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# **HARTCROWSER**

*Earth and Environmental Technologies*

*Final Draft*

*Copy No. 8*

*RCRA Interim Status Assessment  
Part A Facilities  
Central Waste Facility*

*J-1866-33.07*

Cross Ref with: 0003608

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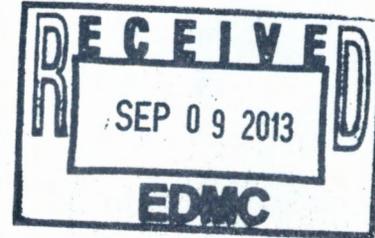


## Department of Energy

Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

Ms. Christine Gregoire  
State of Washington  
Department of Ecology  
Mail Stop PV-11  
Olympia, Washington 98504

Mr. Robie Russell  
U.S. Environmental Protection Agency  
Region 10  
1200 Sixth Avenue  
Seattle, Washington 98101



Dear Ms. Gregoire and Mr. Russell:

### HANFORD ENVIRONMENTAL SELF-ASSESSMENT REPORT

Enclosed is a Hanford self-assessment report of facility environmental status against Resource Conservation and Recovery Act (RCRA) requirements. This report reflects the Department of Energy, Richland Operations Office (DOE-RL) and Westinghouse Hanford Company (WHC) self-initiated program to assess and comply with the letter and spirit of applicable environmental regulations at the Hanford Site.

This report presents the results of an internal and ongoing assessment of Hanford facility compliance with environmental regulations. In some areas, it calls out areas of potential noncompliance with regulations. Many of these areas are procedural and simply require a change in the manner of conducting operations to ensure compliance. Some areas represent potential changes that are more difficult to make and may require extensive planning, budgeting and operational changes. In all cases, DOE-RL and WHC are committed to implement the appropriate changes and conduct operations in compliance with all applicable environmental regulations.

Findings represent conditions and conclusions derived on the date of the self-assessment as indicated in each report. The WHC with DOE-RL concurrence has moved expeditiously to correct problems as they were identified during the assessment and will continue to do so in the future. The enclosure to this letter is an action schedule for items identified in the report.

Ms. Gregoire and Mr. Russell

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The action schedule identifies the specific action to be taken and the completion date for all conclusions in the report.

This self-assessment is viewed by DOE-RL and WHC as healthy, productive, and supportive of DOE-RL and WHC commitment to environmental compliance. We believe that providing this assessment to you will strengthen our relationship and should be looked upon as a positive commitment from Hanford.

Sincerely,

ERD:ADK

R. D. Izatt, Director  
Environmental Restoration Division  
Richland Operations Office



R. E. Lerch, Manager  
Environmental Division  
Westinghouse Hanford Company

Enclosure

cc: R. E. Lerch, WHC

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**ACTION SCHEDULE REPORT LEGEND**

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**SUA Identification:** The stream, unit, or activity (SUA) identification.

**Reg Citation:** The regulatory requirement applicable to a specific stream, unit, or activity.

**Status:** The compliance status of a stream, unit, or activity with respect to a specific applicable regulation.

C: Complete: The task identified with a given report finding is complete.

AR: Action Required: An action is required to address a given report finding.

NR: Not Regulated: The SUA is currently not regulated under the associated applicable regulation.

**Task Description:** A description of the task resulting from an assessment finding.

**Scheduled  
Comp Date:** The date by which a given task is scheduled to be completed.

**Actual  
Comp Date:** The date by which an action was performed.

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CENTRAL WASTE COMPLEX ACTION SCHEDULE

SUA Identification	Reg Citation	Status	Task Description	Scheduled Comp Date	Actual Comp Date
CENTRAL WASTE COMPLEX	WAC 173-303-300	AR	DEVELOP A PROCEDURE FOR VERIFYING THAT RAIN WATER COLLECTED IN THE MIXED WASTE PAD IS NOT DANGEROUS WASTE PRIOR TO DISCHARGE.	03/31/89	/ /
CENTRAL WASTE COMPLEX	WAC 173-303-310	AR	POST "DANGER UNAUTHORIZED PERSONNEL KEEP OUT" SIGNS AT OTHER APPROACHES TO LOW FLASH POINT WASTE STORAGE UNITS AND 2401-W.	03/31/89	/ /
CENTRAL WASTE COMPLEX	WAC 173-303-340	AR	WATER SUPPLY HAS BEEN PROVIDED TO 2402-W BUILDING FIRE CONTROL SYSTEM. WRITTEN DOCUMENTATION TO CLOSE.	03/31/89	/ /
CENTRAL WASTE COMPLEX	WAC 173-303-340	AR	PROVIDE A FIRE EXTINGUISHER AT THE MIXED WASTE STAGING AREA/STORAGE PAD. (BOX ON ORDER)	04/30/89	/ /
CENTRAL WASTE COMPLEX	WAC 173-303-350	AR	NOTE THE LOCATION OF COMMUNICATIONS EQUIPMENT IN THE EMERGENCY PLAN.	04/30/89	/ /
CENTRAL WASTE COMPLEX	WAC 173-303-350	AR	PROVIDE HOME PHONE NUMBERS/ADDRESSES FOR BUILDING EMERGENCY COORDINATORS IN CONTINGENCY PLAN OR DOCUMENT OTHER METHOD FOR CONTACTING EMERGENCY COORDINATORS WITH FACILITY SPECIFIC KNOWLEDGE.	04/30/89	/ /

CENTRAL WASTE COMPLEX ACTION SCHEDULE

SUA Identification	Reg Citation	Status	Task Description	Scheduled Comp Date	Actual Comp Date
CENTRAL WASTE COMPLEX	WAC 173-303-360	AR	IDENTIFY EMERGENCY COORDINATORS WITH INTIMATE UNDERSTANDING OF FACILITY OPERATIONS.	04/30/89	/ /
CENTRAL WASTE COMPLEX	WAC 173-303-395	AR	POST "NO-SMOKING" SIGNS ON LOW FLASH STORAGE UNITS.	03/31/89	/ /
CENTRAL WASTE COMPLEX	WAC 173-303-395	NR	NONE - APPLICABLE ONLY IF BULK LIQUIDS ARE RECEIVED.	/ /	/ /
CENTRAL WASTE COMPLEX	40 CFR 265 SUBPART G	AR	PREPARE A DETAILED CLOSURE PLAN FOR THE CWC. (1ST PHASE-MIXED WASTE STORAGE)	11/30/89	/ /
CENTRAL WASTE COMPLEX	40 CFR 265 SUBPART H	C	EVALUATE REQUIREMENTS FOR OPERATOR COMPLIANCE UNDER STATE PROGRAM. (WAC 173-303-620 (1)(C)).	12/17/88	12/17/88
CENTRAL WASTE COMPLEX	40 CFR 265 SUBPART I	AR	PROVIDE A FIRE EXTINGUISHER AT THE MIXED WASTE STAGING AREA. (BOX ON ORDER)	04/30/89	/ /
CENTRAL WASTE COMPLEX	40 CFR 265 SUBPART I	AR	COMPLETE PROCESS FOR REPAIR OF SUMP AT MIXED WASTE STORAGE PAD. (DRAINAGE CURRENTLY STOPPED ABOVE SUMP)	05/31/89	/ /

## DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.



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# **HARTCROWSER**

*Earth and Environmental Technologies*

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*RCRA Interim Status Assessment  
Part A Facilities  
Central Waste Facility*

*Prepared for  
Westinghouse Hanford Company*

*December 5, 1988  
J-1866-33.07*



**HARTCROWSER**

Hart Crowser, Inc.  
1910 Fairview Avenue East  
Seattle, Washington 98102-3699  
206.324.9530

Earth and Environmental Technologies

J-1866-33.07

December 5, 1988

Westinghouse Hanford Company  
Post Office Box 1970  
Richland, Washington 99352

Attn: Mr. David Hutchison

Re: RCRA Interim Status Assessment  
Part A TSD Facilities  
Central Waste Complex

Our report on the RCRA Part A TSD Facility Assessment for the Central Waste Complex (CWC) is enclosed. The report presents our understanding of the current compliance status of the facility, as well as recommendations for improving compliance with the applicable federal and state dangerous waste treatment, storage, and disposal (TSD) regulations. The report also presents regulatory guidance for each of the specific sections of dangerous waste regulations that the facility was assessed against.

The assessment was limited to the facility and practices directly associated with the TSD units identified in the CWC RCRA Part A permit application. The facility and practices were assessed relative to the interim status TSD requirements noted specifically in the report. The facility and practices were not assessed relative to dangerous waste generator or generator accumulation requirements. Regulatory analysis of the facility was not performed.

The conclusions and recommendations in this report are based on information provided to the authors from several sources. Since it was beyond the scope of this project to independently confirm all information provided, there exists the possibility that portions of the information are incorrect, incomplete, or out of date. For example, although a facility operating manual may state that a certain practice is accomplished, we did not actually observe the facility operations to confirm that the specific practice is performed.



Westinghouse Hanford Company  
December 5, 1988

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Our conclusions and recommendations are based on our understanding and experience with the federal and state dangerous waste regulations. The conclusions and recommendations should not be construed as legal opinions. Consult legal council for more definitive compliance conclusions.

Sincerely,

HART CROWSER, INC.

A handwritten signature in cursive script that reads "Ross D. Potter".

ROSS D. POTTER  
Senior Project Professional

A handwritten signature in cursive script that reads "Ross D. Rieke".

ROSS D. RIEKE, P.E.  
Project Engineer

A handwritten signature in cursive script that reads "Eric B. Egbers".

ERIC B. EGBERS  
Program Technical Director

RDP/RDR/EBE:sde  
LC186607/JOBS

Enclosure

J-1866-33.07

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**GENERAL REQUIREMENTS FOR DANGEROUS WASTE  
MANAGEMENT FACILITIES  
WAC 173-303-280**

**REGULATIONS AND REQUIREMENTS**

General Requirements

The general requirements for dangerous waste TSD facilities note two specific requirements.

- o The facility must be operated in a manner which does not present an imminent or substantial hazard to the public health or the environment.
- o The facility is required to apply for an EPA/state identification number from the regulatory agency.

The requirement to operate the facility in a manner which does not threaten human health or the environment is purposely general so that the agencies can use the requirement as a broad, enforcement tool. If other, more specific regulations can not be applied to a situation where the agency feels a threat exists, this general facility requirement can be used. This requirement is satisfied primarily by preventing or minimizing activities on the site which have a potential to expose the public or the environment to dangerous wastes.

