

## **8.0 PERSONNEL TRAINING**

**[WAC 173-303-330, 804(4)(a)(xii)]**

This section provides an overview of AREVA's training efforts to assure that dangerous waste-related activities at its Richland fuel fabrication facility are conducted in compliance with Ecology's Dangerous Waste Regulations. Additional description of the Richland site's dangerous waste training approach is provided in the site's Dangerous Waste Training Plan, formulated to comply with the requirements of WAC 173-303-330(2), and maintained on-site as part of the operating record. The information provided below relative to dangerous waste training is responsive to requirements in WAC 173-303-806(4)(a)(xii) and implementing guidance in Ecology Publication 95-402 for dangerous waste permit applications.

### **8.1 *Dangerous Waste-Related Job Titles/Job Descriptions***

Job titles at the AREVA Richland facility are based on job content relative to the primary plant mission, i.e., nuclear fuel fabrication. Nonetheless, for the sake of application of dangerous waste training, Richland site employees can be classified into groups based on their duties relative to dangerous waste management. Provided as Attachment 8-1 is a matrix of the relevant worker classifications, their job descriptions (dangerous waste-related duties), and their assigned training requirements. The assignment, delivery and documentation of training on the Richland site is managed within the AREVA Fuel America Learning Management System (LMS). Additional description of the LMS relative to dangerous waste training is provided in Section 8.2, below.

Overall responsibility for assuring that site activities are conducted safely and in compliance with applicable health, safety, and environmental regulations, including Ecology's Dangerous Waste Regulations, rests with the Richland Site Manager. The worker classifications in Attachment 8-1 with potential hands-on dangerous waste duties

(Generators, Packagers, Handlers, Component Pickle Technicians) reside within the Richland Operations organization, the manager of which reports directly to the Richland Site Manager. The Environmental, Health, Safety and Licensing Department (EHS&L), whose manager also reports directly to the Richland Site Manager, includes two important dangerous waste-related functions, namely the Logistics group (Dangerous Waste Shippers) and the Environmental Engineer, the staff person with front-line programmatic responsibility for dangerous waste compliance, including direction of the dangerous waste training program. Both the Logistics group and the Environmental Engineer report to the Manager of EHS&L via the Manager, Licensing and Compliance.

For the AREVA Richland Site, the Richland Site Manager has the authority for signing the Part A form and the Part B application certification form required by WAC 173-303-810(12) and -810(13), respectively.

The Environmental Engineer within Licensing and Compliance shall have a degree in science and/or engineering and must meet the training requirements associated with the Dangerous Waste Specialist classification in Attachment 8.1.

## 8.2 ***Outline of Dangerous Waste Training Program***

The Dangerous Waste Training Program, summarized in Attachment 8.1, prepares employees to operate or maintain the facility in a safe manner and in a way that ensures compliance with the Dangerous Waste Regulations. This is accomplished via a formalized program of introductory and continuing (refresher) training. That training, whether introductory or continuing, generally falls into one of three major categories as follows:

- 1) General training provided across broad classifications or organizations of employees, e.g., general waste awareness training as a part of new employee orientation; site access training (initial and annual refresher) on emergency communication/alarm systems and evacuation protocols; and operations training relative to waste generation/accumulation.

- 2) Workstation/task-specific training provided to specific classifications of waste workers, e.g., waste packagers, waste handlers, and dangerous waste shippers. This training covers, amongst other activities, the operation of the site's permitted dangerous waste management units - the Dangerous Waste Storage Facility and the Component Chemical Waste Tank.
- 3) Emergency response training, including general awareness training in 1) and contingency plan training in 2) above; but more significantly the in-depth emergency response training provided to the site's Plant Emergency Response Team (PERT).

### 8.2.1 General Training

General training is distinguished by the fact that it is provided across broad classifications or organizations of employees as opposed to being focused on specific workstation or task-related duties. These general training elements of the program include:

<b>Training Element</b>	<b>Delivery Mode</b>
Waste Awareness	Site Access Training - Initial
Emergency Communication/Alarm Systems; Evacuation Protocols	Site Access Training - Initial and Annual Refresher; computer-based training (CBT)
Fire Response Protocols	Site Access Training - Annual
Safety/Environmental Incident Reporting	Procedure Read and Acknowledge; annual
Waste Generator/Satellite Accumulation	Initial Workstation Qualification; Procedure Read and Acknowledge thereafter (annual)

