ORNL/TM-13288
Revision 7

WASTE CERTIFICATION PROGRAM PLAN

for

UT-BATTELLE, LLC

at

OAK RIDGE NATIONAL LABORATORY

November 2001

Prepared by the
ORNL/UT-Battelle Waste Certification Program

UT-Battelle, LLC
Oak Ridge, Tennessee

Prepared for the U.S. Department of Energy
under U.S. Government contract DE-AC05-00OR22725

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ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
CH	Contact-Handled
DOE	U. S. Department of Energy
DOT	U.S. Department of Transportation
ESH&Q	Environment, Safety, Health, & Quality
EPWS	Environmental Protection and Waste Services
GI	Generator Interface
GIE	Generator Interface Equivalent
IP	Implementing Procedures
L_D	Detection Limit
TPM	Transportation and Packaging Management
LWS	Laboratory Waste Services
LS	Logistical Services
NDA	Non-Destructive Assay
NDE	Non-Destructive Examination
NRA	No-Radioactivity-Added
ETP	Environmental Technology Programs
ORNL	Oak Ridge National Laboratory
PCB	Polychlorinated Biphenyl
PK	Process Knowledge
QA	Quality Assurance
QAC	Quality Assurance Coordinator
QAS	Quality Assurance Specialist
QSD	Quality Services Division
RCRA	Resource Conservation and Recovery Act
RFD	Request for Disposal - - [generic term for current form set used to Document Waste Information (e.g., 2109 form set)]
RH	Remote-Handled
RMMA	Radioactive Materials Management Areas
RSS	Radiological Support Services
RTR	Real-Time Radiography
RWMB	Radioactive Waste Management Basis
SLLW	Solid Low-Level Waste
SME	Subject Matter Expert
TID	Tamper Indicating Device
TRU	Transuranic Waste
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, and/or Disposal
TSDF	Treatment, Storage and/or Disposal Facilties
UT-Battelle	UT-Battelle, LLC
WAC	Waste Acceptance Criteria [generic term for any type of acceptance requirements (e.g., Master Waste Profiles)]

ACRONYMS AND ABBREVIATIONS (continued)

WCO	Waste Certification Official
WCP	Waste Certification Program
WCPP	Waste Certification Program Plan
WID	Waste Item Description
WMIF	Waste Management Issues Forum
WSPS	Waste Stream Profile Sheet

ABOUT THIS REVISION

The primary changes that have been made to this revision reflect the relocation of the Waste Certification Official (WCO) organizationally from the Quality Services Division (QSD) into the Laboratory Waste Services (LWS) Organization. Additionally, the responsibilities for program oversight have been differentiated between the QSD and LWS. The intent of this effort is to ensure that those oversight functions, which properly belonged to the WCO, moved with that function; but retain an independent oversight function outside of the LWS Organization ensuring the potential for introduction of organizational bias, regarding programmatic and technical issues, is minimized.

The Waste Certification Program (WCP) itself has been modified to allow the waste certification function to be performed by ***any*** of the personnel within the LWS Waste Acceptance/Certification functional area. However, a single individual may not perform both the technical waste acceptance review and the final certification review on the same 2109 data package. Those reviews must be performed by separate individuals in a peer review process. There will continue to be a designated WCO who will have lead programmatic responsibility for the WCP and will exercise overall program operational oversite as well as determine the overall requirements of the certification program. The quality assurance organization will perform independent, outside oversight to ensure that any organizational bias does not degrade the integrity of the waste certification process.

The core elements of the previous WCP have been retained, however, the terms and process structure have been modified.. There are now two "control points," 1) the data package enters the waste certification process with the signature of the Generator Interface/Generator Interface Equivalent (GI/GIE), 2) the package is "certified", thus exiting the process. The WCP contains three steps, 1) the technical review for waste acceptance, 2) a review of the packaging and labeling (the old *Control Point 3*), and 3) programmatic review and certification. The signature of the individual performing the certification review resulting in certification of the package constitutes *Control Point 2* in the revised process.

(***Please Note:*** At the time of publication, several ORNL procedures referenced herein, were being converted into their appropriate Standards-Based Management System Subject Area.(SBMS). Please check SBMS (http://eshtrain.ct.ornl.gov/sbms/) if they do not appear as referenced in the text of this document.)

1. PURPOSE

This document defines the WCP, developed and implemented by UT-Battelle, LLC (UT-Battelle) at Oak Ridge National Laboratory (ORNL). The WCP applies to all UT-Battelle personnel, its subcontractors, guests, and visitors that do work at ORNL. This program does not include wastes generated by other U.S. Department of Energy (DOE) prime contractors, their employees, or their subcontractors working on this site except by special arrangement. The document describes the program structure, logic, and methodology for certification of UT-Battelle wastes. The purpose of the WCP is to provide assurance that wastes are properly characterized, that adequate information is provided to enable correct U.S. Department of Transportation (DOT) classification, and that the programmatic certification requirements and the Waste Acceptance Criteria (WAC) for receiving organizations/facilities are met. The program meets the waste certification requirements outlined in DOE Order 435.1, *Radioactive Waste Management* including the generator responsibilities as defined in UT-Battelle's Radioactive Waste Management Basis (RWMB), and the *DOE Performance Objective for Certification of Non-Radioactive Hazardous Waste* (DOE, February 1995), and ensures that 40 Code of Federal Regulations (CFR) documentation requirements for waste characterization are met for mixed (both radioactive and hazardous) and hazardous [including polychlorinated biphenyls (PCBs)] waste. Program activities are conducted according to SBMS.

Requirements for managing radioactive and mixed wastes are established in DOE Order 435.1, *Radioactive Waste Management* and specifically addressed for UT-Battelle in the associated RWMB. As part of the Order, heads of DOE field organizations are assigned the authority to establish waste management requirements for waste-receiving facilities under their jurisdiction. The development of WACs is one of the requirements specified by the Order for appropriate management of radioactive and mixed wastes generated by DOE operations. The Order also specifies that each generator of waste will implement a WCP for low-level transuranic and mixed wastes to provide assurance that the WACs of the receiving facilities are met. Generators of waste and the waste receiving organization are independently responsible for their actions in ensuring compliance with the receiving organization WAC.

In addition to the DOE Order requirements, DOE has mandated that no mixed wastes be shipped off-site to a facility unless it is licensed for receipt of the radioactive component of the waste. As a result, DOE sites are required to implement a program to ensure that (1) DOE activities added no measurable radioactivity, within statistical limits, to hazardous waste and (2) hazardous waste meets the DOE Order 5400.5 surface contamination guidelines. These requirements are described in the *Performance Objective for Certification of Non-Radioactive Hazardous Waste* (DOE, February 1995). The NRA process described in this *Waste Certification Program Plan* (WCPP) meets these requirements. Effective December 30, 1997, the NRA process described in this WCPP replaced ORNL/TM-13189, *Oak Ridge National Laboratory Program Plan for Certification of Nonradioactive Waste* and ORNL-WM-002, *Certification of Nonradioactive Hazardous Waste - ORNL*.

Finally, the regulations implemented under the Resource Conservation and Recovery Act (RCRA) and the Toxic Substances Control Act (TSCA) require accurate characterization of wastes such that development of a WCP for hazardous and toxic wastes is a responsible management practice.

2. SCOPE AND LIMITATIONS

UT-Battelle waste types covered under this program are solid low-level waste (SLLW); transuranic (TRU) waste (including TRU mixed waste); hazardous waste, including both RCRA hazardous waste (40 CFR 261B268) and PCB waste (40 CFR 761); mixed waste and industrial and sanitary wastes destined for landfill disposal. Both TRU wastes and SLLW wastes containing PCB, asbestos, or other such regulated toxic components must be managed in accordance with requirements derived from the TSCA and DOE Order 435.1 (including the 435.1 Manual), and are therefore included in the scope of this WCPP. Asbestos waste, and asbestos mixed with both PCB and RCRA hazardous waste, are also included in the WCPP scope. Requirements for management of these wastes have been incorporated into three UT-Battelle implementing procedures (IP) and one (UT-Battelle) SBMS Subject Area. The IPs used by this program are ORNL-WC-006 for SLLW, ORNL-WC-007 for TRU and TRU mixed wastes, and ORNL-WC-005 for hazardous and mixed waste. Sanitary/Industrial waste are addressed in the SBMS Environmental Management Subject Area: "*Sanitary/Industrial Waste, management of*."

Hold-For-Decay wastes are included in the WCP and are managed in accordance with the SBMS Environmental Management Subject Area: "*Hold-for-Decay Requirements.*". NRA determination requirements apply to hazardous and PCB wastes destined for commercial treatment, storage, or disposal that are not licensed to handle radioactivity.

With respect to applicability of this program to the ORNL facilities located at the Y-12 site, the following general guidance applies:

- Sanitary/Industrial waste and waste packages are to be processed in accordance with Y-12 contractor's requirements defined in Bechtel Jacob, LLC (BJC) IP, WM-A-2001, "*Generator Requirements for Transferring Waste*", Rev. 1. This waste stream is handled entirely by Y-12 staff.

- RCRA/TSCA wastes and non-regulated chemical wastes must be processed through the UT-Battelle WCP.

- Wastes that contain any radioactive components (e.g., mixed, SLLW, etc.) must be processed through the UT-Battelle WCP. [NOTE: This includes certification documentation packages for containerized wastewater targeted for treatment/disposal at any Y-12 wastewater treatment facility.]

A listing of waste types ***not*** included under this Program and pertinent information of other management/acceptance requirements may apply are as follows:

- Storm Water, Coal Yard Runoff, Other Non-Radioactive Wastewaters - (Management of) these wastes is covered under SBMS Subject Area: *"Managing Wastewater."*

- Air Emissions - (Air emissions management requirements are covered under ORNL-EP-P02)

- Radioactive Liquid wastes treated at the ORNL Liquid Low-Level and Process Waste treatment facilities - (Transfer of these wastes to the treatment/disposal contractor is covered by WAC for ORNL Liquid Treatment Systems, OEMP-WC-100)

- ORNL Radioactive Gaseous/Vapor Emissions - (Transfer of these wastes to the treatment/disposal contractor is covered by Gaseous WAC for the Central Radioactive Gaseous Disposal Facility - Building 3039 at ORNL (BJC/OR-915) - (**NOTE**: *DRAFT* version)

- Spent nuclear fuel is not considered waste and is therefore not included in the WCP

- Recyclable materials that are not hazardous waste regulated under RCRA, 40 CFR 261-268 - [Free release of these type materials (e.g., used oil, silver sludge, fluorescent bulbs, etc.) is addressed under ORNL Release of Material, ORNL-RP-420].

- Materials qualifying for reuse under the SBMS Subject Area: Environmental Management "*Pollution Prevention*" (ORNL-WM-004).

Affirmation that the industrial and sanitary waste destined for landfill disposal meets the requirements of the receiving organization's WAC is accomplished through implementing the actions defined in the SBMS Subject Area: Environmental Management: "*Sanitary/Industrial Waste, Management of* " and verifying (when applicable) that those actions have been executed by signature of an Environmental Protection (EP) representative on the Request for Disposal (RFD) form submitted with the waste. Note, however, that the WCP quality assurance/oversight activities and method for determining the WAC, which are described later in this document for the other waste types, are also applicable to the industrial and sanitary wastes.

3. BASIC CERTIFICATION PROGRAM REQUIREMENTS

DOE M 435.1-1, *Radioactive Waste Management Manual*, requires development, review, approval, and implementation of a program for waste generation planning, characterization, certification, and transfer. All of these aspects are covered by this WCPP and its implementing procedures. The document further explicitly states that a waste certification program will be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic and low-level wastes for storage, treatment, or disposal are met. The manual defines the type of records that are to be maintained for SLLW and TRU waste. It

also references the requirements for implementing waste minimization programs - including proper waste segregation. Wastes are to be characterized with sufficient accuracy as to permit proper segregation, treatment, storage, and disposal.

UT-Battelle's WCPP meets each of the above defined elements associated with waste certification. Waste minimization requirements are implemented under a separate program (see **4.3.2 Scope and Limitations**). The process begins with proper waste segregation, includes steps to provide for accurate characterization by the generator, and includes generator and LWS defined steps (i.e., control points) to ensure that the waste will meet the WAC of the receiving organization. Verification of the WCP is maintained through an overarching quality assurance function. Figure 1, *Schematic of Waste Certification Process*, illustrates the overall process. UT-Battelle generators and generator support (which includes GI/GIEs, Waste Acceptance/Certification Coordinators, and the UT-Battelle WCO) are jointly responsible for assuring compliance with the WAC. The generator is responsible for meeting the requirements of the WAC and generator support is responsible for verifying the generator data and packaging, as well as certifying the final data/waste package to the receiving organization's WAC. UT-Battelle generators retain the overall responsibility for their waste until it is programmatically certified and accepted by the receiving organization. Satisfaction of programmatic quality assurance (QA) requirements is achieved through compliance with *ORNL-QA-PO1* for non-nuclear/radiological facilities and *SBMS Subject Area, Nuclear Quality Assurance Program* for nuclear and radiological facilities. Amplification of particular elements within these procedures is included in Section 7, 8, 9, and 10 of this document.

