

F&O Building Emergency Procedure

BEP- 325/RPL

Building Emergency Procedure for Radiochemical Processing Laboratory (RPL)

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1.0 General Information

The Radiochemical Processing Laboratory (RPL)/325 Building Emergency Procedure (BEP) has been designed to provide information necessary to minimize risks to personnel, facilities, programs, and the environment in the event of an emergency. This procedure applies to all resident staff, visitors, vendors, and contractor/subcontractor personnel. If an event is of a security nature (bomb threat, hostage situation, or other act of violence), security procedures may supersede this procedure and will be assessed on a case-by-case basis.

This facility contains both radioactive and hazardous materials in operations, storage, and handling. The RPL facility poses a possible significant hazard to adjacent facilities, personnel, programs, and the environment.

This BEP includes the contingency plans and emergency procedures for hazardous waste management activities as referenced by the Washington Administrative Code (WAC) [173-303-340, -350, and -360]. This plan must be implemented whenever an emergency threatens human health and the environment¹.

Emergencies may arise from, but are not limited to the following:

- Fire
- Explosion
- Loss of service systems
- A medical emergency
- Bomb threats
- Criticality
- Criminal activity
- Incidents at other facilities
- Natural hazards or natural forces
- Spill/release to the environment requiring assistance
- Hazardous materials release.

Expected responses are those actions, which are intended to minimize the effects of a situation while providing optimum protection to personnel. Expected responses include notification to the PNNL Operations Center, Building Manager (BM), Building Emergency Response Organization (BERO), and personnel in the facility. This procedure also provides plans for notifying personnel to take safe actions such as “Take Cover,” “Evacuate,” or other planned actions dictated by the event. The procedure provides for formal notification and reporting.

Other emergency response agencies available to assist the Building Emergency Director (BED) and Incident Commander from offsite are described in DOE/RL 94-02, Section 3.0 [WAC 173-303-350 (3)(d)].

¹ Section 1.0 third paragraph: Permit requirement, Class 1 Modification 6/30/15.

The BED will provide BERO members BEP training annually. The BED and Alternate BEDs will receive annual training from the PNNL Emergency Preparedness office.

The policy of PNNL is to provide for the safety of its staff, contractor/subcontractor personnel, visitors, and members of the public in case of an emergency incident. PNNL line management has the responsibility to execute this policy and to see that all staff understand their responsibilities and know the action to be taken in an emergency. Every staff member is responsible for using the appropriate safety instructions and procedures and to remain alert to unsafe conditions or acts while performing his or her job. All personnel are responsible for responding to emergency conditions to minimize adverse impacts.

In the event of an emergency condition in the facility, members of the RPL BERO will perform their duties as described in this procedure. Specific emergency actions for response to events will be applicable as specified in this BEP. Those BERO members whose assistance is needed to mitigate a lesser event will be notified by telephone or personal contact by the BED or delegate. Occupants of the facility who are not members of the BERO shall follow the standard PNNL Emergency Preparedness requirements at HDI, [Basic Staff Practices](#).

The building fire alarm is the primary means of evacuation and notification for full activation of the BERO. Emergency telephone numbers are listed in Section 3.0.

This procedure will be reviewed at least annually and amended if necessary or whenever any of the following occurs [WAC-173-303-350(5)]:

- The applicable regulations or the Hazardous Waste Treatment (HWTU's) permit is revised.
- The procedure fails in an emergency.
- The facility changes in a manner that materially increases or decreases the potential for fire, explosions, or release of hazardous waste or hazardous waste constituents, or in any way that changes the response necessary in an emergency.
- The emergency coordinating personnel list changes.
- The emergency equipment list changes².

1.1 Facility Name

Name: Radiochemical Processing Laboratory (RPL), 325 Building

Address: 325 Cypress St., 300 Area
Richland, WA 99354

EPA Generator Identification Number: **WA 7890008967**

1.2 Facility Location

The RPL Building is in the southern portion of the 300 Area, north of Cypress Street.

1.3 Owner/Operator

The RPL facility is owned/operated by DOE and co-operated by Pacific Northwest National Laboratory (PNNL). The RPL Manager is the senior line manager in the

² Section 1.0, eleventh paragraph: Permit requirement, Class 1 modification 6/30/15.

RPL and has overall responsibility for all aspects of operations in the RPL. The RPL Manager is part of the Nuclear Operations Division (NOD) within the Facilities & Operations (F&O) directorate. The RPL Building Manager reports directly to the RPL Manager and supports operations and maintenance in the facility. The RPL Building Manager is also the primary Building Emergency Director (BED).

1.4 Facility Description

The RPL, as referred to in this BEP, consists of the RPL Building, RPL Filter Building, the East Storage Yard located east of the RPL Building, and the North Storage Pad located north of the RPL Building.

The RPL Building houses laboratories and specialized facilities including general-purpose chemical laboratories, High-level Radiochemistry Facility (HLRF), Shielded Analytical Laboratory (SAL), fissionable material storage areas, and RPL Hazardous Waste Treatment Units (HWTUs). The general-purpose laboratories characterize fuel, single- and double-shell tank waste, environmental samples, fusion/tritium samples, and other wastes. The radiochemistry facility includes areas for glove boxes, hot cells, cask handling, storage, and isolation of isotopes for unique applications like medical use. Analytical laboratory operations are conducted on small amounts of highly radioactive materials such as samples of single-shell tank waste. The HWTU treats hazardous, mixed, low-level radioactive and transuranic waste.

The RPL Filter Building is located on the northwest corner of the main RPL structure and houses the final stage HEPA filters and the main exhaust fans.

The East Storage Yard is a fenced enclosure adjacent to the east side of the RPL Building and is designated as an outdoor Radioactive Material Area (RMA).

The North Storage Pad is the foundation pad of the former 328 Building and will be designated as an outdoor RMA.

Note: Footnotes in this document note the provisions in the BEP that are subject to RCRA permit# WA7890008967. These actions in the BEP implement RCRA permit requirements.

1.5 Hanford Site Emergency Sirens/Alarms³

Note: Some signals may not be applicable to the building; however, they may be heard in other parts of the Hanford Site. In the event of “Take Cover” alarm, the BERO will respond to the RPL lunchroom/lobby area for BED direction.

Signal	Meaning	Actions
Slow Whoop followed by voice message	Fire	Vacate building; proceed to staging area.
Steady tone on whistle, or siren	Area Evacuation	Vacate building; proceed to staging area Personnel in vehicles shall proceed to the nearest occupied facility and report to the staging area supervisor (SAS).
Wavering siren or short blasts on whistle or siren.	Take cover (Shelter)	Proceed to shelter or stay indoors. Close all exterior doors, turn off all intake ventilation (only if it can be done safely), and notify manager of whereabouts. Personnel in vehicles shall proceed to the nearest occupied facility and report to facility management. Staff should refrain from eating and drinking during a take cover event if physically able, until an appropriate evaluation of the event can be made.
AH-OO-GAH horn (howler) or flashing blue light (in high noise areas)	Nuclear criticality	Run at least 100 feet from building; proceed to staging area, along a path that does not take you closer to the building.
Variable color (red, amber) light with ringing bell or whistle	Airborne Radioactivity or Area Radiation Monitor	Stop work activities; immediately exit the area; notify Radiological Control personnel.
Communicator Notification System (CNS), telephone call displayed from 375-2124	PNNL Emergency Communications	Lift receiver, say “ HELLO ,” listen to the message and follow the actions designated.
Telephone Notification System (TNS)	Hanford Site Emergency Communications	Lift receiver, say “ HELLO ,” listen to the message and follow the actions designated. (Note: this system is only applicable to facilities on the Hanford site (i.e., 300/600 Areas)

1.6 Coordination Activities with Local Emergency Responders⁴

Interfaces and coordination with offsite agencies are in the planning, preparedness, response, and recovery elements of the Hanford Emergency Management Program. DOE has developed and maintains agreements to formalize areas of understanding, cooperation, and support with offsite agencies. These agreements are applicable to all

³ Section 1.5: Permit requirement, Class 1 Modification 6/30/15.

⁴ Section 1.6: Permit requirement, Class 1 Modification 6/30/15.

Hanford facilities, including the RPL. Summaries of these memoranda of agreement (MOA) are given in Table 3-1 of the *Hanford Emergency Management Plan* (DOE/RL 94-02).

1.7 Deviations from Technical Safety Requirements

Emergency actions that depart from an approved TSR may be taken when no actions consistent with the TSRs are immediately apparent, and when these actions are needed to protect workers, the public, or the environment from imminent and significant harm.

Such actions shall be approved, as a minimum, by the RPL Building Manager, the RPL Manager, or the RPL BED. If emergency actions are taken, verbal notifications shall be made to the PNSO within two hours and by written reports to DOE Headquarters within 24 hours. [TSR AC 5.11]

2.0 Purpose of the Building Emergency Procedure

This procedure describes the processes and information necessary in the event of an emergency for the RPL BERO members to react to the emergency and to perform the following actions:

- Maximize safety, minimize risk to life, and provide prompt efficient treatment for injured persons.
- Provide all members of the BERO with an understanding of their roles and responsibilities in the event of an emergency.
- Minimize the effects on the health and safety of personnel, property, the environment, programs, and the public.
- Provide prompt internal and external notifications to the responsible authorities.

2.1 Distribution

At a minimum, controlled document copies of this BEP will be located at the following locations:

- BED emergency response bag
- RPL Power Operator Office (Room 900)
- Building Manager's file
- 325 HWTUs Operating Record⁵
- EP Program Office
- PNNL Operations Center
- Hanford Emergency Operations Center (Hanford Site facilities only)
- Management Support Group emergency response bag (LSB/2D55)
- Alternate Incident Command Post (350 Building room 161)

The RPL BEP may be viewed and/or printed at <https://facilities.pnl.gov/weblinks/BEP/325/BEP-325.pdf>. Copies of the BEP that are printed from this website are considered uncontrolled copies.

⁵ Section 2.1, fourth bullet: Permit requirement, Class 1 modification 6/30/15.

2.2 Acronyms

BED	Building Emergency Director
BEP	Building Emergency Procedure
BERO	Building Emergency Response Organization
BM	Building Manager
CAM	Continuous Air Monitor
CAS	Criticality Alarm System
CMS	Chemical Management System
CNS	Communicator Notification System
CSM	Cognizant Space Manager
DOE	Department of Energy
EAL	Emergency Action Level
EIP	Emergency Information Posting
EOC	Emergency Operations Center
EP&RP	Environmental Protection & Regulatory Programs
EPA	Environmental Protection Agency
ESM	Electronic Storage Media
FOS	Facility Operations Specialist
FSR	Field Services Representative
HDI	How Do I
HFD	Hanford Fire Department
HLRF	High-Level Radiochemistry Facility
HWTU	Hazardous Waste Treatment Unit
IC	Incident Commander
ICP	Incident Command Post
IOPS	Integrated Operations System
LA/LAI	Limited Area Island
MIT	Map Information Tool
MSG	Management Support Group
NOD	Nuclear Operations Division
ONC	Occurrence Notification Center
PIV	Post Indicator Valve
PNNL	Pacific Northwest National Laboratory

PNSO	Pacific Northwest Site Office
POC	Patrol Operations Center
PPE	Personnel Protective Equipment
RBA	Radiological Buffer Area
RCRA	Resource Conservation and Recovery Act
RPL	Radiochemical Processing Laboratory
RPT	Radiological Protection Technologist
SAL	Shielded Analytical Laboratory
SAS	Staging Area Supervisor
SDS	Safety Data Sheet
SME	Subject Matter Expert
TDP	Testing Designated Position
TNS	Telephone Notification System
TSD	Treatment, Storage, Disposal
WAC	Washington Administrative Code

2.3 Making Changes to the BEP

PNNL-MA-110, *Emergency Management Plan* requires the BED to keep the Emergency Preparedness Office (EPO) advised of any changes to the BEDs. This may be accomplished by memo to the EPO. The Hazardous Waste Treatment Unit (HWTU) Permit Coordinator and the RCRA Subject Matter Expert are also required to be notified before any changes are made to the BEP.

To request revisions to this procedure, refer to ADM-001, *Document Production & Distribution*.

3.0 Building Emergency Response Organization

3.1 Emergency Telephone Numbers [WAC-173-303-350(3)(d)]

In the event of an emergency, specific detailed facility information may be needed. Knowledge of the building, utilities, and radiation hazards can be obtained from the staff listed below. Contact the PNNL Security Operations Center at 375-2400 if unable to contact these staff members using the numbers provided.

Any Emergency – PNNL Security Operations Center: 375-2400			
Note: With the appropriate approval, BED home addresses can be obtained at the PNNL Security Operations Center.			
*Building Emergency Director (BED) ⁶ Paul T. Saueressig	Office: 375-5352	Home: N/A	Cell: 619-3873
*BED1 Eric M. Hanson	Office: 375-5351	Home: N/A	Cell: 713-0860
*BED2 (HF) Skip Kerschner	Office: 375-5345	Home: 396-0593	Cell: 554-4369
*BED3 Chris S. Dreyer	Office: 375-5468	Home: 628-9995	Cell: 420-0533
Additional F&O Management Contacts: Utility Operations WTL, TJ Vanderlinden Nuclear Operations WTL, Don Cravens Fire Protection Engineer: Dan Kester Safety & Health Rep: Jason Sweesy F&O Mgt Support Group: Reed Sharp	Office: 375-2829 Office: 375-5398 Office: 371-7383 Office: 372-4122 Office: 371-7042		Cell: 521-8024 Cell: 948-1053 Cell: 308-9108 Cell: 438-4974
EOC RPL Tech Reps: Karl Pool Randy Thornhill Franciska Steen	Office: 375-5246 Office: 375-5220 Office: 375-5546		Cell: 851-6769
Unique Program Laboratory Expertise Waste Mgt – 90-Day: Zane Turner Low Level TSDs: Trevor VanArsdale Environmental Compliance Rep: John Holland	Office: 375-5088 Office: 375-3814 Office: 375-5002		Cell: 554-4359 Cell: 531-6441 Cell: 521-1211
Alternate Incident Command Post: 350 Bldg./Room 161	Office: 376-7565 Fax: 376-7965		
Environmental Support Contact (<i>regulatory notifications only</i>)	375-2400 375-1648		
Richland Fire Department	375-2400		
Medical and First Aid	375-2400		
Hazardous Materials Response Team (Benton Franklin County Hazardous Material Response Team)	375-2400		
Ambulance Services	375-2400		
Police Department	375-2400		
PNNL Duty Officer(s) & PNNL Info Line	375-2124		
Off Normal Event Reporting	375-2400		
Work related injury/illness of a non-emergency nature: PNNL Occupational Health Clinic, LSB 1st Floor section E	371-7848		

** These are Testing Designated Positions (TDP) per HDI, Perform Substance Abuse Testing. Any changes to these positions require coordination through the Testing-Designated Position (TDP) Administrator.*

⁶Section 3.1, BED information: Permit requirement, Class 1 Modification 6/30/15. See Permit Condition II.A.4.

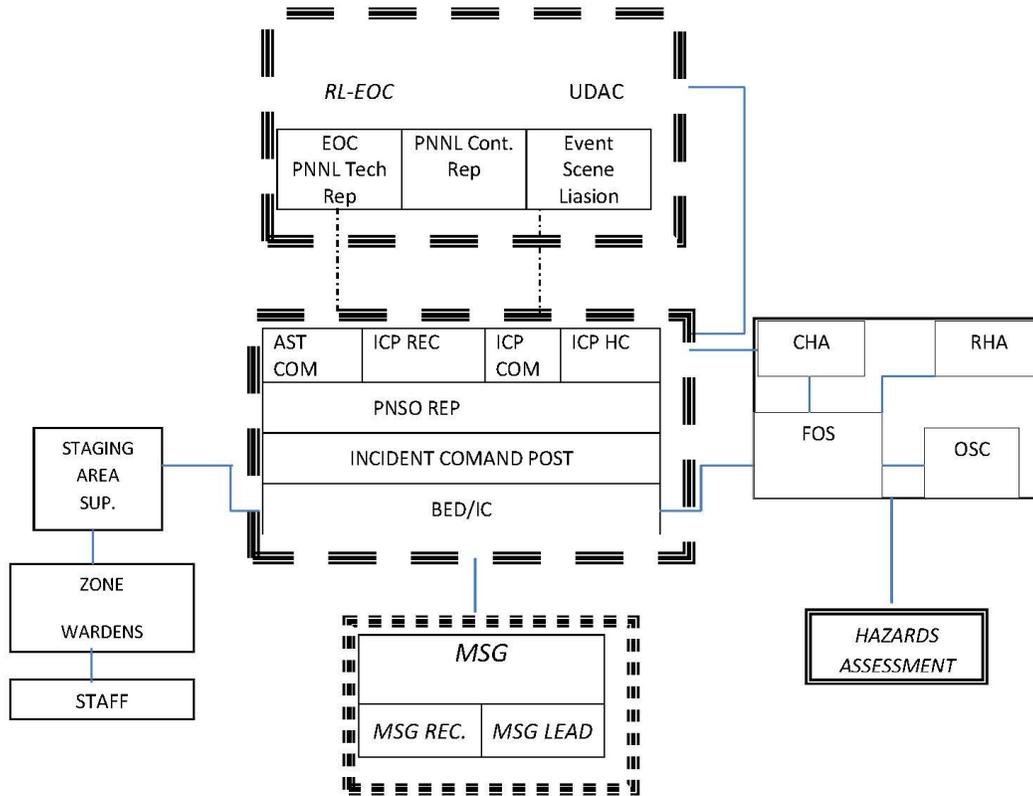
3.2 Building Emergency Response Organization (BERO)

The RPL BERO is an emergency response organization with clearly defined responsibilities. The BERO consists of pre-designated and trained individuals who have been assigned emergency response activities associated with the RPL. In addition, other positions and/or personnel in the RPL have responsibilities associated with emergency responses, preparedness, and notifications.