Identification Number

The TSD facility EPA/state identification number is obtained by completing a Washington State notification of dangerous waste activities form, Form No. 2, and submitting the form to the Washington State Department of Ecology. The information requested on the form includes:

- o Name and address of the party handling the dangerous waste;

- o The type of dangerous waste activities;
- o Facility contact persons at the facility;
- o Identification of the dangerous wastes handled at the facility; and
- o The estimated quantity of dangerous wastes handled.

The identification number is used on the annual reports that a TSD facility must submit each year and on manifests which a facility may use to transfer wastes off-site.

#### APPLICABILITY

The Central Waste Complex (CWC) is identified as a container storage pad in the Part A permit application. Thus, the CWC must satisfy the general requirements for a dangerous waste management facility.

#### INFORMATION REVIEWED AND CURRENT STATUS

The current status of the general dangerous waste management practices at the CWC was determined through interviews of the facility operators, review of the facility operating record, and a tour of the facility.

The Hanford Site is considered a single site and has received a single EPA/state identification number.

The CWC currently consists of the following facilities:

- o An approximately 4,000-square foot metal building (2401-W) for PCB/dangerous/radioactive waste;
- o Two approximately 200-square foot flammable storage units;

- o An approximately 20,000-square foot waste unloading asphalt pad area;
- o An approximately 10,000-square foot mixed waste concrete storage pad;  
and
- o An office and support staff building (272-WA).

The CWC currently receives radioactive mixed wastes (RMW or mixed wastes) from primarily other facilities on the Hanford Site. The CWC has also received a small amount of mixed wastes from off-site such as other Department of Energy nuclear facilities. The mixed waste received from on-site typically consists of discarded lead shielding. Other types of mixed wastes received from on-site are generally small containers of waste liquids. The wastes are generally overpacked in drums prior to being shipped to the facility.

Future plans call for an incinerator and a large Waste Receiving and Processing (WRAP) facility north of the existing facilities.

#### CONCLUSIONS AND RECOMMENDATIONS

- o The CWC is not currently being operated in a manner that threatens human health or the environment.

**REQUIRED NOTICES**

**WAC 173-303-290**

**REGULATIONS AND REQUIREMENTS**

There are three specific types of notices required of TSD dangerous waste facilities.

- o The Washington State Department of Ecology must be notified at least four weeks prior to the TSD facility receiving dangerous waste from a source outside of the United States.
- o The owner/operator of the TSD facility is required to notify any new owner/operator of the dangerous waste regulations, chapter 173-303 WAC.
- o The TSD facility owner/operator must inform any generator of dangerous waste who ships its waste to the TSD facility that the facility has the appropriate permits to receive the wastes.

Since most of the Hanford Site does not receive wastes from off-site, the required notices requirements generally do not apply to the Hanford facilities. The facility would be required to notify any new Hanford Site operator of the applicable dangerous waste regulations if, in the future, the site operations are assumed by someone other than WHC.

**APPLICABILITY**

The CWC facility occasionally receives shipments of dangerous wastes from off-site. Thus, the facility must provide the required notices outlined in WAC 173-303-290.

#### INFORMATION REVIEWED AND CURRENT STATUS

The current status of the notification practices at the CWC was determined through interviews of the facility operators and review of the facility operating record.

The facility operators notified generators providing wastes to the CWC that the CWC has the necessary permits to receive radioactive dangerous wastes from off-site generators in a April 15, 1988 letter. The facility operators have also notified the generators of the specific packaging methods and materials required for wastes to be acceptable at the CWC facility.

#### CONCLUSIONS AND RECOMMENDATIONS

- o The CWC facility has provided sufficient notification to off-site generators that ship dangerous waste to the facility.

**GENERAL WASTE ANALYSIS**

**WAC 173-303-300**

**REGULATIONS AND REQUIREMENTS**

Waste Analysis Requirements

The waste analysis requirements assure that the TSD facility has sufficient understanding of the dangerous wastes to properly treat, store, or dispose of them. The waste analysis requirements include the following:

- o The owner/operator must obtain a detailed chemical, physical, and/or biological analysis of a waste prior to its management. The analysis must provide the parameters necessary to assure that the material is properly handled. An understanding of the facility processes may be used as an alternative to testing if such knowledge is sufficient to meet the intent of the waste analysis requirements.
- o The wastes must be reexamined if the wastes or the processes generating the wastes change.
- o A written waste analysis plan is required which presents the specific parameters that the waste will be analyzed for, the rationale for selecting the parameters, sampling and test methods, and the frequency with which the initial waste analysis will be reviewed or repeated. The plan must be maintained in the facility operating record.
- o If wastes are received from off-site, procedures are required to ensure that the wastes received are as anticipated.

The waste analysis requirement is an important step toward effective and safe waste handling procedures. The waste analysis requirement is not simply a recordkeeping system for analytical data. The facility operator

must carefully examine the precise function and nature of the TSD operations to formulate a suitable waste analysis program.

Waste analysis is necessary for a proper closure plan. An understanding of the wastes is necessary to determine effective methods to remove and/or treat the dangerous wastes and to decontaminate the facility. Similar requirements exist for post-closure and groundwater monitoring activities.

#### Content of the Waste Analysis Plan

Process Control and Monitoring The waste analysis plan must consider the wastes at all stages of the TSD processes where the wastes may differ from one stage to another. For example, a dangerous waste being treated in a tank should be analyzed before and after the treatment process. It should be analyzed prior to the process to ensure that the treatment is appropriate for the waste and does not result in a reactive or otherwise dangerous situation. The waste analysis should be accomplished after the treatment to ensure that the process is successful in effectively treating the waste.

The waste analysis plan must also identify tolerances that the wastes must meet in terms of specific parameters (i.e., measurable chemical or physical properties). The plan must show how the wastes are monitored to ensure that the specific tolerances are met. For example, consider a storage structure designed to hold up to three hundred gallons of flammable liquids. The waste analysis plan must describe how the facility operator will prevent storage of oxidizers, acids or other wastes that the shed is not designed to handle, as well as how exceeding the flammable storage capacity of the structure will be prevented

Material Compatibility The waste analysis plan must show the compatibility between the wastes and all materials that come (or could be expected to come) in contact with the wastes. For example, the compatibility between the wastes and any container materials, synthetic liner materials,

secondary containment materials, etc. must be documented as a result of the waste analysis program.

Representative Sampling The waste analysis plan must note specifically how representative samples of the wastes will be obtained when sampling of wastes is an element of the waste analysis plan. Information that must be provided includes:

- o Methods to ensure that the samples properly represent the range of the characteristics of the wastes;
- o Sampling techniques; and
- o Sampling equipment.

Quality Assurance and Quality Control The waste analysis plan must detail the quality assurance/quality control program that ensures that all of the waste analysis information is technically defensible and properly documented. The QA/QC program should address:

- o The number of samples and sample blanks (when sampling is performed) required for statistical completeness;
- o Preparation, maintenance, and cleaning of containers and equipment;
- o Certification of any laboratories used;
- o Chain-of-custody procedures and proper sample handling;
- o Laboratory testing methods approved by the EPA or state regulatory agency and justifications if non-approved methods are used;
- o Health and safety protocols; and
- o Proper methods of data compilation, review, and presentation.

## APPLICABILITY

The CWC facility has been identified as a dangerous waste container storage facility in the Part A permit application. Thus, the CWC facility is required to prepare and implement a waste analysis program for the dangerous wastes managed on-site. The program must be detailed within a written waste analysis plan.

## INFORMATION REVIEWED AND CURRENT STATUS

The current status of the waste analysis plan and program at the CWC was determined from interviews of the Solid and Hazardous Waste Plant Engineering (SHWPE) staff and review of the facility operating records.

The waste analysis program for CWC facility is not performed at the storage facility. Rather, it is the responsibility of the SHWPE staff to ensure that proper waste analysis is performed by each generator. The SHWPE responsibilities are outside the scope of this assessment. However, for the purpose of continuity, a brief description of their waste analysis responsibilities are included in this assessment report.

Waste analysis to ensure proper handling and management of wastes received at CWC facility is based on generator supplied information. Prior to waste acceptance at CWC facility the waste information sheets are reviewed by the SHWPE located at building 2750 East where appropriate waste identification codes are assigned and proper packaging instructions are addressed.

When the waste is received at the container storage facility, CWC facility personnel review the waste information sheets submitted by the generator and reviewed by the SHWPE staff to verify that the proper DOT shipping container is being used and to assess the acceptability of the waste. Paper work accompanying each container is compared to information on container labels and the manifest accompanying the wastes to identify discrepancies.

Verification analysis is not performed at CWC facility nor are the containers sampled or opened for visual inspection of the contents due to ALARA (As Low As Reasonably Achievable) regulations. Wastes that do not match the information on the manifest or are for any other reason deemed unacceptable at the CWC facility are returned to the generator.

The waste analysis plan used by the SHWPE staff does not contain the level of detail that is expected by the regulatory agencies. Rather, the document provides guidance to the individual facility operators who are responsible for accomplishing adequate waste analysis on the waste that they are generating. The waste analysis guidance document primarily addresses information needed for designation purposes but does not clearly identify waste characterization for the purposes of proper management of the waste while being stored at CWC facility. The operators of facilities which generate waste are responsible for developing waste analysis plans specific to their individual facilities and, thus, these plans are outside the scope of this assessment.

#### CONCLUSIONS AND RECOMMENDATIONS

- o (Waste Analysis) Develop a program for verifying that rainwater collected at the mixed waste staging pad is not contaminated with dangerous waste prior to its discharge to the in-ground pond.

**SECURITY**  
**WAC 173-303-310**

**REGULATIONS AND REQUIREMENTS**

The Active Portion Must Be Secured

All TSD facilities must have sufficient security to prevent unknowing entry and to minimize unauthorized entry of people and/or animals to the active portions of the facility. The active portion of a facility is considered the dangerous waste management unit such as a specific tank, container area, or landfill unit within the facility. Transfer areas such as loading and unloading docks are also considered an active portion of the facility. The specific features required of the security system include:

- o Signs around the active portions of the facility; and either
- o A 24-hour surveillance system; or
- o Artificial or natural barriers with controlled access.

Signs

The signs around the active portions of the facility are required to satisfy the following:

- o The sign must clearly note the danger associated with the TSD unit and that unauthorized people are not allowed. At a minimum, the sign must read "Danger-Unauthorized Personnel Keep Out".
- o The sign must be legible from a distance of at least 25 feet.

- o A sufficient number of signs must be placed around the active portion of the facility so that a sign is visible from any approach.
- o The sign must be in English as well as any other language predominant in the area around the TSD facility.

#### 24-Hour Surveillance

A 24-hour surveillance system should immediately identify any attempted or inadvertent entry into the active portion of the facility. Continuously monitored closed circuit TV systems and 24-hour guard service are typical types of 24-hour surveillance systems.

