



Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

19-ESQ-0082

JUL 09 2019

Ms. Alexandra K. Smith, Program Manager
Nuclear Waste Program
Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354

Dear Ms. Smith:

RESPONSE TO WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECOLOGY) DANGEROUS WASTE COMPLIANCE INSPECTION ON SEPTEMBER 27, 2018, AT 400 AREA DANGEROUS WASTE MANAGEMENT UNITS (DWMUs), RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) SITE ID: WA7890008967, NUCLEAR WASTE PROGRAM (NWP) INDEX NUMBER 18.652, 19-NWP-045

This is responding to your March 15, 2019, (19-NWP-045) letter regarding compliance inspection of the 400 Area DWMUs performed on September 27, 2018. The Ecology letter was officially received on March 28, 2019. The U.S. Department of Energy Richland Operations Office and CH2M HILL Plateau Remediation Company have reviewed the items identified as non-compliances with Dangerous Waste Regulations cited by Ecology. Responses are provided in the Enclosures as follows:

Enclosure 1 – Response to Alleged Non-Compliance Item 1: Management in Accordance with International Fire Code Requirements and Documentation of New Ignitable, Reactive Inspection

Enclosure 2 – Documentation of New Ignitable, Reactive Inspection (work package)

Enclosure 3 – Designation of Sodium Pail in Fast Flux Test Facility Interim Examination and Maintenance (IEM) Cell

Enclosure 4 – Response to Concern 3

Ms. Alexandra K. Smith
19-ESQ-0082

-2-

JUL 09 2019

If you have any questions, please contact me, or your staff may contact Brian J. Stickney, Assistant Manager for Safety and Environment, at (509) 376-9079.

Sincerely



Brian T. Vance
Manager

ESQ:ACM

Enclosures:

1. Response to Alleged Non-Compliance
2. Documentation of New Ignitable
3. Designation of Sodium Pail
4. Response to Concern 3

cc w/encls:

Jack L. Boller, EPA
Jerry W. Cammann, MSA
Noah S. Cruz, CHPRC
Jackson Davis, Ecology
Jared W. Mathey, Ecology
Linda C. Petersen, CHPRC
John B. Price, Ecology
Administrative Record, TSD:
TS-2-4 (Hardcopy)
Ecology NWP Library (Hardcopy)
Environmental Portal, G3-35
HF Operating Record (J. K. Perry,
MSA A3-01)

cc w/o encls:

Dave. B. Bartus, EPA
Jack Bell, Nez Perce
Jeff E. Bramson, CHPRC
Kathy A. Conaway, Ecology
Dave R. Einan, EPA
Moses N. Jaraysi, CHPRC
Matthew Johnson, CTUIR
Julie Attwood, YN
M. Pakula, Ecology
Kevin Schanilec, EPA
Kalli R. Shupe, CHPRC
Debra G. Singleton, CHPRC

ENCLOSURE 1

**RESPONSE TO ALLEGED NON-COMPLIANCE ITEM 1: MANAGEMENT IN
ACCORDANCE WITH INTERNATIONAL FIRE CODE (IFC) REQUIREMENTS AND
DOCUMENTATION OF NEW IGNITABLE, REACTIVE INSPECTION**

Consisting of 6 pages (including this cover page.)

**RESPONSE TO ALLEGED NON-COMPLIANCE ITEM 1:
MANAGEMENT IN ACCORDANCE WITH INTERNATIONAL FIRE
CODE (IFC) REQUIREMENTS AND DOCUMENTATION OF NEW
IGNITABLE, REACTIVE INSPECTION**

Ecology References: Permit Condition III.16.H.1

The Permittees will perform inspections of the 400 Area Waste Management Units (WMU) according to Addendum I, Inspection Plan for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment that help prevent, detect, or respond to hazards to the public health or the environment pursuant to the requirements of Washington Administrative Code (WAC) 173-303-320.

Addendum I, Table I.1. Inspection Schedule

Requirement Description	Inspection frequency	Types of Problems
Ignitable or reactive waste	Annual	Storage in compliance with WAC 173-303-395(l)(d)

AND

Addendum C, Process Information

C.2.2 Management of Ignitable and Reactive Waste in Containers

Waste storage limits and spacing requirements are equivalent to those specified in the IFC as interpreted by the Hanford Fire Department demonstrating compliance with the requirements of WAC 173-303-395(1).

A qualified staff member will inspect the areas storing mixed waste annually as specified in WAC 173-303-395(l)(d). This inspection will be performed in the presence of a professional person who is familiar with the IFC.

AND

WAC 173-303-395(l)(d)

At least yearly, the owner or operator must inspect those areas of his facility where ignitable or reactive wastes are stored. This inspection must be performed in the presence of a professional person who is familiar with the IFC, or in the presence of the local, state, or federal fire marshal. The owner or operator must enter the following information in his inspection log or operating record as a result of this inspection:

- (i) The date and time of the inspection;
- (ii) The name of the professional inspector or fire marshal;
- (iii) A notation of the observations made; and
- (iv) Any remedial actions which were taken as a result of the inspection.

Observation: I observed the 2017 *Ignitable/Reactive Waste Fire Inspection* Form A-6005-334, Revision 5, for both the Interim Storage Area (ISA) and the Fuel Storage Facility (FSF) did not include a notation of observations and remedial actions taken, and were not completed according to written instructions on the form. I observed the written schedule instructing the inspector to “review the SWITS database for ignitable (D001) and reactive (D003) waste components” and “document the results in the comment section.” I observed the comment section of the form did

not contain the results of the Solid Waste Information and Tracking System (SWITS) review, or any notation of observations made. When the results of the 2017 annual ignitable/reactive inspection were compared to prior years, I observed inconsistency with regard to whether Maximum Allowable Quantity (MAQ) had been exceeded.

On both the ISA and FSF forms, I observed Item 8, “reactive/Ignitable Chemicals/substances known or anticipated to exceed the Maximum Allowable Quantities specified in International Fire Code (IFC) Chapter 50,” was initially marked “yes,” but then was changed to “no.” If yes, the form instructed, “other criteria of IFC Chapter 50 may be applicable.” According to the 2003 edition of IFC, the MAQ is the maximum amount of material that can be stored in a control area while remaining exempt from more stringent fire protection requirements such as automatic fire alarms, mechanical ventilation, and explosion control systems. Table 2703.1.1(1) indicates the MAQ for a Class II water reactive is 50 pounds (about 6 gallons of sodium). The form also instructs the fire engineer to, “Review or have the ECO or other cognizant person review the SWITS database for ignitable (D001) and reactive (D003) waste components. Document the results in the comment selection.” The comment section on both forms only reads “#8 Checked ‘No.’”

The 2017 annual ignitable/reactive forms referred to *ICR 2007-04* and *ICR 2007-05* in the facility description. Both *ICR 2007-04* and *ICR 2007-05* contradict the 2017 annual inspection’s assertion that the MAQ was not exceeded, indicating under the section “Quantity of Material per Control Area” that the quantity of waste in each Dangerous Waste Management Unit (DWMU) does exceed the quantity in Table 2703.1.1 (1), “Maximum Allowable Quantity per Control Area.” In the Hanford Fire Marshal Office’s words, this “invokes applicable requirements of IFC Sections 2701, 2703, and 2704, and Chapter 36, 41, and 44.” The 2003 IFC, Chapter 44, Section 4405.1.5, “Storage Configuration,” states “water-reactive solids and liquids stored in quantities greater than 500 cubic feet shall be separated into piles, each not larger than 500 cubic feet.” Contrary to the limits specified in Addendum C, Section C.2.2, the Hanford Fire Marshal Office’s *ICR 2007-05*, the FSF is arranged as a single pile, 2,200 cubic feet in volume.

I observed both 2017 annual ignitable/reactive inspection forms referenced compliance with the National Fire Protection Association (NFPA) 30 and NFPA 400 instead of the IFC stating, “Since this is a hazardous materials storage shed, the allowable hazardous materials MAQ is equivalent to the approved capacity of the unit, per NFPA 30 and 400 and as listed in the Fire Marshal Permit.” The MAQ under the IFC, and the additional safety requirements triggered by exceeding it were not addressed.

I observed in Washington State Department of Ecology (Ecology) records spanning several annual/ignitable inspections, inspectors alternated between indicating the waste in the ISA and FSF exceeded the MAQ and indicating it did not exceed the MAQ, without any change in inventory, and without documenting remedial actions needed to achieve equivalence to the IFC.

Table 10: Annual Ignitable Inspection, MAQ Question Response

Year	MAQ ¹	Waste Inventory ²		Exceeds the MAQ?	
		FSF	ISA	ISA	FSF
2017	50 lbs	3,200 lbs ³	400 lbs	No ⁴	No ⁴
2015	50 lbs	3,200 lbs	400 lbs	Yes	No
2014	50 lbs	3,200 lbs	400 lbs	Yes	Yes
2011	50 lbs	3,200 lbs	400 lbs	No	No
2010	50 lbs	3,200 lbs	400 lbs	No	No
2009	50 lbs	3,200 lbs	400 lbs	Yes	Yes

1. Maximum Allowable Quantity per Control Area, for Class II water reactive material, from Table 2703.1.1(1) of 2003 IFC. Buildings exceeding this amount are considered "High Hazard Group H-3" occupancies, which are subject to additional requirements.

2. From Hanford Fire Department ICR 2007-05 and 2007-04.

3. ICR 2007-05 notes existence of 6,000 lbs. of additional sodium in same control area, but does not attempt to reconcile storage practices with requirements of the IFC.

4. Initially marked "yes," later changed to "no."

Corrective Actions: Within 60 days of receipt of this compliance report, the U.S. Department of Energy Richland Operations Office (RL) and CH2M HILL Plateau Remediation Company (CHPRC) must respond to Ecology indicating whether the 400 Area DWMUs are being managed in accordance with the requirements of the IFC. Identify applicable requirements and state how they have been met.

Additionally, within 60 days of receipt of this compliance report, RL and CHPRC must conduct a new ignitable reactive inspection, done in accordance with the requirements of Addendum I, Table I.1, "Inspection Schedule," Addendum C - C.2.2, WAC 173-303-320, the written schedule on Form A-6005-334, and WAC 173-303-395(1)(d), then submit the completed records to Ecology. The annual inspection must be performed by a professional fire engineer, reflect compliance with the IFC, contain a notation of the observations made, and record any remedial actions that were resulting from the inspection.

RL and CHPRC Response:

The 400 Area DWMUs are being managed in accordance with the requirements of the IFC as interpreted by the Hanford Fire Marshal's Office. Applicable IFC requirements and how they have been met for storage of sodium in excess of the MAQ in the 400 Area DWMUs are provided in the table at the end of this enclosure.

A new ignitable reactive inspection for the 400 Area DWMUs was conducted on April 9, 2019, and is provided as Enclosure 2. The inspection was conducted in accordance with the requirements of WAC 173-303-320, WAC 173-303-395(1)(d) and specific requirements identified in Addendum I, Table I.1, "Inspection Schedule." The inspection was documented on site form A-6005-334. Additionally, requirements from Addendum C - C.2.2. were complied with, specifically:

- 1) Waste storage limits and spacing requirements are equivalent to those specified in the IFC as interpreted by the Hanford Fire Department and documented in two Hanford Fire Marshal's Office Interpretation/Clarification Requests (ICRs), as follows: ICR 2007-04 as applicable to the ISA pad, and ICR-2007-05 as applicable to building 403;

2) A qualified staff member, which is a Nuclear Chemical Operator, inspected the areas storing mixed waste and the inspection was completed within one year of the previous inspection; and,

3) The inspection was to be performed in the presence of a professional person who is familiar with the IFC. The person of record for this inspection was Josh Kopf, Fire Protection Engineer. Josh documented his attendance on the inspection form (site form A-6005-334, attached) as the "Witness" in accordance with CHPRC procedure. Additionally, applicable observations were noted on the inspection form. No remedial actions were required resulting from the inspection, thus none were recorded.