The *DOE Performance Objective for Certification of Non-Radioactive Hazardous Waste*, issued in 1995, requires criteria and procedures aimed at determining if there is a measurable increase in radioactivity above background from DOE operations. This may be done by either process knowledge, surface contamination surveys, sampling and analysis (radioassay), or by a combination of these techniques.

UT-Battelle's WCP meets the NRA requirements identified in the Performance Objective. NRA determination is made by process knowledge (PK), surface surveys, sampling and analysis (radioassay), and/or a combination of these methods.

State and federal regulations implemented under RCRA and TSCA mandates 1) accurate characterization of wastes, 2) certification of waste information identified on manifests, 3) certification that a waste minimization program is in place, and 4) RCRA mandated certifications for land disposal restricted wastes. These mandated certifications are imposed jointly on both the generator and the treatment, storage, disposal facilities (TSDF). Required records (waste generation, tracking, and certifications) for both generators and TSDF are identified in the these regulations.

UT-Battelle's WCP meets each of the above defined elements related to waste certification based on waste characterization. For UT-Battelle, the WCP provides: (a) steps to ensure the basic information needed (i.e., generator waste characterization) to comply with RCRA and TSCA will be collected and maintained and (b) establishment of means to ensure the accuracy of that information (i.e., the certification process).

Hence, the *DOE Performance Objective for Certification of Non-Radioactive Hazardous Waste* and regulatory standards related to waste certification are being met by the UT-Battelle WCP.

4. PROGRAM DESCRIPTION

4.1 PROGRAM ELEMENTS

UT-Battelle's WCP is designed to meet applicable DOE orders, DOE NRA Performance Objective, and regulatory requirements through development or use of existing program documents and *ORNL SBMS Subject Areas*.. Figure 2, *UT-Battelle Waste Certification Program Elements*, illustrates the elements of this program. The elements include program drivers (requirements identified in Section 3); the *Waste Certification Program Plan* (this document); WAC, and Implementing Procedures (as described in Section 4.1.1); the generator support function (Section 4.1.2) and the UT-Battelle WCO (Section 4.1.3). This program has been designed to ensure compliance and provide flexibility in meeting the acceptance requirements of the waste receiving organization(s).

4.1.1 Program Documents

The waste receiving organization's WAC documents are developed (and controlled) to specify requirements that must be met for their acceptance of each waste type (or sub-type). WAC documents typically specify the necessary characterization, physical constraints, packaging, labeling, prohibited items, and documentation requirements that must be met. The process for physically transferring certified waste and their data packages to the receiving organization may be defined in either the WAC documents or a separate document specifically prepared by the receiving organization for that purpose. The process for requesting deviations or variances from the WAC or transfer requirements may be addressed in either or both types of documents.

The applicable WAC and waste transfer documents for UT-Battelle wastes are provided, by waste type, in the *WAC and Waste Transfer Requirements Index* located on the web at UT-Battelle's WCP Home Page: *http://_nt_server_3/wmdireccerf/Home%20Page/Default.htm.* The index specifies, for each waste type, the applicable WAC and transfer requirements document identification, revision, effective date at UT-Battelle, and web location (if any).

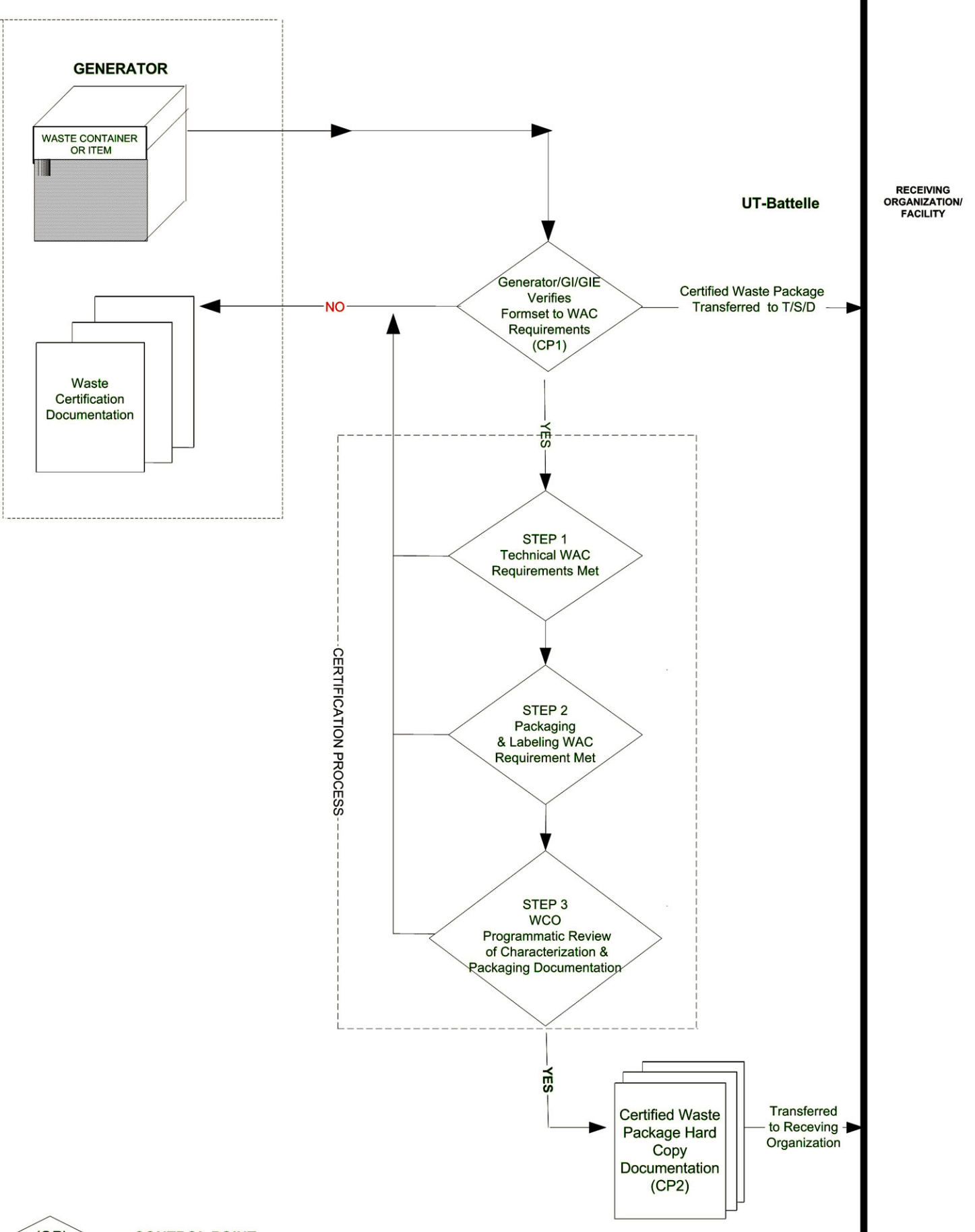

Fig. 1. Schematic of Waste Certification Process.

4.1.1 Program Documents (continued)

Waste generator implementing procedures have been issued to provide waste generators with specific instructions to meet the receiving organization's WAC. These procedures describe, for example, when and how PK can be used to characterize a waste. They describe the methods by which generators would properly characterize, segregate, package, and label waste. These procedures can be accessed on the web at the *UT-Battelle WCP Home Page*.

- HAZ/MIXED (ORNL-WC-005)
- SLLW (ORNL-WC-006)
- TRU (ORNL-WC-007)

The following guidance documents have been issued to support generators in meeting characterization requirements and are available on the UT-Battelle WCP Home Page.

Radiological Characterization Plan for Solid Low-Level Waste (ORNL-WC-507)
Guidance on No-Radioactivity-Added Characterization for Hazardous and PCB Waste at ORNL (WM-SWO-407).

4.1.2 Generator Support Function

The generator support element of the WCP consists of three principal groups:

1) generator interface, 2) waste acceptance and 3) waste handling that provide generator support (and WCP verification functions), waste data verification, and waste package field verification.

The generator support element of the WCP provides expert waste management support to UT-Battelle divisions. This support is provided by a core team consisting of waste management experts assigned to generator locations. The team members are either LWS generator interface (GI) staff or assigned divisional staff [referred to as GI equivalents (GIEs)]. Roles and responsibilities of the GI/GIE are to provide assistance to the waste generators with waste categorization, characterization, packaging, and request for disposal (RFD) preparation. Waste types include radioactive, hazardous, mixed, and TSCA (PCB). Sanitary/Industrial waste and recyclables do not require GI/GIE involvement, but may be included in work scope as requested by divisions. GI/GIE personnel review the waste data package, perform random verifications of contents prior to closure, and verify that the waste has been properly characterized, packaged, and accurately documented, by signing the RFD form. The signature of a GI/GIE is required on every RFD confirming that the waste meets the applicable WAC. GI/GIE support is required for preparation of all waste packages. By utilizing a core team (GI/GIE) of waste management experts, regulatory requirements for accurately characterizing and packaging waste are efficiently satisfied.

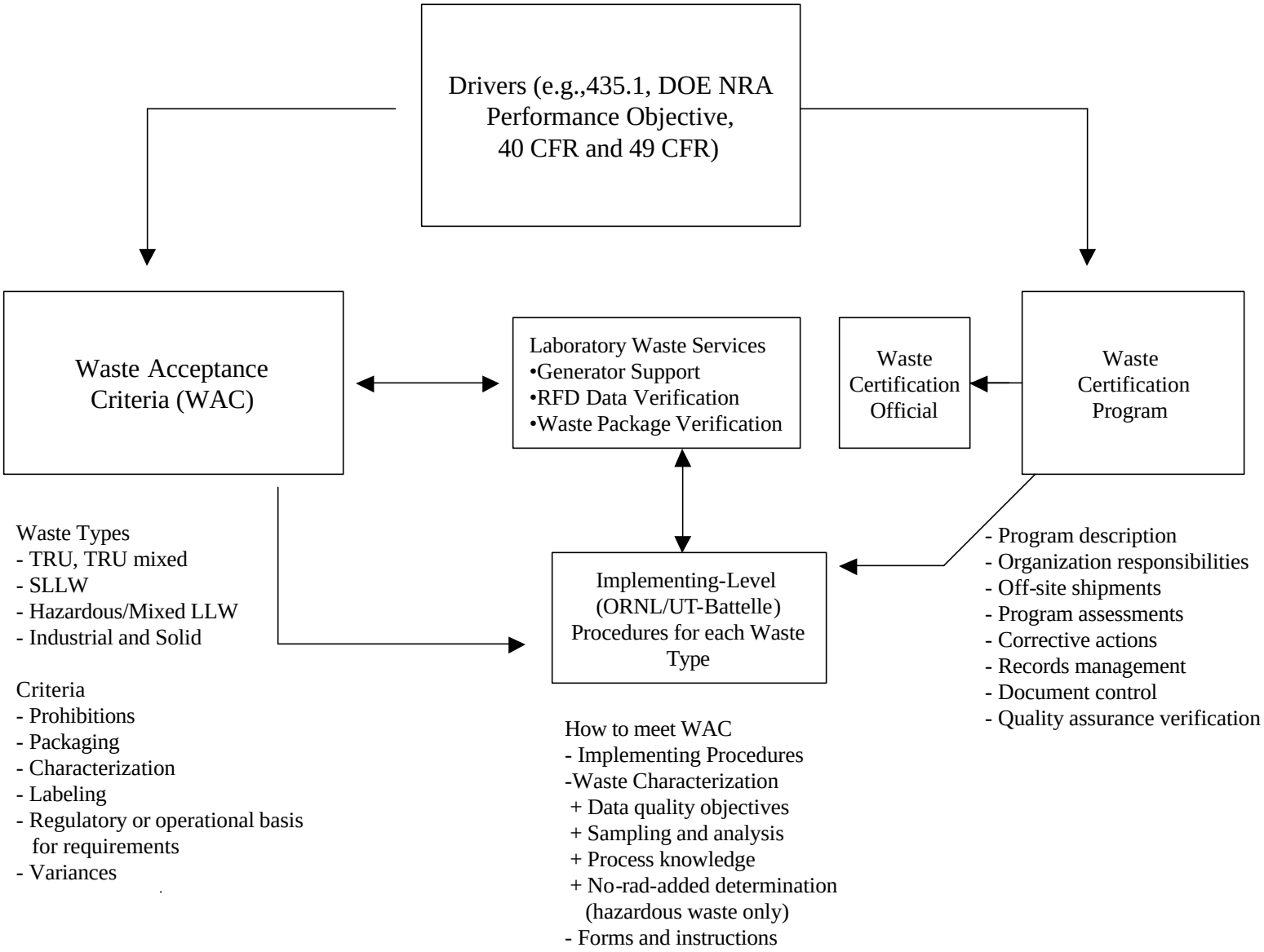

Fig. 2. UT-Battelle Waste Certification Program Elements.