#### Artificial or Natural Barriers

Artificial or natural barriers with controlled access points can also be used to provide security. Artificial barriers are considered to be items such as 6-foot or higher lockable fences with gates and building enclosures. Natural barriers are such items as rivers, lakes, and steep hillsides. Controlled access points are points where entry and exit to the facility is closely controlled such as lockable or continuously patrolled gates or doors.

#### **APPLICABILITY**

The CWC has been identified as a container storage and treatment facility in the Part A permit application. Thus, the CWC facility must satisfy the security requirements.

#### INFORMATION REVIEWED AND CURRENT STATUS

The current status of the security of the CWC facility was determined through interviews of the facility personnel and observation of the facility.

Access to the CWC facility is controlled by the overall Hanford Site security. Doors to the CWC buildings are locked at all times except for the 272-WA building. Rope barricades are located around the waste unloading asphalt pad and the mixed waste staging pad.

Signs noting the dangerous nature of the facility and warning unauthorized personnel to keep away are posted at the entrances to the 2401-W building and around the outside container pads. Such signs are posted on the front side of the Low Flashpoint Waste Storage Units (LFWSUs) but are not posted on the sides and back of the building.

#### CONCLUSIONS AND RECOMMENDATIONS

- o Post signs warning personnel of the dangerous nature of the LFWSUs on the back of the units and on all four exterior sides of the 2401-W building.

**GENERAL INSPECTION**

**WAC 173-303-320**

**REGULATIONS AND REQUIREMENTS**

Inspection Program

Facilities which treat, store, or dispose dangerous wastes must develop and implement a detailed inspection program. A written inspection plan must be developed and maintained in the facility operating records and must address both general and unit-specific inspection requirements. The general inspection requirements refer to inspection of the portions of the TSD facility other than the actual TSD container, tank, landfill, etc., units. Unit-specific inspection requirements are presented as part of the individual container, tank, landfill, etc., requirements.

The general facility inspection program must consider these items:

- o Safety equipment such as emergency eye wash stations, protective shields, first aid equipment, and respirators;
- o Emergency equipment such as spill control supplies, fire extinguishers, emergency lights, backup power generators, and fire alarms;
- o Monitoring equipment such as thermostats, fire detection equipment, level, pressure, and flow transducers;
- o Security equipment such as fences, signs, lights, and locks;
- o Communication equipment such as radios, intercoms, closed circuit TV systems, and public address systems;
- o Other general facility items such as building floors, walls, roofs, elevators, ramps, and vehicles.

### Detailed Inspection Plan

The inspection plan should note in great detail what specific items are to be inspected, when they are to be inspected, and what is to be checked for on each item. The level of detail required in an inspection plan is typically underestimated. It is not sufficient to simply "check the emergency eye wash stations", as an example. Rather, each eye wash station should be checked for adequate supplies of water, ease of access in case of need (e.g., no equipment or containers blocking access), and for potential problems that could cause it to fail if needed (e.g., eyecup falls off when used). The inspection should reflect all elements which are necessary for the proper functioning of the item.

Inspection Records Records of the inspections must be maintained. At a minimum, the logs must note:

- o The date and time of the inspection;
- o The printed name and signature of the inspector;
- o Notations of the observations made; and
- o The date and nature of any action required as a result of the inspection.

The inspection logs must be maintained in the facility operating records for at least three years.

Checklists Typically, checklists guide the inspection of particular items. The checklists should reflect the level of detail required of the inspections. The checklists should give specific guidance on what to check on each item, how to inspect it, and how to note any deficiencies. Commonly, the inspection checklists serve as the inspection log and include space to note any responses to problems observed during the inspection.

Frequency of Inspections The frequency of the inspections depends on the specific nature and function of the item being inspected. Equipment which continuously prevents dangerous wastes from spilling or leaking should be inspected daily. Equipment which is used only in the case of an emergency, likely needs to be inspected monthly. In general, the more a failure of a piece of equipment poses a threat to the environment or human health, and the more frequently the item is required to perform its function, the more often it should be inspected. Equipment which is inspected less often should be subjected to a more rigorous inspection.

Unit-Specific Inspections Unit-specific inspection requirements are presented in the respective section addressing the container requirements. Additional inspection requirements for facilities that handle ignitable or reactive dangerous wastes are discussed in the Other General Requirements section.

#### **APPLICABILITY**

The CWC facility has been identified as a container storage and treatment facility in the Part A permit application. Thus, the CWC facility must satisfy the general inspection requirements.

#### **INFORMATION REVIEWED AND CURRENT STATUS**

The current status of the general inspection practices at the CWC facility was determined through interviews of the facility operators and review of the facility operating file.

The inspection program at the CWC facility consists of the following:

- o Weekly inspection of the 2401-W and mixed waste buildings, the flammable storage units, and the staging area;

- o Monthly inspection of the fire alarms, fire protection equipment, eye wash stations, and emergency equipment; and
- o Annual testing of the fire sprinkler systems and annual inspections for compliance with the Uniform Fire Code (UFC).

Standard procedures and checklists exist for the weekly and monthly inspections and are maintained in the CWC operating file. Completed checklists for these inspections are also kept in the facility operating file. The completed checklists also note unusual conditions noted during the inspection and the nature of the corrective action taken.

Annual testing of the fire sprinkler system and the UFC inspection are performed by the Hanford Fire Department. Records of the inspection are maintained at the fire department and are not necessarily provided to the facility operators.

#### CONCLUSIONS AND RECOMMENDATIONS

- o (Inspection Plan) Although not required by the regulations, prepare an inspection plan summary which notes the three specific inspection programs that are performed, the associated document numbers, who is responsible for the inspections, and where the inspection records are kept. Maintain a copy of this summary at the CWC facility for presentation to regulatory inspectors.

PERSONNEL TRAINING

WAC 173-303-330

REGULATIONS AND REQUIREMENTS

Training Program

All employees at a TSD facility who are directly associated with the management of dangerous waste must successfully complete a training program which ensures the facility's compliance with the dangerous waste regulations. The regulations define "facility personnel" as

"All persons who work at, or oversee the operations of a hazardous waste facility, and whose actions or failure to act may result in noncompliance with the requirements (of the regulations)."

The training elements include:

- o The proper methods of handling dangerous wastes in the facility;
- o The proper response to emergencies and implementation of the contingency plan; and
- o Instructors knowledgeable in proper dangerous waste management procedures relative to the specific facility.

New employees should undergo training within 6 months of employment and must be supervised by a trained person until training has been successfully completed. Annually, each employee must review the training program. The facility operating file must include a written training plan and records of each employee's completion of the training.

Training Alternatives The regulations offer alternatives for specifically how the training requirements can be met. The training can be accomplished

through a formal course presented either in the facility or by instructors from outside the facility. Alternatively, the training can be accomplished by on-the-job training (OJT) instruction from facility supervisors. It is common for the facility supervisors to attend a course taught by instructors from outside the facility and then to return to the facility to instruct the remaining facility personnel.

The specific elements in the training course should be directed toward the specific wastes, units, and activities at the TSD facility. The training program should address how the types of wastes, units, and management activities relate to the following:

- o The chemical characteristics and associated hazards of the dangerous wastes handled at the facility;
- o Maintenance, inspection, and use of the facility emergency response and monitoring equipment;
- o Proper implementation of the contingency plan including response to a leak, spill, fire, explosion, or groundwater contamination incident;
- o Proper operation, inspection, and maintenance of waste feed cutoff systems;
- o Proper operation, inspection, and maintenance of the facility communication equipment; and
- o Shut down of operations.

For example, the training program should include instruction in verifying that a particular container's contents are compatible with the contents of other containers in the same storage area.

Instructors The training instructor must have thorough knowledge of the dangerous waste regulations and how they relate to the specific nature of

the facility and dangerous wastes handled at the facility. Given the ultimate responsibility of the training instructor, it is desirable if the instructor is specifically trained in the field of dangerous waste management. On-the-job training is best taught by the facility supervisor since that person is generally in the best position to judge whether an individual has displayed sufficient skills and knowledge to perform required tasks.

New Employees Each employee required to receive the training must do so within the first 6 months of employment at the facility. Until the training is received, the employee must work under the direct supervision of an individual that has received the training. Thereafter, each employee must complete an annual review of the training, at a minimum. If the facility or facility operations change or if the nature of the wastes handled at the facility change, the employees must be retrained.

#### Training Plan

A training plan documenting the training program must be prepared and included in the facility operating record. The plan should show in detail the specific training procedures and how the training requirements are met at the particular TSD facility. Specifically, the plan must include the following for each position related to the management of dangerous wastes at the TSD facility:

- o Job title and description;
- o Name of employee filling the position;
- o Requisite skills, education, and experience;
- o Detailed, written description of the type and amount of training required for the position including course outlines, handouts, exams, etc.; and

- o Documentation showing that the required training, both initial training and annual reviews, has been received within the required time period.

### Training Records

Records showing that the training requirements are being satisfied must be maintained in the facility operating records. The training plan should be maintained permanently in the files. Documentation regarding individual employee's completion of the required training must be maintained for at least three years after the employee's last day at the facility. The records should be detailed and complete and include the dates of each employee's training and the courses attended. They should allow an inspector to quickly determine that the facility is meeting the training requirements.

### **APPLICABILITY**

The CWC has been identified as a container storage and treatment facility in the Part A permit application. Thus, the CWC must satisfy the training requirements.

### **INFORMATION REVIEWED AND CURRENT STATUS**

The current status of the training program at the CWC was determined through interviews of the facility operators and review of the facility operating file.

The training program at the CWC facility consists of specific training courses that are required of the facility personnel that handle the wastes. All personnel handling the wastes are classified as either nuclear operators or nuclear process operators and are required to complete training courses associated with these classifications. Each operator is

required to complete a 40-hour course. This course includes general dangerous waste management practices, dangerous waste characteristics, and response to emergencies. In addition, the operators complete On-The-Job Training (OJT) which consists of learning each of the facilities operating procedures. These training courses are completed within the first six months of employment at the facility with annual reviews thereafter.

The course and OJT instructors are trained beyond the requirements of the CWC facility training program.

The records noting training courses that have been completed by the facility personnel and dates when training must be updated are maintained on the overall Hanford Site personnel training record computer database. Facility personnel who are responsible for coordinating the facility training program have access to the computer database.

#### **CONCLUSIONS AND RECOMMENDATIONS**

- o (Training Plan) Although not required by the regulations, develop a written training plan that notes the specific courses that are required of the facility personnel that are applicable to the dangerous waste training requirements. The plan should also note when the courses are required and what specific operating procedures are included in the OJT program. The plan should also include the location of the training records and how to access them. Place the training plan in the CWC facility operating file.