NOTE: The Ecology Corrective Action required the annual inspection **be performed by** a professional fire engineer; however, WAC 173-303-395 (1)(d) requires: "This inspection must be performed **in the presence of** a professional person who is familiar with the IFC, or in the presence of the local, state, or federal fire marshal." [emphasis added]

IFC additional requirements for storage of solid sodium in excess of the MAQ

IFC Code*	REQUIREMENT	Apply to Building 403	Apply to ISA Pad	HOW MET
5003.5	NFPA 704 signage required.	Yes	Yes	Confirmed through periodic Inspection.
5003.5.1	Individual containers shall be conspicuously marked or labeled in an approved manner.	Yes	Yes	Confirmed through periodic Inspection.
5003.6	Signs and Markings required by Section 5003.5 and 5003.5.1 shall not be obscured or removed, shall be in English as a primary language or in symbols allowed by this code, shall be durable, and the size, color and lettering shall be <i>approved</i> .	Yes	Yes	Confirmed through periodic Inspection.
5003.9.1	Persons responsible for the operation of areas in which hazardous materials are stored shall be familiar with the chemical nature of the materials and the appropriate mitigating actions necessary in the event of fire, leak or spill.	No	No	No operations are present in these areas.
5003.1.1	Responsible persons shall be designated and trained to be liaison personnel to the fire department. These persons shall aid the fire department in preplanning emergency responses and identifying the locations where hazardous materials are located, and shall have access to MSDS and be knowledgeable in the site's emergency response procedures.	Yes	Yes	Fulfilled by the interface between the Cognizant Fire Protection Engineer and the Hanford Fire Department.
5003.9.8	<i>Incompatible materials</i> in storage and storage of materials that are incompatible with materials in use shall be separated where the stored materials are in containers having capacity of more than 5 pounds.	Yes	Yes	This is accomplished by both method 1. segregating not less than 20 feet and method 2. noncombustible partition.
5004.5	Indoor storage areas and storage buildings shall be equipped throughout with an <i>approved automatic sprinkler system</i> .	Equivalency**	No	Sodium is water-reactive. A sprinkler system would increase the fire hazard. Argon is used to keep the atmosphere inerted in the containment vessel in Building 403 as an equivalent form of automatic fire protection.
5004.9	An <i>approved</i> manual emergency alarm system shall be provided in the buildings, rooms or areas used for storage of hazardous materials. Emergency alarm-initiating devices shall be installed outside of each interior <i>exit</i> or <i>exit access</i> door of storage buildings, rooms or areas. Activation of an emergency alarm-initiating device shall sound a local alarm to alert occupants of an emergency situation involving hazardous materials.	Exempt**	Exempt**	ISA Pad and Building 403 are exempt from this requirement per ICR CY 2007-04 and CY 2007-05, respectively.
5004.10	Emergency alarm, detection and automatic fire-extinguishing systems required by Section 5004 shall be electronically supervised and monitored by an <i>approved</i> supervising station or, where approved, shall initiate an audible and visual signal at a constantly attended on-site location.	Exempt**	Exempt**	ISA Pad and Building 403 are exempt from this requirement per ICR CY 2007-04 and CY 2007-05, respectively.
5004.11	The area surrounding an outdoor storage area or tank shall be kept clear of combustible materials and vegetation for a minimum distance of 25 feet.	No	Yes	Confirmed through periodic Inspection.
5004.12	Except for surfacing, floors of storage areas shall be of noncombustible construction.	Yes	Yes	Met through facility design.
5401.2	Permits shall be required as set forth by Section 105.6.	Yes	Yes	Facilities have Fire Marshal Office Permits.
6404.2.1	Increases the required outside storage area distance from exposure to 100 feet (twice the value for Class IB flammable liquids in table 5704.4.2).	No	Yes	Met through facility design
5003.7.1	Posted "NO SMOKING"	Yes	Yes	Confirmed through periodic Inspection.
5404.2.2	Outdoor storage of <i>corrosive</i> materials shall not be within 20 feet of a building, <i>lot line</i> , public street, public alley, <i>public way</i> , or <i>means of egress</i> .	No	Yes	Met through facility design
6704.1.2	In addition to the provisions of Section 5004.12, floors in [indoor] storage areas for water-reactive solids and liquids shall be of liquid-tight construction.	Exempt**	No	Building 403 is exempt from this requirement per ICR CY 2007-05.
6704.1.3	[Indoor] Rooms or areas used for storage of water reactive solids and liquids shall resist the penetration of water through the use of waterproof materials.	Yes	No	Met through facility design.
5004.6	Indoor storage must meet IFC Section 911 requirements for explosion control.	Exempt**	No	Building 403 is exempt from this requirement per ICR CY 2007-05.
Multiple	Various different pile size limitations	Exempt**	No	Building 403 is exempt from this requirement per ICR CY 2007-05.
6704.2.1	Outdoor storage shall be in tanks or water-tight containers.	No	Yes	Drums are water-tight containers
5004.2.2	Secondary containment is required for liquid pyrophoric and water-reactive material, but not solids. Should the sodium be liquefied, this requirement will activate.	6 Yes	Yes	No liquid sodium currently stored in these locations, applies only for liquid sodium, generally during transfers.

* Where multiple sections have identical requirements, only one code is listed. Only IFC code is listed; where a requirement is already fulfilled through compliance with NFPA, the IFC is still listed for record of review.

** As interpreted by the Hanford Fire Marshal Office.

ENCLOSURE 2

**DOCUMENTATION OF NEW IGNITABLE REACTION
INSPECTION (WORK PACKAGE)**

Consisting of 46 pages (including this cover page.)



Work Document

SM-19-02103 / P

[CPSM]

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JD324534

Document Number	SM-19-02103 P PREVENTIVE MAINTENANCE	Record Status	ACT
Work Item Title	400 Area Ignitable/Reactive Waste inspection (Mid Interval) 2019	Record Copy Printed	Yes 1

Symptom, Problem, or Condition

Preventive Maintenance/Surveillance

Component Number	Component Name	Building	Room
IRW-SM	Ignitable/Reactive Waste Insp.	GEN	N/A

Temporary Component Number	Temporary Component Name
N/A	

Location		Charge Code	
Facility SM	System SM-ST	CACN 300248	COA JPRC
Building 400 AREA	Room N/A		
Other 403	Other N/A		

Origination

Name Wilde, Wendy A	Phone (509) 376-3844	Date 03/28/2019
----------------------------	-----------------------------	------------------------

Screening Information

Phase Designator N/A	Not Applicable	
Priority 2	Priority Two	
Mode A		Radiological Work No

Design/Tech. Authority

Name	Phone
Stevens, Ray W	(509) 373-9754

Responsible Manager

Name	Phone
Johnson, Jim W	(509) 942-6658

Resources Required

Code	Description	COCS	Role	No	Act Hr
04	Nuclear Chemical Operator (NCO)	R051	N/A	1	_____
54	RADIOLOGICAL CONTROL TECHN	T050	N/A	1	_____
ECO	ENVIRONMENTAL COMPL OFFICE	S020	N/A	1	_____

Facility Group CPSM



Work Document

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Job Control System *JD324534*

Document Number	SM-19-02103 P	PREVENTIVE MAINTENANCE	Record Status	ACT
Work Item Title	400 Area Ignitable/Reactive Waste inspection (Mid Interval) 2019		Record Copy Printed	Yes 1
FPE	FIRE PROTECTION ENGINEER	E120	N/A	1
FWS	Field Work Supervisor	M010	N/A	1

Reference Documents

Category	Type	Description	Sheet	Coord	Revision
✓ Embedded File	DS	Site Form for 403			
✓ Embedded File	DS	Site Form for ISA- HS0091			
✓ Embedded File	INFO	PIN_CIN RECORD			
✓ Website	PRO	PRC-PRO-EP-52900			
✓ Embedded File	RHSF	RC-RHSF-19-018 SM Ignitable-Reactive Waste inspection			
✓ Reference	RWP	RC-005 current rev			
Embedded File	SD	Swits Information (REFERENCE)			
✓ Reference	WPC	GENERIC FOR SOP WASTE			
Info. Only	Reference	DSI			PM Planner: see actions in JCS instructions field

Hazards Review

Required Skill Based
See PMS Activity [Transcribed] 03/28/2019

HRB Required

Required N/A
See PMS Activity [Transcribed] 03/28/2019

Environmental Screening

Required RCRA
Hanford Facility RCRA Permit. McMahan, Stewart A [Approved] 04/01/2019

Tech. Spec. / OSR Requirements Reference

N/A

Essential Systems

Code	Description
N/A	Not Applicable

Facility Group CPSM



Work Document

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Job Control System

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Document Number	SM-19-02103 P PREVENTIVE MAINTENANCE	Record Status	ACT
Work Item Title	400 Area Ignitable/Reactive Waste inspection (Mid Interval) 2019	Record Copy Printed	Yes 1

Review/Approval

Code	Description	Approval	Date
IH	Industrial Hygiene	Johnson, Nicholas B [Approved]	03/28/2019
R	Radiation Protection	Boothe, Gabriel T [Approved]	04/01/2019
S	Safety & Health	Johnson, Nicholas B [Approved]	03/28/2019
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Facility Group CPSM



Work Document

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Document Number	SM-19-02103 P PREVENTIVE MAINTENANCE	Record Status	ACT
Work Item Title	400 Area Ignitable/Reactive Waste inspection (Mid Interval) 2019	Record Copy Printed	Yes 1

USQ Nuclear Safety Screening

Required USQ CX GCX-3
 Hicks, Jarrod J [Approved] 04/01/2019

USQ Transportation & Packaging Screening

Required N/A NA

Pre-Work Review

Approval
 William J Doremus II  **Date** 4-8-19

Person In Charge/Field Work Supervisor

Name Plunkett, Roy W **Phone** (509) 372-0801

Work Release

Release Type Full Partial No Release Req'd

Approval Michael R. Precechtel **Date** 4-9-19


Tagout Information

Number	Location
N/A	N/A
_____	_____
_____	_____

Work Suspended?

Resolution / Retest

Perform work, and record results, as directed by attached PM/S data sheets and/or procedure.

Location of inspections are limited to the 400 Area.

Resolution By

Approval Wilde, Wendy A [Approved] **Date** 04/06/2019

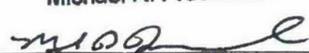
Calibrated Standards/Equipment

Standard/Equipment	Exp Date
SEE DATA SHEET(S)	_____
_____	_____
_____	_____
_____	_____

Field Work Complete

Approval Justin Roberts  **Date** 4/10/19

Work Acceptance

Approval Michael R. Precechtel **Date** 4.10.19


Facility Group CPSM



Work Document

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Job Control System *JD324534*

Document Number	SM-19-02103 P PREVENTIVE MAINTENANCE	Record Status	ACT
Work Item Title	400 Area Ignitable/Reactive Waste inspection (Mid Interval) 2019	Record Copy Printed	Yes 1

Post Work Review

Work Record Feedback Exists?