4.1.2 Generator Support Function (continued)

GI personnel are assigned to generators on the basis of the level of support required and the types of waste generated. GI personnel, as a minimum, will review the waste characterization methods and sign RFD forms. GIs are available to provide other required divisional waste management responsibilities such as: 1) assisting with waste characterization; 2) PK and Waste Stream Profile Sheets (WSPS); 3) document preparation, packaging, and completion of the Request for Disposal (RFD) form(s); 4) assisting with or managing waste accumulation areas; 5) assisting with pollution prevention, waste minimization, recycle/reuse; 6) and supporting audits and assessments.

GIEs provide the same types of services as GIs and are programmatically matrixed to the LWS organization; however, the GIEs provide services primarily within their own organization and only within the limits of their specific waste type training, (e.g., solid low-level).

Both GIs and GIEs are required to meet specific qualification and training standards to be eligible for these roles and responsibilities (see Section 6). GIs are trained on all UT-Battelle waste types, whereas, GIE qualification and training may be limited to the specific waste types the GIEs will be handling. New GI/GIE personnel must demonstrate prerequisite qualifications and complete the requisite training. All GIs and GIEs are members of the Generator Interface Group, which has periodic meetings to communicate lessons learned, share information, and receive continued training on specific topics.

UT-Battelle divisions have the option of selecting and training their respective division staff or requesting that an LWS GI be assigned to serve in the GI function. However, waste-generating divisions must utilize a GI or GIE as the verifier ("verification officer") of waste forms and confirmation (including verification checks) that the waste meets the applicable WAC as well as providing for the signature at *Control Point 1*.

The waste data verification element of the WCP is provided by Waste Acceptance Coordinators. This staff is qualified by training and experience to perform expert review of the waste characterization data and packaging information provided via the RFD. The signature of a Waste Acceptance Coordinator is required on every Waste Pickup Request (WPR) to indicate that the waste and packaging meet the acceptance requirements of the receiving organization. The Waste Acceptance Coordinators also provide advisory services in a subject matter expert (SME) role to generators and GI/GIE staff on unique wastes and situations and may perform the final certification of a waste data package that has been technically reviewed by another Waste Acceptance Coordinator.

The waste package field verification element of the WCP is provided by waste handling group. This group is qualified by training and experience to evaluate the acceptability of certain features of packaged waste in the field. The signature of a waste handler is required on a checklist contained in the data package to verify that a field review has been completed on every waste package and to indicate (within the limits of the review) that the package(s) meets the requirement of the receiving organization.

4.1.3 UT-Battelle Certification Function

The formal UT-Battelle waste certification element of the WCP is contained within LWS. Ths waste certification element is performed by personnel authorized by UT-Battelle to certify waste to a receiving facility/organization WAC and act as the WCO. This position is qualified by training and experience to accurately assess the certification status of wastes intended for transfer to the receiving organization. Based on a satisfactory review of the data verification and field review activities, coupled with any supplementary review deemed prudent, the WCO certifies for UT-Battelle (as the corporate "generator") that the waste and waste packaging meet the receiving organization's WAC by signing the certification statement on the RFD.

4.2 CERTIFICATION PROCESS

In the most elementary view, the WCP consists of generator support staff trained in waste management verifying at one control point and three certification process steps. This verification certifies that the characterization and packaging of waste items to be transferred comply with the receiving organization's WAC, followed by a formal certification (via the designated personnel to certify) that the packaged wastes meet the acceptance requirements of the receiving organization/facility which comprises the second and final control point. Note that, due to the nature of research-generated waste, the certification process is often based on waste items as opposed to waste containers. There are, however, instances where characterization and certification are applied to waste containers. Regardless of whether the objects to be certified are waste items or waste containers, the same basic certification process is employed.

4.2.1 Control Points and Certification Process Steps

To comply with DOE Order 435.1, the certification of waste is accomplished through the joint efforts of waste generators, generator support personnel, and a UT-Battelle designated certifying authority. The waste certification process requires:

> *Control Point 1*: Generators/GI/GIE to declare that the waste classification, characterization, and packaging meet the requirements of the appropriate WAC and indicate by signature that WAC requirements have been satisfied;

Satisfaction of *Control Point 1* submits the waste data package into the three step certification process.

> *Step 1 - Certification Process*: The first step of the waste certification process involves the Waste Acceptance Coordinators verifying, through technical review of waste documentation, that the waste and packaging meet the applicable WAC;
>
> *Step 2 - Certification Process*: Requires waste handlers to verify, through a field check, that waste packaging and labeling meet the applicable WAC;

Step 3 - Certification Process: Requires that Waste Acceptance Coordinators verify, through document review, all certification programmatic requirements have been satisfied.

Note: Waste must successfully pass through *Control Point 1* and all three *certification process* steps prior to being formally certified by a designated certifying authority at *Control Point 2*.

Assuming the review results are satisfactory, a *designated certifying authority** reviews *Control Point 1* documentation and steps 1-3 of the Certification Process

Control Point 2: Is executed by signing a certification statement that the waste meets the receiving organization's acceptance requirements. Waste then becomes certified and released for transfer ***only*** after the RFD certification statement is signed by a UT-Battelle designated certifying authority.

The program lead WCO is responsible for resolving instances where it appears that the WAC requirements cannot be met.

Waste certification, including NRA determination for hazardous waste, is implemented through the process identified in Fig. 3, *Certification Activities*, and Fig. *4, NRA Determination.* The generator/GI/GIE characterizes and ensures that 1) the waste is packaged to meet the WAC; 2) establishes and maintains access control (e.g., locked room or cabinet) to preclude incorrect addition or removal of package/container contents; and 3) completes/signs the required waste RFD forms. The signature of the actual generator is optional. **NOTE**: the actual generator (or the person within the UT-Battelle organization) sponsoring the work who is most knowledgeable of the waste characteristics at the time the waste is generated, will be identified as the generator on the RFD form. The signature of the GI/GIE on the RFD as verification officer is ***mandatory***. This serves as the first process control point (characterization and documentation completed). This includes the NRA determination for hazardous waste. WCP provides controls for ensuring compliance with the appropriate WAC.

The first *Certification Process* step is the review of the RFD forms and supplementary documents (PK, WSPS, analytical, etc.) supplied by the generator/GI/GIE and verification by LWS that applicable WAC requirements have been met. Certification process *Step 1* verification is indicated on the RFD Waste Pickup Request by the signature of the Waste Acceptance Coordinator who performed the paperwork verification.

(* a Waste Acceptance Coordinator who did ***not*** perform *Step 1* of the certification process/technical review)

Step 2 of the second certification process, includes a routine field inspection of the waste package (to the extent safe work practices are followed in the field) to verify the waste package meets the WAC. Certification process *Step 2* verification is indicated by the signature on the requisite checklist of the waste handler who performed the verification.

Step 3 of the Certification process step involves verification that the requisite programmatic requirements have been satisfied and the package is ready to be certified. The certification signature by a designated certifying authority provides the verification that programmatic requirements are satisfied and the package is certified. The signatures of the GI/GIEs and *Certification Process* Steps 1, 2, 3 and certification verifiers denote accountability for these process steps. The specific meaning of the signatures is provided in Attachment A, *Meaning of Signatures.* [Note: "Electronic Approval" of WCP forms by *Control Points 1,* and *Certification Process* step 1-2 verifiers is equivalent to their written signature.]

4.2.2 Error Handling

In general, waste that does not meet WAC requirements can be rejected at either control points 1 or 2, any of the three Certification Process steps, or by quality assurance (QA) validation check (see Section. 4.6). When waste is rejected, generator support staff/certifying authority communicates with the generator regarding the problem(s), and the generator is then responsible for correcting the problem. In addition, information related to the waste rejected (e.g., generator, GI/GIE, waste type, reason for rejection) is documented for trending, tracking, and programmatic evaluation. More specific information on error handling is provided in the following paragraph.

Control point reviews and certification process step reviews can result in the identification of errors. The existence of errors does not automatically cause the rejection of a waste package. The severity of the errors may range from simple typographical mistakes that cause no impact on the waste characterization to serious mistakes that cause misclassification of wastes and/or mistakes in packaging. Typical errors identified during the control point /Certification Process step reviews are listed in Table 1. Table 1 also indicates typical notification and resolution actions for the most common error types.

Tracking, trending, and evaluation of errors at Control Point 1 or 2, Certification Process Steps 1-3, and any subsequent determination of needed corrective actions are a function of the LWS self-assessment program.

Tracking, trending, and evaluation of errors that cause rejection of certified waste by a receiving organization are performed by the lead WCO. Determinations of needed corrective actions based on these error evaluations can result in a suspension of certification activities for part or all of the WCP until the corrective actions are implemented.

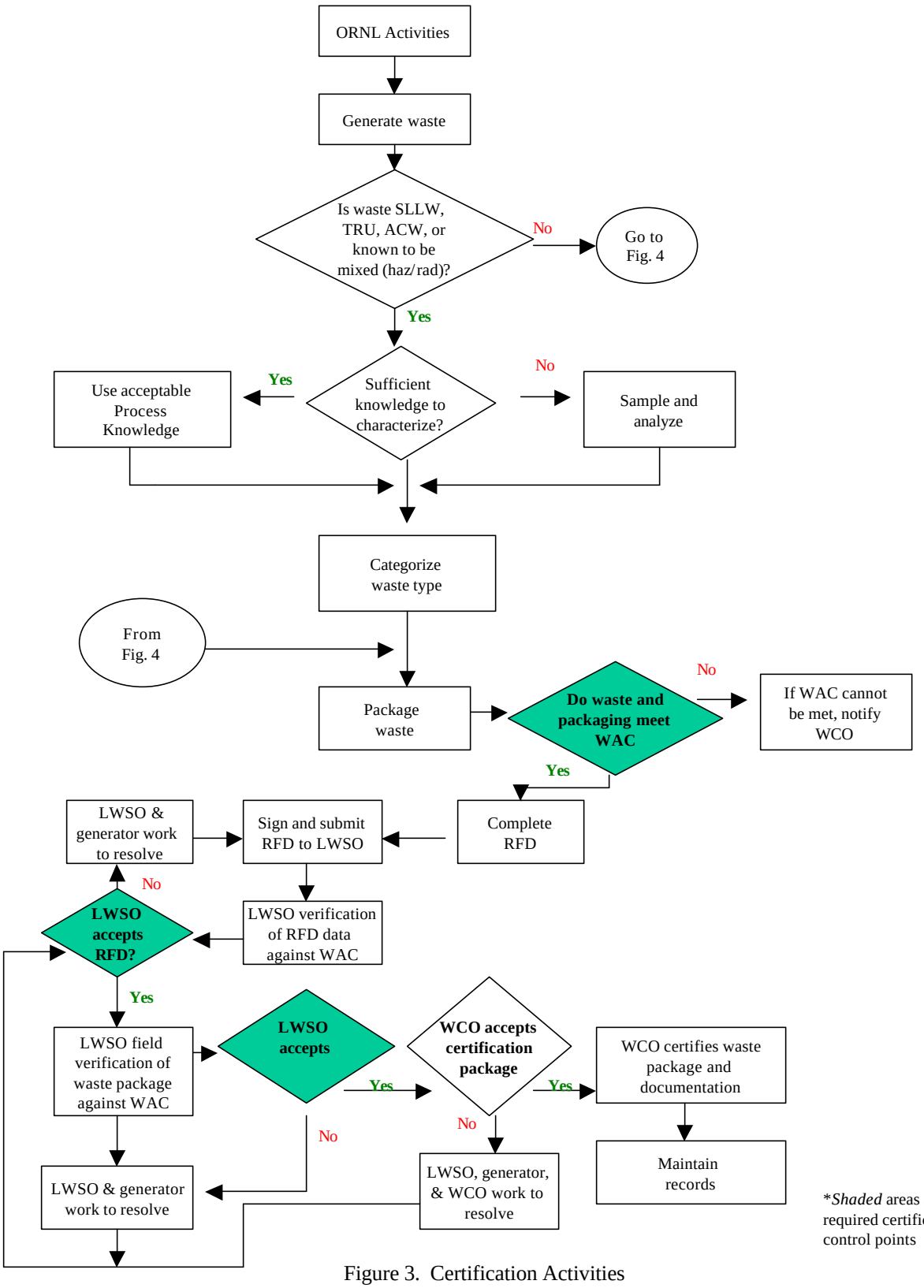

Figure 3. Certification Activities
(QA verification activities not shown)