PREPAREDNESS AND PREVENTION

WAC 173-303-340

REGULATIONS AND REQUIREMENTS

Preparedness and Prevention Requirements

Dangerous waste TSD facilities must be designed, constructed, maintained, and operated to minimize the possibility of a release of dangerous waste to the environment. Regulations directed toward satisfying this general requirement are presented in terms of four general requirements:

- o Required equipment;
- o Access to communication equipment and alarms;
- o Aisle space; and
- o Arrangements with local authorities.

Required Equipment

- o An internal communication system;
- o An external communication system, such as a telephone, capable of summoning emergency aid;
- o Portable fire control equipment, fire extinguishers, spill control equipment, and decontamination equipment; and
- o Water at sufficient pressure and volume to supply the water hoses, sprinkler systems, foaming equipment, etc.

Internal Communication The internal communication system must allow immediate notification to all employees of any emergency and to inform them of the proper evacuation. The system should also immediately notify emergency response personnel within the facility as to the location and nature of the emergency. Typical internal communication systems include alarms with varying tones, intercom systems, and public address systems. This equipment must be located so that personnel have immediate access, either directly or by visual contact with someone with immediate access, wherever dangerous wastes are being handled.

External Communication External communication systems are required to be able to immediately notify emergency response personnel from outside the facility. In particular, the system should notify the local police and fire departments or local or state response teams as to the location, nature, and extent of the emergency situation. Typically, external communication systems consist of a telephone which is able to call the emergency response personnel. The telephone should be available at the control room or a main office. If only one person is in the facility when it is operating, that person must have immediate access to the external communication system (i.e., a hand held radio phone if the individual is not stationed near a phone).

Fire and Spill Control Equipment The facility's fire control equipment should be based on the specific nature of the TSD activities occurring at the site and the associated potential fire hazards. If the wastes handled require a particular method of fire control (special foams, inert gas, dry chemicals, etc.), that type of equipment should be maintained at the facility. Similarly, the type of spill control equipment (e.g., pumps, vacuums, absorbants, etc.) at the facility should reflect the particular nature of the materials that could potentially spill. The equipment should be stored at the facility near the location where its use would be anticipated.

Water System The water system at the facility must provide adequate water pressure and volume to meet any emergency. The facility sprinkler system,

if present, should be designed for the anticipated water pressure and volumes.

#### Aisle Space

The TSD facility must maintain adequate aisle space within the facility to allow the movement of emergency equipment and personnel within the facility. Adequate space should be provided to inspect the units within the facility, move maintenance and emergency equipment to areas where it could be necessary, and allow evacuation of the facility.

#### Consultation with Emergency Aid Agencies

Local agencies that may respond to an emergency at the TSD facility should be consulted to exchange information and make arrangements between the TSD facility and the agencies. Such relationships should particularly be developed with the local police and fire departments, local hospitals, and state emergency response teams. Specific information that should be provided to the local police and fire departments and emergency response personnel include:

- o Layout of the facility;
- o The types, nature, amount, location, and hazards associated with the dangerous wastes handled at the facility;
- o Areas in the facility where personnel are typically working;
- o Entrances into the facility; and
- o Evacuation routes.

Information for local hospitals include the types of dangerous wastes handled at the facility and the associated health dangers associated with the wastes. The health dangers should include burns and the effects of inhalation, skin contact, ingestion, etc.

Where outside agencies decline to enter into such agreements with the TSD facility, their refusal should be documented and noted in the facility operating record.

#### **APPLICABILITY**

The CWC has been identified as a container storage and treatment facility in the Part A permit application. Thus, the CWC must satisfy the preparedness and prevention requirements.

#### **INFORMATION REVIEWED AND CURRENT STATUS**

The current status of the preparedness and prevention procedures and equipment at the CWC facility was determined through interviews of the facility operators, review of the facility operating records, and observation of the facility.

The CWC facility personnel use hand-held portable radios for communication internal to the facility. Such radios are required when personnel are in the storage areas. External communication is by telephone. Fire extinguishers are located at each of the storage facilities and the 2401-W building has a dry pipe sprinkler system. A fire alarm pull box is located outside the FWS buildings, by the mixed waste pad, and within the 2401-W building.

A spill control kit is located on the west side of the 2401-W building. The kit includes absorbent pads, protective clothing, and non-sparking shovels.

The containers in the 2401-W building and on the asphalt and mixed waste pads are stacked to allow about 3 feet aisle space between the rows of containers. The containers are placed on pallets. The proper location of individual pallets is noted on the floor of the 2401-W building.

Emergency response arrangements have been made with local authorities and have been documented in the overall Hanford Site emergency plan. The Hanford Fire Department has been advised of the general nature of the wastes handled at the CWC facility. Specific inventory information, however, is not provided. A pre-fire plan which is maintained on-site, also provides information regarding the nature of the wastes handled at the CWC facility.

#### CONCLUSIONS AND RECOMMENDATIONS

- o (Fire Control Equipment) Provide a water supply to the 2402-W building fire control system prior to operating the building.
- o (Fire Control Equipment) Provide a fire extinguisher at the mixed waste staging and waste unloading asphalt pads.
- o Although it is not required by the regulations, a current inventory list should be provided periodically to the Hanford Fire Department so that they have complete knowledge of the wastes and their location at the CWC facility.

CONTINGENCY PLAN

WAC 173-303-350

REGULATIONS AND REQUIREMENTS

Contingency Plan Requirements

Dangerous waste TSD facilities must develop procedures to effectively address emergencies. The procedures should lessen the impact on human health and the environment if fires, explosions, or releases of dangerous wastes to the environment occur. The emergency procedures to be followed in the TSD facility must be presented in a contingency plan. The contingency plan must include the following:

- o A detailed description of the specific actions to be taken if specific emergencies occur;
- o A description of the arrangements made with local agencies which might be required to respond in the event of an emergency;
- o A current list of the emergency coordinator(s) including work and home phone numbers and address;
- o A list of all emergency equipment and its location at the facility; and
- o An evacuation plan for the facility personnel.

Content of the Contingency Plan

Detailed Responses to Emergencies The contingency plan must present detailed instructions to facility personnel on what specific actions to take in the event of specific emergencies. The nature of the TSD facility, its dangerous wastes management units, and the specific activities which

occur in each of the units as well as other portions of the facility need to be considered in postulating what potential emergencies could occur.

Once the potential emergencies are identified, detailed and specific responses to those emergencies must be developed and presented. The contingency plan should be written as instructions to the facility personnel for their use during an emergency. The plan should not be a generic, standard discussion of what to do in the case of an emergency. Simply stating that "If you observe a spill, clean it up" does not satisfy the requirements of a contingency plan. The following is an example of the level of unit/event specific instructions that are required in the contingency plan:

If you observe a fire in the Building A container storage area, take the following steps:

- Initiate the fire alarm and notify the emergency coordinator.
- Identify the source of the fire and note if drums containing chemical B are involved. If so, tell the emergency personnel when they arrive.
- If chemical B is in the fire do not apply water. Use dry foam or similar extinguishing material.
- If chemical B is not in the fire, apply water using the Building A internal sprinkler system.

Authority during Emergencies The plan must also include detailed discussions of who has what authority at what time. For example, the facility emergency coordinator could have the authority over a fire until the fire fighting crews arrive. Then the fire chief assumes prime responsibility.

Agreements with Local Authorities The contingency plan should document all of the arrangements and agreements that have been made with local agencies. These agreements would be those required by the preparedness and prevention requirements (WAC 173-303-340) and include local fire departments, police departments, and local emergency response teams. The

nature of the agreements should be provided so that roles and responsibilities in the event of specific types of emergencies can be determined. Copies of the contingency plans are required to be provided to the local agencies with which the facility has agreements.

List of Emergency Coordinators The list of emergency coordinators in the contingency plan must be complete and current. Since the plan will be used as an instruction manual in the event of an emergency, it must be clear from the plan who the emergency coordinator is and how to contact that person.

List of Emergency Equipment The contingency plan must include a list of all of the emergency equipment at the facility. This equipment is noted in the preparedness and prevention requirements (i.e., fire extinguishers, spill control equipment, communication systems, etc.). The plan should list all of the equipment available, its location within the facility, and a physical description of each item. The use(s) and capabilities of the equipment should also be provided. A plot plan is an excellent way to show the location of the emergency equipment. Again, the information should be presented in a manner which helps the facility and emergency personnel effectively respond to specific emergencies in the facility.

Evacuation Routes Emergency evacuation routes and procedures must be presented in detail in the contingency plan. Methods to communicate the proper routes under specific emergency situations should also be documented. For example, different types of alarms could signify which specific evacuation route is appropriate in particular emergencies.

#### Filing and Modifying the Contingency Plan

A copy of the contingency plan must be maintained in the facility operating record. It should be easily available to inspectors so that they can quickly determine if the facility plan satisfies the contingency plan requirements.

The contingency plan must be amended if it fails during an emergency, if applicable regulations change, if the facility or facility operations change, if the emergency coordinators change, or if the list of emergency equipment changes.

#### **APPLICABILITY**

The CWC has been identified as a TSD storage and treatment facility in the Part A permit application. Thus, the CWC facility must develop and maintain a written contingency plan on-site.

#### **INFORMATION REVIEWED AND CURRENT STATUS**

The current status of the CWC facility contingency plan was determined through interviews with the facility personnel and review of the facility operating file.

The West Tank Farms and Burial Grounds have recently prepared a Building Emergency Plan in accordance with the overall Hanford Site emergency plan. The West Tank Farms and Burial Grounds plan addresses specific facilities within the area in appendices to the building plan. An appendix addresses the emergency procedures to be followed in the CWC facility in the event of a spill or fire in the facility.

The appendix information includes identification of the building emergency director, evacuation routes, location and types of emergency equipment, procedures to be followed in the event of specific emergency events, and utility shutdown procedures. The plan does not provide home phone numbers of the building emergency directors nor does it note the communication equipment available in the facility.

**CONCLUSIONS AND RECOMMENDATIONS**

- o (List of Emergency Equipment) Note the location of communication equipment in the contingency plan.
  
- o (Emergency Coordinator) Provide home phone numbers and addresses of the building emergency coordinators in the contingency plan.

**EMERGENCIES**  
**WAC 173-303-360**

**REGULATIONS AND REQUIREMENTS**

Emergency Requirements

Dangerous waste TSD facilities must satisfy specific requirements in the event of an emergency at the facility. These requirements are directed toward minimizing any hazards to human health or the environment resulting from the emergency. Although the contingency plan is to provide facility-specific instructions in the event of specific types of emergencies, the general emergency requirements present particular responses that are required of all facilities during all emergencies.