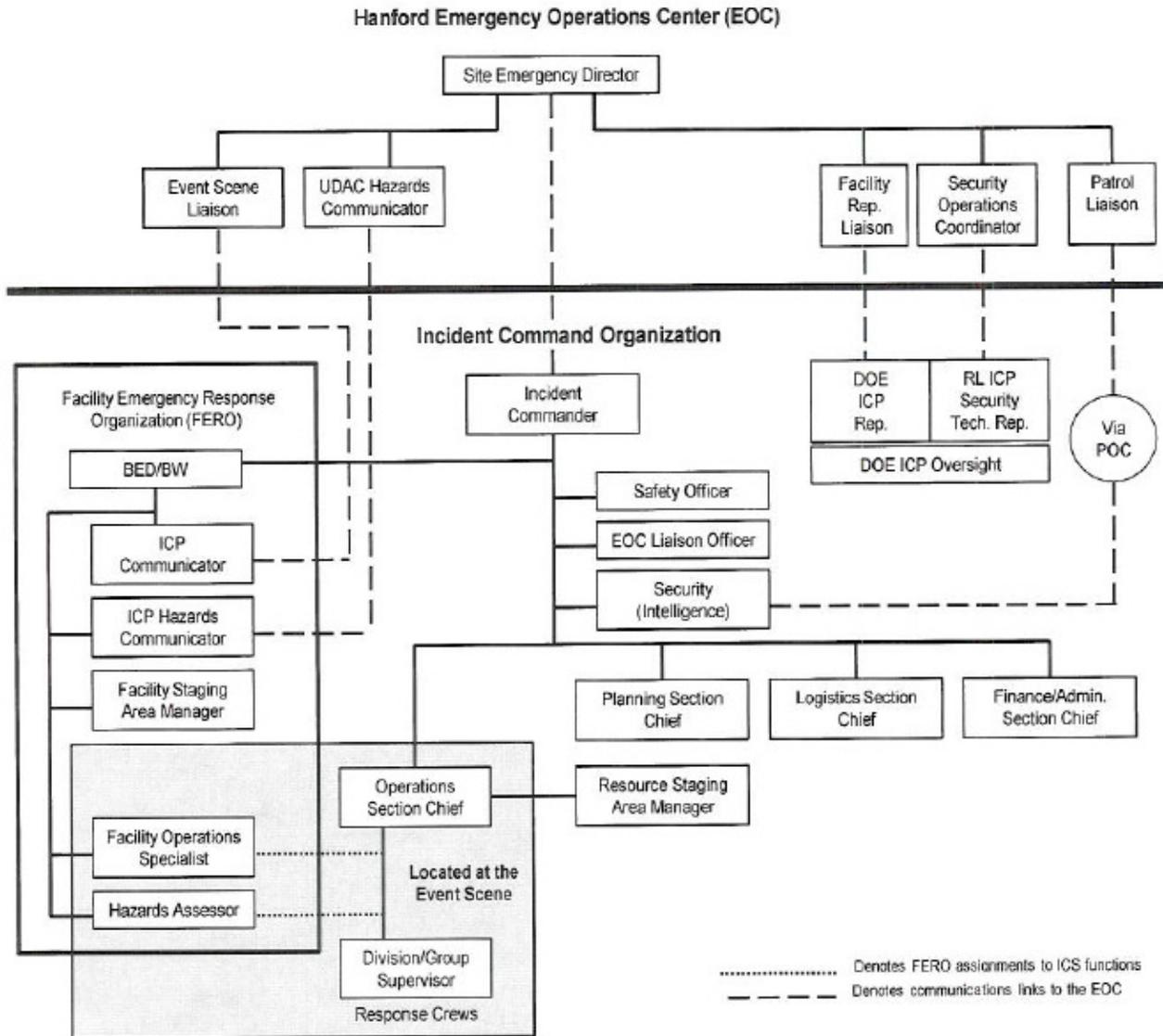
BERO Position	Primary Responder	1st Alternate	2nd Alternate
*ICP Communicator	Christopher Dreyer Work: 375-5468 Cell: 420-0533 Home: 628-9995	Teresa Campbell Work: 375-5119 Cell: 947-0332 Home: 943-6122	
Assisting Communicator	Scott Colby Work: 375-5350 Cell: 554-1780	Kathy Hall Work: 375-5346 Cell: 528-5954	
Chemical Hazards Assessor	Jason Sweesy Work: 372-4122 Cell: 438-4974	Mike Zabel Work: 375-5013 Cell: N/A Home: 378-4278	Doug Falk Work: 371-7097 Cell: 308-9101 Home: 967-5063
ICP Hazards Communicator	Terry Milham Work: 375-5007 Cell: 539-3910 Home: 627-0200	Bob Free Work: 375-5597 Cell: 521-5916 Home: 627-0200	Steve Ruisi Work: 375-6656 Cell: 528-6451 Home: N/A
Radiological Hazards Assessor	Lorna Brown Work: 375-5006 Cell: 948-2577 Home: N/A	Jenny Martin Work: 371-7788 Cell: 374-7581 Home: 628-0561	Holly Black-Kania Work: 371-6930 Cell: 539-7283 Home: NA
ICP Recorder	Terri Mars Work: 375-5661 Cell: 539-0722	Kathy Hall Work: 375-5346 Cell: 528-5954	
*Facility Operations Specialist	Dan Wandler Work: 375-5179 Cell: 438-1053 Home: 438-1053	John Logan Work: 375-5168 Cell: 438-2079 Home: 438-2079	Johnny Trevino Work: 375-5177 Cell: 554-8531 Home: N/A
Staging Area Supervisor	Deborah Coffey Work: 375-5011 Cell: 586-909-2122 Home: 543-7244	Teresa Schlotman Work: 375-5323 Cell: NA Home: NA	Jake Bohlke Work: 375-5553 Cell: 303-9613 Home: NA
PNSO Facility Representative	Tom Davies Work: 372-4100 Cell: 509-392-9872 Home: 627-3345	Jeff Carlson Work: 372-4750 Cell: 509-539-2044 Home: 582-9769	Rob Yasek Work: 372-4023 Cell: 509-554-4471 Home: 371-8105

* These are Testing Designated Positions (TDP) per HDI subject area Workplace Substance Abuse. Any changes to these positions require coordination through the Testing-Designated Position (TDP) Administrator.

3.3 BERO – EOC Interface



Legend			
AST	Assisting	IH	Industrial Hygienist
BED	Building Emergency Director	MSG	Management Support Group
CHA	Chemical Hazards Assessor	OSC	Operations Section Chief
COM	Communicator	REC	Recorder
CONT	Contractor	REP	Representative
EOC	Emergency Operations Center	RHA	Radiological Hazards Assessor
FOS	Facility Operations Specialist	SUP	Supervisor
HC	Hazards Communicator	UDAC	Unified Dose Assessment Center
IC	Incident Commander		
ICP	Incident Command Post		



3.4 Building Emergency Directors and Alternates

The BED has the responsibility for the welfare and safety of the building personnel and for directing efforts to control, evaluate, and terminate the event if the building is the site of an event. The BED performs duties of the Emergency Coordinator as prescribed under the WAC [WAC 173-303-360] until relieved by the Incident Commander, and has the authority to commit the resources needed to carry out the BEP.

The BED manages facility operations and personnel during an emergency and is responsible for implementation of appropriate emergency procedures and their

follow-up, 24 hours a day. The BED has the authority to commit the resources necessary to carry out emergency plan activities⁷. Activities include:

- Directing configuration control over facility systems and components at the event scene.
- Activating the BERO.
- Assessing the event scene⁸.
- Allocating personnel to conduct facility-specific emergency response actions within the affected facility boundary (including acting as or delegating duty as the Facility Operations Specialist (FOS) and taking appropriate protective actions in response to events occurring in other onsite geographic areas or adjacent facilities).
- Categorizing the incident and notifying the PNNL Environmental Support Contact and/or the EOC Shift Office⁹.
- Communicating with the Environmental Protection & Regulatory Programs.
- Initiating establishment of a Management Support Group (MSG).
- Reviewing the Emergency Action Levels (EAL) criteria (PNNL-EAL-RPL) and providing an initial EAL classification to the EOC Shift Office¹⁰.
- Directing implementation of initial preplanned area/site protective actions.
- Identifying an alternate staging area in the event of an extended building evacuation during inclement weather.
- Determining personnel accountability status.
- Performing the necessary steps in the [BED Hazardous Material Facilities \(RPL\) Checklist](#).
- Verifying other BERO positions use checklists as appropriate.
- Verifying that preservation of evidence at the event scene is taken into consideration during the event.
- Developing and transmitting event reports to maintain accurate and complete records of events, decisions, and actions during an event.
- Verifying the appropriate alarms are sounded when necessary¹¹.
- Providing information and assistance to the responding agencies as requested to mitigate the event, including:
 - Identifying the character, exact source, amount, and extent of any released materials.

⁷ Section 3.4, first and second paragraph text: Permit requirement, Class 1 Modification 6/30/15.

⁸ Section 3.4, second paragraph, third bullet: Permit requirement, Class 1 Modification 6/30/15.

⁹ Section 3.4, second paragraph, fifth bullet: Permit requirement, Class 1 Modification 6/30/15.

¹⁰ Section 3.4, second paragraph, eighth bullet: Permit requirement: Class 1 Modification 6/30/15.

¹¹ Section 3.4, second paragraph, sixteenth bullet: Permit requirement: Class 1 Modification 6/30/15.

- Taking reasonable measures (e.g., stopping processes/operations, collecting/containing released waste, removing/isolating containers) necessary to make sure that fires, explosions, and releases do not occur, recur, or spread to other dangerous waste.
- Monitoring for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment as appropriate¹².
- Approving reentry and/or rescue operations.
- Arranging care for any injured persons and contacting their line management.
- Notifying the HWTU permit personnel of any planned changes to the BEP.
- Verifying hazardous spill/release events are logged in the HWTU operating records.
- Taking appropriate actions during adverse chemical conditions see HDI, *Response to Normal Chemical Spills/Adverse Chemical Conditions (Exhibit)*.
- Providing a thorough turnover to the Hanford Site emergency responder (e.g., Hanford Fire Department, Hanford Patrol, etc.).
- Maintaining emergency equipment¹³.
- Verifying that the environmental support contact will provide any necessary notifications to regulatory agencies such as the Washington State Department of Ecology and verifying that required written reports to regulatory agencies are completed within 15 days of event termination¹⁴.
- Performing an annual review and update of the BEP.
- Planning, conducting, and documenting results of building emergency drills.
- Informing the Emergency Response Organization of any changes in RPL BEDs.
- Being thoroughly familiar with the following:
 - The RPL BEP
 - All operations and activities
 - Locations and characteristics of waste handling
 - Locations of all records
 - Physical layout of the building and area of responsibility¹⁵.

3.5 Incident Command Post (ICP) Communicator

The individual responsible for conveying the event emergency classification to the EOC Shift Office, phoning the POC at (9)911, or 373-0911 (cell) to initiate a conference telephone bridge between the POC, EOC Shift Office, and ICP

¹² Section 3.4, second paragraph, seventeenth bullet: Permit requirement, Class 1 Modification 6/30/15.

¹³ Section 3.4, second paragraph, twenty-fourth bullet: Permit requirement, Class 1 Modification 6/30/15.

¹⁴ Section 3.4, second paragraph, twenty-fifth bullet: Permit requirement, Class 1 Modification 6/30/15.

¹⁵ Section 3.4, second paragraph, twenty-ninth bullet: Permit requirement, Class 1 Modification 6/30/15.

Communicator. Initiates and maintains a communication line between the Event Scene Liaison at the DOE-EOC and the ICP. As a precautionary measure, the BED makes sure that this position is staffed for all events. The ICP Communicator is responsible for completing [Incident Command Post Communicator Checklist](#).

3.6 Assisting Communicator

Provides assistance to the ICP Communicator as directed by:

- Keeping the IC and BED aware of all transmitted and received information.
- Maintaining a log of communications sent and received.
- Establishing and maintaining a communication line with the Technical Support Representative (376-7148) in the DOE-EOC and the ICP throughout the incident.

3.7 Incident Command Post (ICP) Recorder

Records in a time-line format, event-related notifications and activities associated with the direction administered and information received at the ICP.

3.8 Management Support Group (MSG) Lead

The Facilities Operations & Engineering Division (FO&ED) Manager or delegate will respond as the Management Support Group (MSG) leader when requested by the BED.

Note: The MSG lead function and alternates is a TDP in accordance with HDI, *Workplace Substance Abuse*.

The MSG Lead will convene the appropriate staff to fill positions in the MSG as the incident requires. The MSG Lead is also responsible for notifying the PNNL Laboratory Director, other PNNL senior management as appropriate, and DOE-PNSO. The purpose of the MSG is to support the BED by being a resource for technical information, event mitigation strategies, event termination and recovery plans, and other support as directed/requested by the BED/IC. The coordination of support activities to the IC/ICP for a declared emergency on the Hanford Site is managed by the Hanford EOC.

A representative from DOE-PNSO has been established to coordinate with the MSG during large events. In smaller events, a DOE-PNSO Facility Representative coordinating with the BED will provide information and support to DOE-PNSO management regarding actions occurring at the event scene.

3.9 Management Support Group Liaison

Reports to the ICP to facilitate communications between the BED/IC and the MSG. The MSG liaison is responsible for the following:

- Establish phone communications with the MSG as needed to communicate with the MSG.
- Convey BED/IC requests for MSG support to the MSG.
- Communicate information from the MSG to the BED, IC, or other appropriate BERO members.

3.10 Staging Area Supervisor

The Staging Area Supervisor (SAS) will direct all activities at the building staging area and is responsible for:

- Assisting in personnel accountability by receiving the status of building occupancy from the zone wardens and then informing the BED of facility status with regard to personnel, or if help is needed to locate or account for missing personnel.
- Assisting in area evacuation and Take Cover.
- Assisting with communications.
- Supporting the BED as requested.
- Maintaining a log of their activities or assigning a log-keeper to do so.
- Completing the [RPL Staging Area Supervisor Checklist](#).

3.11 Zone Wardens

Zone wardens provide the results of their accountability sweeps information to the BED via the SAS and assists in additional duties as determined by the BED. To accomplish this function, the zone wardens:

- confirms that assigned zones have been vacated by staff and determines if aid and/or rescue is required
- aids those who need help in evacuating the building if it can be done safely
- reports the occupancy status of the assigned zone and any additional observations to the Staging Area Supervisor
- assists the Staging Area Supervisor as requested
- maintains a familiarity with the BEP
- becomes knowledgeable of any staff in assigned zones who may require assistance in an emergency event.

Note: The function of the zone warden is to verify (when possible) that assigned zones have been evacuated as a means of assisting other emergency responders and to verify the locations of building personnel. The function of zone wardens does not include search and rescue; they should not enter any area they feel presents a hazard to them. Once the evacuation alarm is sounded, zone wardens should not enter any location in the facility where there are indications that a hazard may exist. The indications include such things as visible smoke, fire, unusual odors, local alarms, criticality alarms, spilled chemicals, incapacitated personnel, etc. If a zone warden is not in the facility when the evacuation or take cover alarm is initiated, is a significant distance from their assigned zones, or has been isolated from their zone, they should report to the SAS at the staging area that their zone was not swept.

3.12 Facility Operations Specialist (FOS)

The FOS is responsible for the immediate mitigative actions at the event scene that cannot be delayed without threatening human health and/or the environment. The FOS is responsible for meeting emergency responders at the event scene and providing information on event status and initial actions that are underway. This position will serve under the direction of the BED and coordinate with the Hanford Fire Department or Hanford Patrol Operations Section Chiefs, upon their arrival, and will provide facility expertise to support operations section activities. The FOS is responsible for implementing the Facility Operations Specialist Checklist and maintains a log of activities, conversations, and directives given and received.