Code	Description	Approval	Date
POSTRVW	Post-Work Review	<i>Wendy Weiler</i>	4/17/19
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Facility Group CPSM



PMS Data Sheet SM-19-02103 SM-30282

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(Free Form)

[CPSM]

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Job Control System

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Doc Num	PMS Num	D/S Status	Record Status
SM-19-02103 /P	SM-30282	OPEN	ACT
Data Sheet Number	Work Item Title		Record Copy Printed
	400 Area Ignitable/Reactive Waste inspection (Mid Interval) 2019		Yes 1

PMS Activity Information

Due Date	09/30/2019	Title	WAC IGNITABLE/ REACTIVE WASTE INSPECTION	Group	IRWSM	Update Due Date	Yes
Frequency	365	Mode	A	Authority	Stevens, Ray W		
Type	A	Preventive Maintenance		Radiological Work	No		
Operations Release Required	No			Requirements			
		Driver		Document & Section			
		REG		PRC-PRO-EP-52900			

Procedure Information

Number	PRC-PRO-EP-52900	Type	N/A
Title	Performing Inspections of Storage Areas for Ignitable or Reactive Waste		

Component Information

Number	IRW-SM	Manufacturer	
Name	Ignitable/Reactive Waste Insp.	Model Number	
Safety Class		Serial Number	
Facility	SM	Rad. Equip. ID	
Building	GEN	Room	N/A
Other	N/A	Other	N/A
System	N/A		

USQ Nuclear Safety Screening
Required

USQ Transportation & Packaging Screening
Required N/A

Hazards Review

Required Skill Based
Stevens, Ray W [Transcribed] 12/07/2015

Environmental Screening

Required

Reference Documents

	Category	Type	Description	Sheet	Coord	Revision
Info. Only	Reference	DSI	PM Planner: see actions in JCS instructions field			
	Embedded File	RHSF	SM-16-06883 RHS			
	Reference	RWP	RC-005 current rev			
	Reference	WPC	GENERIC FOR SOP WASTE			

Facility Group CPSM

Component Number: IRW-SM



PMS Data Sheet SM-19-02103 SM-30282

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(Free Form)

[CPSM]

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Doc Num	PMS Num	D/S Status	Record Status
SM-19-02103 /P	SM-30282	OPEN	ACT
Data Sheet Number	Work Item Title		Record Copy Printed
	400 Area Ignitable/Reactive Waste inspection (Mid Interval) 2019		Yes 1

	Embedded File	DS	Site Form for 403
	Embedded File	DS	Site Form for ISA- HS0091
	Embedded File	INFO	PIN_CIN RECORD
Info. Only	Embedded File	SWIT	SWITS INFO for 400 Area
	Website	PRO	PRC-PRO-EP-52900

Associated PM/S

Associated Components

Component Number	Component Name	Building	Room
Other			

Component Operating Parameters

Input Range	_____ To _____	Units _____	M&TE Tol. _____	Units _____
Output Range	_____ To _____	Units <u>NA</u>	M&TE Tol. _____	Units <u>NA</u>

Metric devent
4/10/2019

Facility Group CPSM

Component Number: IRW-SM



PMS Data Sheet SM-19-02103 SM-30282

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(Free Form)

[CPSM]

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Doc Num	PMS Num	D/S Status	Record Status
SM-19-02103 /P	SM-30282	OPEN	ACT
Data Sheet Number			Record Copy Printed
400 Area Ignitable/Reactive Waste inspection (Mid Interval) 2019			Yes 1

Data Sheet Body

Instructions

NOTE: Refer to PRC-STD-FP-40404 (Fire Protection Program) for Ignitable and Reactive Waste Inspection requirements.

PREREQUISITES (PM Planner):

- Obtain a list, from the facility Environmental Compliance Officer (ECO), documenting the inspection location(s) within applicable Treatment, Storage, or Disposal (TSD) units and "active" 90-day accumulation areas.
- If the ECO determines that there are no TSD units and/or "active" 90-day accumulation areas, document this determination and then complete "PM/S data sheet completion and pkg closeout" (below) per telecom with the Fire Protection Engineer (FPE).
- Obtain a list, from the facility Waste Management Representative (WMR), documenting the chemical inventory for each area of inspection.

INSPECTION (Facility Manager or Delegate and FPE/FSO):

1. Perform WAC Ignitable/Reactive Waste inspections of location(s) within the TSD unit and "active" 90-day accumulation areas, in accordance with PRC-PRO-EP-52900.

Calibrated Standards/Equipment

Standard/Equipment	Exp Date

(Note: A large handwritten 'N/A' is written across the table with a diagonal line through it.)

Resources

Code	Description	No.	Act Hrs
04	Nuclear Chemical Operator (NCO)	1	
54	RADIOLOGICAL CONTROL TECHNICIAN	1	
ECO	ENVIRONMENTAL COMPL OFFICER	1	
FPE	FIRE PROTECTION ENGINEER	1	
FWS	Field Work Supervisor	1	

Facility Group CPSM

Component Number: IRW-SM



PMS Data Sheet SM-19-02103 SM-30282

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(Free Form)

[CPSM]

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Doc Num	PMS Num	D/S Status	Record Status
SM-19-02103 /P	SM-30282	OPEN	ACT
Data Sheet Number	Work Item Title	Record Copy Printed	Yes
	400 Area Ignitable/Reactive Waste inspection (Mid Interval) 2019	Yes	1

Comments

N/A

Work Complete Date

4/09/2019

Signature (Print/Sign)

Date

Completed Satisfactory

Yes/No
(circle one)

Data Sheet Complete

Justin Roberts

Justin Roberts

4/10/19

Facility Group CPSM

Component Number: IRW-SM

OH2M HILL Plateau Remediation Company
FORMAL PRE-JOB BRIEFING CHECKLIST

Document Number: Sm-19-2103

Task Description:
400 Area Ignitable/Reactive waste Inspection (mid Int.)

Field Work Supervisor (FWS): Justin Roberts Date: 4/9/19

The items in this box are the minimum items to be discussed during a formal or informal Pre-Job Brief.

<input checked="" type="checkbox"/> Discuss scope of work to be performed	<input checked="" type="checkbox"/> Discuss work place conditions/environment
<input checked="" type="checkbox"/> Discuss individual work assignments/roles/responsibilities	<input type="checkbox"/> Discuss Hazards, Controls, and PPE

As appropriate to the work activity, discuss other applicable topics (refer to topics below and topics in Appendix A of PRC-PRO-WKM-14047)

Define Work:

- | | |
|---|---|
| <input type="checkbox"/> Procedure type and compliance expectations | <input type="checkbox"/> Discuss coordination required with other groups, and activities that have a potential to affect personnel performing the work activity |
| <input type="checkbox"/> Precautions/limitations/initial conditions/prerequisites | <input type="checkbox"/> Hold Points and oversight requirements |
| <input type="checkbox"/> Discuss applicable permits | <input checked="" type="checkbox"/> First Aid/CPR Provider(s) identified and available, if required |
| <input type="checkbox"/> Housekeeping | |
| <input type="checkbox"/> Discuss any Critical Steps identified for today's activities | |

Hazards and Controls:

- Discuss hazards and controls related to work package and work environment, both Skill Based and Beyond Skill Based as appropriate
- Discuss/review any hazard controls that reside within permits and not in the work instructions
 - Waste minimization/disposal/storage requirements
 - Technical Safety Requirements (TSR)/Limiting Condition of Operations (LCO), TSR/LCO time restrictions, impacts to equipment operability
 - Critically Posting Specification (CPS) and postings
- Discuss Lock and Tag requirements, boundaries, AWL placement, Safe to Work Check (DOE-0336)
- Discuss Ready-to-Work checks for any intrusive activities

Industrial Safety and Health:

- | | |
|--|--|
| <input type="checkbox"/> Discuss any unique postings in or near the work area | <input checked="" type="checkbox"/> Locations of spill, first aid, AED, and eyewash stations/kits |
| <input type="checkbox"/> Discuss chemical hazards to be encountered and MSDS/SDS | <input checked="" type="checkbox"/> Emergency phone No.s, 373-0911, 373-3800, other number if applicable |
| <input checked="" type="checkbox"/> Heat/Cold stress/strain concerns - Work/Rest times | <input type="checkbox"/> Discuss any Critical Steps identified for today's activities |

Emergency Preparedness:

- Response to upset or off-normal conditions, contingency plans, staging areas, communications systems, and rally points
- Alarm and casualty response actions

Integrate applicable Human Performance (HPI) techniques into briefing:

- | | |
|---|---|
| <ul style="list-style-type: none"> • Peer Checks • Lessons learned from similar activities • STOP WORK Authority | <ul style="list-style-type: none"> • Self-Checking - Stop, Think, Act, Review (S.T.A.R.) • What can go wrong during this job? • A Questioning Attitude and Stop when Unsure concepts |
|---|---|

Radiological Work: Yes No

- Discuss Radiological Work Permit (RWP)
- Identify specific actions or activities that will (or have potential to) create a change in radiological conditions when initiated or completed

Beryllium Work: Yes No

- Discuss Beryllium Work Permit (BWP)

Comments or other areas discussed:

Summary - Does everyone clearly understand their responsibilities, and are they qualified for the assigned job?

CH2M HILL Plateau Remediation Company
FORMAL PRE-JOB BRIEFING CHECKLIST (Continued)

Document Number:

Pre-Job Briefing **ATTENDEES** fill in below (including all repeat briefings). Pre-Job Brief attendees sign the Pre-Job Briefing Checklist **acknowledging that they understand their responsibilities and work tasks** as described during the Pre-Job Brief. For continuing work, it is permitted for attendees to indicate their presence in the date columns without having to re-sign. Attach a second form or continuation sheet, for large work teams.

Initial	Print First and Last Name	Signature	HID	Date	Date	Date	Date	Date
JK	Robertson	[Signature]	0001919	4/9/19				
JK	TED HOOKING	[Signature]	4582398	4/9/19				
C.E	Cheryl Emineth	[Signature]	0042799	4-9-19				
JK	JOSE L. RAMOS	[Signature]	0066718	4/9/19				
SM	Stewart Mitchell	[Signature]	0563729	4/9/19				
JK	Frank Casey	[Signature]	050064	4/9/19				
JK	Josh Kopf	[Signature]	6076299	4/9/19				
AT	Andrew James	[Signature]	8998890	4/9/19				
JK	Rod Powell	[Signature]	0105355	4/9/19				
JK	Lisa Lemmas	[Signature]	0091160	4.9.19				
JK	JAMES VECH	[Signature]	1126043	4/9/19				

Pre-Job Briefing **PRESENTER** fill in below (including all repeat briefings).