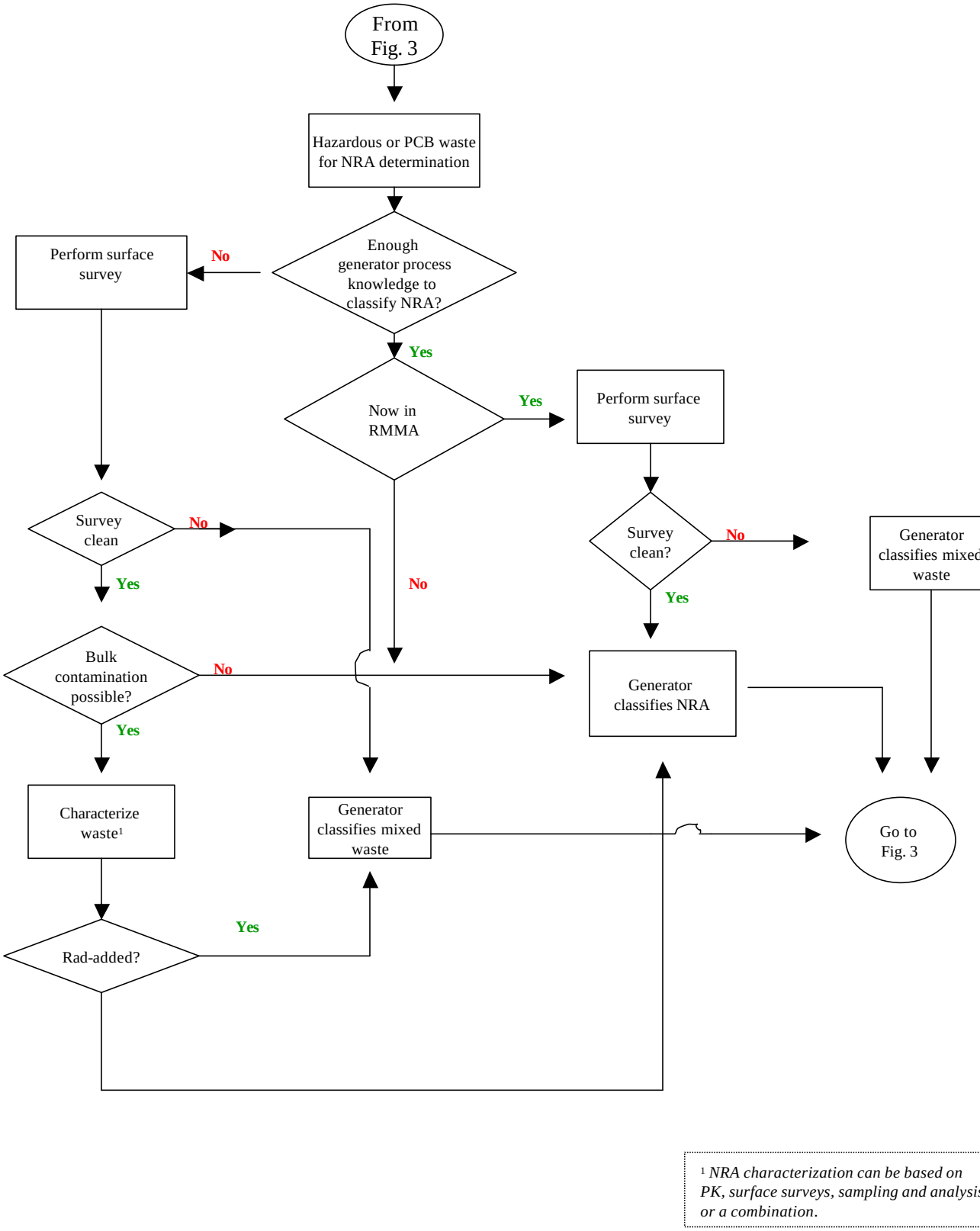

Figure 4. NRA Determination

4.3 NRA DETERMINATION FOR HAZARDOUS WASTE

4.3.1 Introduction

NRA determination is one of the requirements in the WAC for hazardous waste to be shipped to an off-site commercial TSD facility that is not licensed to handle radioactivity. The requirement is mandated by the *DOE Performance Objective for Certification of Non-Radioactive Hazardous Waste* issued in 1995. The decision to pursue an NRA determination for a hazardous waste package is based on having adequate and appropriate PK for the package or on the amount of analysis required to make a determination. Analysis beyond that which is required to meet WAC or analytical expenditures that are not cost-effective based on the type and volume of waste are neither required nor desirable. NRA determinations will be based on documented PK, surface surveys, sampling and analysis or a combination of these methods. Hazardous waste that does not qualify for NRA will be classified as mixed waste.

4.3.2 Scope and Limitations

NRA classification requirements apply to hazardous waste as defined in 40 CFR 261-268 and Tennessee (TN) Rule 1200-1-11-.01 to .10 as RCRA regulated and waste defined by 40 CFR 761 as TSCA-regulated. Recyclables including used oil, silver sludge, and fluorescent bulbs are specifically excluded from the NRA determination process under this plan, but are subject to ORNL Procedure, ORNL-RP-420 for free release of materials. Hazardous waste is eligible for NRA evaluation when there is no evidence that would indicate that the waste has radioactivity added resulting from DOE operations.

4.3.3 NRA Determination Process

Generator determination of adequate PK is the first step in the process (Figure 4). If adequate PK exists, classification of waste as NRA requires only documentation of the PK by the generator [and a surface survey if the waste is being removed from a Radioactive Materials Management Area (RMMA)]. If adequate PK does not exist, a surface survey and/or sampling and analysis is required. Certification Process control points and Certification Process step reviews are incorporated into the NRA process by reviewing the generator RFD forms to ensure that the documentation, including the PK and any analytical results, is sufficient for making the NRA determination.

The NRA determination process allows maximum use of any PK that exists for a waste item. Generators are encouraged to collect and document as much PK information as possible about the material while it is being used, generated, and stored. PK is useful in two ways. First, with sufficient PK, wastes can be classified as NRA without additional sampling and analysis (although a surface survey is required per DOE Order 5400.5 and 10 CFR 835 if the waste is exiting an RMMA). Second, if PK is insufficient to classify the waste as NRA, the information may be used to limit the analysis that would be required for NRA classification or mixed waste characterization. Guidance on what constitutes adequate PK for NRA has been issued in WM-

SWO-407, *Guidance on No-Radioactivity-Added Characterization for Hazardous and PCB Waste at ORNL*.

Sampling for NRA determination is conducted using WCP-approved methodologies and criteria (see procedure ORNL-WC-005, *ORNL Compliance with Hazardous, PCB, and Low-Level Mixed Waste Acceptance Criteria*). This procedure designates the requirements for sampling, sample management, and who can do the sampling [generator, EP, etc.]. Sampling is conducted only as required to provide information necessary to classify the waste as NRA.

The analytical protocols that can be used for NRA determination address the majority of UT-Battelle NRA wastes. These protocols are based on best-available and affordable technology (including appropriate screening methods) and the ability of the method to distinguish added radioactivity in the sample. Acceptable methods must meet established criteria based on sample size, background, efficiency, and count time, or have demonstrated equivalency (on a case-by-case basis approved by the WCO).

Interpretation of analytical data is based on the Curie method of determining the detection limit (L_D) on a per sample basis. This method is used to ensure a maximum 5% probability of false positives and negatives in a single measurement. Analytical results below L_D qualify as NRA. Sample results above L_D are declared mixed waste, or are eligible for a second sample and/or re-analysis at the generator's option. Items containing or suspected to contain naturally occurring radioactivity or radioactive material as received are evaluated on a case-by-case basis for NRA determination by PK. Use of other protocols requires approval by the WCO based on demonstrated equivalency. Approval by the WCO of other protocols for determining NRA status may involve the use of outside subject matter expertise and subsequent recommendations for approval/disapproval provided to the WCO for consideration by those reviewers.

Guidance on sufficient PK, sampling, analysis, and interpretation is provided in *Guidance on No-Radioactivity-Added Characterization for Hazardous and PCB Waste at ORNL* (WM-SWO-407).

4.3.4 Radioactive Materials Management Area Designation

Under this program plan, generators are responsible for identifying their RMMAs per ORNL Procedure ORNL-RP-420. For UT-Battelle, RMMAs are: (1) contamination areas, high contamination areas, and airborne radioactivity areas; (2) radiological buffer areas established for contamination control; and (3) areas posted to prevent loss of control of activated items. At UT-Battelle, generators are responsible for characterizing the wastes generated in their RMMAs. The WCP does not track or maintain lists of UT-Battelle RMMAs because areas change status over time. The Radiological Support Services (RSS) organization can provide information on the location of RMMAs.

4.3.5 NRA Certification for Hazardous Wastes

Under the WCP, generators make an NRA determination on the RFD forms. The WCO supplies programmatic certification for NRA-hazardous wastes based on the combined efforts of the generator, LWS, QSD, and the WCO (through oversight of the WCP). The WCP-based NRA certification by the WCO is traceable to each hazardous waste item to meet the DOE Performance Objective requirement for certification of NRA. Programmatic certification is documented before the hazardous waste is released to the receiving organization/facility.

4.4 WASTE ITEM TRACEABILITY AND CONTAINER ACCESS CONTROL

Waste items packaged in shipping containers are individually traceable back to the generators/generation process/process area through use of the 2109 form set and/or packing lists/log-in sheets.

Access to waste containers that are in the process of being filled is controlled through use of physical locks or tamper indicating devices (TIDs) on the container, or through the use of access control areas (e.g., locked doors). It is left to the discretion of the generator as to which control method will be employed. Waste containers must be controlled to prevent damage, loss, or deterioration.

Validation of container contents is achieved by an independent inspection performed on filled containers as requested by the WCO. In the validation process, waste items/packages are removed from the containers and compared to the description provided for that item/package. See Table 2 for validation process details.

Consistent with standard QA practices, TIDs are used (unless impractical) to ensure the contents of completed waste containers are not modified after the RFD is completed. TIDs are to be applied prior to release of waste containers from custody of the waste generator or GI/GIE.

4.5 PACKAGING/CONTAINER PROCUREMENT, INSPECTION, AND CONTROL

Waste packaging materials/containers obtained through ORNL Central Stores are procured by the UT-Battelle Procurement organization using a purchase specification developed by the Transportation and Packaging Management (TPM) organization. These specifications are reviewed by the lead WCO to ensure the purchased items meet the appropriate WAC requirements. The document which describes the design control, procurement control, vendor assessments, and receipt inspection process is described in TPM-QA-2, Revision 3, *Management Plan for the Procurement of Department of Transportation Regulated Packaging.* To confirm implementation of the procurement process stated in the above document, the lead WCO or their designee will review these activities as part of the annual UT-Battelle certification program assessments (see Table 2).

The procured packaging/container products are stocked as ORNL Central Stores items and purchased by generators as needed. Maintenance of product physical integrity while in

Central Stores is the responsibility of the Central Stores organization. After purchase from Central Stores, ensuring packaging/containers (loaded or unloaded) are protected from effects of weather (particularly over long periods of time) is the responsibility of the generators (or their GI/GIE) until the waste packages are transferred to the receiving organization. Packages that will contain DOT regulated material and which are procured directly (i.e., not from stores) must be approved by TPM and inspected by TPM or TPM designated personnel.

4.6 QUALITY ASSURANCE VERIFICATION

QA verification is an integral part of the certification program. The verification process is the responsibility of the lead WCO. The specific performance of verification activity may be assigned by the lead WCO to another person or organization, such as the Quality Services organization to ensure even greater independence and objectivity. Under the verification process, some SLLW and TRU waste containers undergo an additional verification. This verification may include nondestructive examination (NDE) and/or Real-Time Radiography (RTR) to ensure that prohibited waste materials are not included in waste packaging; the verification may also evaluate certain waste characteristics. For example, TRU waste may be subjected to nondestructive assay (NDA) in addition to NDE. Hazardous waste that has been classified as NRA will be subject to an additional verification of NRA through final random surveying/resurveying of some waste packages. In addition, a percentage of hazardous waste will be randomly selected for additional QA verification of contents. After the final verification is completed, the RFD forms become the quality records for that particular waste package and provide item traceability for the waste. Also, Quality Services will verify that equipment used for process monitoring or data collection can be uniquely identified, and are controlled and calibrated.

QA verification specifics are presented in Table 2, *Quality Assurance Verification Program*, and in Table 3, *Programmatic Self-Assessment*. Within Table 2, these include: objectives, responsibility assignments, verification frequencies, evaluation criteria, reporting and result disposition. Table 3 identifies the key programmatic activities critical to the *UT-Battelle WCP* and defines the frequency upon which a self-assessment should be conducted for a specific activity.