The Emergency Coordinator

The emergency coordinator identified in the contingency plan must have the authority to commit the necessary resources to respond to an emergency. Thus, the coordinator is typically one of the senior individuals within the facility. The emergency coordinator should be familiar with the dangerous waste management activities at the facility including the following:

- o The facility contingency plan;
- o The location and properties of all dangerous wastes handled at the facility;
- o The location of all records within the facility; and
- o The layout of the facility.

Either the emergency coordinator, or an alternate coordinator who meets the above requirements and who reports to the emergency coordinator, must be on-site or else available on call at all times. Specific procedures should be documented regarding how an alternate coordinator remains in contact with the primary coordinator when the primary coordinator is off-site.

The regulations note specific requirements that the emergency coordinator and owner/operator must satisfy in the event of an emergency. The emergency coordinator, in addition to any other activity required by the facility contingency plan, must immediately:

- o Activate alarms and communication systems and notify state and local response teams if their help is necessary;
- o Identify the nature and extent of any release, fire, or explosion;
- o Assess any potential hazards to human health or the environment resulting from the emergency;
- o Report any potential threat to the area outside the facility to the appropriate local authorities and help determine if the area needs to be evacuated;
- o Take all reasonable measures to stop any releases, fires, or explosions, and ensure that they do not reoccur or spread;
- o Properly treat, store, or dispose of any wastes recovered from spills or releases generated during the emergency; and
- o Clean, repair, or replace any emergency equipment used or damaged by the emergency and ensure that it is in good working order before resuming operations.

Notification and Reports

The owner/operator must notify the regulatory agencies that the facility equipment has been properly cleaned, repaired, or replaced before resuming operations. The owner/operator must also prepare a written report which includes the following:

- o Name, address, and phone number of the facility and the owner/operator;
- o Date, time, and type of emergency;
- o The types and quantities of materials involved in the emergency;
- o The extent of any injuries;
- o An assessment of any hazards to human health or the environment due to the emergency;
- o The amount and disposition of any material recovered from releases during the emergency; and
- o Cause of the emergency and corrective actions taken to prevent reoccurrence of a similar incident.

The report must be submitted within 15 days of the emergency.

**APPLICABILITY**

The CWC has been identified as a TSD container storage and treatment facility in the Part A permit application. Thus, the CWC is required to comply with the emergency requirements.

#### INFORMATION REVIEWED AND CURRENT STATUS

The current status of the emergency procedures and responsibilities at the CWC was determined from interviews with facility personnel and review of the facility operating file.

The procedures to be followed in the event of an emergency at the CWC facility are presented in the CWC building emergency plan. The plan identifies R. J. Baumhardt as the building emergency director. Although this individual has the authority to commit the necessary resources to address emergency events due to his position, it is doubtful if the individual has an intimate knowledge of the day-to-day operation of the facility.

The primary responder to emergencies at the CWC facility is anticipated to be the Hanford Fire Department with support from Solid and Hazardous Waste Plant Engineering (SHWPE), Industrial Hygiene and Hazardous Material (IH&HM), and the Chemical Emergency Response Team (CERT). These individuals have a high level of training toward responding to emergencies.

#### CONCLUSIONS AND RECOMMENDATIONS

- o (Emergency Coordinator) Identify an emergency coordinator that has the authority to commit the necessary resources to address facility emergencies and has an intimate understanding of the facility day-to-day operations.

**MANIFEST SYSTEM**  
**WAC 173-303-370**

**REGULATIONS AND REQUIREMENTS**

Dangerous waste facilities that receive waste from off-site are required to adhere to specific manifest practices. These manifest practices include signing procedures, recordkeeping, methods to handle discrepancies, and reasons and methods to refuse a shipment.

The Hanford Site rarely receives shipments of dangerous wastes from off-site. Thus, the manifest requirements are not typically applicable to the assessment of Hanford Site facilities. If, however, shipments of dangerous wastes are received from off-site for treatment, storage, or disposal, manifest requirements would apply and the facility personnel must:

- o Sign and date each copy of the manifest;
- o Note any discrepancy in the manifest information, or between the manifest information and the shipment;
- o Provide the transporter a signed copy of the manifest;
- o Return a signed copy of the manifest to the generator; and
- o Retain a signed copy of the manifest in the facility operating file.

If a discrepancy is noted, either in the manifest itself or between the manifest information and the received shipment, then the facility operator must immediately attempt to reconcile the discrepancy with the generator and/or transporter. A written report notifying the regulatory agency of the discrepancy is required if it is not resolved within 15 days.

#### **APPLICABILITY**

The CWC facility is identified as a dangerous waste container storage facility, and as a future treatment facility on the Part A permit application. In addition, CWC receives shipments of radioactive mixed waste from off-site. Thus, CWC is subject to manifest system requirements.

#### **INFORMATION REVIEWED AND CURRENT STATUS**

The current status of the CWC facility relative to the manifest system requirements was determined from on-site observation of the facility, review of facility records, and interviews with facility personnel.

CWC procedures require that generators shipping radioactive mixed wastes to CWC from off-site use a Uniform Hazardous Waste Manifest. The records reviewed indicated that these manifests are completed and provided with shipments to CWC.

#### **CONCLUSIONS AND RECOMMENDATIONS**

- o The CWC facility satisfies the manifest system requirements.

## FACILITY RECORDKEEPING

WAC 173-303-380

### REGULATIONS AND REQUIREMENTS

#### Facility Recordkeeping Requirements

Dangerous waste TSD facilities must maintain complete and accurate records of all dangerous waste management activities that have occurred at the site. The record system should document all dangerous waste activities and allow easy reconstruction of past dangerous waste management practices. Particularly, the records should be such that an inspector from a regulatory agency can quickly determine whether the facility is operating in compliance with the dangerous waste regulations.

#### Required Records

Specific items that should be included in the facility records as a minimum are:

- o Records of the amount and nature of dangerous wastes treated, stored, or disposed at the facility including dates, source, final disposition, methods, etc.;
- o Records of where (what units within the facility) specific wastes have been, or are, treated, stored, or disposed;
- o Waste analysis results including laboratory test results, generator supplied information, waste designation narratives, and any petitions regarding waste designation that have been submitted;
- o Contingency plan and emergency reports, and records associated with past emergency situations at the facility;

- o Inspection logs and records of follow up actions as well as results from inspections by outside inspectors;
- o Groundwater monitoring data and testing results; and
- o Closure and post-closure plans and cost estimates.

#### Waste Identification

Records which document the nature of the wastes and their management must describe the waste by its common name and by its dangerous waste number. The TSD management method codes must also be provided. For example, a waste ignitable liquid stored in a container would be referred to as S01 (management code for storage in a container) of a D001 (ignitable) waste.

#### Records Location and Access

The facility dangerous waste records should be maintained in a single location separate from the general facility records so that they can be easily found and reviewed. Although it is not required by the regulations, it is recommended that a duplicate of the dangerous waste records be maintained in a separate location in case the originals are destroyed. The records must be retained at least until closure of the facility.

The records should be maintained under the control of a select few individuals within the facility. Unauthorized personnel should not be allowed access to the dangerous waste records. The records must be available for inspection upon request by the regulatory agencies.

### **APPLICABILITY**

The CWC facility is identified as dangerous waste container storage facility, and as a future treatment facility on the Part A permit application. Thus, CWC is subject to the facility recordkeeping requirements.

### **INFORMATION REVIEWED AND CURRENT STATUS**

The current status of the CWC facility relative to the facility recordkeeping requirements was determined from on-site observation of the facility, review of facility records, and interviews with facility personnel.

The facility operating records are maintained at several locations, depending on the particular record. For example, the Uniform Fire Code inspection findings are kept at the Hanford Fire Department, the personnel training records are maintained in the 200-East Area, and the weekly container inspection records are kept in Building 272-WA at CWC.

### **CONCLUSIONS AND RECOMMENDATIONS**

- o (Required Records) The required operating records for the CWC facility are kept in compliance with the recordkeeping requirements.
- o (Records Location and Access) Although not required by the regulations, prepare a list of all the types of required records that must be kept by CWC, along with the locations of those records, and contact persons who can make those records available for inspection by the regulatory agencies. Maintain this list at CWC and update periodically as needed.

## FACILITY REPORTING

WAC 173-303-390

### REGULATIONS AND REQUIREMENTS

#### Reporting Requirements

The owner/operator of a dangerous waste management facility must submit reports on various activities at the facility. In particular the following reports are required:

- o Reports documenting unmanifested dangerous waste shipments;
- o Annual reports; and
- o Other additional reports.

#### Unmanifested Shipments

Facilities must report dangerous waste shipments received from off-site without an accompanying manifest. Since the Hanford Site rarely receives dangerous waste from off-site, the Hanford Site facilities do not typically have cause to submit this type of report. However, anytime a shipment should arrive from off-site without a manifest, such an incident must be reported to the regulatory agency on a special form (Unmanifested Dangerous Waste Report - Form 6) within 15 days after receiving the waste.

#### Annual Reports

By March 1 of each year, dangerous waste TSD facilities must submit annual reports which document the dangerous waste activities at the facility for the previous calendar year. A particular form, Form 5, available from the

regulatory agency, is to be used to develop the annual report. Specific information relevant to the Hanford Site facilities that is required on the form includes:

- o The EPA/state identification number, name, and address of the facility;
- o The amount and nature of all dangerous wastes treated, stored, or disposed at the facility using the dangerous waste numbers;
- o The methods of treatment, storage, or disposal used at the facility using the dangerous waste handling codes; and
- o The most recent closure and post-closure cost estimates.

The Hanford Site submits a single annual report for the entire site. The report includes the TSD activities at each of the individual facilities. The individual facilities submit their annual information to the preparers of the overall Hanford Site annual report.

#### Other Reports:

Other reports which may be required of the TSD facilities include reports documenting emergency situations as required in the emergency regulations and any other report that the regulatory agencies require on a case-by-case basis.

#### APPLICABILITY

The CWC facility is identified as a dangerous waste container storage facility, and as a future treatment facility on the Part A permit application. Thus, CWC is subject to the facility reporting requirements.

#### INFORMATION REVIEWED AND CURRENT STATUS

The current status of the CWC facility relative to the facility reporting requirements was determined from on-site observation of the facility, review of facility records, and interviews with facility personnel.

The CWC facility did not begin storing radioactive mixed wastes until calendar year 1988. Therefore, CWC has not had to submit a TSD facility annual report yet.