JK	Justin [Signature]	[Signature]	8088109	4/9/19				

Central Plateau S&M PIN/CIN Record

PIN#	CIN#	Start Date	Location	Size	Type	Contents
CP-12-11-F		6/24/2009	FFTF/ISA pad	5 Gallon	Metal	ISA#95-21 - BLTC drip cup and sodium
CP-12-12-F		6/24/2009	FFTF/ISA pad	5 Gallon	Metal	ISA#95-19 - BLTC drip cup and sodium
CP-12-13-F		6/24/2009	FFTF/ISA pad	5 Gallon	Metal	ISA#95-18 - BLTC drip cup and sodium
CP-12-14-F		6/24/2009	FFTF/ISA pad	30 Gallon	Metal	ISA#96-1 - BLTC argon system pleated fiberglass aerosol filter and sodium
CP-12-15-F		6/24/2009	FFTF/ISA pad	8 Gallon	Metal	ISA#08-03 - 2 sodium sample pipes wrapped in plastic and sodium
CP-12-16-F		6/24/2009	FFTF/ISA pad	5 Gallon	Metal	ISA#096 - BLTC drip cup and sodium
CP-12-17-F		6/24/2009	FFTF/ISA pad	208 Liter	Metal	ISA#159 - BLTC argon system pleated fiberglass aerosol filter, filter core and sodium
CP-12-18-F		8/11/2008	FFTF/ISA pad	85 Gallon	Metal	ISA no ID# - FSF sodium fill station 7 pieces piping, 1 filter and sodium
CP-12-19-F		6/24/2009	FFTF/ISA pad	12 Gallon	Metal	ISA#11-24-92 - 3 secondary sodium sample trains trace amount of sodium
0016549		6/24/2009	FFTF/ISA pad	55 Gallon	Metal	13 NAK Pressre Transducers
0043409		3/14/2008	FFTF/ISA pad	55 Gallon	Metal	3BLTC Drip Cups and sodium - in Al'd drip cup transfer steel container, inside Al'd 30 gal steel drum, inside Al'd 55 Gal steel drum
0044912		6/24/2008	FFTF/ISA pad	85 Gallon	Metal	3 CLEM drip cups and sodium with steel spacers in Al'd 55 gal dm/inside 85 gal dm
0044929		3/14/2008	FFTF/ISA pad	85 Gallon	Metal	3 CLEM drip cups and sodium with steel spacers in Al'd 55 gal dm/inside 85 gal dm
0044930		6/24/2008	FFTF/ISA pad	85 Gallon	Metal	IDENT 15/17 sodium overflow pot/ trace amount of sodium and small stainless steel can with sodium in Al'd 55 gal dm w spacer, in 85 gal dm
0046664		8/11/2008	FFTF/ISA pad	85 Gallon	Metal	FSF Sodium fill station piping, 4 valves, filter and sodium in Al'd 85 gal steel dm
0046665		6/24/2008	FFTF/ISA pad	85 Gallon	Metal	IDENT 17-2 drip cup with steel spacer and sodium in Al'd 55 gal steel dm in 85 gal steel dm

0049499		8/4/2008	FFTF/ISA pad	208 Liter	Metal	One NAK pressuer transducer, O2 monitor encased in sodium in stainless steel pipe, FSF sodium fill station items
0055593		6/24/2009	FFTF/ISA pad	208 Liter	Metal	small cans with sodium, contaminated saws, BLTC drip cups
0063472		6/24/2009	FFTF/ISA pad/4718	10 Gallon	Metal	small metal can with sodium
23432-1		7/19/2006	FFTF/403	CM/14.3* 7.33*8	Metal	Core component pots with rad contaminated sodium
23432-2		7/19/2006	FFTF/403	CM/14.3* 7.33*8	Metal	Core component pots with rad contaminated sodium

IGNITABLE/REACTIVE WASTE FIRE INSPECTION OWNER OR OPERATOR

Facility Type

Building Number: 403	<input type="checkbox"/> Generator (90 DAY)	Inspector: <u>Cheyl M. Erineth</u> <u>Cheyl M. Erineth</u> <small>Print First and Last Name Signature</small>
Area: 400 Area	<input type="checkbox"/> Interim	Witness: <u>Josh Kopf</u> <u>JK</u> <small>Print First and Last Name Signature</small>
Contractor: CHPRC	<input checked="" type="checkbox"/> TSD	Date: <u>4-9-19</u> Time: <u>0915</u>

Facility Description:

Building 403 is a 1 + 2 story fire corrugated metal on steel frame building with fire-resistant coating applied to building steel structural members. There is no automatic or manual fixed fire suppression system. Storage is limited to radiologically contaminated solidified sodium metal (pyrophoric metal) maintained in two metal tanks shielded by concrete bollard blocks. ICR 2007-04, Rev 1 and ~~2007-05~~ ^{C.E. 5-22-19} address compliance with the International Fire Code for materials over the Maximum Allowable Quantity Limit (MAQ) - Since this is a hazardous materials storage shed, the allowable hazardous materials MAQ is equivalent to the approved capacity of the unit, per NFPA 30 and 400 and as listed in the Fire Marshal Permit. This Waste Storage unit is to be used for the storage of Pyrophoric Metals (e.g.: sodium), only to ensure compatibility and non-reactive waste conditions. The unit is to be inspected and maintained free from potential intrusion of water. The fire extinguisher for this unit shall be limited to one Class D extinguisher.

	Yes	No	N/A
1. Materials are separated or protected from sources of ignition (e.g., welding, grinding, etc.).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. "NO SMOKING" signs are posted at the storage area.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Storage area is free of combustible materials (e.g., weeds, debris, etc.).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Outdoor storage areas are within 150 feet of a 20 foot wide access road for Fire Department Response.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. A portable fire extinguisher is located at the storage area.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Appropriate separations are provided between incompatible wastes.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Emergency Communications are available.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Reactive/Ignitable Chemicals/substances known or anticipated to exceed the Maximum Allowable Quantities specified in International Fire Code (IFC) Chapter 50. If "Yes", other criteria of IFC Chapter 50 may be applicable. Review or have the ECO or other cognizant person review the SWITS database for ignitable (D001) and reactive (D003) waste components. Document the results in the comment section.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Inspector and/or Witness should be a familiar with the IFC (e.g., Fire Protection Engineer, Fire Marshal or Deputy Fire Marshal).

Reference: Washington Administrative Code WAC 173-303-395.

IGNITABLE/REACTIVE WASTE FIRE INSPECTION
OWNER OR OPERATOR (Continued)

Comments (include observations made and any remedial actions taken as a result of this inspection):

- * ~~Quantities exceeding the MAQ, specified in the IFC, chapt. 50, has been reviewed by CHPRE Fire Protection Engineering as detailed in Hanford Fire Marshall's Office Permit 2006-238~~
- ** ~~No incompatible waste can be stored within the storage area.~~ C.E. 5-22-19

6. There are no incompatible wastes stored within the facility.

* 2007-05 does not apply. C.E. 5-22-19

8. SWITS data was reviewed ^{prior to the inspection} and reactive/ignitable waste exceed the maximum allowable quantities specified in IFC chapter 50. SM 5-22-19

IGNITABLE/REACTIVE WASTE FIRE INSPECTION OWNER OR OPERATOR

Facility Type

Building Number: HS0091	<input type="checkbox"/> Generator (90 DAY)	Inspector: <u>Cheryl M. Eminenth Cheryl M. Eminenth</u> <small>Print First and Last Name Signature</small>
Area: 400- ISA	<input type="checkbox"/> Interim	Witness: <u>Josh Kopf</u> <u>[Signature]</u> <small>Print First and Last Name Signature</small>
Contractor: CHPRC	<input checked="" type="checkbox"/> TSD	Date: <u>4-9-19</u> Time: <u>0845</u>

Facility Description:

HS0091 is a no-fire rated, four bay metal storage unit with secondary containment. There is no automatic or manual fixed fire suppression system. Storage is limited to radiologically contaminated solidified sodium metal (pyrophoric metal) packaged in miscellaneous metal drums stored less than 5 ft. high and arranged for ready visual inspection of the shell and labels through pile arrangements of no more than two drums in width, separated by minimum 30 in. clear space between piles and from end walls of the storage unit. ~~ICR-2007-04, Rev 1 and 2007-05~~ ^{CE 5-22-19} address compliance with the International Fire Code for materials over the Maximum Allowable Quantity Limit (MAQ) - Since this is a hazardous materials storage shed, the allowable hazardous materials MAQ is equivalent to the approved capacity of the unit, per NFPA 30 and 400 and as listed in the Fire Marshal Permit. This Waste Storage unit is to be used for the storage of Pyrophoric Metals (e.g.: sodium), only to ensure compatibility and non-reactive waste conditions. The unit is to be inspected and maintained free from potential intrusion of water. The fire extinguisher for this unit shall be limited to one Class D extinguisher.

	Yes	No	N/A
1. Materials are separated or protected from sources of ignition (e.g., welding, grinding, etc.).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. "NO SMOKING" signs are posted at the storage area.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Storage area is free of combustible materials (e.g., weeds, debris, etc.).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Outdoor storage areas are within 150 feet of a 20 foot wide access road for Fire Department Response.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. A portable fire extinguisher is located at the storage area.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Appropriate separations are provided between incompatible wastes.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Emergency Communications are available.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Reactive/Ignitable Chemicals/substances known or anticipated to exceed the Maximum Allowable Quantities specified in International Fire Code (IFC) Chapter 50. If "Yes", other criteria of IFC Chapter 50 may be applicable. Review or have the ECO or other cognizant person review the SWITS database for ignitable (D001) and reactive (D003) waste components. Document the results in the comment section.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Inspector and/or Witness should be a familiar with the IFC (e.g., Fire Protection Engineer, Fire Marshal or Deputy Fire Marshal).

Reference: Washington Administrative Code WAC 173-303-395.

IGNITABLE/REACTIVE WASTE FIRE INSPECTION
OWNER OR OPERATOR (Continued)

Comments (include observations made and any remedial actions taken as a result of this inspection):

- ~~* Quantities exceeding the MAQ, specified in the IFC, chapt. 50, has been reviewed by CHPRC Fire Protection Engineering as detailed in Hanford Fire Marshall's Office Permit 2008-020~~
- ~~** No incompatible waste can be stored within the storage area C.E. 5-22-19~~

#6 There are no incompatible wastes stored within the facility.

* ICR-2007-04, Rev. 1 does not apply. C.E. 5-22-19

#8 SWIS data was reviewed ^{prior to inspection} and reactive/ignitable waste exceeded the maximum allowable quantities specified in IFC chapter 50. SM 5/22/19

CH2M HILL Plateau Remediation Company
RADIOLOGICAL HAZARD SCREENING FORM¹

RHSF No.: RC-RHSF-19-018	Rev.: 0	RWP ² : RCS-0005
Work Document No.: SM-30282		
Title: 400 area Ignitable-Reactive Waste inspection		
Job Description: Ignitable-Reactive Waste inspection		
Job Location/Work Area: 400		

Part A – HIGH HAZARD RADIOLOGICAL WORK SCREENING CRITERIA	Yes	No
1. Will the estimated collective dose exceed 2,500 person-mrem?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Will predicted airborne radioactivity concentrations exceed 1,000 DAC or result in an integrated exposure of over 400 DAC-hours to any worker?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Will work area removable contamination be greater than 1,000 times Table 2-2 values?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Will there be entry into areas where whole body dose rates are >1 rem/hr?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. RadCon Organization determines High Hazard level review is warranted? ³	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If the answers to all the above questions are "NO," then the work is not HIGH HAZARD radiological work. Continue with Part B.
 If any of the above questions were answered "YES," then the work is designated as HIGH HAZARD radiological work. Skip Part B and C.

Part B – MEDIUM HAZARD RADIOLOGICAL WORK SCREENING CRITERIA	Yes	No
1. Will the estimated collective dose exceed 500 person-mrem but be less than or equal 2,500 person-mrem?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Will predicted airborne radioactivity concentrations exceed 100 DAC or result in an integrated exposure of over 40 DAC-hours to any worker?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Will work area removable contamination be greater than 100 times Table 2-2 values but less than or equal to 1,000 times Table 2-2 values?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Will there be entry into areas where whole body dose rates are greater than 100 mrem/hr but less than or equal to 1,000 mrem/hr?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Is there a potential for release of radioactive material that exceeds Table 2-2 values outside a CA, HCA, or ARA?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. RadCon Organization determines Medium Hazard level planning and review is warranted? ³	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If all of the above Part B questions were answered "NO," then the work is not MEDIUM HAZARD radiological work. Continue with Part C.
 If any of the answers to Part B questions are "YES," then the work is designated as MEDIUM HAZARD radiological work. Skip Part C.