### 8.2.2 Workstation Qualification Training

Workstation Qualification Training (WQT) provides the core proficiency training for employees working in positions and performing tasks involving dangerous wastes, including working at the site's permitted dangerous waste management units. Based on a Systematic Approach to Training (SAT), the WQT process combines education/experience requirements, general employee training, initial qualification, continuing training, and re-qualification to assure that employees are fully qualified prior to working independently in affected positions and maintain acceptable proficiency over time. Key steps in the SAT employed at Richland include:

1. Identification of targets for training (workstations, tasks, etc.)
2. Analysis - training needs analyses and job/task analyses
3. Training Design/Development - identification of objectives, evaluation processes, and training methods; development of training materials
4. Implementation of Training - procedure reviews, OJT/skills demonstrations, and testing; overseen by Training Department, subject matter experts, and OJT instructors
5. Evaluation - periodic evaluations of training effectiveness

Matching of training to actual job tasks, including tasks involving dangerous waste management, is assured via job/task analyses and close cooperation between Training and management-designated subject matter experts and OJT personnel. Once fully qualified, affected personnel typically maintain qualification via periodic review (read and acknowledge) of procedures in their workstation/task curricula. These procedures are included in the individual Learning Plans of employees, maintained within the AREVA Fuel America Learning Management System.

### 8.2.3 Emergency Response Training

WAC 173-303-330(1) requires that the dangerous waste training program ensure that facility personnel are able to respond effectively to emergencies. Required program parameters in this regard are set forth in WAC 173-303-330(1)(d). Training activities to address these parameters, particularly in reference to the site's permitted dangerous waste management units (Dangerous Waste Storage Facility and Component Chemical Waste Tank), are highlighted below.

- (1) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment.

This program parameter is addressed primarily via the annual training provided to the Plant Emergency Response Team. Emergency equipment covered includes personnel protective equipment, including respirators; fire-fighting equipment; spill response/containment equipment; and sampling/monitoring equipment. The PERT includes full representation by the plant Health and Safety Technicians (HSTs), who conduct radiological and chemical monitoring as a part of their regular assigned duties. In the radiological monitoring area, HSTs are technically supported by the plant health physicists; in the chemical monitoring area by the plant industrial hygienist. Key emergency response equipment is stored in designated repositories which are subject to periodic inspections under the plant's preventative maintenance (PM) program.

- (2) Key parameters for automatic waste feed cut-off systems

Instructions on how to initiate and stop the periodic batch transfer of chemical wastes from the dip tanks in the Component Pickling Room to the Component Chemical Waste Tank are provided in the standard operating procedure for the pickling process. This SOP is in the learning plan for the technicians operating this process. The waste transfer process is continuously staffed when operating and also protected by active engineered controls and alarms to protect against off-normal occurrences, e.g. filling the waste tank above a pre-set alarm level. Automatic waste feed cut-off systems are not applicable to the Dangerous Waste

Storage Facility, which is a storage facility for containerized (drummed/boxed) dangerous waste.

(3) Communications or alarm systems

Plant employees are trained on emergency communication and alarm systems as part of their new employee orientation and annual Site Access Training.

(4) Responses to fires or explosions

Employees receive training on responses to fires and explosions as part of their new employee orientation and annual Site Access Training. The PERT receives fire-fighting training on an annual basis. Fire/explosion response beyond incipient fire-fighting by plant personnel is provided by the City of Richland.

(5) Responses to groundwater contamination incidents

All manufacturing employees are trained on the procedure for reporting safety, environmental, or radioactive material control incidents. Operators at the DWSF and component pickling operation are trained to the applicable Dangerous Waste Contingency Plan. The Plant Emergency Response Team (PERT) is trained to Contingency Plan implementing procedures specific to the Dangerous Waste Storage Facility and Component Chemical Waste Tank. Liquid storage at the DWSF is very limited; drums containing liquids are stored on containment pallets.

(6) Shutdown of operations

Shutdown of operations for the component pickling process is addressed in the applicable SOP, which is in the learning plan of the process operators.

Emergency shutdown of operations is not applicable to the DWSF. The PERT receives annual training on emergency response to damaged/leaking tank or piping systems. Shutdown of operations on a larger scale, e.g. multiple buildings or plant-wide, is a function of the Plant Emergency Response Management Team (PERMT).

### 8.3 *Implementation of Training Program*

The Richland Dangerous Waste Training Program is managed under the AREVA Fuel America Learning Management System. Management includes the elements of planning, scheduling, implementation, and documentation. Once assigned to a workstation or task involving dangerous waste management, either as a new employee or transfer from another position, the employee will complete the associated training curricula (knowledge, skills, procedures) within six months (typically much sooner). AREVA's Fuels Training Procedure requires trainees to work under the direction of qualified personnel until they are fully qualified to work independently.