3.13 Hazard Communicator

The Hazard Communicator is a facility or process knowledgeable individual responsible for communicating data received from the Hazards Assessors to the Uniform Dose Assessment Center (UDAC) for further consequence assessment during DOE-declared emergencies. This position is staffed only during DOE-declared emergencies at the request of the BED/IC. The Hazard Communicator:

- Establishes and maintains an emergency response organization (ERO) communication line with the UDAC Hazards Communicator to provide incident scene radiological or chemical data as reported by the Hazard Assessors.
- Keeps the IC and BED aware of all transmitted and received information.
- Maintains a log, or assigns a log-keeper to record all activities, including the date and time information was received or the time when action was taken.
- Responds to requests for information from the UDAC and assures that requests for information are relayed to the Hazards Assessor(s) for response.
- Implements the [Hazards Communicator Checklist](#).

3.14 Hazards Assessors

There are two different Hazards Assessors for the RPL facility. One assessor deals with radiological hazards and the other deals with chemical hazards.

3.14.1 Radiological Hazard Assessors

The radiological hazards assessors are responsible for coordinating and verifying accomplishment of radiological control functions throughout the event. This position coordinates with the operations section chief at any location and supervises radiological protection technologist (RPT) activities.

The RHA is responsible for implementing the checklisted duties for non-declared RCRA emergencies and DOE-declared emergencies, as appropriate. In conjunction with the CHA, this individual will make recommendations for PPE to the Hanford Fire Department (HFD).

3.14.2 Chemical Hazard Assessors

This position may be staffed by an industrial hygienist assigned to support the HFD HazMat team, HFD medical staff, and HFD-safety officer. The CHA will provide technical expertise in chemical and toxicological hazard identification, evaluation, reactivity, and dispersion modeling at the incident

scene. The CHA may also serve as a chemical/decontamination safety officer, if designated by the IC.

The RPL CHA initially reports to the ICP for an event briefing and then coordinates with the HFD Operations Section Chief; he/she provides technical support for non-radiological hazardous material response. Typically, the RPL industrial hygienist and the industrial hygienist assigned to the HFD, HFD Medical Staff, or HFD Safety Officer staff this position. In conjunction with the RHA, this individual will recommend PPE to the HFD-safety officer.

3.15 Individual Staff Member Responsibilities

- Announces or activates the appropriate alarm, calls the PNNL Security Operations Center (375-2400), and notifies management upon observing an emergency¹⁶.
- Avoid exposure to harmful and life-threatening conditions.
- During emergencies, if it can be done safely, secure classified documents and electronic storage media (ESM) before leaving limited areas. If this cannot be done without endangering yourself: 1) take the classified documents and ESM with you, if time permits; 2) report to the staging area and; 3) inform the BED and then call 375-2400 to report an incident of security concern.
- If evacuating due to a fire alarm and you are wearing special PPE or anti-contamination clothing, segregate yourself from others at the staging area until surveyed by a RPT.
- Provide the BED with any information to assist in evaluating the emergency condition.
- Remain at the staging area and follow the instructions of the BED and SAS¹⁷.
- Read and understand the Emergency Information Posting (EIP) and BEP.
- Become familiar with the location of the BEP on the RPL webpage and HDI, *Basic Staff Practices*.
- Wear your Emergency Preparedness information card.
- Know where the nearest fire alarm pull box is located.

Note: When evacuating the RPL due to a fire or a criticality alarm, all personnel are required to exit the radiological control area(s) without performing radiological exit surveys. Those personnel shall segregate themselves from others at the staging area until surveyed by RPT's.

3.16 PNNL Incident Manager

For more complex events such as those affecting multiple PNNL-managed facilities and/or extending over multiple days, the PNNL Incident Manager (IM) may be activated and will assume responsibility for incident management, including managing the overall event on behalf of PNNL, overseeing BEDs, and coordinating

¹⁶ Section 3.15, first bullet: Permit requirement, Class 1 modification 6/30/15.

¹⁷ Section 3.15, sixth bullet: Permit requirement, Class 1 modification 6/30/15.

with the PNNL MSG. The PNNL IM will most likely be activated by the MSG Lead. Primary BEDs will continue to manage operations at their facilities, but the overall incident management and distribution of resources will be the responsibility of the PNNL IM.

3.17 Facility Visitor Responsibilities

The safety of building visitors is the responsibility of the facility host who shall assure that visitors are provided a safe and orderly evacuation. The facility host will report the visitor status to the SAS as soon as is practical after an evacuation.

3.18 Supervisors/Manager Responsibilities

Account for all staff members. Report missing or injured members to the SAS and if requested, assist the SAS.

3.19 Unique Program Laboratory Expertise

The technical knowledge of specific programs/laboratory activities are usually known by the laboratory occupant or program manager. When applicable, cognizant space managers (CSMs), alternate CSMs, and team leads may be contacted in regards to emergencies or off-normal events in assigned laboratories. Hazard Awareness Summaries containing this information are posted throughout the facility.

Rooms 201, 202 and 529 are less than 90-day Radioactive Hazardous Waste Accumulation Areas.

The Treatment, Storage, and Disposal (TSD) areas consist of the following rooms: 32, 200, 201, 202, 203, 520, 524, 528, 610, 3714 pad, and portions of 603 and 604A.

These rooms may contain significant quantities of hazardous waste for short periods of time. This waste can be radioactive, toxic, corrosive, ignitable, reactive, carcinogenic, or environmentally persistent according to the WAC [WAC 173-303].

No one will enter these rooms without permission from one of the individuals whose names are posted on the door.

Wastes stored in these rooms could have significant environmental or health hazards. Incidents involving any of these locations will require hazardous materials expertise by the responders.

3.20 Environment, Safety, and Health Advisor Responsibilities

Provides guidance for establishing safety requirements for mitigation and recovery actions, which include coordinating any support needed from other disciplines of the PNNL Environment, Health, Safety, and Security (EHS&S) Directorate (i.e., Environmental Compliance Representatives (ECR), Radiological Control, Hygiene, and Field Services Representatives [FSR]). The ECRs and FSRs conduct activities within specific hazardous waste management activity areas and provide support to the BED in case of an emergency.

The environmental support contact (375-2966) will provide any necessary notifications to regulatory agencies such as the Washington State Department of

Ecology and transmit required written reports to regulatory agencies within 15 days of event termination¹⁸.

3.21 Line Management

The responsibilities of line management include the following activities:

- accounts for staff members
- reports missing or injured staff members to the Staging Area Supervisor
- assists the Staging Area Supervisor if requested
- performs the necessary actions addressed in HDI
- acts as a health advocate for injured/ill staff members
- keeps the BED informed of changes in programmatic activities that could affect an emergency event
- provides or verifies training for staff members.
- provides training for unescorted visitors for whom he/she is responsible
- keeps the BED and Zone Wardens informed of staff members who may require assistance in an emergency event.
- Providing staff who are residents in the RPL, or are qualified Fissionable Material Handlers with a Personal Nuclear Accident Dosimeter (PNAD).

Line management has the responsibility to assure that each PNNL staff member performing work in or having unescorted access approval into the RPL reviews this BEP annually and documents the review with their training coordinator.

3.22 New Staff Assigned to RPL

All new assignees to the RPL facility shall complete initial training within 10 working days of assignment. All temporary personnel with unescorted access are required to receive this training before beginning work in the RPL facility.

¹⁸ Section 3.20, second paragraph: Permit requirement, Class 1 Modification 6/30/15.

4.0 Implementation of the BEP¹⁹

The decision to implement the BEP should be made whenever unusual or emergency conditions exist that require the response of facility and/or emergency personnel and the establishment of an ICP.

For RCRA events, the BEP must be implemented and the Washington State Department of Ecology notified if all the following criteria are met:

1. The event involves an unplanned spill, release, fire, or explosion;

AND
- 2a. The unplanned spill or release involves a dangerous waste, or the material involved becomes dangerous waste as a result of the event (e.g., product that is not recoverable),

OR;
- 2b. The unplanned fire or explosion occurred at a facility or transportation activity subject to RCRA contingency planning requirements;

AND
3. Time-urgent response from an emergency services organization is required to mitigate the event or a threat to human health or the environment exists.
 - Based on evaluation of the event, the BED or alternate BED will implement the BEP to the extent necessary to protect human health and/or the environment. The BED has the authority to commit the resources necessary to carry out the actions required by the BEP.
 - The BED will direct that additional checklists that are identified in the BEP be initiated and completed. When the materials and quantities involved in the incident have been identified, it should be possible to evaluate the magnitude of the hazard.

During an emergency event, the BED will take all reasonable measures to assure that fires, explosions, and releases do not occur, recur, or spread to other dangerous waste in the facility. Measures include stopping processes and operations, collecting and containing released waste, and removing or isolating containers as appropriate.

In any emergency, priority is given to protection of the health and safety of persons in the immediate area. Containment and cleanup are secondary choices. When responding to minor spill events, onsite personnel will generally perform immediate cleanup of minor spill or releases using facility equipment. Remediation of such spills and releases would not normally constitute activation of the BEP. A spill or release of dangerous waste is considered 'minor' if **ALL** of the following are true:

- The spill is either contained, or if outside a secondary containment, is minor in quantity (generally less than 10 gallons of liquid or 100 pounds of solids);
- The composition of the material or waste is known and can be immediately determined from the label, manifest, SDS, or other records;
- The spill does not threaten the health and safety of building occupants such that an area evacuation is necessary;

¹⁹ Section 4.0: Permit requirement, Class 1 Modification 6/30/15.

- Response personnel have appropriate training and equipment to expeditiously remediate the spill or release.

5.0 Facility Hazards

The RPL contains both radioactive and hazardous chemicals that pose a potential hazard to the public, adjacent facilities, personnel, programs, and the environment during an emergency. Because the location of hazardous materials and equipment within the facility can change on a frequent basis due to specific research needs, a variety of informational tools have been created and integrated into daily operations. Some of the tools available within the facility are the Map Information Tool (MIT), Chemical Management System (CMS), the RPL Operating Envelope webpage, and the Integrated Operations System (IOPS) which includes the Hazard Awareness Summaries for each hazardous space in RPL.

5.1 Hazardous Materials

The RPL building contains hazardous materials including:

- Chemicals exhibiting one or more hazards such as corrosives, oxidizers, flammable solids and liquids, poisons, etc.
- Radioactive materials.
- Hazardous wastes, including listed wastes and waste exhibiting one or more characteristics such as corrosivity, reactivity, ignitability, toxicity, and/or environmental persistence.
- Mixed wastes (wastes containing both radioactive and hazardous components).

Hazards associated with these materials vary depending on type, quantity, and concentration of the material(s) involved in the incident as well as the type of incident.

During an emergency, the PNNL CMS may be consulted to determine the identity and quantity of hazardous chemicals located in affected areas of the facility. The listing of satellite and 90-day accumulation areas (available on the Environmental Protection & Regulatory Programs webpage) may be consulted to identify the location and type of wastes (hazardous and mixed) in the facility. The inventory of waste stored in the RPL RCRA permitted unit may be determined by consulting with EP&RP personnel.

Arrangements for local response agencies (fire, police, and medical and emergency response teams) are required to assist in pre-emergency planning. These arrangements include familiarization with the properties of dangerous waste handled at the facility and associated hazards. The Emergency Preparedness Office provides these coordination efforts with input from individual BEDs and others as appropriate.

5.2 Physical (Industrial) Hazards

The RPL building contains industrial hazards such as high-voltage equipment, high-temperature equipment, elevated work areas, and overhead hazards. Refer to the IOPS Hazard Awareness Summaries that are posted at the entrance to each space for specific details.

5.3 Dangerous Mixed Waste

See Section 5.1. Refer to the MIT to identify the location of any dangerous mixed waste location in a specific room.

5.4 Radioactive Materials

See Section 5.1. Refer to the MIT to identify the location of any dangerous mixed waste location in a specific room.

5.5 Criticality

The RPL building is a Hazard Category 2 non-reactor nuclear facility designed as a multi-purpose research facility. Fissionable materials are stored in various locations designated controlled areas throughout the building. A fissionable material line manager and fissionable material handler supervisor are assigned responsibility for each controlled area.

The RPL Documented Safety Analysis (DSA) analyzed various scenarios regarding potential criticality incidents and establishes a Nuclear Criticality Safety Program as a safety management program. The Nuclear Criticality Safety Program evaluates fissionable material handling and storage at the RPL and provides engineered features, limits, and administrative controls necessary to assure the possibility of a criticality event remains extremely unlikely.

The criticality safety risk of firefighting within each controlled area is evaluated and areas posted with appropriate symbols when a limitation on the use of water or other extinguishing agents is warranted. These limitations are also identified within the Hanford Fire Department Pre-incident Plan.

A criticality accident at the RPL is a credible event. A criticality alarm system is maintained to mitigate the impact of an accidental criticality on facility staff and visitors through rapid notification and an immediate evacuation. The system is tested on a semiannual basis.

6.0 Potential Emergency Conditions and Appropriate Response

6.1 Explosion/Fire/Fire Alarm²⁰

Note: During these events, it is likely that facility integrity may be compromised and that the facility will also experience a concurrent loss of electrical power and/or control of the building ventilation systems. If this is the case, refer to Sections 6.2, *Hazardous Material/Dangerous or Mixed Waste Spill* and Section 6.6, *Loss of Electrical Power/Reduced Ventilation* for concurrent actions as appropriate.

If you are involved with, or are in close proximity to an explosion, a fire, or discovery of a fire, or have indication that the fire alarm is sounding, perform the following:

6.1.1 Fire/Explosion

- 6.1.1.1 Sound the alarm by pulling the fire alarm pull box. See the guidance for the exception to this step below.

Exception to pulling the fire alarm: If a simple and safe action can be taken that will immediately and positively extinguish a small fire (e.g., pulling the plug on a malfunctioning lab instrument, isolating a fuel source such as quickly closing a valve that is immediately at hand, smothering the flame), then pulling the fire alarm pull box is not necessary, and the fire may be extinguished prior to calling the PNNL Security Operations Center at 375-2400.

Note: If appropriate, the BED will classify the event using the RPL EALs.

- 6.1.1.2 Evacuate the building through the nearest exit that can be safely used.
- 6.1.1.3 Once in a safe location, notify the PNNL Security Operations Center at 375-2400 and provide the following information (if known):
- Nature and location of the event.
 - If the conditions of the event appear to be degrading, (i.e., the fire appears to be escalating or building structures are being compromised).
 - Your name and callback telephone number.
 - Time event began or was discovered.
 - Report the number of any injured personnel.
 - If known, include the following: name(s) and amount(s) of any chemical(s) that are involved or may be burning as a result of the fire.

Note: The fire department can be notified directly by calling (9) 911 or 373-0911 (cell). If the fire department was contacted using this option, also call the PNNL Security Operations Center at 375-2400 as soon as possible to initiate PNNL management notification and emergency response.

²⁰ Section 6.1: Permit requirement, Class 1 Modification 6/30/15.

6.1.1.4 If time permits, and without putting yourself in jeopardy, you may fight the fire under the following conditions:

- You have directed someone to pull the fire alarm pull box.
- You have verified that someone has called the PNNL Security Operations Center at 375-2400, (9) 911 or 373-0911 (cell).
- If you are willing, able, and knowledgeable about the selection of fire extinguisher and its use.

Note: Fire extinguishers equipped with the glove piercing tips are for HFD use only.

- If the fire is in a hot cell, attempt to smother the fire, or for a large fire, put the fire out using the fire extinguishing system, if you are trained to do so.
- If the fire is in a glove box, do not attempt to fight the fire using the gloves. Isolate supply air to the glove box if safe to do so.
- If the fire is small and you know what material is burning, the fire does not involve significant quantities of hazardous materials and does not present a personnel exposure hazard to smoke or significant heat.

6.1.1.5 If you have chosen to fight the fire, and after the fire is believed to be out, call the PNNL Security Operations Center at 375-2400 and inform them of your actions.

- Unless there are significant amounts of smoke or fumes, remain in the proximity of the fire to verify that the fire does not re-flash.
- In the event the fire re-flashes, perform these actions starting with Step 6.1.1, and do not attempt to fight the fire on your own.

6.1.2 Fire Alarm

Note: If appropriate, the BED will classify the event using the RPL EALs.

6.1.2.1 If time permits, and without placing yourself in jeopardy, perform the following:

- Verify equipment is shutdown or is in a safe configuration.
- Verify nuclear materials are secured.