PART C – LOW HAZARD RADIOLOGICAL WORK SCREENING CRITERIA	Yes	No
1. Will proposed work activity benefit from Radiological Controls identified/incorporated into the work instructions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If the above Part C question is answered "NO," then the work is designated as LOW HAZARD radiological work.
 If the above Part C question is answered "YES," then the work is designated as LOW HAZARD WITH SPECIFIC CONTROLS radiological work.

PART D -- FINAL RADIOLOGICAL HAZARD DESIGNATION			
<input type="checkbox"/> HIGH HAZARD Radiological Work	<input type="checkbox"/> MEDIUM HAZARD Radiological Work	<input type="checkbox"/> LOW HAZARD WITH SPECIFIC CONTROLS Radiological Work	<input checked="" type="checkbox"/> LOW HAZARD Radiological Work

PART E - COMMENT/JUSTIFICATION TO MODIFY HAZARD/LOW HAZARD WITH SPECIFIC CONTROLS INSTRUCTIONS
 Use RCS-0005 for access to Radiological areas

PART F – ADMINISTRATION

Radiological Work Planner: <u>Robert T. B. The</u> Print First and Last Name	<u>[Signature]</u> Signature	<u>3-28-19</u> Date
Project/Facility RadCon Manager Approval ³ : <u>NA</u> Print First and Last Name	<u>NA</u> Signature	<u>NA</u> Date

1 Refer to PRC-PRO-RP-40106 for completion of this form.
 2 RWP is not required to be listed on the RHSF but should be provided when available.
 3 RCM concurrence is required for selecting hazard screening criteria based solely on RCO determination (for Medium and High hazard) and for modification of hazard screening levels.

CHPRC



RADIOLOGICAL WORK PERMIT

RWP Title		RWP Number and Revision	
FFTF entries into radiological areas		RCS-0005 Rev. 00	
Job Description		Barcode	
perform radiological surveys, IH sampling, annual surveillance, housekeeping and minor work activities		 RCS-0005	
General Information		RWP Date Information	
RWP Status: APPROVED	RWP Type: JOB SPECIFIC	Start Date: 01/14/2019	Expiration Date: No End Date
Location(s)			
<i>Area</i>	<i>Location</i>	<i>Other</i>	
400 Area CHPRC			
400 Area CHPRC			
400 Area CHPRC			
Radiological Postings			
RA			
Radiological Conditions			
<i>Condition</i>	<i>Expected</i>	<i>Void Limit</i>	<i>Unit</i>
Maximum Dose Rate at 30 cm	<0.5	100	mR/hr
RA General Area Dose Rate	<0.5	NA	mR/hr
Removable Alpha Contamination Level	<20	>20	dpm/100 cm ²
Removable Beta-Gamma Contamination Level	<1000	>1000	dpm/100 cm ²
Radiological Requirements			
ALARA REVIEW			
<ul style="list-style-type: none"> ■ NO 			
COVERAGE			
<ul style="list-style-type: none"> ■ Continuous RCT Coverage -For initial entries/activities that expose uncharacterized surfaces/areas. ■ Intermittent RCT Coverage -Work area setup/cleanup -In radiological areas where current conditions are known and stable -Upon RCT concurrence 			
DOSIMETRY			
<ul style="list-style-type: none"> ■ HSD - TLD 			
EXPOSURE CONTROL			
<ul style="list-style-type: none"> ■ Lapel Air Sampling Lapel sampling is required for all RWP entries except ISA/WMU, Fuel Storage Facility, and Sodium Storage Facility 			
PRE-JOB BRIEF			
<ul style="list-style-type: none"> ■ YES 			
Access Validated Requirements			
No Access Validated Requirements			
Special Instructions			
Evaluation Points:			
Void Limits - if exceeded Stop Work, move to a safe location (or exit the area) and notify FWS & RCFLM.			



CHPRC

RADIOLOGICAL WORK PERMIT

RWP Title	RWP Number and Revision
FFTP entries into radiological areas	RCS-0005 Rev. 00

Approvals

Printed Name	Signature	Date
TEWS, MARK PRC Line Manager	H4952849 	01/09/2019
BOOTHE, GABRIEL PRC Rad Engineer	H7082691 	01/09/2019
MYERS, STEVEN PRC RCT FLM	H7301859 	01/09/2019

WASTE PLANNING CHECKLIST

Work Document Number: CPRM PM/S Activities Rev: 5 Planned Start Date: 07/25/2018

Work Document Title: PM/S Activities for Step-Off Pad & Housekeeping Waste

Location of Waste (Building Number, System, Tank Number, Room): CPRM Facilities

Preparer's Name: K. Kelly

Phone Number: 3/5236

NOTE: When changes occur in the field that could impact the validity of this form and/or the job/task AJHA, both the AJHA and this form shall be reviewed and updated, as necessary, to reflect the field changes.

NOTE: The Waste Planning Checklist provides guidance to the facility/project on packaging and segregation of waste. Once waste is generated, the waste inventory sheet will need to be provided to the WMR for characterization in accordance with **PRC-PRO-WM-40519**.

A. FACILITY/PROJECT COMPLETES

1. Provide general description of the planned work scope:

Periodic/reoccurring PM/S activities

	Yes	No		Yes	No
Is this a chemical cleanout?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will equipment (e.g., pumps, valves, hoists) be removed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is waste from a spill clean-up?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is this D&D Work?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is any process residue or leachate expected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is this Operations and Maintenance Work?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

2. Provide general description of the waste:

Possible inert step-off pad waste and debris waste (paper, plastic, rubber, cloth, metal, etc.) generated in support of housekeeping activities

Rad Contaminated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Piping (sizes)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Aerosol cans	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Liquids	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Batteries	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Concrete (slabs, pieces)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Paint or painted waste	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Metal (e.g., grating, bar steel, sheet metal)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Beryllium Contaminated waste	<input checked="" type="checkbox"/>	<input type="checkbox"/>	HEPA filters (ventilation) or HEPA vacuums	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Asbestos waste	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lead (bricks, sheets, paint chips)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PCB waste	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Electronic equipment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other debris (e.g., paper, plastic, rubber, cloth, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

3. Estimate quantity of waste that will be generated (gals/lbs/m³/kgs):

<10 lbs per day

4. Radiological Waste Information:

Rad Sample Data Report Number:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Assay Data Report Number:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Rad Survey Data Report Number:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Contamination Information Report Number:	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5. Chemical or Product Information:

Process Knowledge Report Number:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Sample Data HEIS:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TRU Chemical Compatibility Evaluation Report Number:	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

WASTE PLANNING CHECKLIST (Continued)

Work Document Number: CPRM PM/S Activities Rev: 5 Planned Start Date: 07/25/2018

MSDS/SDS No.	Chemical/Product Name	MSDS/SDS No.	Chemical/Product Name
N/A	N/A	N/A	N/A

B. WASTE MANAGEMENT REPRESENTATIVE/WASTE SPECIALIST COMPLETES

1. Is there an existing waste profile(s) that may cover the waste when generated? Yes No
 If yes, Profile number(s): PRCIFSM001

2. Identify specific environmental controls:

CPSM WMP - ROO and the governing RAWP DOE/RL-2006-21 RO (U-Plant RAWP).
 The work and waste are authorized under CERCLA.
 CERCLA Waste Mgt. Area are found within the facility, the U-Plant RO/RO staged at the facility, and in HS001.

CP-Wide, S&M Plans DOE/RL-98-19-03/REDOX, DOE/RL-98-35-03/PUREX, DOE/RL-99-24-03/B Plant, and CP85 CPSM Waste Mgt. Plan - ERDF ROD Amendment

DOE/RL-2010-33 General Decommissioning RAWP CERCLA Authorized to ERDF.

For Tier 2 buildings, waste disposal is authorized under the ACTION MEMORANDUM FOR DECONTAMINATION, DEACTIVATION, DECOMMISSIONING, AND DEMOLITION (D4) ACTIVITIES FOR 200 EAST TIER 2 BUILDINGS/STRUCTURES, DOE/RL-2010-102, REVISION 0.

OE/CX-00073 for 400 Area and CP85 CPSM Waste Mgt. Plan - ERDF ROD Amendment

3. The following waste minimization techniques will be used:

Only introduce materials needed to perform work. Reuse excess materials or supplies. Minimize waste by recycling.

4. Packaging and Segregation Instruction (*list potential waste type and applicable procedures*)

U-Plant: U-Plant RO/RO
 Other facilities: The facility specific LLW RO/RO or 224-T RO/RO.
 Note: The 224-T RO/RO can be used to dispose of beryllium waste. Before disposing of Be waste to a RO/RO other than 224-T, verify Be waste can be placed in the container.

LLW:
 Package and dispose of low-level radiological waste per CPS&M LLW Procedure CPSM-PRO-OP-50744.

Waste covered under this WPC is listed in section 2 above, and is generated from S&M activities.

Waste containing chemicals or chemical residues or items removed from process systems and items removed during maintenance activities such as equipment, insulation, light bulbs, electrical/mechanical items, asbestos, and/or batteries are not covered under this WPC.

Beryllium:
 Waste contaminated with Beryllium shall be double bagged and a beryllium warning sticker shall be applied to the outer bag. Waste potentially contaminated with beryllium must comply with applicable Beryllium Work Permit (BWP). When adding Beryllium waste to the RO/RO, this shall be documented and noted on the container inventory sheet.

GENERAL:

WASTE PLANNING CHECKLIST (Continued)

Work Document Number: CPRM PM/S Activities Rev: 5 Planned Start Date: 07/25/2018

4. Packaging and Segregation Instruction (list potential waste type and applicable procedures)

-Ensure no prohibited conditions are present such as free liquids, PCBs, lead, or any other hazardous materials.
-If waste items include additional materials not identified on this WPC, contact WMR prior to disposal for a revision to the WPC.

5. Applicable WPLIS numbers:

NA

Prepared By:

Richard Lipinski

Print First and Last Name



Signature

7/5/18

Completion Date

WMR

Title

7/5/19

Expiration Date

This letter documents the mechanism for providing both Environmental Screening and National Environmental Policy Act of 1969 (NEPA) Review for numerous routine Central Plateau Surveillance and Maintenance (CPRM) Project Activities. This memorandum and the attached list of routine activities to which it is applicable will be maintained in IDMS under Environmental Protection, under the "Environmental Compliance Officers", under the "DRT" tab, then under "CPRM ECO Memo". A copy will also be submitted to the CPRM Work Control and administrative staff for use as environmental reference.

Activities performed within the CPRM Organization are managed under the Job Control System (JCS) and consist of Preventative Maintenance (PM and/or repetitive maintenance work), emergent work (e.g. One-time activities and/or repairs) and scheduled compliance activities. According to company procedures, policies, and the National Environmental Policy Act of 1969, all work requires review prior to start of work to ensure environmental compliance.

Work activities (non-administrative) applicable to this memo are routine and repetitive in nature and are performed on equipment and instrumentation that provide evidence of compliance with environmental regulations.

Work activities listed in Attachment A & B have been reviewed for environmental impacts and determined to be compliant with applicable regulations and are covered under this memo as having sufficient review.