Similar to the Certification Process, error rates will be calculated and tracked by the lead WCO to determine certification program strengths and weaknesses in both specific areas and across the entire program. Error rates will also be used to adjust the verification frequencies which are given in Table 2 when deemed necessary by the lead WCO. Error rates equal to or greater than 5% of assessments performed will trigger a review of specific process steps or an overall program concept by the lead WCO to determine if suspension of any or all certification activities is warranted. Upon suspension, corrective actions must be defined and implemented before reactivating the certification process

4.7 OFFSITE SHIPMENT REVIEW PROCESS

The waste characterization data provided under this certification program are reviewed to ensure that they are accurate and sufficient for correct classification of material under DOT regulations. The information may be used by any DOE contractor/subcontractor or UT-Battelle to make compliant off-site shipments. The agent for reviewing all UT-Battelle off-site waste shipments for DOT compliance is Logistical Services (LS). When off-site shipment of hazardous or mixed waste is to be made, the review will include agents of both LS and EP.

5. ORGANIZATIONAL RESPONSIBILITIES

Figure 5, *Organizational Chart*, shows the organizational structure for the WCP & QSD.

5.1 WASTE GENERATORS

Within the WCP, waste generators are responsible for the waste categorization, characterization, packaging, and safe management of waste until it is physically transferred to the receiving organization/facility. At a minimum, GI/GIEs support generators in meeting their waste characterization responsibilities. As part of the certification program, generators have the following responsibilities:

- Completing Waste Awareness Training;
- Attending waste certification and waste characterization training; appropriate to their operation;[1]
- Properly characterizing, segregating, handling, categorizing, labeling, and packaging the waste per implementing procedure requirements to meet the applicable WAC;
- Providing complete, accurate characterization information on RFD forms;
- Attesting to completeness of characterization information provided;
- Meeting all WAC requirements for transfer of waste or requesting variance;
- Participating in waste certification audits as scheduled;
- Maintaining records of how waste was generated and categorized/classified;
- Participating in divisional self-assessments;
- Complying with site requirements for RMMA identification per ORNL-RP-420;
- Documenting data limitations on historical analytical data
- Obtaining defensible data to identify waste properties and characteristics
- Ensuring waste streams and generating processes are controlled as well as documented when characterized by sampling and analysis
- Providing controls that allow sample numbers to be traceable to specific waste packages
- Evaluating the effect of error on analytical result and the corresponding impact on waste characterization

[1]Refer to Section 6

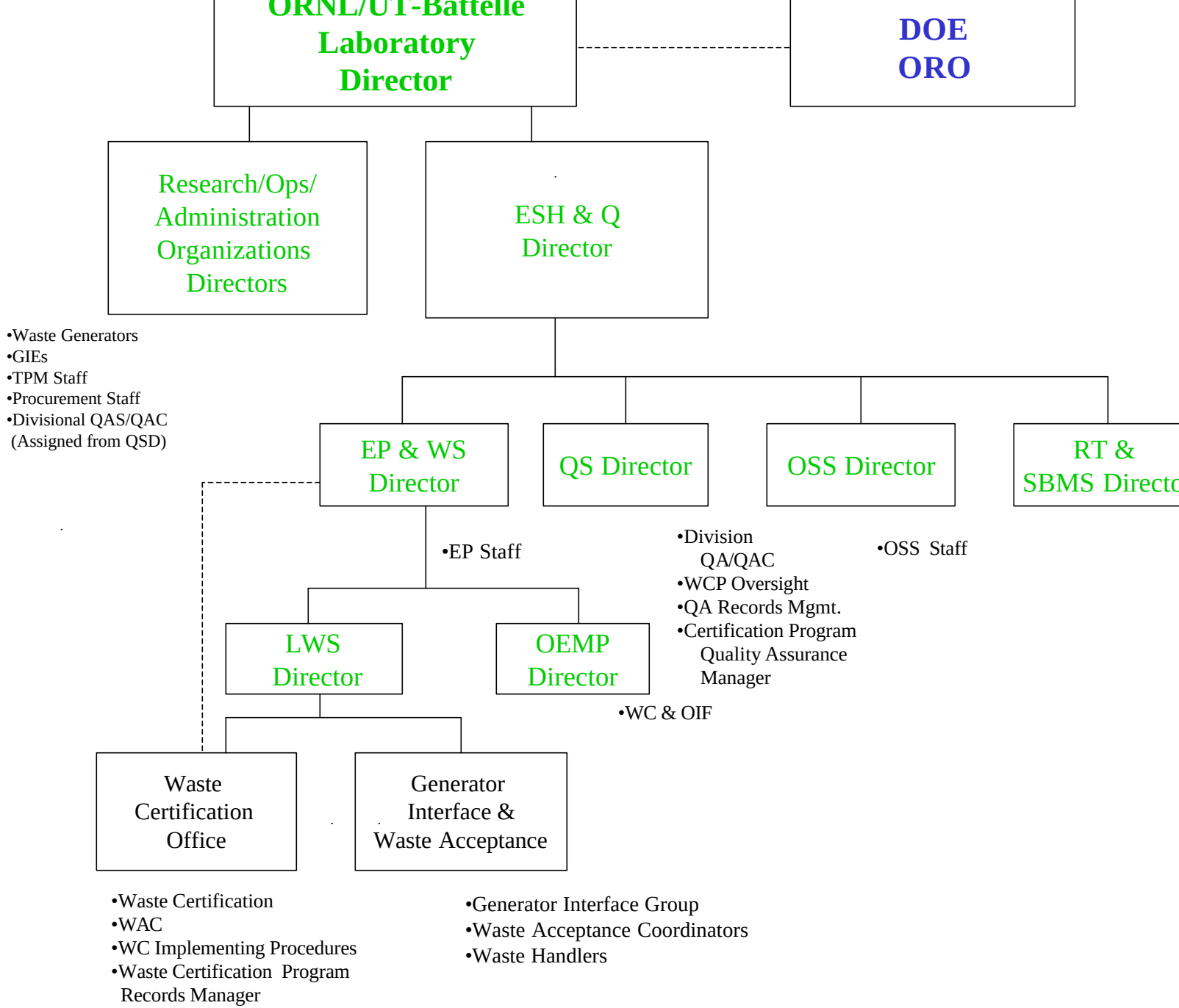

Fig. 5 Organizational Chart.

5.2 Environmental Protection and Waste Services - Waste Services Group

The Waste Services group of Environmental Protection and Waste Services (EPWS) consists of both those functions relating to generator support (i.e. generator interface and waste acceptance) and functions associated with executing the final certification of UT-Battelle-generated wastes. The specific responsibilities of those functional elements are as follows:

5.2.1 Generator Support

The generator support responsibilities of EPWS include:

- Preparation and implementation of the WCP Training Program based on the training requirements established by the lead WCO;
- Reviewing WACs and IPs;
- Transferring and approving transfers of hazardous/mixed waste from generator=s satellite accumulation area/90-day areas (SAA/90DA) to consolidated 90DA;
- Verifying that waste is in compliance with WAC requirements (i.e., executing Control Points 1-2;
- Transferring waste to the receiving organization (when applicable);
- Controlling records per WCP implementing procedures;
- Resolving Control Point / Certification Process Step errors with generators/GI/GIE/lead WCO drawing on resources such as Environmental Protection (EP) and Office of Radiation Protection (ORP) as needed.
- Conducting internal self-assessments;
- Verifying generators and GIs/GIEs, Waste Acceptance Coordinators, and waste-handling group and lead WCO are properly trained per the Training Program Administrative Guide, LWS 101.20;
- Overseeing the Generator Interface Group function;
- Appointing GI, Waste Acceptance Coordinator, and waste-handling personnel
- Providing GI, Waste Acceptance Coordinator, and waste-handling services as requested; and
- Preparation of waste packaging materials specifications for procurement of packaging materials from commercial suppliers.

The primary responsibility of GI/GIE is to assist the waste generators in meeting their responsibilities (Section. 5.1) and to indicate by their signature the generator waste characterization and packaging meet the applicable WAC. This includes notifying generators of changes to WAC requirements. In addition, GI/GIE personnel may be asked to provide the following services:

- Assisting in waste characterization;
- Completing waste disposal forms;
- Coordinating waste removal;
- Forecasting waste generation;

5.2.1 Generator Support (continued)

- Assisting managing waste accumulation areas;
- Performing routine inspections/walkthroughs;
- Providing assistance in pollution prevention and waste minimization; and
- Providing assistance in program audits

5.2.2 UT-Battelle Waste Certification Official (WCO)

EPWS scope of responsibility includes performing the function of the UT-Battelle lead WCO. The UT-Battelle lead WCO is responsible for the overall coordination and implementation of the program. The ESHQ Director has the responsibility for designating a lead WCO and alternate WCO consistent with input from the Directors of EPWS, OEMP, and QSD. All Waste Acceptance Coordinators are trained and authorized to act in a ***limited*** capacity as a UT-Battelle WCO for the specific purpose of routine waste package *Control Point 2* review and certification.. In all cases a "peer review" methodology will be followed requiring different Waste Acceptance Coordinators to perform the *certification process* step 1 review and the *certification process* 3/*Control Point 2* review and certification. This is to ensure that on any given waste package, no individual will certify his/her own technical review. However, program requirements/policy will be established or modified by the lead WCO or alternate WCO. Further, all programmatic communication of requirements or modifications of the WCP to UT-Battelle generators is the responsibility of the lead WCO or the designated alternate WCO. Waste Acceptance Coordinators ***will not*** establish certification program policy or programmatic requirements. Specific responsibilities of the lead WCO and alternate WCO include the following:

- Overseeing and maintaining the WCP;
- Communicating program requirements and any changes through the UT-Battelle ORNL Waste Certification Home Page (http://_nt_server_3/wmdireccerf/Home%20Page/Default.htm
- Establishing the QA verification program - assessing the need for corrective actions based on analysis of error rate tracking and trending;
- Coordinating the certification program audits;
- Establishing waste certification requirements;
- Approval of sampling groups and individual samplers for NRA determination;
- Defining the QA Programmatic Self-Assessment Program;
- Overseeing case-by-case evaluation of naturally occurring radioactive material for NRA determination;
- Coordinating the Self-Assessment Program;
- Verifying implementation of corrective actions for identified issues;
- Tracking and trending error rates and taking appropriate actions when error rate limits are exceeded;
- Ensure weight scale(s) are calibrated as needed;
- Implementing program changes when necessary;

- Preparing and maintaining implementing procedures and guidance documents related to them;
- Negotiating variances, deviations, modifications to WACs with the receiving organization;
- Certifying waste for transfer to the receiving organization/facility;
- Ensuring that programmatic requirements of the receiving organization/facility certification program are addressed by the UT-Battelle WCP;
- Interfacing with generators, DOE waste disposition contractors, EPWS, Logistical Services, Quality Services and ORP as needed;
- Managing WCO program documents and records;
- Approving characterization data and techniques, and
- Approval of waste characterization methodologies

5.3 WASTE CERTIFICATION AND OPERATIONS ISSUES FORUM (WCOIF)

The WC&OIF comprises representatives of the waste-generating organizations and the LWS, Environmental Protection, Logistical Services, Quality Services, and Radiological Support Services. Specific responsibilities include:

- Providing technical and programmatic recommendations;
- Reviewing related program documents prepared by others;
- Communicating waste certification guidance, direction, and other information to their divisions; and
- Providing a forum for program issues and waste generator problems to be presented, discussed, and resolved using a consensus approach.

5.4 OFFICE of ENVIRONMENTAL MANAGEMENT PROGRAMS (OEMP)

The Director, OEMP is responsible for the following:

- Interfacing with DOE-ORO, DOE Site, UT-Battelle waste generating and service organizations and other DOE prime contractors on Environmental Management issues (including waste certification);

- Serving as chair person of WCOIF

5.5 ENVIRONMENTAL PROTECTION & WASTE SERVICES (EPWS) -ENVIRONMENTAL PROTECTION GROUP

The EPWS Environmental Protection Group is responsible for the following:

- Reviewing WACs and implementing procedures;
- Reviewing RFDs as Subject Matter Experts (SME) for RCRA/PCB compliance as requested;
- Providing guidance on regulatory compliance issues; and

- Reviewing and approving compliance-oriented variances to WAC requirements and;
- Supporting other UT-Battelle organizations (e.g., Logistics Services) as SMEs when requested.