6.1.2.2 Zone wardens perform an accountability sweep of their assigned areas.

6.1.2.3 Evacuate the building through the nearest exit that can safely be used.

6.1.2.4 Assemble at the staging area located at the lower south parking lot, south end of lane #9.

- a. Zone wardens report the status of their accountability sweep to the SAS.
- b. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the Limited Area (LA) or left unsecured within the LA:

- Inform the SAS that classified material has been left in an unsecured condition or has been removed from the LA.
 - Call the PNNL Security Operations Center at 375-2400 and report the details surrounding the classified materials security event.
 - The SAS shall provide information to the BED concerning the classified material.
- c. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
- d. Zone wardens and all staff are to remain at the staging area and follow the instructions of the BED.

6.2 Hazardous Material/Dangerous or Mixed Waste Spill²¹

Note: If appropriate, the BED will classify the event using the RPL EALs.

6.2.1 For minor spills/releases that are relatively small in size, perform the following:

Note: A spill or release of dangerous waste is considered “minor” if ALL of the following are true. If not, refer to section 6.2.2.

- The spill/release either is contained or, if outside of a secondary containment, is minor in quantity (generally less than 10 gallons of liquid or 100 pounds of solids).
 - The composition of the material or waste is known and can be immediately determined from the label, manifest, SDS, or other records.
 - The spill/release does not threaten the health and safety of building occupants such that a building evacuation is necessary.
 - Response personnel have appropriate training and equipment to expeditiously remediate the spill or release.
- 6.2.1.1 Move personnel away from the substance.
- 6.2.1.2 Notify nearby personnel of the emergency.
- 6.2.1.3 Prevent personnel exposure by restricting access to the spill area by setting up barricades, closing doors, etc.
- 6.2.1.4 Notify the PNNL Security Operations Center at 375-2400 and provide the following:
- Nature and location of the event.
 - Name(s) of chemicals involved, amounts, sources, and known hazards about the chemicals.

²¹ Section 6.2: Permit requirement, Class 1 Modification 6/30/15.

- If the spill has been contained.
 - If any material has been released to the environment.
 - Any corrective actions in progress.
 - Name(s) of anyone contaminated or injured in connection with the incident.
 - Other hazards that may or may not be related to the spill.
 - Time incident began or was discovered.
 - The current status of the event, i.e., spill contained or not contained, etc.
 - Name, location, and callback telephone number of person reporting the incident.
- 6.2.1.5 Notify the BED, CSM, and the safety and health representative.
- 6.2.1.6 Take steps to contain the spill/release IF and only IF:
- a. The identity of the substance is known.
 - b. The hazards of the substance are known (flammable, toxic, radioactive, corrosive material) and can either be controlled or they do not present an immediate threat.
 - c. Appropriate PPE and control/cleanup supplies are readily available.
 - d. The individual(s) performing the task have had training related to spill/leak control and can safely perform the action(s) without assistance, or assistance is readily available from other trained personnel.
- 6.2.1.7 Steps to contain the spill/release may include, as appropriate:
- a. Build a containment of absorbent materials and restrict access to the affected area.
 - b. Tighten closures; tip the container to stop the leak, use plugging, or patching materials or over packing.
 - c. Perform initial cleanup of the spill area by transferring contents to appropriate non-leaking containers using the appropriate procedures and tools.
- 6.2.2 For a major spill/release, or tank spills, perform the following actions.**
- Note:** If appropriate, the BED will classify the event using the RPL EALs.
- 6.2.2.1 If the spill/release threatens the health and safety of building occupants such that a building evacuation is necessary, initiate a building evacuation by pulling the fire alarm. If a building evacuation is not necessary, continue at section 6.2.2.2.
- a. Assemble at the staging area located at the lower south parking lot, south end of lane #9.

1. Zone wardens report to the SAS.
 2. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA or left unsecured within the LA:
 - Inform the SAS that classified material has been left in an unsecured condition or has been removed from a LA.
 - Call the PNNL Security Operations Center at 375-2400 and report the details surrounding the classified materials security event.
 - The SAS shall provide information to the BED concerning the classified material.
 3. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
 4. Zone wardens and all staff are to remain at the staging area and follow the instructions of the BED.
- 6.2.2.2 Move personnel away from the substance.
- 6.2.2.3 Notify nearby personnel of the emergency.
- 6.2.2.4 Notify the PNNL Security Operations Center at 375-2400 and provide the following:
- name, location, and callback telephone number of person reporting the incident.
 - name(s) of chemical(s) involved and amount(s) involved in the incident.
 - location of incident (identify as closely as possible and include information about multiple building numbers).
 - time incident began or was discovered.
 - where the materials involved are going or might go, such as into secondary containment, under doors, through air ducts, etc.
 - source and cause, if known,
 - name(s) of anyone contaminated or injured in connection with the incident.
 - any corrective actions in progress.
 - anyone else who the discoverer has contacted.
 - any known hazards.

- where and when the chemical condition or spill occurred.
 - if any material was released to the environment (e.g., to a stack or a sewer system).
 - the status of the situation.
- 6.2.2.5 Prevent personnel exposure (e.g., set up barricades).
- 6.2.2.6 Contact the Cognizant Space Manager (CSM).
- 6.2.2.7 Notify the safety and health representative.
- 6.2.2.8 Take steps to contain the spill ONLY IF ALL THE FOLLOWING EXIST:
- The identity of the substance is known.
 - The hazards of the substance are known (flammable, toxic, radioactive, corrosive material) and can either be controlled or they do not present an immediate threat.
 - Appropriate protective equipment and control/cleanup supplies are readily available.
 - The individual(s) performing the task have had training related to spill/leak control and can safely perform the action(s) without assistance, or assistance is readily available from other trained personnel.
- 6.2.2.9 Initiate actions to mitigate a tank spill/leak using trained personnel:
- Stop the source of the leak if possible (shutting valves, turning off pumps, etc.).
 - Prevent further additions of liquid to the tank.
 - Visually inspect the tank system to determine the source of the leak.
 - Within 24 hours, remove as much of the liquid from the tank as is practicable to prevent further leakage.
 - Remove any leakage contained in a secondary containment within 24 hours or as soon as practicable.
 - Prevent any further leakage or migration of the leak to soils or surface waters.
- 6.2.2.10 Notify the BED, the CSM, and the safety and health representative of any pertinent information that you may have.
- The discoverer of the spill will provide a synopsis of the event and the actions taken to the BED, CSM, and the safety and health representative.
 - Upon completion of the event briefing, the BED will direct spill event mitigation activities.

6.2.3 For events that involve transportation and/or damaged packaging of hazardous material or dangerous waste that arrives at the RPL:

Note: If appropriate, the BED will classify the event using the RPL EALs.

6.2.3.1 DO NOT move the shipment.

6.2.3.2 Notify the BED, CSM, and the safety and health representative.

- The receiver of the shipment or discoverer of the damaged package will provide a synopsis of the situation and the actions taken if any, to the BED, CSM, and the safety and health representative.

6.2.3.3 The BED will evaluate the event and initiate appropriate actions for minor events/spills per Section 6.2.1 or 6.2.2 as appropriate.

- Treat any release from the package as a hazardous material spill and perform response actions as appropriate.

6.3 Unusual, Irritating or Strong Odors²²

6.3.1 If an unusual odor is detected and the source is unknown, the type and location of the odor should be reported to the BED; the BED will determine the appropriate actions.

6.3.1.1 If the odor is determined to be potentially dangerous, then,

- a. Initiate a building evacuation by pulling the fire alarm.
- b. Assemble at the staging area located at the lower south parking lot, south end of lane #9.
- c. Zone wardens report to the SAS.
- d. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA or left unsecured within the LA:
 - Inform the SAS that classified material has been left in an unsecured condition or has been removed from the LA.
 - Call the PNNL Security Operations Center at 375-2400 and report the details surrounding the classified materials security event.
 - The SAS shall provide information to the BED concerning the classified material.
- e. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
- f. Zone wardens and all staff are to remain at the staging area and follow the instructions of the BED.

²² Section 6.3: Permit requirement, Class 1 Modification 6/30/15.

6.4 Potential Radiological Material Release

Note: If appropriate, the BED will classify the event using the RPL EALs.

Note: If readings are provided in Becquerel's. A Becquerel is a SI unit of radioactivity equal to one disintegration per second. Conversion to dpm (disintegration per minute): Multiply total Becquerel's by 60.

6.4.1 Area Radiation Monitor (ARM)

- a. Stop work.
- b. Alert personnel in the area.
- c. Exit the RCA that is being monitored by the ARM.
- d. Notify the RPT and the BED.
- e. Notify the PNNL Security Operations Center at 375-2400.

6.4.2 Continuous Air Monitor (CAM) or ALPHA Sentry Cam

- a. Stop work.
- b. Alert personnel in the area.
- c. Exit the area being monitored by the CAM and move into a separate air space.
- d. Notify the RPT and the BED.
- e. Notify the PNNL Security Operations Center at 375-2400.

6.4.3 Glove box differential pressure alarm

- a. Stop work.
- b. Alert personnel in the area.
- c. Exit the immediate area.
- d. Notify the RPT and the BED.
- e. Notify the PNNL Security Operations Center at 375-2400.

6.4.4 Hot cell differential pressure alarm

- a. Stop work.
- b. Alert personnel in the area.
- c. Exit the immediate area.
- d. Notify the RPT and the BED.
- e. Notify the PNNL Security Operations Center at 375-2400.

6.5 Criticality and Criticality Safety Limit Violations

6.5.1 In the event of a potential criticality safety limit violation perform the following:

- 6.5.1.1 The staff member discovering an actual or potential criticality safety limit violation shall follow these steps (also described in the operating documents):
 - a. Stop work immediately in the area without making any changes to present conditions.
 - b. Ensure that any fissionable materials or other equipment and materials close enough to interact with fissionable materials are not moved or disturbed.
 - c. Immediately notify the Building Manager; if not available call the PNNL Security Operations Center at 375-2400 and state the problem.
- 6.5.1.2 Upon notification, the Building Manager shall:
 - a. Call the PNNL Security Operations Center at 375-2400 and state the problem;
 - b. Notify the Fissionable Material Line Manager and supervisor for the controlled area; and
 - c. Contact the Nuclear Criticality Safety Program Manager 554-8987 or Nuclear Safety and Facility Authorization Manager 947-2344 to obtain nuclear criticality safety program staff support.
- 6.5.1.3 Upon notification, the Fissionable Material Line Manager shall:
 - a. Ensure that all work activities in the affected area are stopped; and
 - b. Post warning signs at appropriate locations requiring permission from the fissionable material line manager to enter the area.
- 6.5.1.4 Upon notification the Nuclear Criticality Safety Program Manager shall:
 - a. Confirm whether a limit violation exists; and
 - b. If limit has been violated determine if a second contingency still provides for prevention of criticality or other danger.
- 6.5.1.5 Criticality safety limit violations are identified as a loss of process-condition control in the *Event Classifiers Procedure*. The Building Manager shall initiate the associated reporting, critique, and corrective action process defined in the HDI, *Report and Event or Occurrence* work flow.
- 6.5.1.6 The Nuclear Criticality Safety Program Manager will assist the Building Manager in developing a recovery plan based on a thorough review of the situation and potential hazards associated with the violation.

6.5.2 In the event of a criticality alarm, perform the following:

Note: If appropriate, the BED will classify the event using the RPL EALs.

- 6.5.2.1 Leave the building immediately through the closest exit, do NOT stop for a survey and run 100 feet away from the facility.

- 6.5.2.2 Zone wardens are also directed to leave the building immediately without performing accountability sweeps of their zones.

Note: Obstacles located within 100 feet of the building (fences, walls, trenches, etc.) may prevent running directly away from the building for 100 feet. Choose a path around these barriers that will maximize your distance from the building. When past the obstacle, continue directly away from the building until you are 100 feet from the building. See Attachments 1-3, *Emergency Equipment & Evacuation Routes* for suggested routes to the RPL Staging Area.

- 6.5.2.3 Proceed to the staging area along a path that does not take you closer to the building.
- 6.5.2.4 Assemble at the staging area located at the lower south parking lot, south end of lane #9.
- a. Per RCP-8.1.02, initiate “Quick-Sort Survey of Personnel.”
 - Any positive quick sort must immediately be reported to the BED.
 - b. Zone wardens report to the SAS.
 - c. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA or left unsecured within the LA:
 - Inform the SAS that classified material has been left in an unsecured condition or has been removed from the LA.
 - Call the PNNL Security Operations Center at 375-2400 and report the details surrounding the classified materials security event.
 - The SAS shall provide information to the BED concerning the classified material.
 - d. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
 - e. Determine the radiation dose levels at the staging area and in the evacuated area following a criticality accident.
 - f. Dose rates and report findings shall be reported to the BED.
 - g. Zone wardens and all staff are to remain at the staging area and follow the instructions of the BED.

6.6 Loss of Electrical Power/Reduced Ventilation

6.6.1 In the event of a loss of or a significant interruption to building electrical power and/or a reduction in ventilation flow, perform the following:

- 6.6.1.1 Place laboratory or room in safe condition per the following:
- a. Verify fume hoods and sashes are closed.
 - b. Verify equipment is shutdown.

- c. Verify nuclear material(s) are secure.
 - d. Verify that classified materials are secure.
 - e. Verify all hazardous materials are secure.
 - f. Verify that all equipment and heat generating devices inside of laboratory gloveboxes and inside of hot cells are shutdown.
- 6.6.1.2 If the building electrical power returns and/or standby power are still available:
- a. Assemble in the lunchroom.
 - b. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA or left unsecured within the LA:
 - Inform the SAS that classified material has been left in an unsecured condition or has been removed from the LA.
 - Call the PNNL Security Operations Center at 375-2400 and report the details surrounding the classified materials security event.
 - The SAS shall provide information to the BED concerning the classified material.
 - c. Personnel exiting the radiological buffer areas (RBA) are expected to do so without surveying through the PCMs.
 - d. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
 - e. Zone wardens for Zones 2 and 8 are requested to activate the flashing red warning lights.
 - f. Zone wardens and all staff are to remain at the lunchroom and follow the instructions of the BED.
 - g. Radiological surveys of the facility shall be performed prior to re-entry.

6.7 Natural Phenomena Events

Note: If appropriate, the BED will classify the event using the RPL EALs.

The natural phenomena events that are considered as having a probability of occurring and are addressed in this procedure are seismic event/earthquake, volcanic eruption/ash fall, high wind/tornado, flood, and range fire.

If these events were to occur, Hanford TNS messages will most likely be sent before, during, or immediately following the event. Regardless of the receipt of a phone message, the BED will direct activities within the facility in accordance with this procedure and provided by phone messages as appropriate.

Should it become necessary to evacuate the facility, the BED will report the evacuation to the PNNL Security Operations Center at 375-2400, and the EOC Shift Office at 376-2900.

6.8 Bomb Threats/Suspicious Objects

Note: If appropriate, the BED will classify the event using the RPL EALs.

6.8.1 If a suspicious object is discovered, or the placement of such an object is observed, perform the following actions:

- 6.8.1.1 Do not move, open, or otherwise disturb any suspicious objects.
- 6.8.1.2 Notify the PNNL Security Operations Center at 375-2400 and the RPL BED using office telephones only.
- 6.8.1.3 Evacuate the facility. **DO NOT USE THE FIRE ALARM PULL BOX TO INITIATE THE EVACUATION.**
 - a. Warn others in the immediate vicinity.
 - b. Leave the building immediately via the closest exit.
 - c. Zone wardens are also directed to leave the building immediately without performing accountability sweeps of their zones.
- 6.8.1.4 Use of cellular phones, radios, or other radio frequency generating equipment within 100 feet of the RPL is prohibited.
- 6.8.1.5 Assemble at the staging area located at the lower south parking lot, south end of lane #9.
 - a. Zone wardens report to the SAS.
 - b. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA or left unsecured within the LA:
 - Inform the SAS that classified material has been left in an unsecured condition or has been removed from a LA.
 - Call the PNNL Security Operations Center at 375-2400 and report the details surrounding the classified materials security event.
 - The SAS shall provide information to the BED concerning the classified material.
 - c. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
 - d. Zone wardens and all staff are to remain at the staging area and follow the instructions of the BED.
 - e. The Staging Area will be relocated a minimum of 300 feet away from the facility.

6.8.2 If a telephone bomb threat is received:

- 6.8.2.1 Use the PNNL Bomb Threat Card to record the message exactly as dictated and attempt to obtain the following information:

- When will it go off?
- Where it is located?
- What it looks like.
- What kind it is.
- Why it was placed?
- Who placed it?
- How you know so much about it?
- Who placed it?
- Where are you calling from?
- What's your name and address?

6.8.2.2 Notify the PNNL Security Operations Center at 375-2400 and provide the information given by the caller.

6.8.2.3 Upon completion of the notifications to the PNNL Security Operations Center, also notify the BED and provide the information obtained from the caller.