Work activities listed under Attachments A & B are environmentally authorized through the following documents, depending on work type and locations: For work locations across the Central Plateau the relevant documents that are applicable are DOE/RL-2010-33 General Decommissioning RAWP CP-Wide support of General Decommissioning work activity, DOE/RL-98-19-04A REDOX, DOE/RL-98-35-04A PUREX, DOE/RL-99-24-04A B-Plant and the U-Plant- RAWP DOE/RL-2006-21, CHPRC-1300791-R1, CHPRC-1402453, CHPRC-1402461, and DOE/RL-00073 "Routine Maintenance and Custodial Services"

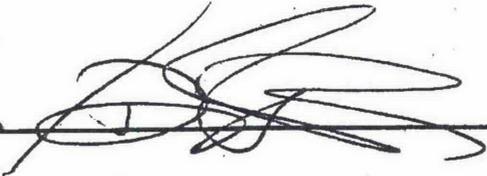
Field Work Supervisors (FWS) will refer to this memo during each pre-job to assess its applicability to the work and for Environmental Screening and NEPA evaluation, on all non-modifications or administrative modifications of the work document on the attached lists (see Attachment A and B). Provided that the listed "Environmental/ Air Permitting Controls" considerations are incorporated as work controls (below), no additional Environmental Screening and/or NEPA review documentation are required in these instances. If a non-administrative modification of any of the activities on the attached list is required, a separate NEPA Review and Environmental Screening must be performed by an Environmental Compliance Officer (ECO) and included in the work document and this CPRM ECO Memo will not be applicable.

- Environmental/ Air Permitting Controls:
 - The ECO shall be contacted if there are any work activities that involve the handling, release and/or disturbance of Radiological, air or chemical contamination that is discovered outside of a managed or established area and/or containment.
 - Any work activity that involves either PACM, asbestos or known ACM contact the ECO.

CPRM ECO Memo- Effective 10/30/18- 10/30/19

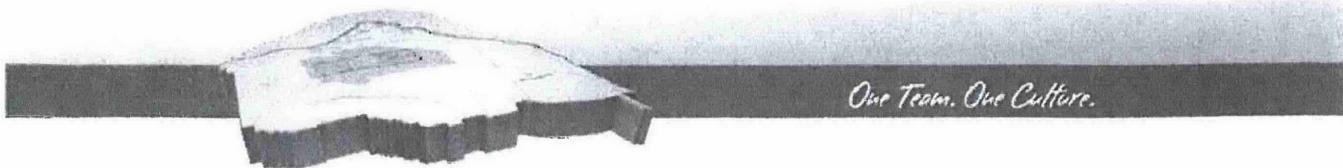
- During the performance of this task, workers shall stay on existing roads and pathways whenever practical. If required work activities have the potential to affect vegetation, then stop work and contact ECO and FWS.
- If and bats are observed or nesting birds/ground nesting birds (if not a nest, a pair of birds of the same species or a single bird that will not leave the area when disturbed) are encountered, or bird defensive behaviors (flying at workers, refusal to leave area, strident vocalizations) are observed, contact ECO.
- The use of ground protection (e.g. spill pans, plastic sheeting, plywood, etc.) under equipment and on the ground while performing work activities and/or maintenance when there are materials that could cause a spill is required.
- All spills to the environment (e.g. land, water or release to atmosphere) need to be reported to the ECO.
- Contact the ECO before performing any work that requires ground penetration or ground disturbance or excavation.
- Any work requiring the discharge of water to the ground, culvert, ditch or otherwise must be brought to the attention of the ECO for evaluation prior to work being performed.
- Ensure workers watch for cultural materials (e.g. bones, artifacts, chips, etc.) during all work activities. IF there are any suspect-cultural, materials are encountered, pause work near the discovery and contact the CPRM ECO. Return to work with concurrence from the ECO.

Any routine and/or repetitive work that is not listed in Attachment A or B must be review separately by the CPRM ECO.

Daniel Turlington 
Environmental Compliance Officer

11/12/18
Date

ECO Initial/Date WT 11/12/18



Administrative Procedure

PRC-PRO-EP-52900

Performing Inspections of Storage Areas for Ignitable or Reactive Waste

Revision 1, Change 1

Published: 01/03/2019

Effective: 01/03/2019

Program: Environmental Protection

Topic: Environmental Protection

Technical Authority: Martin, Paul

Functional Manager: Bramson, Jeffrey

Use Type: Administrative



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- 100 K Facility :
Categorical Exclusion: GCX-8 (Not in Safety Basis Compliance Matrices)
Screeners: Williams, James
- 324 Facility :
Categorical Exclusion: GCX-7 (Minor Change)
Screeners: Enghusen, Mark
- Canister Storage Building/Interim Storage Area :
Categorical Exclusion: GCX-8 (Not in Safety Basis Compliance Matrices)
Screeners: Covey, Lori
- Central Plateau Surveillance and Maintenance :
Categorical Exclusion: GCX-7 (Minor Change)
Screeners: Waller, Mitchell
- Plutonium Finishing Plant :
Excluded from USQ
Exclusion Reason:
N/A per PRC-PRO-NS-062 R4 Section 1.3, procedure scope does not apply to PFP.
- Solid Waste Operations Complex :
Screening Determination Performed: (GCX-7 (SWOC-15-009))

Screeners: Jacobs, Orvil
- Transportation :
Excluded from USQ
Exclusion Reason:
N/A per Appendix B, Bulleted List.
- Waste Encapsulation Storage Facility :
Categorical Exclusion: GCX-8 (Not in Safety Basis Compliance Matrices)
Screeners: Covey, Lori

JHA: Administrative**Periodic Review Due Date:**08/18/2021

Rev. 1, Chg. 1

Change Summary

Description of Change

This procedure implements RCRA inspection requirements and should be marked as an implementing procedure as required under PRC-PRO-EP-52795. Also, wording was added to ensure that observations and discrepancies are completed or tracked until complete

**Performing Inspections of Storage Areas for Ignitable or
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1.0 INTRODUCTION**1.1 Purpose**

This procedure establishes the process and requirements for completing inspections of storage areas for ignitable or reactive wastes (IRW). These inspections will be performed (or waived per this procedure) at least annually (once each calendar year) and whenever a Preventive Maintenance (PM) work package for IRW Inspections is triggered, whichever occurs first. It is recommended that the PM schedule be adjusted to ensure that if a missed inspection is identified during verification (step 3.2), there is time to complete the missed inspection before the end of the calendar year. Changes to the PM schedule in accordance with PRC-PRO-MN-19304, *Periodic Maintenance Process*, must ensure that an inspection is completed each calendar year.

1.2 Scope

The scope of this procedure includes CHPRC ≤ 90 -day dangerous waste accumulation areas (AAs) and treatment, storage, and disposal (TSD) dangerous waste management units (DWMUs), where IRW is stored or may be stored at any time during the calendar year. Satellite accumulation areas or hazardous material storage areas are outside of the procedure scope.

This procedure provides instruction and guidance intended to ensure compliance with applicable environmental requirements. Environmental Protection must review proposed changes to any portion of this procedure. [ENV]

1.3 Applicability

This procedure is used when annual inspections are performed to compare storage conditions for IRW to International Fire Code (IFC) requirements in accordance with WAC 173-303-395(1)(d).

1.4 Implementation

This procedure is effective upon publication.

2.0 RESPONSIBILITIES**2.1 Environmental Compliance Officer (ECO)**

Prior to the planned IRW inspection, the PM Planner will request the ECO to provide the following for the applicable organization's ≤ 90 -day AAs and/or DWMUs.

- An approved IRW Inspection Waiver Request (Waiver Request) for the calendar year. (See Appendix A for an example of a Solid Waste Operations Complex (SWOC) Waiver Request. Waiver requests may also be provided in a simpler form such as an email to the RCRA Subject Matter Expert (SME).
- An IRW Inspection List of all ≤ 90 -day AAs and DWMUs to be inspected for the calendar year. (See Appendix B for an example of a SWOC IRW Inspection List). Inspection lists for other CHPRC facilities/locations may be provided in a simpler form such as an email.

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- A comparison of all IRW stored at any time during the calendar year in each storage location to maximum allowable quantities in IFC (2015) Chapter 50 (See Appendix C for an example of a SWOC IRW comparison). This comparison is to be forwarded to unit manager for inclusion in the work package.
 - If any maximum allowable quantities are exceeded, notify the CHPRC Fire Protection Engineer (FPE) and include the notification in the work package.

This information will be included in the IRW Inspection work package(s).

2.2 CHPRC Fire Protection Engineer (FPE) or Fire Safety Officer (FSO)

A CHPRC FPE or Fire Safety Officer (FSO) who is familiar with the International Fire Code must be present during the inspection. At CHPRC facilities, annual IRW inspections are performed by unit management or their delegate familiar with the ≤90-day AA and DWMU locations to be inspected and an FPE or FSO. The FPE/FSO's name is documented as "witness" on each completed IRW Inspection form (A-6005-334).

2.3 CHPRC Unit Manager or Delegate

A CHPRC Unit Manager or delegate prepares form A-6005-334 for each ≤90-day AA and DWMU on the IRW Inspection List. They also perform IRW inspections of each of these areas, in the company of an FPE or FSO.

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3.0 PROCESS

3.1 Perform Inspection [ENV]

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
ECO	1.	EVALUATE all unit locations on the current CHPRC ≤90-Day AA List under the ECO's area of responsibility to determine whether IRW is/has been stored at any time during the calendar year or may be stored during the next calendar year. <ul style="list-style-type: none"> a. If a proposed unit location is not on the current CHRPC <90-Day AA list because the unit is new or a former unit that will be reactivated, the IRW inspection must be performed prior to receipt of IRW at the unit location.
	2.	REVIEW a list of all TSD storage DWMUs under the ECO's area of responsibility to determine whether IRW is/has been stored at any time during the calendar year or could be stored during the next calendar year.
		<p>NOTE: For those ≤90-Day AAs and TSD storage DWMUs at which there is no potential for IRW to be stored at any time during the upcoming calendar year, the ECO may submit an IRW Waiver Request to the RCRA SME for approval. Each waiver request should include justification for why the waiver is appropriate.</p>
	3.	<u>IF</u> a Waiver Request is not to be submitted, <u>THEN</u> GO TO step 3.1.5.
RCRA SME	4.	REVIEW the IRW Waiver Request. <ul style="list-style-type: none"> a. APPROVE the IRW Waiver if there is no potential to accumulate IRW at the unit for the current calendar year and return approved IRW Waiver to the ECO.
ECO	5.	CREATE an IRW Inspection List for the current calendar year. This list will include all of the waste storage areas (i.e., TSD, DWMU, and ≤90-day AA locations) that do not have an approved waiver. <ul style="list-style-type: none"> a. <u>IF</u> no IRW inspections are needed (i.e., all areas are waived), <u>THEN</u> ADD approved Waiver to the work package, SIGN the work package as complete, <u>AND</u> GO TO Section 3.2. b. <u>IF</u> IRW inspections are needed, <u>THEN</u> SUBMIT IRW Inspection List to the Unit Manager or delegate.
ECO	6.	For the IFC (2015) Chapter 50 comparison, SEE Appendix C for an example.