#### CONCLUSIONS AND RECOMMENDATIONS

- o The CWC facility satisfies the facility reporting requirements.

OTHER GENERAL REQUIREMENTS  
WAC 173-303-395

REGULATIONS AND REQUIREMENTS

Other general requirements that apply to dangerous waste TSD facilities include:

- o Precautions for ignitable, reactive, or incompatible wastes;
- o Labeling for tanks and containers;
- o Relationships with other environmental laws and regulations;
- o Loading and unloading areas; and
- o Storage time limits for impoundments and piles.

Ignitable and Reactive Wastes

The special requirements that pertain to ignitable or reactive wastes apply to wastes which are designated as such by the dangerous waste designation procedures. Specifically, any wastes meeting the characteristics described in WAC 173-303-090(5) or -090(7) are subject to these requirements. The special requirements applicable to ignitable or reactive wastes are:

- o Ignitable or reactive wastes must be separated from sources of ignition such as open flames, sparks, heat, etc.;
- o "No Smoking" signs must be placed wherever ignitable or reactive wastes are being handled; and

- o The facility must be inspected annually by a person knowledgeable in the Uniform Fire Code.

In general ignitable, reactive, or incompatible wastes and materials must be handled in a manner that does not:

- o Generate extreme heat, pressure, fire, explosion, or violent reactions;
- o Produce uncontrolled gases or dusts that are toxic, flammable, explosive, or otherwise threaten human health or the environment; or
- o Damage the structural integrity of the facility or unit containing dangerous waste.

Satisfying the ignitable, reactive, or incompatible waste general requirements typically includes the facility accomplishing the following:

- o Identification of any ignitable, reactive, or incompatible wastes handled within the facility;
- o Identification of potential scenarios and methods that may result in incompatible wastes being combined;
- o Identification of sources of ignition or reaction within the facility;
- o An analysis of handling methods and units storing ignitable, reactive, or incompatible wastes relative to the above items; and
- o An analysis of methods and units used to render the waste nonignitable, unreactive, or compatible.

Identification of Ignitable, Reactive, or Incompatible Wastes The identification of any ignitable, reactive, or incompatible wastes should be made an integral part of the waste analysis plan. The plan should consider the nature of the wastes at intermediary steps in any treatment processes

to determine the ignitibility, reactivity, or incompatibility. All materials which come into contact with the wastes should be considered to determine any potential for incompatibility between the wastes and the materials.

The dangerous waste activities and processes should be reviewed to identify ways that incompatible wastes may inadvertently be allowed to mix. These include containers that are supposedly empty but contain incompatible residue, and improperly decontaminating tools and equipment.

Sources of Ignition Sources of ignition may consist of other than open flames and heat. Equipment and tools used around ignitable or reactive wastes should be constructed of non-sparking materials. Ignitable wastes should be segregated from wastes which generate significant amounts of heat when exposed to common materials such as water or air. Sources of static electricity should be avoided, and tanks and containers should be grounded.

Annual Fire Inspection The purpose of the annual fire inspection is to confirm that the facility is designed and operated in conformance with the Uniform Fire Code. The regulations require that facilities that handle ignitable wastes be designed, constructed, and operated in general accordance with the Uniform Fire Code. The annual inspection must be performed by a professional person who is knowledgeable of the code. The local fire marshall or a facility engineer with a background in fire codes typically satisfies this criteria. The inspection should also include checking for practices which present potential for causing fires or explosions.

#### Tank and Container Labels

Tanks and containers must be marked with a label which notes the contents and the major risks associated with the wastes. Specific requirements are provided in the technological standards for each of the specific types of units.

Other Requirements

Other general requirements note how the dangerous waste regulations relate to other environmental laws. Other laws include those pertaining to the Clean Water Act, Toxic Substances Control Act, and Clean Air Act. Particular requirements for asbestos wastes, loading and unloading areas, and storage time limits for impoundments and piles are also presented.

**APPLICABILITY**

The CWC facility is identified as a radioactive mixed waste and radioactive waste container storage facility, and as a future treatment facility on the Part A permit application. CWC is currently storing radioactive mixed waste in containers. Thus, CWC is subject to the other general requirements for dangerous waste management facilities.

**INFORMATION REVIEWED AND CURRENT STATUS**

The current status of the CWC facility relative to the other general requirements for dangerous waste management facilities was determined from on-site observation of the facility, review of available operational plans and records, and interviews with knowledgeable facility personnel.

Ignitable wastes at the CWC facility are stored in two low flashpoint mixed waste storage units FS-3 and FS-4. Some ignitibles from the rinsing of PCB transformers are also stored in the PCB storage building 2401-W.

Incompatible wastes or incompatible wastes and materials are not mixed or commingled at CWC.

**CONCLUSIONS AND RECOMMENDATIONS**

- o (Ignitable and Reactive Wastes) Post "No Smoking" signs on all sides of the flammable storage units.
  
- o (Loading and Unloading Areas) If bulk liquids are ever received at the waste unloading asphalt pad, comply with the requirements for loading and unloading areas.

## SITING STANDARDS

WAC 173-303-420

### REGULATIONS AND REQUIREMENTS

Dangerous waste TSD facilities must meet specific standards regarding the physical location of the facility. The siting standards generally address minimum distances that TSD facilities must be from surface waters, public facilities, drinking water supplies, and other sensitive features. Facilities may not be located in earthquake sensitive areas or a floodplain unless certain engineering practices are followed.

The specific siting standards are currently being significantly revised and rewritten. The final form of the siting standards can not, at this time, be anticipated. Thus, it is not possible to assess facilities relative to the dangerous waste facility siting criteria.

### APPLICABILITY

The CWC facility is identified as a dangerous waste container storage facility, and as a future treatment facility on the Part A permit application. Thus, CWC may in the future be subject to the siting standards.

**PERFORMANCE STANDARDS**

**WAC 173-303-430**

**REGULATIONS AND REQUIREMENTS**

The general performance standards allow the regulatory agencies to apply, on a case-by-case basis, standards that are more stringent than those specifically presented in the regulations. The general performance standards require that dangerous waste TSD facilities must be designed, constructed, and maintained in a manner that prevents degradation of human health or the environment. Specific areas of environmental damage noted in the regulations include:

- o Groundwater and surface water quality;
- o Air quality;
- o Slope and soil instability;
- o Flora and fauna;
- o Aesthetics of public or adjoining lands; and
- o Excessive noise.

The general performance standards also require that the facility treat or recycle waste material as much as economically feasible.

In essence, the general performance standards allow the regulatory agency to control the operations at a TSD facility even if no specific regulation (other than the general performance standards) is being violated. By citing the general performance standards and identifying a "threat to human health or the environment," the agency can undertake enforcement action to correct the source of the threat. Thus, the general performance standards

require, above all else, that the owner/operator identify facility-specific practices which, although not failing any specific TSD requirement, could present a threat to human health or the environment.

#### **APPLICABILITY**

The CWC facility is identified as a dangerous waste container storage facility, and as a future treatment facility on the Part A permit application. CWC is currently storing radioactive mixed waste in containers. Thus, CWC is subject to the performance standards.

#### **INFORMATION REVIEWED AND CURRENT STATUS**

The current status of the CWC facility relative to the performance standards was determined from on-site observation of the facility, review of available operational plans and records, and interviews with knowledgeable facility personnel.

#### **CONCLUSIONS AND RECOMMENDATIONS**

- o The CWC facility satisfies the performance standards.

## BUFFER MONITORING ZONES

WAC 173-303-440

### REGULATIONS AND REQUIREMENTS

#### Ignitable or Reactive Wastes

Dangerous waste TSD facilities that handle ignitable or reactive wastes are required to maintain specific minimum distances between the TSD units and public ways, streets, and property lines. In particular, facilities treating or storing ignitable wastes in tanks must meet buffer zones specified by the National Fire Protection Association Code. The specific reference for the NFPA requirements is discussed in the guidance for tanks.

#### Explosive Wastes

The regulations also present buffer zone requirements for dangerous wastes that are explosive. Treatment or storage of these wastes must be provided buffer zones equivalent to the Uniform Fire Code's American Table of Distances for Storage of Explosives, Table 77-201, 1979 edition.

#### New Land-Based Units

The buffer zone requirements also present minimum distances that new land-based TSD units are encouraged to meet. The minimum distance is based on the travel time of the wastes from the active portion of the facility to the nearest downgradient well or surface water used for drinking water. The travel times should be longer than 3 years for DW wastes and 10 years for EHW wastes. These buffer zone requirements are not mandatory, and will likely be changed by the new siting standards currently being developed.

#### **APPLICABILITY**

The CWC facility is identified as a dangerous waste container storage facility, and as a future treatment facility on the Part A permit application. Thus, CWC is subject to the buffer monitoring zones requirements.

#### **INFORMATION REVIEWED AND CURRENT STATUS**

The current status of the CWC facility relative to the buffer monitoring zones requirements was determined from on-site observation of the facility, review of facility records, and interviews with facility personnel.

The CWC facility does not store ignitable wastes in tanks. Explosive wastes are not stored at the CWC facility. The CWC facility is not a landfill.

#### **CONCLUSIONS AND RECOMMENDATIONS**

- o The CWC facility satisfies the buffer monitoring zones requirements.

**CLOSURE**  
**40 CFR PART 265 SUBPART G**

**REGULATIONS AND REQUIREMENTS**

Closure Requirements

When dangerous waste TSD facilities are shutdown or taken out of service, they must be properly "closed". Closures of TSD facilities are usually aimed at cleaning up all dangerous wastes at the facility and restoring the facility to an uncontaminated condition. When it is not possible to remove all dangerous wastes (referred to as "clean closure"), the owner/operator must undertake post-closure care of the facility site.

Performance Standard The regulations set forth a closure performance standard that applies to all facilities. This performance standard requires the owner/operator to close the facility in a manner that:

- o Minimizes the need for further maintenance;
- o Controls, minimizes, or eliminates releases of dangerous wastes after closure to protect public health and the environment; and
- o Complies with the specific closure requirements for individual waste management units (e.g., containers, tanks) set forth elsewhere in the regulations.

For listed and characteristic dangerous waste, clean closure must be to background environmental levels. For other types of dangerous wastes, the contamination must be removed to a certain level depending on the contamination and other factors.

The general intent behind the performance standard is to ensure, to the maximum extent possible when a facility is closed, that it will pose no or

minimal risk to people and the environment after closure. Clean closure is considered by the regulatory agencies to be the best way to achieve this standard. Even when clean closure is not possible, the same general principle of no or minimal risk will usually guide the agencies' reviews and comments on a facility's closure activities. The focus in these cases will be on minimizing risk to people and the environment, and on setting up the post-closure care program such that the facility will continue to pose no or minimal risk during and after the post-closure care period.