6.8.3 If a written bomb threat is received,

6.8.3.1 Notify the PNNL Security Operations Center at 375-2400.

6.8.3.2 Provide the written bomb threat to the RPL BED who will forward it to the PNNL Subject Matter Expert/Safeguards and Security Management Official.

6.9 Active Shooter in the building

6.9.1 When condition is observed,

6.9.1.1 RUN-Immediately try to get out of the facility to a safe location out of immediate sight of the building and call 375-2400.

6.9.1.2 HIDE-If evacuation is not possible or safe, take cover in an office with the door closed and lights off. Lock the door if possible and call 375-2400.

6.9.1.3 FIGHT-If the active shooter has confronted you and evacuation or taking cover is not possible, staff should take whatever actions are necessary to get to safety, this may include negotiating, fighting the intruder, or other. This is a last resort step.

6.9.1.4 Building Emergency Director Response

6.9.1.5 Make a PA announcement if possible depending on the situation.

6.9.1.6 Request the safeguards and security representative be notified.

6.9.1.7 Do not move any suspicious objects.

6.9.1.8 Post warnings, if applicable.

6.9.1.9 Provide emergency responders with appropriate information upon arrival.

6.9.1.10 Keep staff from entering the affected area.

6.9.1.11 If appropriate, classify the event using the RPL EALs.

- 6.9.1.12 Activate the MSG.
- 6.9.1.13 Request medical assistance if necessary.

6.10 Notice of a PNNL Lockdown

6.10.1 When condition is observed,

- 6.10.1.1 Staff will be notified of a PNNL Lockdown over the telephone through the CNS system.
- 6.10.1.2 Immediately get behind a closed door if possible.
- 6.10.1.3 Place projects into safe shutdown mode
- 6.10.1.4 Do not allow anyone into the facility.
- 6.10.1.5 Await further instructions via CNS

6.11 Declared Emergency in the 300 Area

- 6.11.1** Personnel will evacuate the facility or take cover as directed by the BED.
- 6.11.2** If the declared emergency originates in the RPL facility, the BED shall take actions that are in accordance with the BEP and inform and direct other 300 Area contractors and other facility owners of the emergency declaration in accordance with their emergency procedures.

7.0 Facility Take Cover - Shutdown of HVAC

7.1.1 If outside of the RPL, perform the following:

- 7.1.1.1 Take cover inside the nearest building.
- 7.1.1.2 If the building you take cover in is not the RPL, attempt to contact your line manager or team lead and have them report your whereabouts to the RPL SAS.
- 7.1.1.3 If unable to contact your management, report to the building emergency response organization (BERO) for the building where you are located so your personal accountability may be made.
- 7.1.1.4 Follow directions provided by that building's emergency organization or BED.

7.1.2 If you take cover inside the RPL, remain inside the RPL.

- 7.1.2.1 Assemble in the lunchroom.
- 7.1.2.2 Staff should refrain from eating and drinking during a take cover event if physically able, until an appropriate evaluation of the event can be made.
- 7.1.2.3 The BED will direct the shutdown of the RPL H&V as needed per SOP-325-003, *325 Building Heating, Ventilation and Air Conditioning Emergency Shutdown*.
- 7.1.2.4 If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA, or left unsecured within the LA:
 - Inform the SAS that classified material has been left in an unsecured condition, has been removed from the LA, and the status/location of the classified material.
 - Call the PNNL Security Operations Center at 375-2400 and report the details surrounding the classified materials as a security event, and provide details as necessary.
 - The SAS shall provide information to the BED concerning the classified material.
- 7.1.2.5 Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
- 7.1.2.6 Zone wardens for zones two and eight are requested to activate the flashing red warning lights.
- 7.1.2.7 Zone wardens and all staff are to remain in the lunchroom and follow the instructions of the BED.

8.0 Utility Disconnects

Utility disconnects may be necessary under extreme emergency conditions. The RPL BED will determine if utility disconnects need to be disconnected/shut. Locations of the utility disconnects or valves are described as follows:

8.1 Electrical

The RPL Building main electrical control center switchgear is located on the second floor (northwest corner) in room 904. Extreme caution shall be used if disconnecting this power.

8.2 Potable/Process Water

The internal valves are located in the southwest corner of room 22 in the basement. The external ground valve, SCW-1-VLV (blue cover, operating handle located in RPL Shop) is located outside at the southwest corner of the RPL building.

8.3 Gas Supplies

The P-10 gas distribution system is located at the northeast end of the north gas cylinder dock. Turn cylinders off as directed by the RPL BED.

8.4 Steam

The high-pressure steam supply valves are located above the power operator's workstation entry door on the second floor east equipment room. Steam to the RPL may also be isolated using valves inside the Johnson Controls operated 325B boiler house, if access to the RPL is not possible.

8.5 Air

The external high-pressure compressed air supply may be isolated in one of two locations; CA-18-VLV in the basement adjacent to the main air receiver tank or CA-90-VLV outside at the north bottle dock adjacent to the Fire Riser 1 connection. Compressed air from the main air compressor may be isolated in one of two locations; CA-186-VLV on the second floor in the discharge piping at the main air compressor or CA-16-VLV in the basement adjacent to the main air receiver tank.

To remove all sources (except gas cylinders) of high and low pressure compressed air in the RPL and the RPL Filter Building, compressed air from the standby compressor (CA-97-COMP) located in the northwest corner of the basement must also be isolated or the standby compressor shutdown. Isolation of compressed air from the standby compressor is accomplished by shutting valve CA-96-VLV, which is located just north of the air compressor. The compressor may be shutdown using its control switch located on the compressor or by turning off electrical power to the compressor by opening disconnect switch "S-DIS-073" or breaker in SMCC-B-B2, cubicle 2D which is located in the northwest corner of the basement.

8.6 Ventilation

Facility exhaust and supply fan controls are located:

- At the power operator workstation (room 900).
- The Power Operators METASYS work station in any PNNL facility may be used to secure the RPL main supply and exhaust fans as well as a majority of the building H&V.
- In the north part of the basement, west of the elevator.
- Additional exhaust fan controls are on the starter enclosure for each exhaust fan inside the RPL Filter Building.

External shutdown of the main exhaust and supply fans may be accomplished under extreme circumstances by removing both normal and standby electrical power from the building. A more controlled external shutdown of the main exhaust and supply fans is a complicated evolution involving multiple operating locations that must be accomplished in a specific sequence under supervision of RPL knowledgeable staff to prevent the risk of loss of building containment due to creation of a positive pressure inside the building.

8.7 Fire Protection Supply Water

Fire Suppression Supply Water Post Indicator Valves (Red PIVs) for Risers 1 through 5 are located outside the RPL building in the following locations:

- Riser #1 PIV is located at the northwest corner of the RPL building.
- Riser #2 PIV is located north of the RPL.
- Riser #3 PIV is located at the southwest corner of the RPL building.
- Riser #4 PIV is located southeast of the RPL-A annex.
- Riser #5 PIV is located southeast of the RPL-A annex.

8.8 Dry Pipe OS&Y (Riser #6)

The OS&Y valve for the dry pipe fire suppression system on the north gas cylinder dock is located on the second floor in the east equipment room at the north wall. Suppression water for this system is supplied from Riser #2 and may be isolated external to the RPL by shutting the PIV for Riser #2.

8.9 RPL Ramp Sump Pump

Water runoff down the RPL basement truck ramp at the southwest corner of the building is collected in a sump at the bottom of the ramp. The associated sump pump empties the sump as needed to prevent it from overflowing into the RPL basement through the roll-up door. The sump pump discharges to the street in front of the RPL.

Potentially contaminated fire suppression water runoff from inside the RPL basement could also enter this sump and be pumped to the street in front of the building resulting in an unacceptable spread of contamination.

The local disconnect for the sump pump is located inside the south roll-up door on the east side of the door.

8.10 RPL Decontamination Shower/Sink

A decontamination shower and sink is located in Room 426 with a tempered water supply for use as emergency decontamination system. The contaminated water is routed to two 250 gallons storage tanks located in Room 94B.

The system is designed with the drains directed to one of the two tanks. A high level alarm activates locally when the selected tank reaches 66 %. The high level alarm is used to prevent overfilling of the tank. The water supply is manually isolated to allow valve alignment to the second tank for water receipt. The high high alarm at 75 percent of the tank volume will automatically isolate water to the shower or sink. The tanks have a common overflow for upset conditions (.i.e. automatic water isolation fails, improper valve alignment).

9.0 Termination, Incident Recovery, and Restart

9.1 Termination

The Incident Commander, in consultation with the BED will recommend termination of the event when conditions indicate that it is safe to do so. The Event Closeout Form should be completed before any recommendation is made to terminate a declared emergency.

9.2 Recovery

Depending on the circumstances of the event, a recovery team consisting of the Incident Commander, RPL BED, and appropriate SMEs will develop and recommend a recovery plan for restoring the facility to operable status. Emphasis will be placed on the careful cleanup of released material and contaminated debris to minimize further risk to personnel, the public, or the environment while preserving evidence at the event scene. All waste materials generated by the cleanup will be containerized in drums or other appropriate containers and stored in an approved storage area pending characterization and determination of the final treatment/disposal requirements. The recovery plan will be reviewed and approved and meet the requirements of the PNNL-MA-110, *Emergency Management Plan, Termination and Recovery*.

The BED is responsible for assuring that emergency equipment is clean and fit for its intended use prior to resumption of operations. Equipment used during an incident will be decontaminated (if practicable) or disposed of as spill debris. Decontaminated equipment will be checked for proper operation prior to storage for subsequent use. Consumables and disposed materials will be restocked. Fire extinguishers will be recharged or replaced.

For emergency events involving the TSD or a 90-day accumulation area, the recovery plan will include the appropriate notification of the Washington State Department of Ecology and appropriate local authorities of recovery actions taken prior to restart. The operator of the TSD will also provide a written report to the Department of Ecology within 15 days after the incident or within 30 days after the incident for a release from a tank system to the environment that does not result in an activation of the contingency plan²³.

9.2.1 Emergency Decontamination Facilities

The RPL facility has decontamination capability as discussed in section 8.10. Radiological control personnel are the only staff that may perform personnel decontamination.

If an evacuation of the RPL facility occurs and re-entry is not possible to decontaminate affected personnel, radiological control supervision may use the 3410 building personnel decontamination facility located in room 1601. In the event that the affected personnel are injured, they should be transported directly to Kadlec Medical Center. If large group decontamination facilities are requested, request assistance from the Hanford Fire Department Mobile Decontamination Facility.

²³ Section 9.2, first three paragraphs: Permit requirement, Class 1 Modification 6/30/15.

9.2.2 Emergency Radiological Exposure Guidelines

In extremely rare cases, emergency exposure to radiation may be required to rescue personnel or protect major property. Emergency exposure may be authorized in accordance with the provisions contained in 10 CFR 835. The dose limits for personnel performing these operations are listed in Table 9.1.

Note: Only RadWorker 2 trained staff are allowed to volunteer for receiving emergency radiological exposures.

The lens of the eye dose limit should be three times the listed values. The shallow dose limit to the skin of the whole body and the extremities is ten times the listed values.

Table 9.1. Emergency Dose Limits

Dose Limit (Total Effective Dose Equivalent)	Activity Performed	Conditions
5 rem	All	N/A
10 rem	Protecting major property	Only on a voluntary basis where lower dose limit not practicable
25 rem	Lifesaving or protection of large populations	Only on a voluntary basis where lower dose limit not practicable
> 25 rem	Lifesaving or protection of large populations	Only on a voluntary basis to personnel fully aware of the risk involved

9.3 Restart

In most cases the Event Closeout Form will be sufficient for supporting recovery from an event and actions needed for resumption of normal operations. For complex events with significant facility damage or need for incident staffing for more than 48 hours a recovery plan and process will be required. Restart of the facility following complex emergencies will be conducted with a recovery plan led by a Recovery Director. The recovery plan will be developed with support from the RPL Facility Manager and RPL Building Manager.

The following documents should be consulted, used as reference, and implemented if needed: ADM-EPIP-3.0, *Recovery Plan*, ADM-EPIP-3.0 *Recovery Plan*, *PNNL Guides for Post-Natural Phenomena Hazard Building Inspection*, and RPL-PLN-701, *RPL Business Continuity Plan*.

For severe damage to the facility due to natural phenomena (extreme weather conditions, seismic events, wildfires, external flooding) or other causes (severe fire, physical attack, explosions, events in neighboring facilities), the recovery plan shall describe the process for a systems engineering assessment and evaluation of facility safety significant, environmental protection, mission critical and other essential systems. The purpose of these assessments is to define actions needed to place the facility into a safe configuration pending any resumption of operations.

Recovery for events that involve a container storage area within the HWTU, require the container storage and containment system to be evaluated before restart.

If the event involved a tank system leak, repairs must be certified by an independent, qualified, registered professional engineer.

Before operations are resumed in the facility, all emergency equipment used during the emergency shall be cleaned and restored to usable, operable condition²⁴.

²⁴ Section 9.3, last three paragraphs: Permit requirement, Class 1 Modification 6/30/15.

10.0 Emergency Equipment²⁵

Support equipment available to assist in responding to an emergency can be found by referring to DOE/RL 94-02, Section 11.2 and the Hanford Fire Department emergency equipment listing in Appendix C of 94-02.

10.1 Portable Emergency Equipment

None

10.2 Fire Control Equipment

- Portable Class ABC Fire Extinguishers are located throughout the facility. Each Class ABC extinguisher is capable of suppressing fires involving ordinary combustible materials, flammable liquids, oils, paints, flammable gases, and fires involving electrical equipment. Class D extinguishers will be located in areas vulnerable to Class D fires if reactive metals are stored there (e.g., dangerous waste storage room). Manual dry chemical fire extinguishers are installed in the SAL hot cells and are available outside the HLRF A and B hot cells. The fire extinguisher locations are identified on the floor plans (Attachments 1-3).
- Portable Class ABC Fire Extinguishers with piercing tips are located in each lab that contains a glovebox. These extinguishers are for the HFD use only. RPL staff have not been trained in their use. The piercing tipped fire extinguisher locations are identified on the floor plans (Attachments 1-3).
- RPL is equipped with an automatic fire detection, alarm, and suppression system. Five wet pipe and one dry pipe sprinkler system provide automatic fire suppression.
- A Mobile Command Post Vehicle can be obtained from the Hanford Fire Department (HFD) at 373-2230. The HFD Battalion Commander will approve and dispatch the vehicle.

10.3 Communications Equipment/Warning Systems

- Fire alarm pull boxes are located throughout the facility. The primary locations are at all exits of the facility. All locations are shown on the floor plans (Attachments 1-3).
- Hanford Site Telephone Notification System (TNS) is a component of the Hanford Emergency Notification System and designed to use the existing telephone system to notify individual employees. When the phone is answered, a recorded message will provide event information and inform staff of actions they are expected to take.
- PNNL Communicator Notification System (CNS) is a system that will allow emergency messages to be communicated quickly to all staff via the PNNL phone system. Phones at PNNL in offices, conference rooms, and common areas such as lobbies, conference rooms, and lunchrooms are connected to the system. When the phone is answered a recorded message will provide event information and inform staff of actions they are expected to take. This can be activated by having the BED call 375-2400.

²⁵ Section 10: Permit requirement, Class 1 Modification 6/30/15.

- A criticality alarm system (CAS) is present in the building. The system is equipped with neutron sensitive criticality detectors. The CAS alarms in locations where the expected dose from an accidental criticality may exceed 12-rads in free air. The system is tested and maintained in accordance with preventive maintenance procedures.

Note: These systems are not considered emergency equipment and may not be available during all types of emergencies.

- Other non-emergency communications equipment installed in RPL include:
 - Public address system. (#8 on any RPL phone)
 - Public address system in the fire alarm control panel.
 - Commercial telephone system that may also be used to summon assistance during an emergency.
 - Hand held radios provided by the BED.

10.4 Personal Protective Equipment (PPE)

Safety showers and eyewash units are installed at several locations throughout the facility including waste storage areas. All locations are shown on the floor plans (Attachments 1-3).

Personnel protective clothing and respiratory equipment is available in the facility for use during both routine and emergency operations. This equipment includes:

- Chemically resistant suits, aprons, boots, and gloves.
- Protective glasses.
- Chemical goggles.
- Face shields.
- Full-face respirators with extra cartridges.
- Radiological clothing.

Kits containing a variety of radiation monitoring instruments, forms, and equipment are available for use in an emergency. PNNL maintains these kits, which contain protective apparel, instruments, and equipment for personnel decontamination and other immediate emergency needs. These supplies and equipment are only adequate to fulfill immediate needs during the initial stages of an emergency.