- **5.6 QUALITY SERVICES (QS)**

Quality Services is responsible for the following:

- Scheduling, completing, and transmitting periodic waste certification self-assessments in their area of responsibility;
- Approval of the WCPP [QS Director];
- Coordinating divisional self-assessments through the WCO;
- Providing self-assessment results to the WCO and division management for review, evaluation, and distribution;
- Assisting divisional management in preparation of lessons-learned reports and action plans for correction of deficiencies as necessary following existing ORNL/UT-Battelle procedures;
- Performing receipt inspection of waste-packaging materials in accordance with appropriate inspection plan;
- Coordinating certification program audits through the WCO;
- Overseeing review of NRA analytical protocols for demonstrated equivalency;
- Conducting Table 2 *"Quality Assurance Verification Program"* activity as designated by the lead WCO;
- Conducting Table 3, *"Programmatic Self-Assessment"* activity as designated by the lead WCO;
- Provide assistance to the WCO as requested to:

    - track and trend waste rejections by the receiving organization(s)
    - oversight of the LWS self-assessment program
    - qualifying (via typical QA practices) waste characterization methodologies
    - perform QA reviews of characterization data and techniques
    - review sampling groups/individuals for NRA activities
    - review analytical methodologies for NRA characterization

5.7 DIRECTOR, ENVIRONMENTAL PROTECTION AND WASTE SERVICES (EPWS)

The Director, EP & WS, is responsible for the following:

- Approval of the WCPP

5.8 RADIOLOGICAL SUPPORT SERVICES (RSS)

RSS is responsible for:

- Setting standards for the maintenance of RMMAs;
- Performing radiological surveys as required/requested for needed RFD data;
- Providing assistance (SMEs) when requested

5.9 LOGISTICAL SERVICES (LS)

LS is responsible for:

- Providing assistance (as SMEs), when requested, in waste characterization and packaging efforts to ensure DOT regulations for classification are met; and
- Preparing, approving, and issuing specifications used to procure waste packaging materials

5.10 PROCUREMENT ORGANIZATION

The Procurement Organization is responsible for:

- Purchase of waste packaging materials in accordance with specifications issued by TPM

5.11 DOE OAK RIDGE OPERATIONS (ORO)

DOE-ORO is responsible for:

- Providing funding to UT-Battelle for the safe and compliant management of wastes;
- Overseeing the WCP to ensure compliance with the requirements of DOE Order 435.1 and the NRA Performance Objective

5.12 OFFICE of TRAINING SERVICES (OTS)

- Preparing, implementing and maintaining theWCP Training Program based on the training requirements established by the WCO

5.13 DIRECTOR, ESH&Q DIRECTORATE

The Director of the ESH&Q Directorate is responsible for the following:

- Approval of the WCPP;
- Formal appointment of Lead WCO and Alternate Lead WCO

6. TRAINING

Graduated levels of training are required for WCP participants. Generators (as identified in Section4.2.1 Section4.2.1) are, at a minimum, required to complete a Waste Certification Awareness Training course in addition to General Employee Training. GIs, GIEs, Waste Acceptance Coordinators, waste handlers, and the WCO(s) must complete a more detailed in-depth certification training. UT-Battelle employees, visitors, and subcontractors who generate waste covered under the WCP are required to complete a Waste Certification Awareness Training course. The training includes an overview of the waste types, the WCP, review of generator responsibilities, and instructions on when, where, and how to obtain assistance on waste management matters. Updates to the Waste Certification Awareness Training are provided when program requirements affecting the generators are changed. Notification to generators of the need to update training is handled through the Division Training Officers. Generator compliance with training requirements is verified by Waste Acceptance Coordinators during the certification process.

The specific training requirements for the GIs, GIEs, waste handlers, and personnel performing verification (affirmation) of Sanitary/Industrial wastes are determined for each person via completion of a training matrix. Use of the training matrix allows tailoring of training to the specific needs of the organization, job function, person, etc. Typically the training includes an in-depth review of the WCP process, waste acceptance criteria, implementing procedures, and characterization guidance documents. This training requires class attendance and successful completion of exams. In general, GIs are required to take the training for all waste types included in the WCPP, while GIEs are only required to take the training for waste types they are expected to handle. Training updates are provided to the appropriate staff when program documents change. Updates are announced to LWS, EP, and Division Training Officers to ensure training is updated promptly.

The qualifications and training requirements for the WCO and alternate WCO positions are given in Attachment B, *WCO Qualifications and Training Requirements*.

7. PROGRAM ASSESSMENTS

The WCP will be validated through focused, independent, functional assessments of key processes of the program. The identification of program areas to undergo independent self-assessment and the schedule of those self-assessments is the responsibility of the lead WCO. The majority of the assessment activities are contained in Table 2, *Quality Assurance Verification Program*, which provides for validation of generator-sampling activities, sampling results, and analyses for waste characterization. A schedule of self-assessments will be developed and implemented through Table 3, *"Programmatic Self-Assessment Candidates"* such that a global assessment of the program is achieved when the results of all of the individual self-assessments are evaluated in total.

Waste generating divisions are requested to include, as part of their self-assessment program, reviews of the waste generating/characterization/packaging/certification process.

Upon request, LWS and QSD will provide personnel with the necessary expertise to assist the division in this effort.

Additionally, periodic reviews of various waste generating division activities will be completed by LWS and/or QSD personnel. These activities will be scheduled and completed as part of the Table 3.

If programmatic deficiencies are indicated, additional assessment focus will be provided to ensure that those areas are improved to meet the expected

8. CORRECTIVE ACTIONS

Corrective actions will be developed for all deficiencies identified during WCP audits or assessments. A corrective action report will be prepared to document actions taken. These corrective actions will be reviewed and concurred by the WCO. All activities associated with corrective actions will be conducted in accordance with existing UT-Battelle corrective action procedures (*SBMS Subject Area, Issues Management*). Nonconformance arising from program deficiencies will be handled in accordance with the UT-Battelle nonconformance procedure (*ORNL Nonconformance Control Procedure*, ORNL-QA-P05). Program deficiencies will be corrected without interruption of the ongoing program. This can be accomplished because each waste package is traceable. Individual waste item rejections are jointly resolved by LWS/WCO and generators, however generators are responsible for any costs associated with correcting waste item problems.

9. PROGRAM DOCUMENTS

Program documents that provide evidence of compliance will be physically maintained in an area under control of either the WCO or Quality Services. At a minimum, the following documents will be considered record documents and maintained by the following:

Waste Certification Official

Record copies of waste certification packages submitted to the receiving organization; including supporting information;

- Internal program characterization methodology approvals;
- WAC variance or exemption approvals;
- Official program communications;
- Final corrective action and NCR reports;
- Program nonconformance reports.

Quality Services

- Final assessment reports with auditors qualifications;
- Completed program self-assessment reports;
- QAS/QAC divisional self-assessment schedules and final report(s);
- Other programmatic approvals (e.g., approved suppliers)
- Records generated from Table 2 activities;
- Annual Report from Table 3 activities.

EPWS Waste Services Group:

- Responsible for management of WCP training records.

All of these records will be held a minimum of five years or as directed by applicable regulations or DOE requirements.

10. DOCUMENT CONTROL

Program documents will be controlled as specified in the ORNL Standard Practice Procedure ORNL-IO-003, *ORNL Records Management and Document Control*, and ORNL-10-002, *ORNL Information Servers and Electronic Information Release*.

When existing procedures require revision, and as new UT-Battelle program procedures are needed, requests for these additions or revisions will be presented to the UT-Battelle procedure review committee for concurrence and permission to proceed. As WAC revisions are proposed, UT-Battelle will participate in review process. At least once every five years, all related plans and procedures will be reviewed for relevancy and revised as necessary.

11. REFERENCES

(NOTE: Documents are available on the Web at the *WCP Home Page* unless noted otherwise)

Guidance on No-Radioactivity-Added Characterization for Hazardous and PCB Waste at ORNL, WM-SWO-407, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Oak Ridge Reservation Waste Certification Program Plan Bechtel Jacobs Company, LLC/Oak Ridge (BJC/OR-57), Oak Ridge, Tennessee

ORNL Compliance with Hazardous/Low-Level Mixed Waste Acceptance Criteria ORNL-WC-005, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

ORNL Compliance with Solid Low-Level Waste Acceptance Criteria ORNL-WC-006; Oak Ridge National Laboratory, Oak Ridge, Tennessee.

ORNL Compliance with Transuranic Waste Acceptance Criteria ORNL-WC-007, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Performance Objective for Certification of Non-Radioactive Hazardous Waste, U.S. Department of Energy, Washington, D. C., February 1995. (Not available on Web)

Radiological Characterization Plan for Solid Low-Level Waste, ORNL-WC-507, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Oak Ridge Reservation Master Profiles, (Profiles can be accessed from the locations listed below.)

ORNL/UT-Battelle Waste Certification Program website @ (http://_nt_server_3/wmdireccerf/Home%20Page/Default.htm)
Oak Ridge Reservation Waste Certification Program website @ (http://www.bechteljacobs.org/lw/index.htm)

ATTACHMENT A

MEANING OF SIGNATURES

What Signatures Mean

Control Point 1 (CP1)

Generator	Waste characterization information provided to GI/GIE is complete and accurate to the best of the generator's knowledge, and a documented basis exists that supports the information provided.
GI/GIE	GI/GIE personnel reviews the waste data package, perform random verifications of contents prior to closure, and verify that the waste has been properly characterized, packaged, and accurately documented, by signing the RFD form. The signature of a GI/GIE is required on every RFD confirming that the waste meets the applicable WAC

Control Point 2 (CP2)

Certified Package Transferred:	The waste characterization documentation submitted by the GI/GIE via the RFD Package form set satisfies the receiving organizations WAC in effect on the date the GI/GIE signed the RFD form

Certification Process - Steps 1-3

WCO	Waste is CERTIFIED to meet the WAC of the receiving organization

Attachment B

WCO QUALIFICATION AND TRAINING REQUIREMENTS

Job Qualification

Title: Waste Certification Official

Education Required:
A minimum of a B.S. degree in science, engineering, or related discipline or an equivalent of experience, education, and specialized training is required.

Experience Required:
Three years of job-related experience and one year of nuclear or research facility experience or equivalent are required.

Required Skills:
Ability to apply comprehensive knowledge of the following elements; basic quality assurance and certification program principles, federal and state regulatory requirements (RCRA/CERCLA/DOT), DOE Orders, waste characterization techniques and requirements of both internal and external Waste Acceptance Criteria (WAC).

Major Roles and Responsibilities:

- Certify as UT-Battelle authorized representative that wastes to be transferred for treatment storage, and/or disposal meet the receiving organization's waste acceptance requirements.

- Establishment, preparation, and maintenance of an UT-Battelle Waste Certification Program (WCP) in compliance with the UT-Battelle prime contract and applicable portions of DOE Order 435.1, 40 CFR, and ORNL policies and objectives.

- Oversee the implementation of the UT-Battelle WCP. Communicate program requirements and changes through the Waste Certification Home Page.

- Review and concur with waste certification training requirements.

- Establish and maintain documentation that supports WCP implementation including: (1) UT-Battelle WACs for all waste streams (if applicable), (2) implementing procedures; and (3) guidance documents.

- Establish and maintain a formal change process for management of controlled documents (e.g., WACs, implementing procedures).

- Establish and maintain a record retention system for program quality records.

- Compute and track control point error rates and ensure appropriate actions are taken when error rate limits are exceeded.

- Approve sampling groups and individuals for NRA determination; oversee review of NRA analytical protocols for demonstrated equivalency and oversee case-by-case evaluation of Naturally Occurring Radioactive Material for NRA determination.

- Provide oversight of off-site shipments, where applicable, to ensure compliance with WAC and certify waste by signature for transfer to the receiving organization/facility. In this function must be knowledgeable of off-site disposal/WACs (e.g., Nevada Test Site, Hanford, etc.).

- Interface with WCP, waste operations, compliance, and transportation personnel and waste generators as needed.

- Establish and implement a quality assurance verification program assessing the need for corrective actions based on analytical or error rate tracking and trending.

Training Requirements for WCO & Alternate WCO Position

The following training modules must be completed to carry out the duties and responsibilities of an ORNL Waste Certification Official.

Module[1]	Frequency[2]	Topic
	1-time	Asbestos General Employee Awareness
017711	2	Radiological II Training for UT-Battelle/ORNL - DOE Core
017899	3	RCRA Hazardous Waste Characterization at ORNL
018176	1	RCRA Land Disposal Restrictions for Generators at ORNL
090150	3	DOT HM-126F General Awareness/Familiarization
090152	3	DOT HM-126F Identification of Hazardous Materials
090153	3	DOT HM-126F Packing Operations
090154	3	DOT HM-126F Marking
090155	3	DOT HM-126F Labeling
090156	3	DOT HM-126F Shipping Papers
090160	3	DOT HM-126F Safety
090163	1-time	Basic Environmental Law
090164	2	Tennessee Rule 1200-1-11-10- 40 CFR 268 LDR Notification/Certification
090169	3	Solid Low-Level Waste/Generator Interface Program
090170	3	Transuranic Waste/Generator Interface Program
090172	3	Hazardous Mixed/Generator Interface Program
090175	1 -time	Managing Polychlorinated Biphenyls (PCBS) at ORNL
090275	1-time	Management of Sanitary/Industrial Wastes
090307	1-time	No-Rad Added
090439	1-time	RCRA Fundamentals: Avoiding the Most Common Mistakes in Waste Identification -- McCoy

[1]Or updated equivalent

[2]Number indicates years between retraining - significant changes in laws, regulations, procedures, etc. may increase the frequency

Training Requirements for WCO & Alternate WCO Position (cont.)