Initial workstation/task qualification for positions involving dangerous waste duties is a combination of instructor-based learning activities and independent procedural review activities. Instructor-based activities involve the utilization of management-designated subject matter experts (SMEs) and on-the-job training (OJT) instructors and typically include skills demonstrations and examinations. Procedural reviews are conducted and documented electronically. Time spent in instructor-based and/or independent procedural review activities varies with the workstation/task and its associated curricula.

Refresher training is typically conducted via documented procedural reviews for fully qualified operators. Time spent varies with the number of procedures present in the assigned curricula.

Initial and refresher training for the PERT is for the most part classroom and hands-on skill demonstrations. Completion of the comprehensive PERT curriculum takes an estimated 24 hours annually; this includes a minimum of four hours of general hazardous material response training that is directly applicable to dangerous waste spills/releases as well as training to response procedures for the DWSF and CCWT that implement the site's Dangerous Waste Contingency Plan.

Attachment 8.1 Dangerous Waste Management Training Matrix

**Attachment 8.1**

<b>Dangerous Waste Management Training Matrix</b>			
<b>Worker Classification</b>	<b>Work Station</b>	<b>Job Description</b>	<b>Training Requirements</b>
All Manufacturing Employees	NA	NA	Site Access Training - Initial Site Access Training - Refresher Safety, Environmental, or MC&A Incident Notifications Procedure
Dangerous Waste Generators	Throughout Manufacturing Facility	Generate dangerous wastes at workstations/ activities throughout the plant and place wastes in appropriate satellite accumulation containers.	Contaminated Waste Generator Requirements Procedure and associated Standard Work Instruction (SWI) flow diagram Satellite Accumulation Area Control Procedure
Waste Packager	Waste Segregation and Packaging Waste Assay System UO2 Decon & Volume Reduction	Waste packaging, assaying, and volume reduction of radioactive contaminated waste, including mixed waste, for eventual disposal.	Solid Waste Packaging Procedure Waste Assay Operation Procedure Waste Volume Reduction and Packaging Facility Procedure
Waste Handler	Waste Handling, Movement and Storage Waste/Hazardous Shipment Preparation	Low Level Radioactive Waste (LLRW), dangerous waste and mixed waste handling, storage, and shipment preparation. Includes operation of the Dangerous Waste Storage Facility (DWSF).	Mixed/Dangerous Waste Handling and Storage Procedure Shipping, Receiving, & Storage Operations Procedure Satellite Accumulation Area Control Procedure DOT Hazmat Employee Training Procedure for Preparing LLRW, Mixed Waste, Hazardous Waste and Hazardous Material Shipments Bulk Chemical Loading and Unloading Procedure Dangerous Waste Contingency Plan

### Dangerous Waste Management Training Matrix

Worker Classification	Work Station	Job Description	Training Requirements
Component Etch/ Pickle Technician	Etch Room	Performs operations which include the generation and collection of spent dangerous waste solutions in Component Chemical Waste Tank.	Component Pickle Procedure Dangerous Waste Contingency Plan
Dangerous Waste Specialist	NA	Professional-level dangerous waste management duties including but not limited to: waste designation, procedure creation/revision, auditing for compliance, preparation of regulatory submittals (permits, plans, etc.); direction of dangerous waste training program.	Contaminated Waste Generator Requirements Procedure and associated SWI Satellite Accumulation Area Control Procedure Procedure for Regulatory Reporting of Hazardous Substance Releases Dangerous Waste Training Plan Waste Analysis Plan DWSF and Component Chemical Waste Tank Closure Plans Dangerous Waste Contingency Plan
Dangerous Waste Shippers (Logistics)	NA	Prepare required paperwork and perform appropriate overchecks to assure shipment of dangerous waste and radioactive/dangerous mixed wastes in compliance with U.S. DOT regulations.	Radioactive Material Shipping Standard Procedure Logistics Shipping Guidelines Procedure Logistics Waste Shipping Guidelines Procedure Procedure for Regulatory Compliance Oversight on Regulated Hazardous Material, Hazardous Waste, & Class 7 (Radioactive) Material Shipments

**Dangerous Waste Management Training Matrix**

<b>Worker Classification</b>	<b>Work Station</b>	<b>Job Description</b>	<b>Training Requirements</b>
Emergency Responders	Plant Emergency Response Team	First responders to onsite plant emergencies which may include chemical and waste leaks/spills, fires, personal injury, etc.	Advanced First Aid Training Hazardous Material Spill and Decontamination Training Self Contained Breathing Apparatus Training Hands On Fire Extinguisher Training Drager Surveys for Chemical Concentrations Procedure Dangerous Waste Contingency Plan Implementing Procedures