10.5 Spill Control and Containment Supplies

Spill kits are located throughout the facility and are maintained by the CSMs. Additional spill kit materials can be obtained in room 527. The following emergency equipment is maintained in (or adjacent to) each of the 90-day hazardous waste accumulation areas. The amount of material maintained varies depending on the amount of waste being accumulated at the individual 90-day area.

- Commercially available granular absorbent (e.g. diatomaceous earth)
- Absorbent pads
- Commercially available acid neutralizer¹ (e.g. granular sodium bicarbonate)

- Commercially available caustic neutralizer² (e.g. dilute boric acid solution)
- Personal Protective Equipment
 - Safety glasses with side shields
 - Lab coat
 - Leather gloves
 - Chemical resistant gloves (e.g. nitrile)

¹ Required in accumulation areas containing liquid acidic wastes.

² Required in accumulation areas containing liquid caustic wastes.

11.0 Evacuation of Persons and Visitors

1. RPL occupants shall be aware of visitors that may require evacuation. Alternate housing for staff that are sensitive to excessive hot or cold conditions (temperately disabled) may be required due to emergency response actions.

Note: Alternate Staging Area – in the event of an extended building evacuation during inclement weather, the 350 building, or other indoor locations deemed safe may be used for housing staff at the discretion of the BED²⁶.

2. Facility and research management provides safety and emergency preparedness briefings for large visitor groups or tours. Individual visitors are briefed by their host.
3. In all cases, the safety of building visitors is the responsibility of the host, who shall assure that visitors are provided a safe and orderly evacuation. The host shall report the visitor status to the appropriate zone warden as soon as is practical, after the evacuation.

²⁶ Section 11, Note: Permit requirement: Section 11.0 Note, Class 1 Modification 6/30/15.

12.0 Emergency Action Levels

12.1 300 Area Protective Actions

300 Area Onsite Protective Actions		
Classification	Action	Implemented By
Alert	<ul style="list-style-type: none"> • Evacuate or shelter affected facility personnel. 	Facility
	<ul style="list-style-type: none"> • Shelter¹ 300 Area and adjacent 600 Area. • Initially restrict access at: <ul style="list-style-type: none"> - Route 4S at Milepost 19; - George Washington Way Extension (to 300 Area) intersection with George Washington Way; and - George Washington Way intersection with Stevens Drive. <p>(Roadblocks can be relocated based upon consequence assessment upon approval by the IC/SED.)</p>	POC (Quick Reaction Checklist)/ EOC Shift Office
Site Area/ General Emergency	<ul style="list-style-type: none"> • Evacuate or shelter affected facility personnel. 	Facility
	<ul style="list-style-type: none"> • Shelter¹ 300 Area, HAMMER, Patrol Training Academy, Cold Test Facility, and adjacent 600 Areas. • Restrict access at: <ul style="list-style-type: none"> - Route 4S at Milepost 19; - George Washington Way Extension (to 300 Area) intersection with George Washington Way; and - Horn Rapids intersection with Stevens Drive. 	POC (Quick Reaction Checklist)/ EOC Shift Office
	<ul style="list-style-type: none"> • Plan for subsequent 300 Area evacuation as required. 	Hanford EOC
<p>¹Automatic sheltering for entire areas will not be implemented during a seismic event. If a seismic event occurs, facility management will implement protective actions appropriate for their facility conditions. After a seismic event, site protective actions based upon incident assessment will be identified, planned, and communicated from Incident/Area Command and/or the Hanford EOC.</p>		

Continued on next page...

300 Area Offsite Protective Actions and Recommendations		
Classification	Action	Implemented By
Alert	<ul style="list-style-type: none"> • None 	N/A
Site Area Emergency	<ul style="list-style-type: none"> • Implement evacuation of Columbia River from White Bluffs Ferry Landing to Leslie Groves Park. 	Counties (RLEP 3.3)
General Emergency	<ul style="list-style-type: none"> • Implement evacuation of Columbia River from White Bluffs Ferry Landing to Leslie Groves Park. 	Counties (RLEP 3.3)
	<ul style="list-style-type: none"> • Evacuate 2.2-mile radius. 	Benton/Franklin Counties

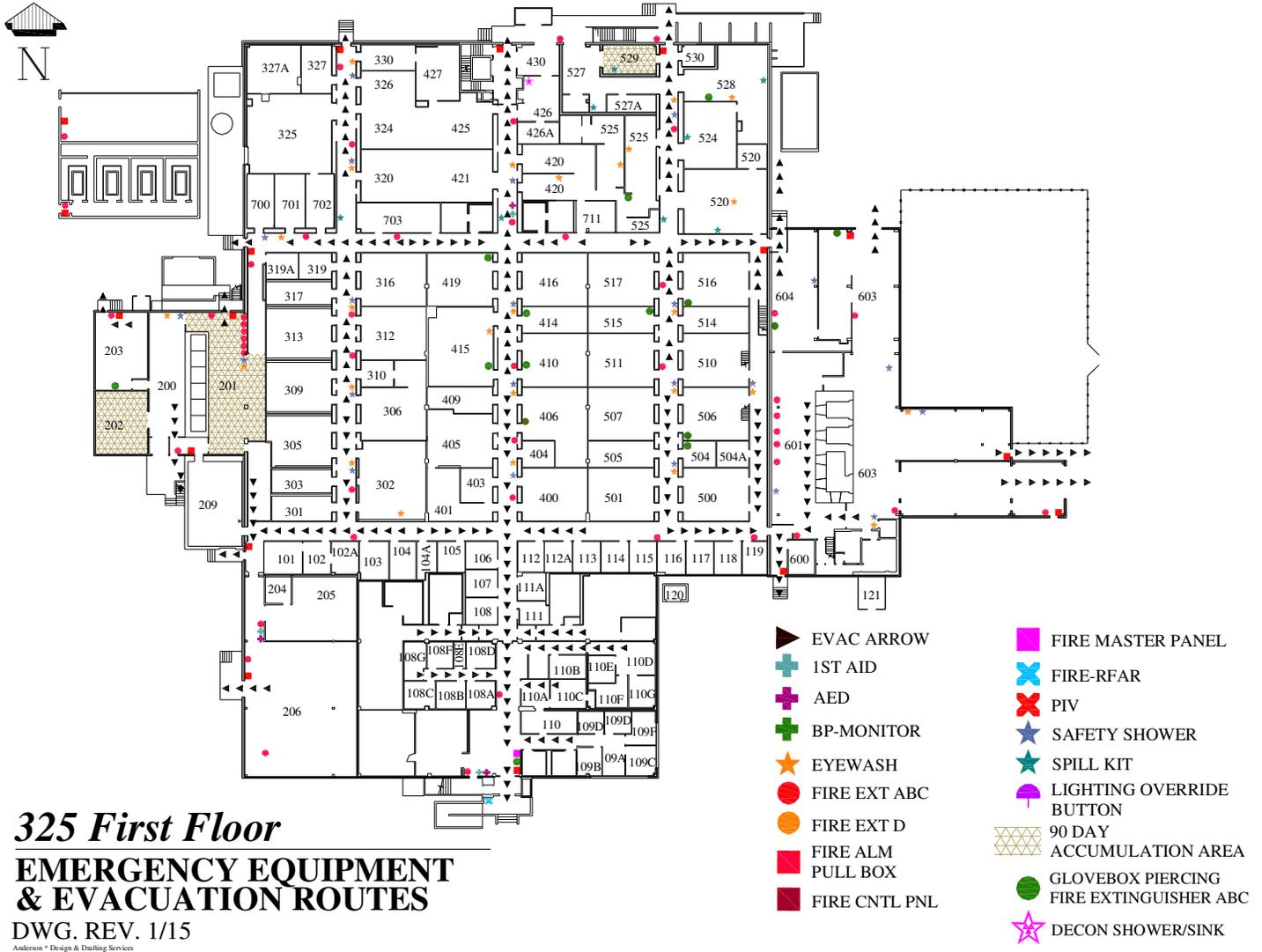
12.2 RPL Emergency Action Levels

The Emergency Action Level (EAL) Tables are published in DOE-0223, *Emergency Plan Implementation Procedure for RPL* and can be obtained from the RPL Building Manager.

13.0 Attachments

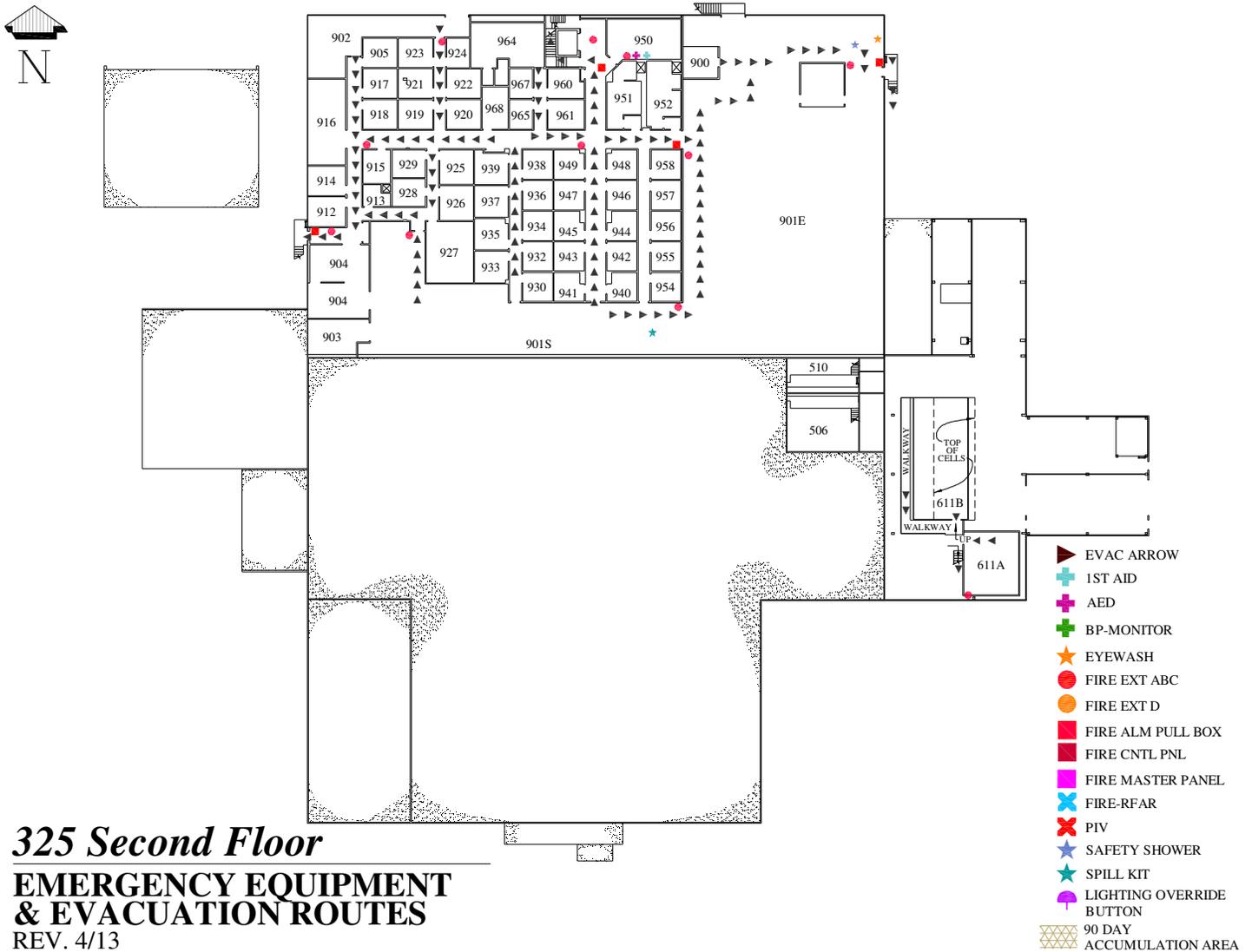
- Attachment 1 – Emergency Equipment & Evacuation Routes - 1st Floor
- Attachment 2 – Emergency Equipment & Evacuation Routes – 2nd & 3rd Floors
- Attachment 3 – Emergency Equipment & Evacuation Routes – Mezzanine & Basement
- Attachment 4 – Zone Warden Areas – 1st Floor
- Attachment 5 – Zone Warden Areas – 2nd & 3rd Floors
- Attachment 6 – Zone Warden Areas – Mezzanine & Basement
- Attachment 7 – Staging Area Map
- Attachment 8 – Alternate Staging Area Map
- Attachment 9 – Location of RPL in the 300 Area

Attachment 1 – Emergency Equipment & Evacuation Routes - 1st Floor²⁷



²⁷ Section 13.0, Attachment 1: Permit requirement, Class 1 Modification 6/30/15.

Attachment 2 – Emergency Equipment & Evacuation Routes - 2nd & 3rd Floors²⁸



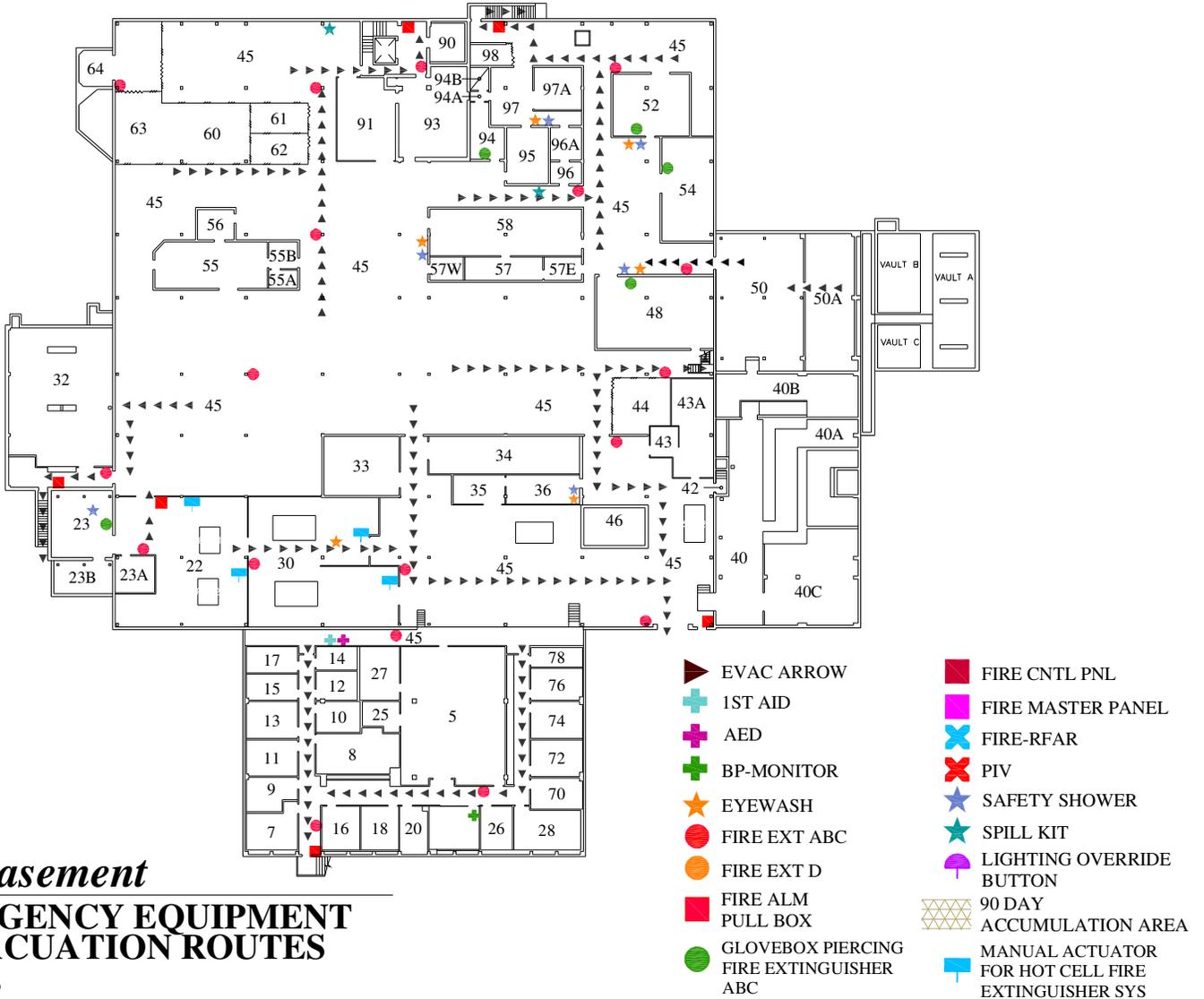
325 Second Floor EMERGENCY EQUIPMENT & EVACUATION ROUTES REV. 4/13

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²⁸ Section 13.0, Attachment 2: Permit requirement, Class 1 Modification 6/30/15.