090441	1-time	Advanced RCRA Topics -- McCoy[1]
090442	1-time	RCRA Land Disposal Restrictions (LDR) -- McCoy
090596	1-time	Oak Ridge Reservation Certification Program Awareness Training
090597	1-time	Master Waste Profile Classification of Wastestreams
090607	1-time	BJC Master Waste Profile - (LLW /TRU)
-------	-------	Characterization Methodology (to be developed)
-------	-------	Interpreting Analytical Results (to be developed)

[1]Or updated equivalent

[2]Number indicates years between retraining - significant changes in laws, regulations, procedures, etc. may increase the frequency

TABLE 1. TYPICAL ERRORS IDENTIFICATION AND DISPOSITION

Control Point (CP) 1. RFD Paperwork/Waste Package Reviewed by GI or GIE

Error Type (Block No. from Forms)	Error Disposition
Generator does not have current awareness training (W1)	Generator to take current awareness training
Charge number invalid (W5)	Generator to provide valid number
Radiological designation incorrect (W11)	Generator to indicate correct designation on WID (Link to W10)
Physical form incorrect (W16)	Generator correct physical form on the WID
WID attachment incorrect (W18)	Generator to indicate correct attachment
Accountable materials not indicated and/or form is missing/incorrect (W21/18 - Rad/Mixed Only)	Generator to supply missing information or correct
Waste description listed incorrectly (W29)	Generator correct waste description on the WID
Origin date is in the future (I2)	Generator correct the origin date to be in the present (or past)
90-day start date incorrect or missing (I3) - (Haz/Mixed when applicable)	Generator to indicate correct start date
PCB start date incorrect or missing (I6)	Generator to indicate correct start date
Declaration of absorbent materials presence incorrect (I7)	Generator to correct declaration
Outer container type is incorrect or missing (I15)	Generator to indicate correct outer container type
Health Physics instrument Identification not listed on WID (I16) (if required)	Generator request ORP to provide instrument numbers
Signatures missing on WID (S1, S3)	Generator and/or ORP to sign WIDs
RAD handling type incorrect (Rad/Mixed Only) (A22), (B2)	Generator to indicate correct Rad handling type
PK Form out of date (greater than 1 year old (R3)	Generator update PK form or Waste Stream Profile sheets
Fissile content not listed (R4) (Rad only)	Generator calculate fissile content for fissionable isotopes
Enrichment not listed (R5) (Rad only)	Generator calculate enrichment wt % if U-234, U-235, or U-238 is listed
Incorrect radioisotopes listed (mis-characterization of waste) (R7, R8, R9) (Rad only)	Generator correct the characterization method and list proper radioisotopes and quantities

Control Point (CP) 1. RFD Paperwork/Waste Package Reviewed by GI/GIE

(continued)

Error Type (Block No. from Forms)	Error Disposition
Declaration of RCRA and/or TSCA waste incorrect or missing (T3, T4)	Generator to provide correct designation
PCB concentration and/or source concentration incorrect or missing (T7, T8)	Generator to provide correct concentration values
Underlying Hazardous Constituent(s) not listed if present (T14) (RCRA or RCRA-treated)	Generator evaluate material for Underlying Hazardous Constituent(s) and list if appropriate
Mischaracterization of Haz waste (T10 - T15)	Generator to provide correct characterization data
Analytical data incomplete or missing	Generator complete or supply missing data
pH incorrect or missing (C7, D4)	Generator to provide correct pH if known
Flashpoint incorrect or missing (C3, D9)	Generator to provide correct flashpoint, if known.

Certification Process - Step 1

Error Type (Block No. From Forms)	Error Disposition
Generator does not have current awareness training (W1)	LWS/GI/GIE: Request generator to take current awareness training Generator: Take required awareness training.
GI/GIE does not have required training (S2)	LWS: Notify GI/GIE of training deficiency and return RFD package for review and signature by fully trained GI/GIE.
Charge number invalid (W5)	LWS: Inform generator of error, request valid charge number, and correct WID forms. Generator/GI/GIE: Provide valid charge number to LWSO and change WID template to prevent future errors.
Radiological designation inconsistent with waste type designation (W11)	LWS: Check with generator/Gi/GIE and correct WID form if appropriate. Generator/GI/GIE: If error, note to prevent future errors.
Physical form designation inconsistent with provided or referenced data (W16)	LWS: Check with generator/GI/GIE and correct WID form if appropriate. Generator/GI/GIE: If error, note to prevent future errors.
Accountable materials not indicated and/or form is missing/incorrect (W21/I8 - Rad/Mixed Only)	LWS: Inform generator of error; request proper information and correct, if possible, or return to generator for correction. Generator/GI/GIE: Provide requested information or correct. Note to prevent future errors.
Waste description listed incorrectly (W29)	LWS: Inform generator of error, request proper information, and correct WID forms, or return to generator for correction. Generator/GI/GIE: Provide adequate waste description and change WID template to prevent future errors.
'WASTE MEETS NRC REQUIREMENTS" statement not entered in block W29 when Attachment C is used and waste is no-rad added	LWS: Request signed verification from generator to confirm "no rad added." Generator/GI/GIE: Provide no-rad added verification and change WID template to prevent future errors.

Certification Process - Step 1
(continued)

Error Type (Block No. From Forms)	Error Disposition
Origin date is in the future (I2)	LWS: Inform generator of error, request proper data from generator and correct WID forms. Generator/GI/GIE: Provide proper date to LWSO and change WID template to prevent future errors.
Container number not provided for waste submitted (I5)	LWS: Inform generator of error, request container number from generator and correct WID forms. Generator/GI/GIE: Provide container number to LWS for 30 gallons or larger. (NOTE: waste container not overpacked need to be in DOT containers and be labeled with a container number.
Outer container type is incorrect or missing (I15)	LWS: Inform generator of error and request information to correct, if possible; or return to generator for correction. Generator/GI/GIE: Provide requested information or correct. Note to prevent future errors.
HP instrument ID not listed on WID, if required (I16)	LWS: Request generator to provide information. Generator/GI/GIE: Provide LWSO with instruments numbers.
No neutron dose rate indicated when R7 contains neutron emitters (I16)	LWS: Inform generator of error and request information to correct if possible; or return to generator for correction. Generator/GI/GIE: Provide requested information or correct. Note to prevent future errors.
Signatures missing on WID (S1, S2, S3 if required)	LWS: Request generator/GI/GIE to sign documents, return RFD if not signed within two working days. Generator/GI/GIE: Sign documents (provide HP signature if needed)
PK Form or waste stream profile sheet out-of-date (greater than 1-year-old – R3)	LWS: Request generator update PK form or Waste Stream Profile Sheet. Generator/GI/GIE: Sign documents (provide HP signature if needed)

Certification Process - Step 1
(continued)

Error Type (Block No. From Forms)	Error Disposition
Fissile content not listed (R4 - Rad Only)	LWS: Calculate fissile content, correct forms, and notify generator of correction. Generator/GI/GIE: NOTE FOR FUTURE WORK
Enrichment not listed (R5) (Rad only)	LWS: Calculate enrichment percent and correct forms, notify generator of correction. Generator/GI/GIE: Correct WID template enrichment percent for future waste streams.
Mischaracterization of rad waste, incorrect characterization method used (R7, R8, R9) – EXAMPLES: –Large items with surface contamination characterized using method 4. –Waste item with nonstandard geometry characterized using method 4. –TRU waste and S LLW packaged in the same container (Rad only)	LWS: Request generator to correct characterization data. Offer LWSO assistance. Generator/GI/GIE: Correct the characterization data and list proper radioisotopes and quantities.
Mischaracterization of Haz waste (Attachment C T3-T15) – EXAMPLES: –RCRA or TSCA determination –PCB concentration (Note: excludes obvious typographical errors)	LWS: Request generator to correct characterization data. Offer LWSO assistance. Generator/GI/GIE: Correct the characterization method and list proper components and quantities.
Mischaracterization of mixed waste (Attachment D R7-10, T3-T15) – EXAMPLES: –Radioisotopes incorrectly identified –RCRA or TSCA determination –PCB concentration (Note: excludes obvious typographical errors)	LWS: Request generator to correct characterization data. Offer LWSO assistance. Generator/GI/GIE: Correct the characterization data and list proper radioisotopes and quantities.
Mischaracterization of non-WAC chemical (Attachment Z, T10 - T15) – EXAMPLES: –Substance incorrectly identified –Concentration incorrect	LWS: Request generator to correct characterization data. Offer LWS assistance. Generator/GI/GIE: Correct the characterization data.

Certification Process - Step 1
(continued)

Error Type (Block No. From Forms)	Error Disposition
Incorrect attachment used for waste stream – EXAMPLES: –Attachment A used for TRU waste –Attachment B used for mixed waste	LWS: Request generator submit waste on proper form. Generator/GI/GIE: Complete proper form.
Flash point or pH incorrect or missing (C3, C7, D4, D9)	LWS: Notify generator of error and make correction to WID forms. Generator/GI/GIE: Note to prevent future errors.
Errors on “Container Packing List” – EXAMPLES: –Block I5, Container ID Number, listed incorrectly. –Block I16, HP Tag number, dose rate at surface and 1 meter left blank. –Block P5, Pickup Facility left blank.	LWS: Inform generator of the error, correct paperwork if possible. Return RFD if not signed within two working days. Generator/GI/GIE: Correct paperwork and change WID template to prevent future errors.

Certification Process - Step 2

Error Type (Block No. from Forms)	Error Disposition
Gasket not in place or incorrectly installed on boxes	LWSO: Notify generator of problem, repair gasket if minor, if not request generator to fix. Generator/GI/GIE: Repair/install gasket, inspect future boxes for proper gasket installation.
Drum bolt not torqued to manufacturer's specified value	LWS: Notify generator of problem, torque drum if possible, if not, request generator to torque drum(s). Generator/GI/GIE: Torque drum(s), inspect future drums for proper torque.
Lock nut improperly placed on drum ring bolt	LWS: Notify generator of problem, properly install lock nut on outside of drum lid ring if possible, if not, request generator to install nut. Generator/GI/GIE: Properly install lock nut on drum ring bolt, inspect future drums for proper lock nut placement.
Rad tag missing or illegible, incomplete, or out of date on rad-waste/mixed waste box or drum	LWS: Notify generator of missing or out-of-date rad tag. Generator/GI/GIE: Request HP to provide rad tag for the waste container and inspect future containers for proper rad tag placement.
Physical integrity of waste container not acceptable, excess corrosion, rust, dents, or damage	LWS: Notify generator of problem. Generator/GI/GIE: Repair or repackage waste into acceptable container. Inspect future containers to verify physical integrity is acceptable.
Paperwork does not match waste container	LWS: Notify generator of problem. Generator/GI/GIE: Correct paperwork to match waste container (i.e., wrong container type).
Drum does not meet DOT spec. UN 1A2/X, UN 1A2/Y, or UN 6HA	LWS: Notify generator of problem. Generator/GI/GIE: Repackage waste into acceptable container.
Lids are taped onto containers.	LWS: Notify the generator of the problem. Generator/GI/GIE: Repackage the waste into a container that has a tightly sealing lid. Inspect future waste container to ensure container has a tightly sealing lid.

Certification Process - Step 2

(continued)

Error Type (Block No. from Forms)	Error Disposition
Container bar codes not applied/located per procedure.	LWS: Notify generator of problem. Generator/GI/GIE: Replace bar codes onto proper location.
Container number does not correspond to container number that is cross-referenced to container serial number, type or bar code.	WCO will issue a “Hold Tag” for the container in question pending resolution

Certification Process - Step 3

Reference Table 3

"*Programmatic Self-Assessment Candidates*"

Control Point (CP) 2. Certified Waste Package (hard copy)Transferred to Receiving Organization

TABLE 2. QUALITY ASSURANCE VERIFICATION PROGRAM

NOTE 1: The verification frequencies specified in Table 2 are established by the lead WCO. Error data and surveillance results will be used to adjust Table 2 activity frequency, if necessary.

NOTE 2: The Non-Conformance Reporting (NCR) tracking system is utilized when an error is indicated in the Reporting & Tracking table.

NOTE 3: The Quality Services Division utilizes a random number selection program to implement the appropriate Table 2 reviews.

