control system.

3.8 Requires that the applicable nonconformance and corrective action reporting system be referenced or defined.

3.9 Requires that the applicable audit program be referenced or defined.

4.3.2 Requires a pre-use inspection of wastes containers.

4.3.3 Requires a comparison with tested packaging.

4.3.4 Requires reference to packaging procedures.

4.4 Requires documentation of 7A compliance for waste that differs from test materials

4.5 Requires documentation of 7A compliance for shielded waste packages.

ITEMS REQUIRED TO BE ADDRESSED

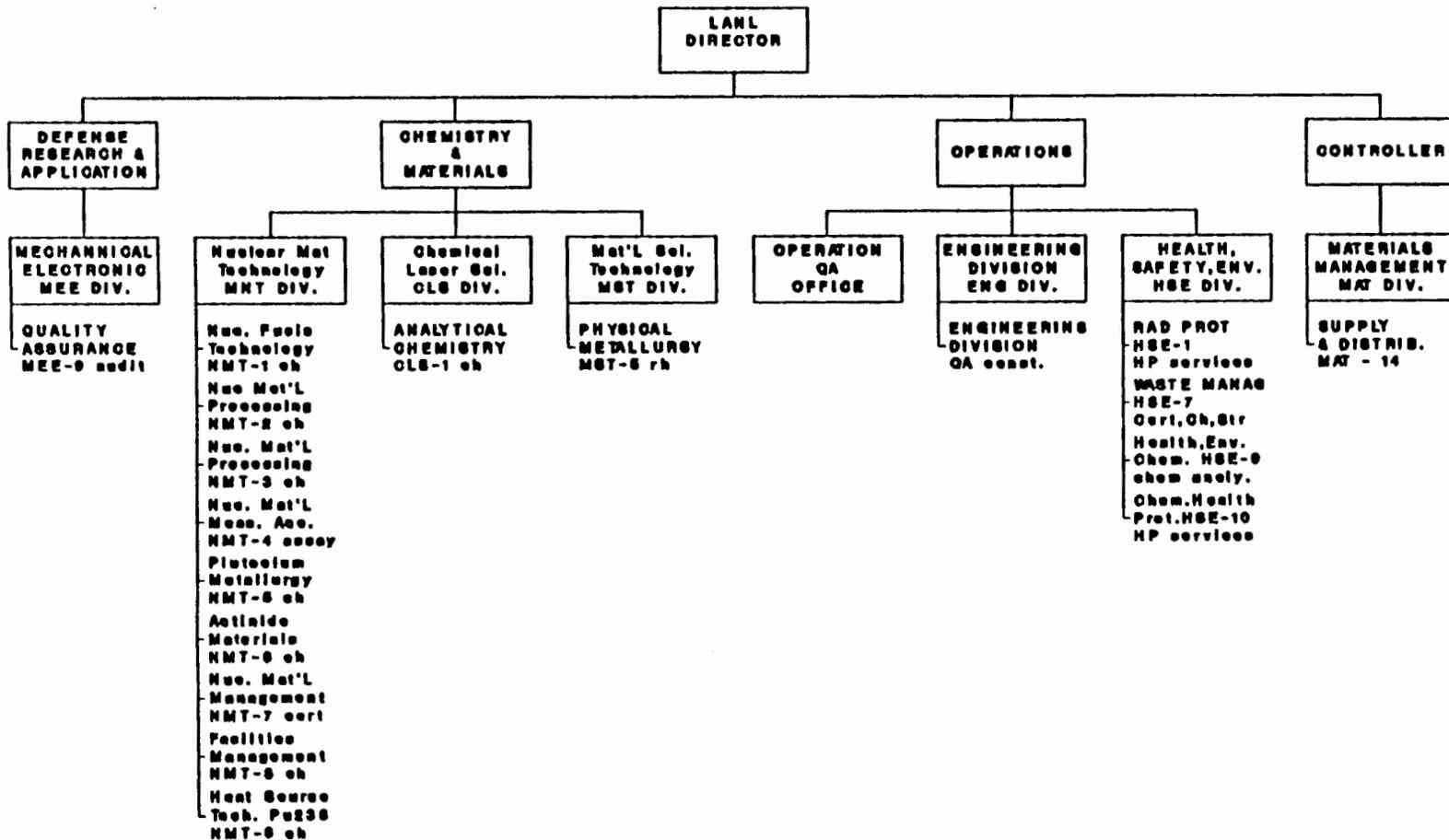
WHERE ADDRESSED

- 5.0 Requires marking of the waste package.
- 8.1.3 Requires forms and procedures from subsequent waste processors.
- 9.2.1 Requires a detailed organization chart.
- 9.2.2 Requires a waste description and content code.
- 9.2.3.1 Requires a flow chart and/or waste stream description.
- 9.2.3.1 Requires a listing of packaging to be used.
- 9.2.3.1 Requires copies of forms to be used.
- 9.2.3.1 Requires a list of references.
- 9.2.3.2 Requires a listing of waste form compatibility with the WIPP waste acceptance criteria.
- 9.2.3.3 Required a method for handling nonconforming waste packages.
- 9.2.4.1 Requires a definition of the contents of the waste generator's data package.
- 9.2.4.4 Requires a method for handling nonconforming data packages.
- 9.3 Requires personnel training and documentation of that training.

SIMPLIFIED LANL Organization

APPENDIX G

ORGANIZATIONAL CHARTS



APPENDIX G

ORGANIZATIONAL CHARTS (CONTINUED)

SIMPLIFIED
ITRI ORGANIZATION