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Attachment 3 – Emergency Equipment & Evacuation Routes - Mezzanine & Basement²⁹



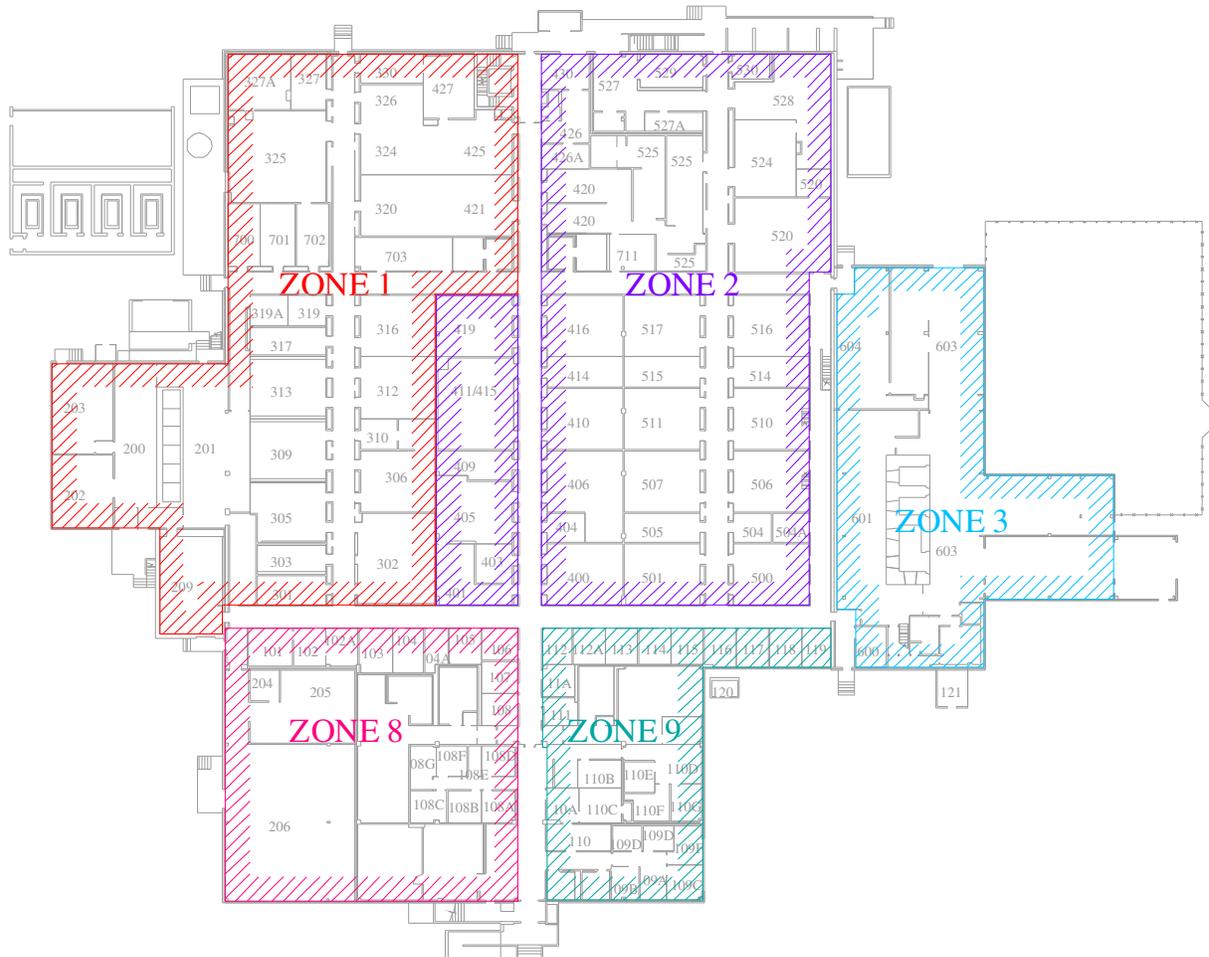
325 Basement EMERGENCY EQUIPMENT & EVACUATION ROUTES

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²⁹ Section 13.0, Attachment 3: Permit requirement, Class 1 Modification 6/30/15.

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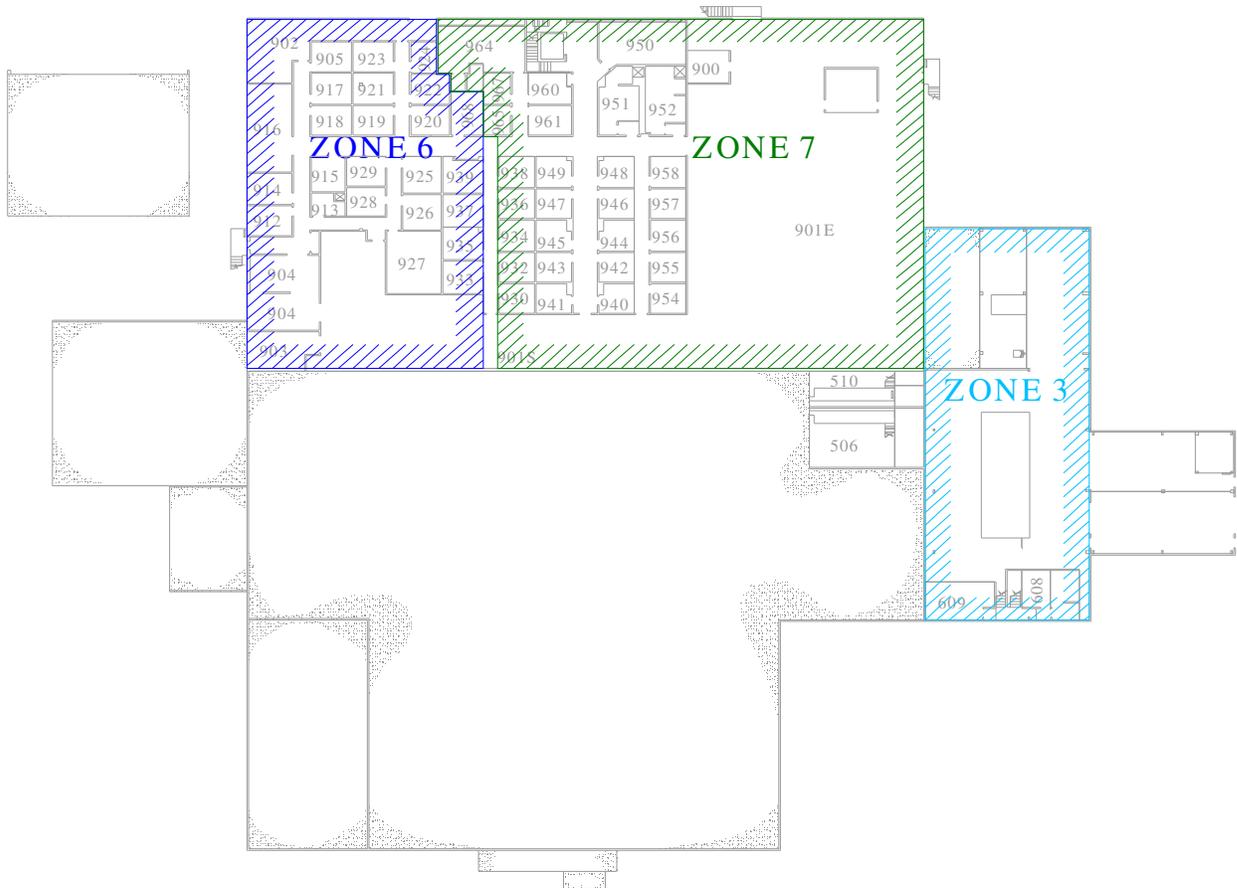
Attachment 4 – Zone Warden Areas – 1st Floor



325 First Floor **ZONE WARDEN MAP**

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Attachment 5 – Zone Warden Areas – 2nd & 3rd Floors

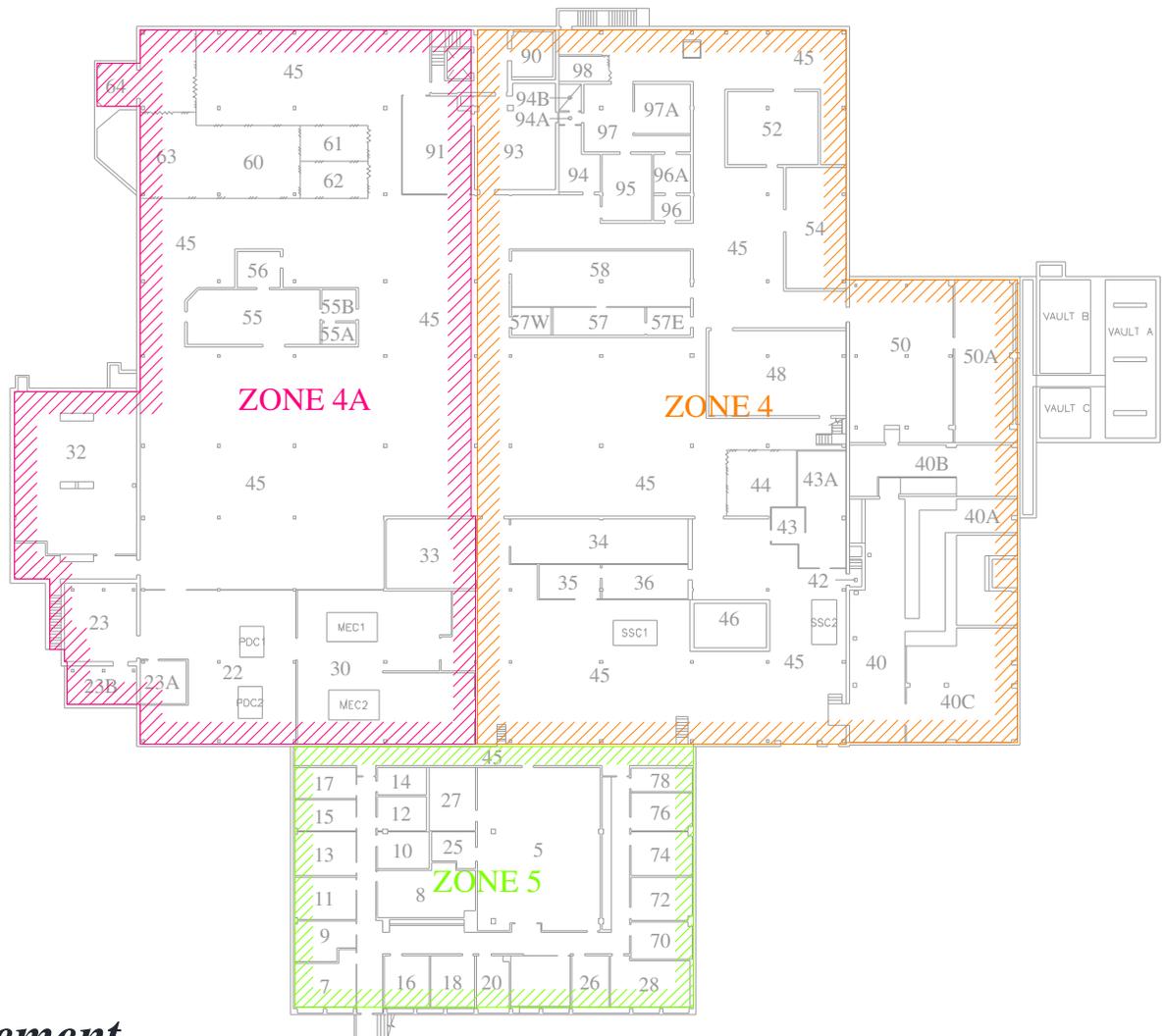


325 Second Floor **ZONE WARDEN MAP**

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Attachment 6 – Zone Warden Areas – Mezzanine & Basement

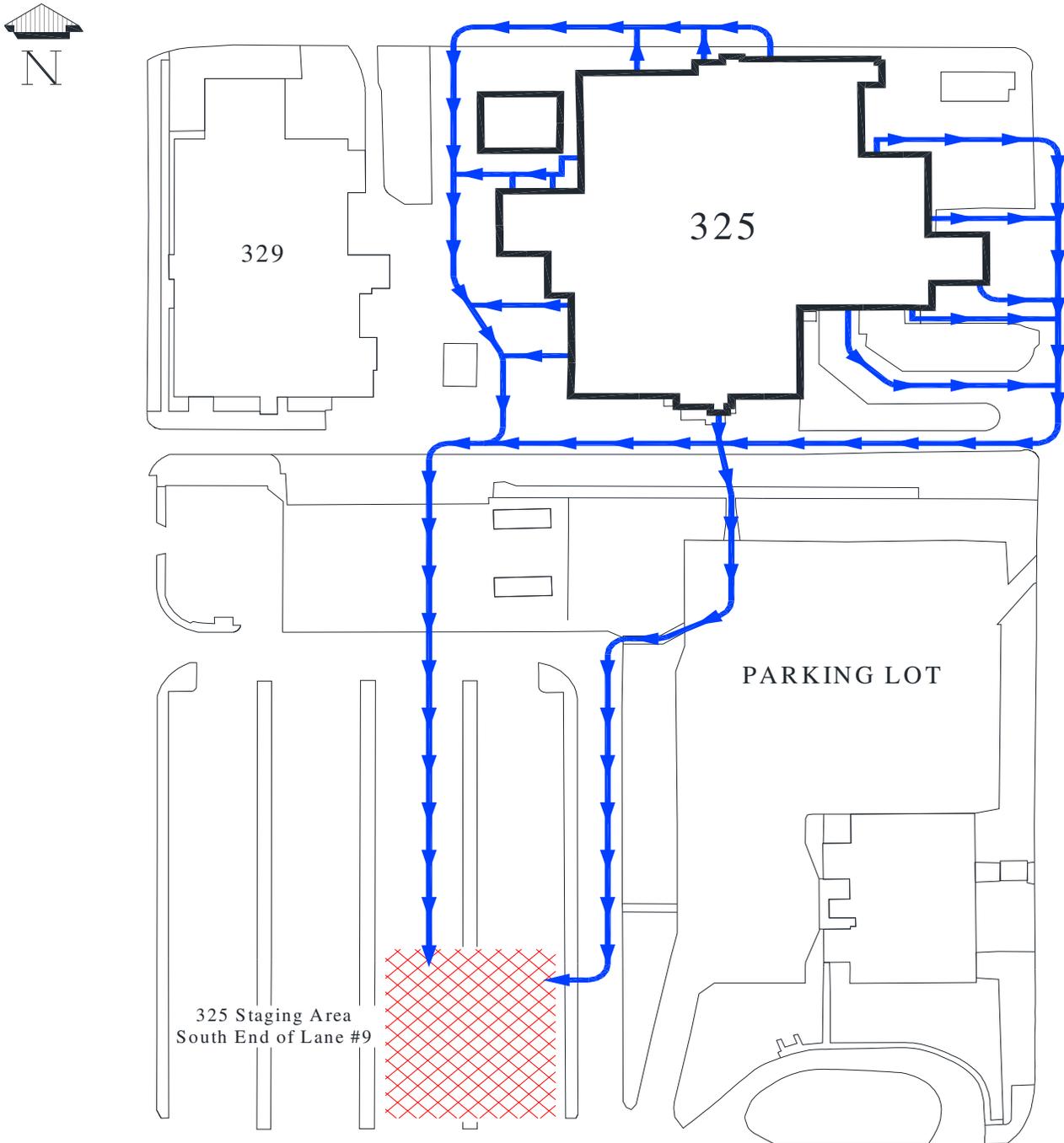


325 Basement **ZONE WARDEN MAP**

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Attachment 7 – RPL Staging Area Map³⁰