Notifications The owner/operator must notify Ecology and EPA in writing at least 60 days before the date closure of a land disposal unit (surface impoundment, waste pile, land treatment, or landfill unit) is expected to begin. Forty-five days notice is required for all other closures.

Once a unit or facility has managed the last volume of dangerous waste, the owner/operator will have 90 days to treat, remove, or dispose on-site all dangerous wastes in accordance with the closure plan, and 180 days to complete the remaining closure activities specified in the closure plan. Longer time periods for disposition of dangerous wastes and completion of all other closure activities can be allowed if Ecology and EPA approve them. Within 60 days after closure is completed for a land disposal unit or for an entire facility, the owner/operator must submit a written Certification of Closure to Ecology and EPA.

#### Closure Plan Requirements

The device for accomplishing the closure requirements and performance standard is the closure plan. The owner/operator must prepare a written closure plan, keep the plan at the facility, and make the plan available to the regulatory agency for review upon request.

Closure plans are typically very detailed. A plan must address partial closure of units at the facility during its active life (e.g., completion and closure of one cell at a landfill) as well as final closure efforts for

the entire facility. The closure plan must take into account all of the different types of waste management units and activities associated with those units when discussing the efforts that will be conducted to close. In addition, certain units (e.g., surface impoundments and tanks without secondary containment) must have contingency plans in the event that intended clean closure cannot be performed.

The closure plan must describe, in detail, the steps necessary to achieve full closure at any point during the facility's active life. This will usually result in the closure plan assuming a worst case scenario, where full closure might have to be conducted with the maximum amount of dangerous waste present on-site, and when the greatest level of waste management activities is occurring.

The closure plan must include at least the following information:

- o A description of how each management unit at the facility will be closed to achieve the closure performance standard.
- o A description of how final closure of the facility will be conducted to achieve the closure performance standard.
- o An identification of the maximum extent of operations that will be ongoing at any given time during the facility's active life (worst case closure scenario).
- o An estimate of the maximum inventory (both types and volumes) of dangerous waste that will ever be on-site during the facility's active life (worst case closure scenario).
- o Descriptions of the methods for remediating the facility during partial and final closure, including at least:

- Removal, transport, storage (temporary and/or permanent), treatment, and disposal (off-site and on-site, where applicable) of dangerous wastes;
  - Identification of the type(s) of off-site waste receiving facilities, where applicable;
  - Steps needed to remove or decontaminate hazardous materials (wastes, constituents and residues) such as containment systems, equipment, structures and soil that may be contaminated;
  - Sampling and analysis that will be used to determine the extent of decontamination needed to meet the closure performance standard; and
  - Other activities that may be needed to satisfy the closure performance standard, such as groundwater monitoring, leachate collection and run-on/run-off control.
- o A schedule for closure of each management unit (partial closure) and for final closure, including at least the total time needed to close each unit and for intervening activities so that closure progress can be tracked.

When preparing the closure plan contents described above, the owner/operator must account for, in detail, the activities that will actually need to be conducted to close the facility. Closure can be broken down into the following general activities:

Material Removal

- Sampling
- Analysis
- Remediation
- Facility Reclamation

Materials Staging and Disposition

- Containment
- Preparation for Disposal
- Transport
- Ensuring TSD Receipt

Closure Certification

- Records
- Reports

Specific discussions and guidance for each of these areas are provided in the following paragraphs.

Material Removal are all efforts oriented specifically to removing all dangerous wastes, waste constituents, and residues from the facility which are not intended to be left behind after closure. This must include decontamination measures, efforts to demonstrate clean closure, (except for landfill portions of the facility) and final condition of the facility upon closure.

Sampling activities must be directed to proving to Ecology and EPA that no hazardous materials (wastes, constituents, and residues) will remain after closure except those that are intended to be left in place.

Analysis represents all of the different tests that will be performed to demonstrate that hazardous materials are not left after closure, or to show that only those materials intended to remain in place are actually present after closure. It must also include chain of custody and QA/QC procedures.

Remediation provides a description of the efforts that will be undertaken to actually remove hazardous materials from the facility and remediate those areas where hazardous materials are not intended to remain. It will specify where and when analysis to check for clean closure will be

performed. It will also specify worker, equipment, and other decontamination procedures that will be followed.

Facility Reclamation should address all of the efforts that will be undertaken to return the facility to the appearance and uses of surrounding areas. For landfills, this will particularly address areas such as final covers and revegetation.

Materials Staging and Disposition should address all activities associated with containing and preparing, for final disposition, the wastes generated during closure. The methods of transport, likely disposal practices, estimated volumes of hazardous materials to be disposed of, and disposal verification should be addressed.

Containment should describe how the various forms of containment (e.g., container, tank) will be provided for different types of hazardous materials (including contaminated equipment) while closure is conducted. Dangerous waste containment procedures will likely need to be followed unless the wastes are shown to not be dangerous.

Preparation for Disposal will likely involve arranging for a disposal facility to receive the hazardous materials generated during closure. On-site disposal may be an option for landfills. If this is to be done, then the disposal methods should be accounted for.

Transport should provide a discussion of how off-site transport and disposal will actually be accomplished for materials that will be shipped off-site.

Ensuring TSD Receipt is primarily a matter of checking the dangerous waste manifests (or other documents if only on-site transport is involved) to confirm that the receiving TSD facility has accepted the dangerous wastes.

Closure Certification will address those final activities necessary to document and demonstrate that the closure plan was followed and that the closure performance standard has been satisfied.

Records should be sufficient to technically support the certification of closure that must be submitted to the regulatory agencies.

Reports will essentially be all written communications with Ecology and EPA necessary to certify that closure has been performed in accordance with the approved closure plan and that the closure performance standard has been met.

The owner/operator must maintain the closure plan to ensure that it is current and accounts for the anticipated closure activities. The owner/operator must amend the closure plan when the facility operations change in a manner that affects the closure procedures, or when the closure schedule changes.

#### Post-Closure Requirements

A dangerous waste TSD facility generally must comply with the post-closure requirements if dangerous waste will remain at that facility after closure at levels in excess of the clean closure criteria. Post-closure is essentially a period of time (typically 30 years) after closure during which certain caretaking activities must occur. The regulations are directed primarily toward land disposal units such as landfills where the dangerous wastes are anticipated to remain after the facility is shutdown. However, certain surface impoundments, tanks, and waste piles also need to have contingent post-closure plans even though it may be the intent to remove all wastes at closure.

Intent of Post-Closure The general intent of the post-closure care period is to allow for the detection of failures in the waste containment system after the facility has been closed. Such failures could be indicated by,

for example, excessive cap settling, groundwater contamination, or increasing leachate in the collection system. During the post-closure care period, the owner/operator must ensure that the facility's post-closure monitoring and maintenance activities are performed in a manner that will allow for detection of failures (and incipient failures) during the post-closure care period. Post-closure use of the property must not disturb the integrity of the waste containment system (e.g., liners, caps) or the monitoring systems.

Notification Requirements When a land disposal unit or facility is closed, two notices must be given. The first required notice is a notice, including a survey plat, to the local land authority, and to Ecology and EPA. The second required notice is a notice in the deed to the property. The basic purpose of these notices is to ensure that the presence of dangerous wastes at the site is identified to future users and purchasers of the property, and to prevent potential disturbance of the disposal units by future activities at the site.

#### Post-Closure Plan Requirements

The primary device for ensuring that the closed land disposal units are not disturbed, that monitoring is continued, and that maintenance of the closed unit(s) is timely and appropriate is the post-closure plan. The post-closure plan must be kept at the facility and be available for inspection by the regulatory agency. The plan must describe in detail the activities that will be conducted during the post-closure care period, and must address the specific post-closure requirements for each type of unit (e.g., waste pile, landfill).

For each disposal unit at a facility, the post-closure plan must identify the activities (and frequency of those activities) that will be conducted after closure of the unit. The plan's contents must include at least:

- o Descriptions of the planned groundwater monitoring activities and frequencies.
- o Descriptions of the planned maintenance activities and frequencies to ensure:
  - Integrity of the containment structures (e.g., cap);
  - Function of the facility monitoring equipment.
- o The name, address, and phone number of the person or office to contact regarding the unit or facility during the post-closure care period.

The post-closure plan must be followed until the end of the post-closure care period. At the end of post-closure care for each disposal unit, the owner/operator must submit to Ecology and EPA a certification that post-closure care was performed in accordance with the post-closure plan.

When preparing the post-closure plan for a unit or facility, the owner/operator should consider all of the activities that are likely to be necessary to actually provide post-closure care for the unit or facility. The following activities should be considered and, as appropriate, addressed in the plan.

#### Monitoring and Inspection

- Leachate
- Groundwater
- Containment System Integrity

#### Maintenance and Corrective Measures

- Containment Systems
- Monitoring Systems

The following paragraphs provide brief discussions of the types of considerations to include when addressing these activities in the post-closure plan.

Monitoring and Inspection should identify all activities necessary to detect escape of dangerous wastes, constituents, or residues into the environment, and to detect any breakdown in the integrity of the containment systems or the monitoring systems. Containment systems include liners, caps, covers, and in the case of land treatment units, the treatment zone itself.

Leachate may be generated during the post-closure care period. The leachate collection system should be inspected for excessive leachate generation, failure of the leachate removal system, or other related problems that could indicate loss of hazardous materials (wastes, constituents, or residues) to the environment.

Groundwater monitoring must be conducted during post-closure. The post-closure plan should be in compliance with the state and federal groundwater monitoring regulations. Inspection of the monitoring wells and locations should be conducted to ensure that they are maintained in good condition.

Containment System Integrity should be monitored and inspected to detect failures when they occur, and to identify signs of incipient failure so that preventive efforts can be undertaken prior to failure. Signs of potential failure to look for include: excessive settling of the cap; excessive erosion or loss of vegetation; damage to the cap from burrowing animals or plants; and, for land treatment, unexpected changes in the treatment zone.

Maintenance and Corrective Measures should specify the actions that will be taken in the event that the containment systems fail or may be failing, that the monitoring systems are not operating correctly, or that monitoring indicates potential escape of hazardous materials to the environment.

Containment Systems should be corrected if signs of failure or incipient failure occur, and should be maintained to prevent failure from becoming a potential problem. For example, maintenance and corrective measures for the containment systems might include: maintaining the vegetative cover; maintaining any security systems in place; replacing soils lost through erosion; and even digging up an entire cell to replace the liner system.