TABLE 2

WASTE TYPE: CH-SLLW & CH-TRU

QA OBJECTIVE 1	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING & TRACKING
Confirm detectable WAC prohibited items are absent.	1 of every 10 waste containers for each GI/GIE for CH-SLLW 1 of every 10 waste containers for each GI/GIE for CH-TRU	Selection of containers by QSD (Table 2 Selection Program) Containers transported to/from inspection site by LWS Inspection by NDE	NDE	WAC prohibited items are detected	WCO to contact GI/GIE to determine location for remediation of waste container	WCO initiates NCR

WASTE TYPE: CH-SLLW, RAD COMPONENT OF MIXED & CH-TRU

QA OBJECTIVE 2	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING & TRACKING
Verify PK Radiological characterization is credible	2 Rad WSPS/ month for CH-SLLW and/or Mixed wastes and/or CH TRU Note: There will typically be no more than one review per WSPS annually	QSD (Table 2 Selection Program) to select the WSPS . If/when necessary sampling and sample transfer to OEP, Special Projects Group	QSD to review methodology used compared to the specific method used to complete the characterization calculations. Sampling & analysis is required if RAD calculations are questionable.	Review indicates calculations are invalid. **OR** Analytical results deviation from RAD profile are unreasonable in the judgement of the SME	WCO to resolve error with WA coordinator, and/or generator/GI/GIE GI/GIE to correct Rad calculations to be consistent with resolution	WCO initiates NCR

WASTE TYPE: RH-SLLW AND RH-TRU

QA OBJECTIVE 3	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING & TRACKING
Verify PK waste characterization basis is credible	1 WSPS per month. **NOTE**: These will typically be no more than one review per WSPS annually	QSD (Table 2 Selection Program) to select WSPS	Assessment of rationale used to develop PK data by interview and review of records with generator/GI/ GIE	Assessment indicates basis for WSPS data is invalid	SME, WCO, and generator/GI/GIE to determine an acceptable characterization approach. NCR will deter-mine disposition	WCO initiates NCR

WASTE TYPE: CH-TRU, RH-TRU, CH-SLLW, AND SLLW

QA OBJECTIVE 4	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING & TRACKING
Confirm detectable WAC prohibited items are absent	2 WSPS/month **NOTE**: There will typically be no more than one review per WSPS annually	QSD (Table 2 Selection Program) to select WSPS	An assessment of the rational used to make the declaration of "***no RCRA/PCB***" will be completed by review of records and data in the possession of the generator and/or GI/GIE	WAC prohibited items are detected	Waste container will be returned to generator for remediation. NCR will deter-mine disposition	WCO initiates NCR

WASTE TYPE: HAZARDOUS / NON-REGULATED

QA OBJECTIVE 5	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING& TRACKING
Verify PK basis is valid for NRA declaration	2 PK forms per month **NOTE**: There will typically be no more than one review per PK form annually	QSD (Table 2 Selection Program) to select PK forms Assessment by QSD Sampling & sample transfers by OEMP (if/when necessary) Selection of analytical lab by WCO	Assessment of PK rationale and data used to develop/support NRA declaration by interview and review of records with generator/GI/ GIE If basis is questionable, NRA sampling and analysis protocol in ORNL-WM-005 to be employed	Basis of PK NRA claim is invalid **OR** Analytical results confirm presence of Rad above the protocol and specified by procedure ORNL-WC-005	Correct PK logic/documenta-tion or reclassify waste as mixed and prepare correct WID. NCR to deter-mine disposition	WCO initiates NCR

WASTE TYPE: HAZARDOUS AND HAZARDOUS COMPONENT OF MIXED

QA OBJECTIVE 6	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING & TRACKING
Verify characterization of hazardous waste characterized by PK is appropriate	2 PK forms per month each with an associated WID **NOTE**: There will typically be no more than one review for each PK form annually	QSD (Table 2 Selection Program) to select PK and the associated WID If necessary, sampling & sample transfers by OEMP, Special Projects Group Selection of analytical lab by WCO	Compare analytical results of sample from selected WIDs to PK declared characterization	Analytical results and PK differ beyond reasonable technical reconciliation (SMEs used when necessary)	Correct characterization of waste Correct PK basis/data or discontinue use Correct associated WID to reflect appropriate characterization. NCR to deter-mine disposition.	WCO initiates NCR

WASTE TYPE: HAZARDOUS, HAZARDOUS COMPONENTS OF MIXED, CH-SLLW, AND CH-TRU*

QA OBJECTIVE 7	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING & TRACKING
Confirm analytical results are valid by review of (1) analytical methodology, (2) holding times, and (3) instrument calibration.	1 WID every 4 months for one of the above waste types **NOTE**: There will typically be no more than one evaluation of an analytical laboratory per year	QSD (Table 2 Selection Program) to select the WID and SME. SME(s) to complete the review, if necessary	Assessment of analytical records.	Appropriate analytical method(s) not used, holding time(s) missed, and/or instrument calibration(s) out of date.	Re-analyze for missed/incorrect parameters. NCR to deter-mine disposition	WCO initiates NCR

***ONLY FOR WASTE CHACTERIZATIONS BY SAMPLING AND ANALYSIS, NOT PROCESS KNOWLEDGE (PK)**

WASTE TYPE: MIXED

QA OBJECTIVE 8	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING & TRACKING
Verify that analytical results have been appropriately applied to characterize RCRA/PCB	1 WID/month	QSD (Table 2 Selection Program) to select rhe WID	Assessment of rationale used to develop RCRA PK data by interview and review of records with generator/GI/ GIE	Assessment indicates basis for PK data is invalid	WCO, LWS and generator/GI/GIE to determine an acceptable characterization method	WCO inititiates NCR

WASTE TYPE: ALL - WHERE SAMPLING AND ANALYSIS IS USED FOR CHARACTERIZATION

QA OBJECTIVE 9	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING & TRACKING
Ensure the sampling plan is adequate and the sampling event is consistent with the sampling plan	1 WID every 4 months	QSD (Table 2 Selection Program) to select WID	QSD or designee to review sampling plan and observe sampling event.	Sampling plan is deficient Sampling event deviates from sampling plan .	Correct the plan and/or resample NCR to deter-mine disposition	WCO initiates NCR

WASTE TYPE: HAZARDOUS AND NON-REGULATED

QA OBJECTIVE 10	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING & TRACKING
Verify that containers of Hazardous Waste declared NRA meet UT-Battelle Radiation Protection Program surface contamination/ radiation requirements for free release (i.e., are green-tagable)	10% of NRA hazardous/waste/ non-regulated waste population	Selection of items for survey by QSD (Table 2 Selection Program) Survey performed by UT-Battelle qualified RCTs	Standard ORP procedure(s) for performing Radiological surveys under RPP 420	Item is determined to be Radioactive/ Radioactively contaminated by RPP 420 protocol	WCO to notify generator/ GI/GIE Determine extent of error with respect to other items and remove from classification as NRA Convene SMEs to analyze and correct cause/source of misclassification	RCT*s to submit all survey reports to QSD WCO initiates NCR (*Radiological Control Technician's)

WASTE TYPE: HAZARDOUS, NON-REGULATED, AND MIXED

QA OBJECTIVE 11	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING & TRACKING
Verify that the waste item, volume, physical form, inner container, and container label listed on the *Container Log-in Sheet*(s) (CLS) agree with the waste item description within the lab pack **NOTE**: These waste items will be represented by one Waste Pickup Request (WPR)	A minimum of 10% of the waste containers will be reviewed. If there are discrepancies between the CLS and the lab-packed items in the container, the inspection frequency will increase to 100% inspection of the containers. The 100% inspection rate will continue until 7 consecutive containers have been inspected & no errors have been detected. At that point, the container inspection rate will return to 10%	QSD (Table 2 Selection Program) to select containers for review Verification of the above stated objective will be completed by personnel from the Transportation & Management (TPM) Department (ORNL Logistical Services Division)	Compare the items on the log-in sheet with the items in the waste container to ensure they are the same	The items on the CLS are different form the item(s) in the package	The WCO will notify the person that completed the packing of any errors. After remediation of the errors, but prior to resealing the package, LWS will notify the WCO that the package is ready for a second review. ORNL LS/TPM will verify the package has been properly remediated.	The WCO initiates NCR

WASTE TYPE: HAZARDOUS, NON-REGULATED, AND MIXED

QA OBJECTIVE 12	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING & TRACKING
Verify that the package meets the appropriate DOT requirements for compatability, cushioning, labeling, container volume, DOT class, correct containers, etc.	A minimum of 10% of the waste containers will be reviewed. If the package does not meet the appropriate DOT requirements the inspection frequency will increase to 100%. The 100% inspection rate will continue until 7 consecutive containers have been inspected & no errors have been detected. At that point, the container inspection rate will return to 10%	QSD (Table 2 Selection Program) to select containers for review Verification of the above stated objective will be completed by personnel from the TPM (ORNL Logistical Services Division)	Determine if the package meets the appropriate DOT requirements.	The package does not meet the appropriate DOT requirements	The WCO will notify the person that completed the lab-packing of any error(s). After remediation of the error(s), but prior to resealing the package, LWS will notify the WCO that the package is ready for a second review. ORNL TPM will verify the package has been properly remediated	WCO initiates NCR

WASTE TYPE: CH-SLLW

QA OBJECTIVE 13	VERIFICATION FREQUENCY	IMPLEMENTED BY	EVALUATION METHOD	ERROR EXISTS IF	ERROR DISPOSITION	REPORTING & TRACKING
Verify that WIDs/ DOCs listed on the CLS are contained in the waste container	Subject waste type containers will be opened as requested by the WCO	Selection of the waste container for review will be determined by the QSD (Table 2 Selection Program). The review will be conducted by the QSD or QSD designee	Review of waste items in the waste container against the WIDs represented in the selected CLS	The items in the waste container do not agree with the WIDs listed in the CLS	The QSD will notify the WCO of the error.	WCO initiates NCR

TABLE 3. PROGRAMMATIC SELF-ASSESSMENT CANDIDATES

Note: **The activities identified in Table 3 represent quality surveillances that may be performed as part of the *Waste Certification Program* (WCP). The basis for the Self-Assessment Program is to provide verification that the WCP is being implemented as specified. Activities listed as "annually" will be included on each self-assessment schedule. Activities listed "as required" may or may not be included on each self-assessment schedule. The Waste Certification Official may also identify other activities, not listed in Table 3, that qualify as candidates.**

TABLE 3. PROGRAMMATIC SELF-ASSESSMENT CANDIDATES

Item Number	Frequency	Self-Assessment Activity
1.	Annually	Verify training requirements for personnel involved in the UT-Battelle WCP are in place and up to date.
2.	Annually	Verify that non-conforming waste packages are being tagged, segregated, and dispositioned as specified by the appropriate Laboratory Waste Services Organization (LWS) Administrative Guide.
3.	Annually	Verify there is a process or mechanism by which the Waste Certification Official is aware of issues identified throughout the ORNL that might affect the waste certification process and this process is being implemented.
4.	Annually	Verify that the procurement of waste packaging meets the requirements of the WCP Section 4.5.
5.	Annually	Verify that waste generating division(s) are adhering to established WCP protocols to segregate, characterize, and packages waste generated within their divisions.
6.	Annually	Verify, by reviewing a sampling, of waste packages throughout UT-Battelle waste generating areas are traceable to the 2109 form set and are controlled to prevent the addition or removal of waste items to the container.
7.	Annually	Verify that Table 2 reviews are being completed as required.
8.	Annually	Verify there is a process in place, prior to acceptance of waste documentation, that ensures the waste generator(s) have completed the appropriate awareness training.
9.	Annually	Verify that the ORNL WCP and/or ORNL Standards-Based Management System (SBMS) addresses all programmatic requirements of the NTS WAC Implementing Crosswalk (NIC). These requirements are addressed in Section 5.0 through 5.10 of the NIC.
Table 3 Candidates for the Waste Certification Program (cont.)		

10.	As Required	Verify that programmatic requirements identified in the NIC are being implemented (review a biased sampling).
11.	As Requested	Verify that waste certification quality records are being maintained as specified by the WCP.
12.	As Requested	Verify that M&TE are being calibrated to standards that are traceable to recognized national standards and this process is controlled within the ORNL).
13.	As Requested	Verify that programmatic and operational requirements as specified in the SBMS Subject Area: *Sanitary/Industrial Waste, Management of,* are being followed.
14.	As Required	Verify that the UT-Battelle newly generated solid low-level waste "NTS binning" waste profiles meet the NIC requirements as specified in Sections 3.0 Waste Criteria and 4.0 Waste Characterization. Section 6.0 Waste Transportation and Receipt Information will not be reviewed. This Section is specific to Bechtel Jacobs Company, LLC.
15.	As Required	Verify that LWS has identified internal errors for waste packages and those are being tracked, trended, and processed as specified in Section 4.2.2 of the WCPP.
16.	As Required	Verify if sampling and analysis protocols are being properly implemented when analytical data from the same waste container indicated contradicting analytical results.
17.	As Required	Verify that the WCPP Section 10.0, Document Control, is being implemented as required.
18	As required	Additional subjects for *WCP Self-Assessment Program* will be added as the WCO deems necessary.

Note: At the end of each FY, a summary report will be issued. This report will focus on the effectiveness of the *ORNL Waste Certification Program* (WCP) based on the completed self-assessments. The report is intended to provide management a summary of issues identified by preceding, the overall effectiveness of the waste characterization and certification process, and suggest areas for improvement.