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Unit Manager or delegate	7.	<p>PREPARE an <i>Ignitable/Reactive Waste Fire Inspection Owner or Operator</i> form (A-6005-334) for each ≤90-day AA, TSD waste storage location, and DWMU on the IRW Inspection List.</p> <p>a. CONTACT the ECO if there is any question about the areas to be inspected.</p> <p>8. INCLUDE completed forms in the work package.</p>
Unit Manager or delegate and FPE/FSO	9.	INSPECT each ≤90-day AA waste storage location, TSD waste storage location, and DWMU on the IRW Inspection List.
	10.	<p>COMPLETE the prepared <i>Ignitable/Reactive Waste Fire Inspection Owner or Operator</i> form for each area inspected and include:</p> <p>a. <u>IF</u> a question on site form A-6005-334 does not apply, <u>THEN</u> CHECK "N/A."</p> <p>b. EXPLAIN all "No" and "N/A" checked boxes clearly in the "Comments" section of site form A-6005-334.</p> <ul style="list-style-type: none"> • The date and time of inspection • The name of the inspector, Unit Manager or Delegate (full printed name and signature) • The name of the FPE or FSO ("Witness") • Notations of observations made • Any remedial actions immediately completed as a result of the inspection (these may be in the work package or on the form). <p>11. PROVIDE the work package to the ECO to review.</p>

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3.2 Disposition [ENV]

Actionee	Step	Action
ECO	1.	VERIFY that an <i>Ignitable/Reactive Waste Fire Inspection Owner or Operator</i> form was completed for each location on the IRW Inspection List.
	2.	REVIEW each Ignitable/Reactive Waste Fire Inspection Owner or Operator form.
	3.	SUBMIT a Condition Reporting and Resolution System (CRRS) Action item in accordance with PRC-PRO-QA-052, <i>Issues Management</i> , for any incomplete remedial actions documented on the completed <i>Ignitable/Reactive Waste Fire Inspection Owner or Operator</i> forms and/or with the work package, <u>THEN TRACK CRRS</u> item until complete.
	4.	DOCUMENT that the verification is complete by signing the CHPRC Work Record (full printed name, sign, date) in the work package.
	5.	RETURN the work package to Operations for Operations Acceptance.

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4.0 FORMS

A-6005-334, *Ignitable/Reactive Waste Fire Inspection Owner or Operator*

5.0 RECORD IDENTIFICATION

All records are required to be managed in accordance with PRC-PRO-IRM-10588, *Records Management Processes*.

Records Capture Table

Name of Record	Submittal Responsibility	Retention Responsibility
<i>Ignitable/Reactive Waste Fire Inspection Owner or Operator (A-6005-334)</i>	Inspector / Operations Management	Work Control
IRW Inspection Waiver Request for ≤ 90-day AAs and DWMUs	Inspector / Operations Management	Work Control
IRW Inspection List	Inspector / Operations Management	Work Control
IRW Inventory Comparison	Inspector / Operations Management	Work Control

6.0 SOURCES

6.1 Requirements

International Fire Code

PRC-PRO-EP-15332, *Environmental Protection Requirements*

WAC 173-303-395(1)(d), *Dangerous Waste Regulations, "Other General Requirements"*

6.2 References

PRC-PRO-EP-15333, *Environmental Protection Processes*

PRC-PRO-IRM-10588, *Records Management Processes*

PRC-PRO-MN-19304, *Periodic Maintenance Process*

PRC-PRO-QA-052, *Issues Management*

International Fire Code (2015) Chapter 50, Table 5003.1.1(1), *Maximum allowable quantity per control area of hazardous materials posing a physical hazard.*

6.3 Bases

CR-2014-0018

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Appendix A - Example IRW Inspection Waiver Request for ≤90-day AAs and DWMUs

Per PRC-PRO-EP-15333, Section 5.68, SWOC requests a waiver of the annual RCRA ignitable/reactive waste (IRW) inspection for ≤ 90-day accumulation areas (AAs) as specified below. These IRW inspections are required by WAC 173-303-395(1)(d) for areas where ignitable or reactive wastes are stored.

Date:

SWOC ≤90-day Accumulation Areas (AA's)	Waiver Requested?	Waiver Justification
218-W-5, Trench 31, ≤90-day accumulation tank		
218-W-5, Trench 34, ≤90-day accumulation tank		
218-W-5, Conex box south of Trench 31		
CWC, low flash-point storage module FS-23		
Other (specify location) _____		

Additionally, SWOC requests a waiver of the annual RCRA ignitable/reactive waste (IRW) inspection for dangerous waste management units (DWMUs) as specified below. These IRW inspections are required by WAC 173-303-395(1)(d) for areas where ignitable or reactive wastes are stored.

T Plant DWMUs*	Waiver Requested?	Waiver Justification
221-T Canyon Deck		
221-T Cells		
221-T Railroad Tunnel		
221-T Head End		
221-T Operations Gallery Storage		
2706-T Building		
2706-TA Building		
2706-T Yard (including HS-030 and HS-032 Storage Modules)		
214-T Building		

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Appendix A - Example IRW Inspection Waiver Request for ≤90-day AAs and DWMUs

211-T Cage		
2706-T Asphalt Pad		
243-T Covered Storage Pad		
221-T BY Storage Area		
Closing T Plant DWMUs		JA 4-10-19

NOTE: No IRW is stored outside at T Plant and therefore the outdoor areas associated with some T Plant DWMUs are not included in IRW inspections.

WRAP DWMUs	Waiver Requested?	Waiver Justification
2336-W Building Process Area		
2336-W Building NDA/NDE Area		
2336-W Building Shipping and Receiving Area		
2336-W Building Room 152		
2404-WB Waste Storage Building		
2404-WC Waste Storage Building		
HERTR and Super HENC Waste Outdoor Storage Area		

NOTE: No IRW is stored outside at WRAP and therefore the outdoor areas associated with some WRAP DWMUs are not included in IRW inspections.

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Appendix A - Example IRW Inspection Waiver Request for ≤90-day AAs and DWMUs

CWC Operating DWMUs	Waiver Requested?	Waiver Justification
Low Flash-Point Storage (FS) Module FS-25		
Low Flash-Point Storage (FS) Modules other than FS-25		
Alkali Metal Waste (AMW) Storage Modules		
2402-W and 2402-WC		
2402-WB and 2402-WD through WL		
2403-WA through WD		
2404-WA		
CWC Container D-10 Outside Storage Area		
CWC East Outside Storage Area		
CWC Shipping and Receiving Area		
Closing CWC DWMUs other than Container D-10		

2/15/19

NOTE: No IRW is stored outside the FS, AMW, 2402-, 2403-, or 2404-series DWMUs at CWC and therefore the outdoor areas associated with these DWMUs are not included in IRW inspections

Requested by SWOC ECO

(date) _____ (print full name) _____ (signature) _____

Approved by RCRA SME

(date) _____ (print full name) _____ (signature) _____

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Appendix B - Example IRW Inspection List for ≤ 90-day AAs and DWMUs

Area	Building/DWMU	Unit Type
LLBG 31/34	Conex box south of Trench 31	Generator (90 day)
T Plant	2706-TA Building	Interim
WRAP	2336-W Building Shipping and Receiving Area	Interim
CWC	Low Flash-Point Storage (FS) Module FS-01	Interim
CWC	Low Flash-Point Storage (FS) Module FS-02	Interim
CWC	Low Flash-Point Storage (FS) Module FS-03	Interim
CWC	Low Flash-Point Storage (FS) Module FS-05	Interim
CWC	Low Flash-Point Storage (FS) Module FS-06	Interim
CWC	Low Flash-Point Storage (FS) Module FS-07	Interim
CWC	Low Flash-Point Storage (FS) Module FS-09	Interim
CWC	Low Flash-Point Storage (FS) Module FS-10	Interim
CWC	Low Flash-Point Storage (FS) Module FS-11	Interim
CWC	Low Flash-Point Storage (FS) Module FS-12	Interim
CWC	Low Flash-Point Storage (FS) Module FS-13	Interim
CWC	Low Flash-Point Storage (FS) Module FS-15	Interim
CWC	Low Flash-Point Storage (FS) Module FS-16	Interim
CWC	Low Flash-Point Storage (FS) Module FS-17	Interim
CWC	Low Flash-Point Storage (FS) Module FS-18	Interim
CWC	Low Flash-Point Storage (FS) Module FS-19	Interim
CWC	Low Flash-Point Storage (FS) Module FS-20	Interim
CWC	Low Flash-Point Storage (FS) Module FS-21	Interim
CWC	Low Flash-Point Storage (FS) Module FS-22	Interim
CWC	Low Flash-Point Storage (FS) Module FS-23	Generator (90 day)
CWC	Low Flash-Point Storage (FS) Module FS-24	Interim
CWC	Low Flash-Point Storage (FS) Module FS-26	Interim
CWC	Low Flash-Point Storage (FS) Module FS-27	Interim
CWC	Alkali Metal Waste (AMW) Storage Module AMW 01	Interim
CWC	Alkali Metal Waste (AMW) Storage Module AMW 02	Interim
CWC	Alkali Metal Waste (AMW) Storage Module AMW 03	Interim
CWC	Alkali Metal Waste (AMW) Storage Module AMW 04	Interim
CWC	2402-WB	Interim
CWC	2402-WD	Interim
CWC	2402-WE	Interim
CWC	2402-WF	Interim
CWC	2402-WG	Interim

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Appendix B - Example IRW Inspection List for ≤ 90-day AAs and DWMUs

Area	Building/DWMU	Unit Type
CWC	2402-WH	Interim
CWC	2402-WI	Interim
CWC	2402-WJ	Interim
CWC	2402-WK	Interim
CWC	2402-WL	Interim
CWC	2403-WA	Interim
CWC	2403-WB	Interim
CWC	2403-WC	Interim
CWC	2403-WD	Interim
CWC	2404-WA	Interim
CWC	Zone 19 -Container D-10 Outside Storage Area	Interim
CWC	SA1 - Shipping and Receiving Area	Interim

JA 4-10-19

Requested by SWOC ECO

Print Full Name

Signature

Date

Performing Inspections of Storage Areas for Ignitable or Reactive Waste

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Appendix C - Example IRW Comparison with IFC Ch 50 Maximum Allowable Quantities

SWITS IRW Inventory as of 7/20/2016

PKG ID	TSD	LOCN	PHYS STATE	D001/D003	D001/D003 Constituents	Comparison with IFC CH 50 Max. Allowable Quantities*
0024601	CWC	FS-21	LS	D001	< .6 kg flammable liquid	N/A Liquid
0024703	CWC	FS-21	LS	D001	< .5 kg flammable liquid	N/A Liquid
0029903	CWC	FS-20	LS	D001	< .9 kg flammable liquid	N/A Liquid
0043198	CWC	FS-20	LS	D001	.3 kg flammable liquid	N/A Liquid
0057525	CWC	FS-20	LS	D001	< .1 kg flammable liquid	N/A Liquid
0069937	CWC	2402WF	S	D001	< .2 kg potassium permanganate	Below limit of 125 lb
0071062	CWC	2402WF	S	D001	< .01 kg potassium nitrate	Below limit of 125 lb
0072419	CWC	FS-14	S	D001 D003	.3 g flammable solid (reactive)	Below limit of 1 lb
0079536	CWC	CWC	GS	D001	< 17 kg flammable liquid/solid	Below limit of 125 lb
222S-92-000201	CWC	FS-20	L	D001	< .1 kg flammable liquid/solid	Below limit of 125 lb
9600177	CWC	FS-02	LS	D001	.97 kg flammable liquid	N/A Liquid
9700802	CWC	FS-20	L	D001	< 10 kg flammable liquid	N/A Liquid
9703454	CWC	FS-11	L	D001	1.5 kg flammable liquid	N/A Liquid
9703456	CWC	FS-21	L	D001	< 1 kg flammable liquid	N/A Liquid
BP191003	CWC	FS-11	LS	D001	< .5 kg flammable liquid	N/A Liquid
RH-A-91-101	CWC	FS-27	S	D001	< 6 kg flammable liquid	N/A Liquid
RHZ-103-A13781	CWC	FS-11	LS	D001	< .1 kg flammable liquid	N/A Liquid
RHZ-219-930228	CWC	FS-20	S	D001	< 2 kg flammable liquid	N/A Liquid
RHZ-241-A18597	CWC	FS-21	S	D001	< 7 kg flammable liquid	N/A Liquid
WH-86-066	CWC	FS-20	LS	D001	< .2 kg flammable liquid	N/A Liquid
Z72-7-61	CWC	FS-20	LS	D001	< .4 kg flammable liquid	N/A Liquid

* Except for container in red font color above, all containers are D001 (ignitable) but are not D003 (reactive). Since pyrophoric wastes are prohibited at SWOC, these are compared with 125 lb. (56.7 kg) flammable solids limit and are N/A if they are D001 for flammable liquids or gases only.