Monitoring Systems should be corrected if problems occur that compromise their operation, and maintenance and corrective measures should be planned for in the event that the monitoring systems indicate release of hazardous materials to the environment. For example, consideration should be given to what actions will be taken if: the leachate detection system fails; or, the ground water monitoring system detects hazardous constituents.

#### **APPLICABILITY**

The CWC facility is identified as a dangerous waste container storage facility, and as a future treatment facility on the Part A permit application. Thus, CWC is subject to the closure requirements. The CWC facility is not a land disposal facility, so CWC is not subject to the post-closure requirements.

#### **INFORMATION REVIEWED AND CURRENT STATUS**

The current status of the CWC facility relative to the closure requirements was determined from on-site observation of the facility, review of facility records, and interviews with facility personnel.

A closure plan has not been prepared for the CWC facility. It is the operator's intent to clean close the CWC facility at the time closure commences.

**CONCLUSIONS AND RECOMMENDATIONS**

- o (Closure Plan) Prepare a detailed closure plan for the CWC facility that accounts for all of the applicable closure requirements.

**FINANCIAL REQUIREMENTS**  
**40 CFR PART 265 SUBPART H**

**REGULATIONS AND REQUIREMENTS**

Dangerous waste TSD facility owners/operators must demonstrate that they have sufficient financial assets to ensure that the facility can be properly closed and, if necessary, properly maintained during post-closure. The documentation required can include certificates of insurance, proof of self insurance, or sufficient liquid financial assets. In addition, owners/operators must have insurance for their facilities to cover accidents, releases, and other incidents.

The regulations specifically exclude federally owned facilities from the financial requirements. It has been assumed that governmental agencies have sufficient financial ability to properly close their TSD facilities, pay for post-closure care where necessary, and cover costs arising from unexpected incidents. Since the Hanford Site is a federally owned facility, it is exempt from the TSD financial requirements.

**CONCLUSIONS AND RECOMMENDATIONS**

- o Although not a requirement of the regulations, it is recommended that a closure cost estimate be calculated for the CWC facility to facilitate budget planning prior to closure. In addition, current state regulations require operators under contract to the federal government to comply with the financial requirements under final status.

USE AND MANAGEMENT OF CONTAINERS  
40 CFR PART 265 SUBPART I

REGULATIONS AND REQUIREMENTS

Containers and container areas that are used to store or treat dangerous wastes must satisfy certain minimum standards. Containers are defined as portable devices in which dangerous wastes are treated or stored. Thus, items such as tank trucks and tank trailers, as well as typical drums, are considered containers. The regulations apply to both containers and container areas.

The requirements for containers and container areas include standards for:

- o Container integrity;
- o Compatibility between the container and the waste(s);
- o Handling or management of the containers;
- o Inspection of the containers and container area;
- o Management of ignitable, reactive, or incompatible wastes in containers;
- o Labeling of the containers; and
- o Secondary containment.

Container Integrity

Containers used to handle dangerous wastes must be in good condition. The container should not be damaged structurally and should be relatively free of corrosion. Other types of distress that must be prevented include

dents, pitting, punctures, and separation of seams. Containers that experience these kinds of distress, leak, or are otherwise unable to contain the wastes safely, must be emptied of dangerous wastes and not used until sufficiently repaired.

#### Waste/Container Material Compatibility

Wastes handled in the containers must be compatible with the container. Contact between the container and the wastes must not result in excessive heat, fire, explosion, or any other reaction that will damage the container. Similarly, the wastes must be compatible with the materials of construction of the container area itself. For example, if a particular waste generates toxic gases when it comes into contact with concrete, the floor of the container area should not be constructed of concrete, or else it should be coated or sealed to prevent contact with the concrete in case of leakage.

The waste analysis plan demonstrates that the container/waste compatibility requirements are satisfied. It should show that the wastes, the container materials, and the container area materials are compatible. The facility operating procedures should include what particular type of containers should be used for each type of dangerous waste generated at the facility.

#### Management of Containers

Containers handling dangerous wastes must be managed to prevent damage to the container and prohibit release of the waste from the container. Specifically, the regulations require that containers be kept closed at all times except when waste is being added or removed. The lids of the containers should be secured so that if the container were to tip, wastes would not spill. Other practices which are consistent with these requirements include:

- o Place drums vertically rather than horizontally so that the drum is more stable and not able to roll;
- o Elevate containers off of the floor so that liquids will not accumulate around the base of the container;
- o Stack drums no greater than 2 high to reduce the potential for the drums to become unstable and fall; and
- o Protect container storage areas from damage by objects such as fork-lift trucks by using barriers or fences.

#### Inspections

Containers and container areas must be inspected at least weekly for leaks, spills, corrosion, or container distress. The inspection program should include inspection checklists which give detailed, complete guidance to the inspector regarding what specific items are to be inspected and what they are to be inspected for. The checklists should also consider the specific area to be inspected. For example, an inspection checklist for a container area where drums are stacked on pallets should include checking for rot in the wood pallets which may result in failure of the pallet and falling of the container.

The inspection checklists must be maintained in the operating file. The inspection logs, checklists, and other records should be of sufficient detail to allow a regulatory agency inspector to quickly determine that the facility is satisfying the container and container area inspection requirements.

Ignitable, Reactive, or Incompatible Wastes

Containers that handle ignitable or reactive wastes must be managed in accordance with special requirements for such types of wastes. The regulations specifically require that containers holding ignitable or reactive wastes be placed at least 50 feet from the facility property line. The wastes must also be handled in a manner that prevents the ignitable or reactive wastes from igniting or reacting. This includes keeping the containers away from open flames or other sources of heat.

Incompatible wastes are not to be mixed together in a container. Dangerous wastes are not to be placed in a container that once held an incompatible waste unless the container is washed or unless the wastes placed in the container will not generate uncontrolled reactions, fumes, heat, etc. In addition, containers which contain incompatible wastes must be stored in areas that are separated by a dike, berm, or other device that prevents the mixing of the incompatible wastes.

In general, the storage or treatment of ignitable, reactive, or incompatible wastes in containers must adhere to the requirements of WAC 173-303-395, Other General Requirements.

Labeling

The Washington State addenda to interim status container requirements include specific requirements for labeling of containers handling dangerous waste. The containers must be marked with a label which notes the contents of the container and the risks associated with the wastes.

### Secondary Containment

The Washington State dangerous waste regulations present secondary containment requirements for interim status container areas. These requirements are considered addenda to the federal Subpart I requirements.

Container areas that were constructed or installed after September 30, 1986 are required to have secondary containment. Furthermore, existing container areas that the regulatory agency believes present a potential threat to public health or to the environment can be required to have secondary containment by the agency. A history of releases from the containers or repeated nonconformance with the container regulations are typical justifications for the agency to require secondary containment for existing container areas.

Secondary containment for container areas typically consists of an impervious floor with impervious curbs. The materials used to construct the containment area must be compatible with the wastes handled in the containers. Secondary containment areas must be protected from run-on. In other words, rainfall, snow melt, or other water must be prevented from flowing into the containment area. Similarly, the containment must have sufficient volume to contain the rainfall from a 25-year, 24-hour storm without allowing the precipitation to flow out of the containment area.

Liquids accumulated in the containment area must be removed in a timely manner. If accumulated precipitation is drained out of the containment area, the draining should occur only after the accumulated liquid is determined to be non-dangerous. The drainage valve should be maintained in a locked position and only opened to drain non-dangerous liquid.

### APPLICABILITY

The CWC facility is identified as a radioactive mixed waste and radioactive waste container storage facility, and as a future treatment facility on the

Part A permit application. CWC is currently storing radioactive mixed waste in containers. Thus, CWC is subject to the interim status container requirements. Furthermore, some of the wastes to be stored at the CWC facility will be ignitable or reactive, thus CWC will need to satisfy the container requirements for ignitable or reactive wastes.

#### **INFORMATION REVIEWED AND CURRENT STATUS**

The current status of the CWC facility relative to the interim status container requirements was determined from on-site observation of the facility, review of facility records, and interviews with facility personnel.

At this time, the sole purpose of the CWC facility is to provide long-term storage for containerized radioactive mixed wastes and PCB wastes. Eventually, CWC intends to begin operating a waste reduction and processing (WRAP) facility, but that operation is not anticipated in the near future.

Containerized wastes are currently stored in one building, 2401-W, two flammable storage units and an outdoor, concrete mixed waste staging pad. A waste unloading asphalt pad is used for temporary holding of containerized wastes.

Building 2401-W is intended solely for the storage of PCB wastes, some of which are ignitable radioactive mixed wastes. All stored wastes are containerized, and any liquid wastes are in small containers, packed with absorbents in fifty-five-gallon drums. The floor of the 2401-W building is concrete, sealed with non-sparking materials, and bermed around the outside. The 2401-W building has an emergency sprinkler system, fire alarms and hand-held extinguishers, eyewash stations, and spill response and cleanup materials. The 2401-W building is kept locked except when wastes are brought into it or when inspection or other authorized personnel are present. Signs are posted conspicuously at all entrances to the building.

The FS-3 and FS-4 units are used for storing low flashpoint ignitable radioactive mixed waste. The units are steel Butler-type boxes, each with three access doors. The doors are kept locked except when wastes are being accessed or authorized personnel are present. The units are located on gravel. In front of the middle door for each unit is a concrete, bermed pad for collecting spills. A pipe leads from each pad to an in-ground sump. Each unit is fitted with explosion panels. A hand-held fire extinguisher is available at the side of FS-4. Signs are posted on the doors of each unit.

The mixed waste staging pad is a sloped concrete pad where containers are stored on pallets outdoors. A trench is located in the staging pad for collection of rainwater. The trench leads to a sump which has a closable valve to allow discharge to an unlined, in-ground disposal pond. The staging pad is bermed on all sides, and has rope barricades around it. Signs are posted around the perimeter of the staging pad. No fire extinguishers or alarm devices are located near the staging pad.

The waste unloading asphalt pad is an unsloped asphalt pad where containers are stored on pallets outdoors. The asphalt pad has rope barricades around it. Signs are posted around the perimeter of the asphalt pad. No fire extinguishers or alarm devices are located near the asphalt pad.

CWC performs weekly inspections of the 2401-W building, FS-3 and FS-4, the staging pad, and the asphalt pad. Inspection checklists are completed and noted problems are corrected. Inspection includes observing for leaking or damaged containers and other problems.

#### CONCLUSIONS AND RECOMMENDATIONS

- o (Management of Containers) Provide fire extinguishers at the mixed waste staging pad and the waste unloading asphalt pad.

- o (Secondary Containment) Seal the cracks in the sump between the mixed waste staging pad and the in-ground disposal pond.



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