** Container has both D001 and D003 waste codes applied and is compared with more restrictive (reactive class 4) limit of 1 lb (.45 kg)

Summary: Based on information in the SWITS database and this evaluation by the CWC ECO, no SWOC DWMUs or ≤ 90 day AA's stored IRW above the Maximum Allowable Quantities specified in IFC Chapter 50 through this date in CY 2016.

CHPRC SIGNATURE/INITIAL/STAMP VERIFICATION

PRC-PRO-IRM-10588, Records Management Process, states that documents that represent the completion, verification, or acceptance of work activities shall be authenticated. When signature, initials, or stamps are necessary for record authentication, the typed or printed name of the individual signing the record shall be included.

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2. The use of pencil or water soluble ink (most felt tip pens) is prohibited.

WORK DOCUMENT NO. Surveillance & Maintenance

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PRINT NAME	SIGNATURE AND/OR STAMP	INITIALS	DATE
Gregory, Tom		TMG	11/1/17
Grieder, Randy		RG	11/15/17
Griffith, Jack		JG	11/13/17
Hammond, Chip		CH	11-6-17
Hammond, Russell		RH	12/14/17
Hanley, Seamus		SH	11/1/17
Harder, Bonnie		BH	11/07/2017
Harder, Dale		DRH	11/2/17
Hjellum, Al		AH	11/1/17
Hoffman, Anthony		ARH	12/18/17
Hoffman, Jim		-	-
Holden, Vern		VH	11/1/2017
Holt, Shannon	N/A	-	-
Hovley, Ben		BH	11/2/2017
Jackson, Daphne		JD	11/09/17
Jackson, George		GS	11/9/17
Jacobs, Brandon		BJ	11-1-17
Johnson, Brady		BJ	11/6/17
Jones, Jeff		JO	11/1/17
Keaton, Ron		RK	11/1/17
Kelly, Krista		KK	11/1/17
Klekar, Scott		SK	11-6-17
Klosky, Andrew		AK	12-12-17
Korhuniak, Robert		RIK	11-2-17
Krebs, Bob		RJK	01/04/18
Kropla, Sean		SK	11-1-17
Krueger, Craig		CK	11-6-17
Krueger, Rochelle		RK	110217
Kruzic, Mike		MK	11-6-17
Levenite, Mark		ML	15 NOV 17
Lipinski, Richard		RL	11/9/17
Maloof, Mike		ML	12/14/2017
Mata, Chico		CM	11-6-17

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PRINT NAME	SIGNATURE AND/OR STAMP	INITIALS	DATE
Ballinger, Jason		JB	11-2-17
Barichello, Darren		DB	11-6-17
Bear, Lori		LKB	11/1/17
Bedingfield, Chad		CB	11-9-17
Biggs, Dan		DB	11/2/17
Boothe, Gabriel		GB	11/15/17
Bort, Tony		TB	11/1/17
Brown, Rick		RB	11-2-2017
Brush, Jared		JB	11/30/17
Burgett, Stacy		SB	11-2-2017
Carson, Caroline		CC	11-15-17
Carson, Dave		DC	1 Nov 2017
Collingham, Suzanne		SC	11-1-17
Corriell, Darin		DC	11/1/2017
Cox, Michael		MC	11-1-17
Cuevas, Sandra		SC	11/30/17
Curry, David		DC	11-30-17
Curtis, Richard		RC	12/2/17
Doremus, Will		WD	11-1-17
Dunbar, Dorothy		DD	11-26-2017
Dybsand, Ray		RD	12-12-17
Eberlein, Elis		EE	11-1-2017
Emineth, Cheryl		C.E.	12-14-17
Faith, Mark		MF	11-1-2017
Farris, Douglas		DF	11/01/2017
Fish, Jennifer		J.F.	11/01/2017
Floberg, Brian		BF	11-2-17
Francy, Chris		CF	11/1/17
Fuentes, Maria		MF	11/1/17
Garcia, Andy		MSA	11/15/17
Gaston, Amy		AG	11/1/17
Gaumnitz, Paul		PA	11/1/17
Grabner, Todd		TD	11/1/17

CHPRC SIGNATURE/INITIAL/STAMP VERIFICATION

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PRINT NAME	SIGNATURE AND/OR STAMP	INITIALS	DATE
Mc Naught, Bill		BM	11-6-17
McBride, Doug		DM	11/1/17
McCargar, Kristan		KMC	11-1-2017
Mclean, Corey		CM	11-2-17
Meeker, Jim		JM	11/1/17
Mellgren, Branden		BM	
Meyer, Michael		M.M	11-1-17
Miller, John		JM	11-6-17
Nelson, Jaren		JN	11-21-17
O'Connor, Shane		SO	11-13-17
Older, Debby		NO	11-2-17
Perkes, Randy		RP	12-20-17
Petty, Jamie		JP	11-2-17
Plunkett, Roy		RP	11-1-17
Powell, Rodger		RP	12-12-17
Ramos, Jose		JR	12/12/17
Regev, Shir		SR	11/15/17
Reid, Mike		MR	11/16/17
Rhoten, Randy		RR	11/1/17
Roberson, Todd		TR	12-22-17
Roberts, Justin		JR	11-1-17
Robinson, Robert (Lewis)		RL	11-1-17
Rogers, Lori		LR	12-12-17
Schwehr, Ben		BS	11-1-17
Sharp, Rick		RS	1-8-18
Singleton, Deborah		DS	12-27-17
Smith, Ron		RS	11-6-17
Snook, Scott		SS	11-2-17
Snyder, Alex		AS	11-1-17
Splattstoesser, Les		LS	11-6-17
Stevens, Ray		RS	11-1-17
Stewart, Jeff		JS	12-12-17

ENCLOSURE 3

Designation of Sodium Pail in Fast Flux Test Facility Interim Examination and Maintenance
(IEM) Cell

Consisting of 3 pages (including this cover page.)

Designation of Sodium Pail in Fast Flux Test Facility Interim Examination and Maintenance (IEM) Cell

Ecology Reference: WAC 173-303-070, Designation of Dangerous Waste

(1)(b) The procedures in this section are applicable to any person who generates a solid waste, as defined in Washington Administrative Code (WAC) 173-303-016, (including recyclable materials) that is not exempted or excluded by this chapter or by the department. Any person who generates a solid waste must determine if that waste is a dangerous waste by following the procedures set forth in Subsection (3) of this section. Any person who determines by these procedures that their waste is designated Dangerous Waste or Extremely Hazardous Waste is subject to all applicable requirements of this chapter.

Observation: During the January 8, 2019, inspection, Mr. Corriell stated the pail of sodium has not been removed from the IEM Cell. I observed Work Document 4I-06-3896/W, Section 1, "Scope" describes the pail as containing "frozen sodium pieces from past IEM Cell operations." During the January 8, 2019, inspection interview, Mr. Toebe stated he believed the sodium compounds described in the work package were left in the cell because they were non-reactive treatment residue. However I observed Section 2.3 of 4I-06-3896/W describes the sodium compound as "Na Oxide."

Corrective Action: Within 60 days upon receipt of this compliance report, submit to Ecology, designation results of the pail of sodium in the Fast Flux Test Facility (FFTF) Interim Examination and Maintenance Cell. If the material designates as dangerous waste, follow the requirements established in the Dangerous Waste Regulations, Chapter 173-303 WAC.

U.S Department of Energy Richland Operations Office and CH2M HILL Plateau Remediation Company Response:

WAC 173-303-070(3)(e) allows generators to apply knowledge in light of the materials or the process used, when such knowledge can be demonstrated to be sufficient for determining whether or not it is designated and/or designated accurately. When available knowledge is inadequate or absent to make an accurate designation, the generator must test the waste according to the methods, or an approved equivalent method set forth in WAC 173-303-110. There is limited information regarding the contents of the bucket; therefore, knowledge cannot be demonstrated to be sufficient for determining whether or not the contents would designate under WAC 173-303-070(3). Because the IEM Cell has been deactivated, testing the waste would require extraordinary logistics for access in an effort to safely obtain a sample and would cause excessive risk, including radioactive exposure to personnel. What information is available regarding the contents of the bucket is documented in the endpoint criteria, System Deactivation Summary, and the associated FFTF Surveillance and Maintenance Plan. These documents indicate the materials are to be left as is until future decommissioning occurs.

Information regarding the contents of the bucket will be added to the 2019 Land Disposal Restrictions Report in *Appendix C, Table C-2, Potential Mixed Waste* to reflect its current status as solid waste with the potential to become mixed waste.

A copy of *Deactivation Completion of the FFTF IEM Cell*, which includes the System Deactivation Summary for the IEM Cell, has been added to the Administrative Record.

ENCLOSURE 4

Response to Concern 3

Consisting of 2 pages (including this cover page.)

Response to Concern 3

Ecology Concern 3: On the Ignitable/Reactive Waste Fire Inspection, A-6005-334 form for the Interim Storage Area (ISA), the Hanford Fire Department states, "the unit is to be inspected and maintained free from potential intrusion of water." Precipitation entering the ISA storage module with no documented repairs resulted in non-compliances cited in previous Washington State Department of Ecology inspections (15.536, 17.598). The 15.536 non-compliance was resolved by CH2M HILL Plateau Remediation Company (CHPRC) documenting this failure in the operating record. The 17.598 inspection requires repairs to be made and has not been resolved.

The only remedial step taken to date appears to have been to adhere an absorbent pad to the floor and wall. As a measure to prevent a radioactive, mixed waste explosion in a Class II water-reactive waste storage module, this seems inadequate. Effective repairs to the ISA storage module should be made to ensure water does not intrude into the storage area while still providing proper ventilation.

U.S. Department of Energy Richland Operations Office and CHPRC Response: Modifications will be made to procedure CPSM-PRO-OP-50673, *Hanford Facility Resource Conservation and Recovery Act Permit 400 Area Waste Management Unit Inspections*, as follows:

- In Section 4.3, *ISA Waste Management Unit*, a second bullet will be added to step 4.3.3; and
- In Section 4.5, *Restoration*, Step 4.5.3 will be added.

With these changes (underlined below) Steps 4.3.3 and 4.5.3 will be read as follows:

4.3.3 CORRECT deficiencies revealed by inspection on a schedule that prevents hazards to the public health and the environment.

- *OBTAIN management direction where a hazard is imminent or has already occurred.*
- *Corrective actions are mandatory when moisture, condensation, or accumulated liquids are identified within the ISA Waste Management Unit.*

4.5.3 Engineering will review work package prior to closeout to ensure identified deficiencies are addressed and any corrective actions taken are documented along with the date of corrective action.