325 Building

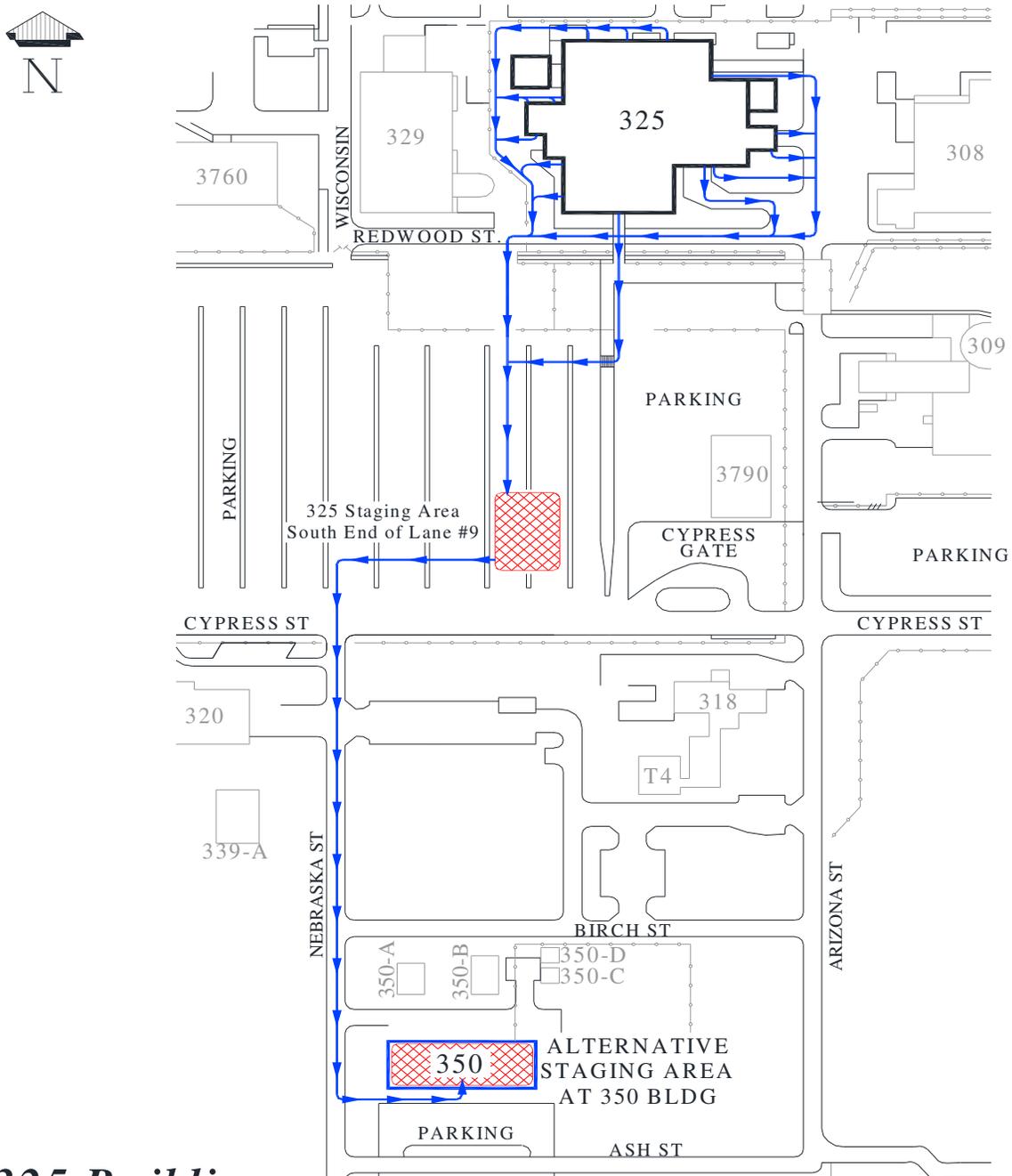
EMERGENCY EVACUATION ROUTES & STAGING AREA

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³⁰ Section 13.0, Attachment 7: Permit requirement, Class 1 Modification 6/30/15.

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Attachment 8 – RPL Alternate Staging Area³¹



325 Building

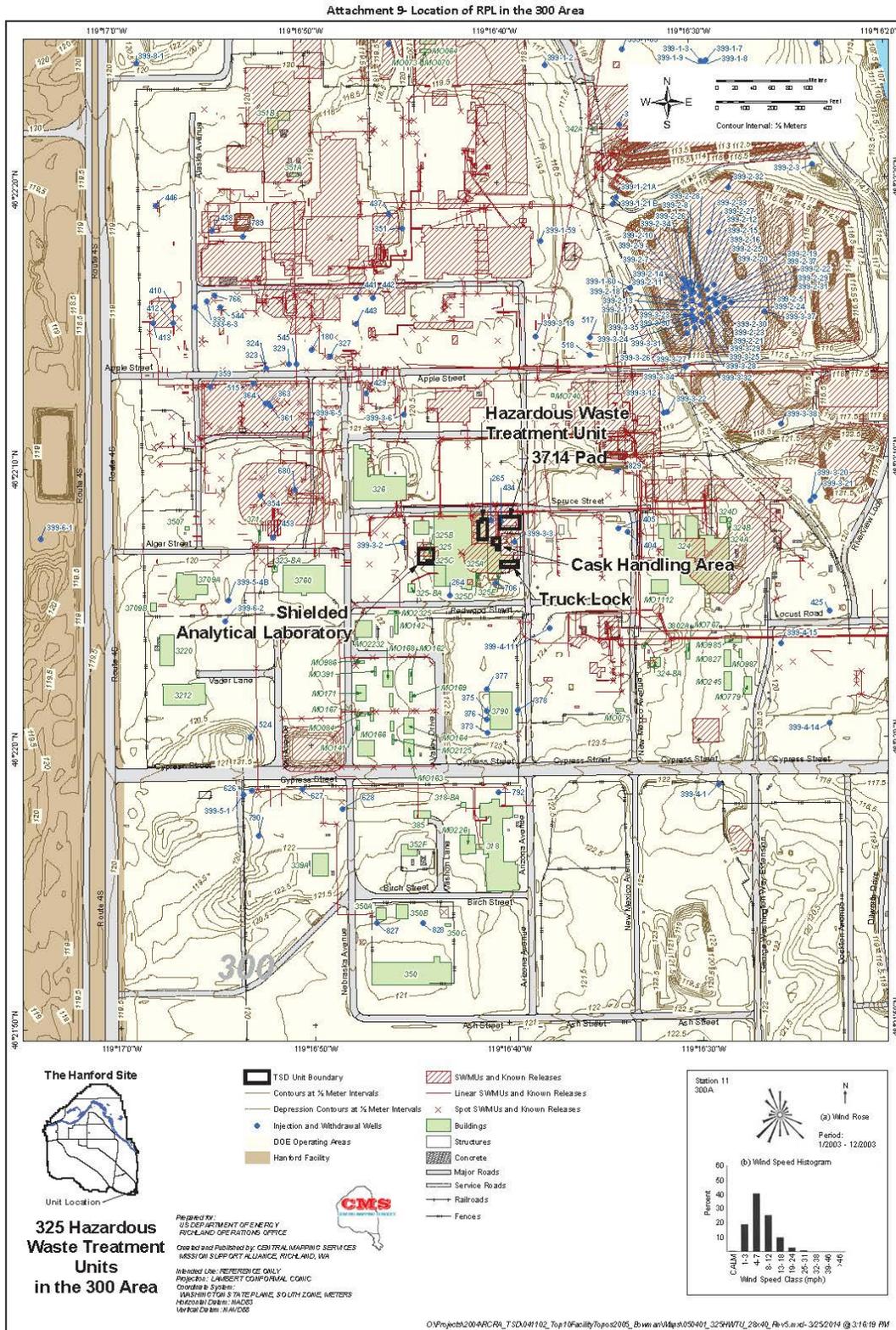
EMERGENCY EVACUATION ROUTES & ALTERNATE STAGING AREA

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³¹ Section 13.0, Attachment 8: Permit requirement, Class 1 Modification 6/30/15.

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Attachment 9 – Location of RPL in the 300 Area



14.0 References and Source Requirements

14.1 References

ADM-001, *Document Production and Distribution*
ADM-EPIP-2.0, *Management Support Group*
ADM-EPIP-3.0, *Recovery Plan*
ADM-EPIP-7.0, *PNNL Active Shooter Response Procedure*
HDI, *Basic Staff Practices*
HDI, *Responding to Normal Chemical Spills-Adverse Chemical Conditions (Exhibit)*
HDI, *Workplace Substance Abuse*
HDI, *Report and Event or Occurrence*
PNNL-DSA-325, *Radiochemical Processing Laboratory Documented Safety Analysis*
PNNL-EAL-RPL, *Emergency Action Level Tables for the RPL*
PNNL Guides for Post-Natural Phenomena Hazard Building Inspection
PNNL-MA-110, *PNNL Emergency Management Plan*
RCP-8.1.02, *Quick Sort Survey of Personnel*
RPL-PLN-701, *RPL Business Continuity Plan*
SOP-325-003, *325 Building Heating, Ventilation and Air Conditioning Emergency Shutdown*

14.2 Source Requirements

Washington Administrative Code, WAC-173-303-340, -350, -360
Washington State Patrol, RL-EP3.3
DOE-0223, *RL Emergency Implementing Procedures – Applicable to PNNL-Managed Facilities on the Hanford Site*
DOE/RL-94-02, *Hanford Emergency Response Plan – Applicable to PNNL Managed Facilities and Activities on the Hanford Site*

14.3 Emergency Preparedness Checklists

14.3a [BED Hazardous Material Facilities \(RPL\) Checklist](#)
14.3b [Chemical Hazard Assessors Checklist](#)
14.3c [Event Closeout Form](#)
14.3d [Facility Operations Specialist \(FOS\) Checklist](#)
14.3e [Hazards Communicator Checklist](#)
14.3f [Incident Command Post Communicator Checklist](#)
14.3g [Incident Manager Checklist](#)

- 14.3h [Radiological Hazard Assessors Checklist](#)
- 14.3i [RPL Staging Area Supervisor Checklist](#)
- 14.3j [PNNL Emergency Evacuation Report Form](#)

Procedure Revision History

Date	Rev. #	Description
4/01/03	0	<ul style="list-style-type: none"> • Revised and edited for annual update, including insertion of history page.
7/30/03	0	<ul style="list-style-type: none"> • Made the following name changes to the RPL BEP and distributed changes to all holders of controlled copies: <ol style="list-style-type: none"> 1. In Exhibit 12.1 on page 52 change the MSG Lead 1st and 2nd alternates to Larry Maples and Reed Sharp respectively. 2. Change the primary warden for Zone 4 to Todd Haynie, 372-3067. 3. Change the secondary warden for zone 4A to Todd Haynie, 372-3067. 4. In Table 14.a on page 59, change the 90-Day Storage Emergency Contact to Raymond D. Bell, Work Phone: 376-2321, Cell Phone: 521-4505.
9/03/03	0	Replaced Larry Page with Tracy Eaton on pages 52 and 57.
9/11/03	0	Replaced Shane Loper with Greg Varljen as Secondary Zone Warden for Zone 4 and Primary Zone Warden for Zone 4A on pages 56 and 57.
9/30/03	0	Insert Maria Olivarez as the 1 st Alternate for Assisting Communicator and the ICP Recorder in Exhibit 12.1. (sma)
11/17/03	0	Change William Buyers' cellular telephone number to his current number. (sma)
11/21/03	0	Replaced Katherine Carson with Darlene Winter as Primary Zone Warden and replaced Tracy Eaton with Katherine Carson as Secondary Zone Warden for Zone 7 on page 57. (sma)
3/30/04	0	Annual BEP update (nem-m)
5/6/04	0	Update Evacuation Routes – 2 nd and 3 rd Floors map, correction of room numbers. (sma)
7/7/04	0	<p>Made the following change to section 9.2.1 Emergency Decontamination Facilities: The RPL Facility Personnel Decontamination Room is located in Room 606 has only limited decontamination capability (a small sink). Radiological Control Personnel are the only staff that may perform Personnel Decontamination. The decontamination shower in this room is out of service.</p> <p>If an evacuation of the RPL Facility occurs and re-entry is not possible to decontaminate affected personnel, Radiological Control Supervision may use the 329 Building Personnel Decontamination Facility. In the event that affected personnel are injured, they should be transported directly to Kadlec Medical Center. If large group decontamination facilities are required, request assistance from the Hanford Fire Department Mobile Decontamination Facility. (lef)</p>
8/11/04	0	<ul style="list-style-type: none"> • Replace Tracy Eaton with Jason Armstrong as ICP Hazards Communicator. • Remove Stan Jones as BED and ICP Communicator Alternates. Also on Exhibit 12.2.1. • Remove Teresa Schlotman as the Primary SAS and move the alternates up one step. • Put Andrea Kwiecinski in as Primary ICP recorder and move Bob and Maria to alternates. • Remove Abby Nicholson and Scott Nickerson as ICP Chemical Hazards Assessor alternates. • On Exhibit 12.2.4, Change “RPL Facility Project Manger” to “Nuclear Work Team Leader” and add Environmental Compliance Rep. as John Holland in the Waste Management block. • Replace Wayne Larson as TSD POC (Table 14.a) and replace with Ron Del Mar. (lef)
8/25/04	0	Fix name spelling of Andrea “Kwiecinski” as ICP Recorder (lef)
9/28/04	0	<ul style="list-style-type: none"> • Made the following name changes to the RPL BEP and EIPs: • Change assisting Communicator to Maria Olivarez, remove alternates • Change ICP Chemical Hazards Assessor to Kevin Sheffield. • Change ICP Communicator to Holly Black-Kania. • Change MSG Recorder (1st Alternate) to Mary Bradshaw.

Date	Rev. #	Description
		<ul style="list-style-type: none"> • Zone Warden changes: Zone 4A primary to Matthew Fountain; Zone 6 Secondary: Joyce McGuffey ; Zone 7 Primary : Gregg Lumetta, Secondary : Clark Lindenmeier ; Zone 9 Secondary ; Paul Bredt : Move the North Dock/Cylinder Storage Area from Zone 2 to Zone 7. • Staging Area Supervisor; Move Bob Schumacher to 2nd Alternate and put Debra Coffey as the 1st Alternate. • Throughout document, change PNNL SPC or PNNL Single Point Contact to PNNL Operations Center. • Change RPL Facilities Project Manager to Nuclear Work Team Leader. • Change RPL Building Ventilation & Power Operations Supervisor to Utility Operations Work Team Leader.
10/19/04	0	Remove 43, 45, 63, 517, and 601 from the list of 90-day waste accumulation sites from the second paragraph in section 3.6 on the bottom of page 16. Also change the 1 st Alternate MSG Recorder to Laura Fuher. (lef)
11/01/04	0	Replace HEHF with new Hanford medical contractor AMH. Update ICP Hazards Assessor: 1-Todd Haynie, #2- Kevin Sheffield (lef)
3/21/05	1	<p>2005 Annual Update:</p> <ol style="list-style-type: none"> 1. Standardized appearance of the word AH-OO-GAH throughout the BEP. 2. Section 2. Added Acronyms section. 3. Section 3.1.1, added information on preservation of evidence to BED responsibilities. Added Testing Designated Position (TDP) requirement to BED position responsibilities. 4. Section 3.2.1, added TDP requirement to the ICP position responsibilities. 5. Section 3.2.8, added TDP requirement to the MSG Lead position responsibilities. 6. Section 3.2.5, Created new description for MSG Liaison duties. Renumbered remaining sections in chapter. 7. Section 3.2.8, added the words criticality alarms in zone warden indication of hazards. 8. Section 3.2.9, added TDP requirement to the FOS position responsibilities. 9. Section 3.3, Individual Staff Responsibilities, added information regarding discarding PPE on building evacuations and PCM use for fire/criticality. 10. Sections 5.5 Criticality, added editorial comment. 11. Section 6.1.1, item 3, added "If the RPL has a loss of electrical power and Standby Power is still available, assemble in the Lunch Room. Personnel exiting Radiological Buffer Areas do so without surveying through the PCMs. If personnel are wearing Personal Protective Equipment (PPE) clothing, are suspected of being contaminated, or have exited a Radiological Buffer Area, isolate them from other building occupants and request they be surveyed by Radiological Control Personnel. <ol style="list-style-type: none"> a. Refer to Section 6.1.11 for Reduced Ventilation Flows. 12. Section 6.1.10, Criticality, removed the last sentence from item 3, bullet 1. 13. Section 6.1.10 new item 3: Personnel exiting Radiological Buffer Areas do so without surveying through the PCMs. If personnel are wearing Personal Protective Equipment (PPE) clothing, are suspected of being contaminated, or have exited a Radiological Buffer Area, isolate them from other building occupants and request they be surveyed by Radiological Control Personnel. 14. Section 6.3 Natural Phenomena, to each event added the words "If evacuating the facility, have 375-2400 report the evacuation to the ONC (376-2900)." 15. Section 8. Utility Disconnects: Added information on the Ramp Sump Pump local disconnect location. 16. Exhibit 12.1, Updated BERO members. Added new position of MSG Liaison 17. Section 12.2.1, Updated BED name (David Clark) and phone numbers. Added Bill Buyers contact info as 2nd alternate BED. Added and * to TDP positions with the note to coordinate changes in these positions with the TDP Administrator. 18. Section 12.2.4, Added MSG Contact name and phone number to the emergency contact list.

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Date	Rev. #	Description
		<p>19. Exhibit 12.4, BED Checklist –</p> <ul style="list-style-type: none"> a. Step 1, added requests for Hanford Fire department and Hanford Patrol for certain events. RLEP 1.1, Checklist 3.1 consistency. b. Step 2, added additional equipment to note regarding building evacuation due to bomb threats. RLEP 1.1, Checklist 3.1 consistency. c. Step 2, added new bullet regarding actions for evacuation while under a take cover. RLEP 1.1, Checklist 3.1 consistency. d. Step 6, added info regarding transportation events and event classification. Also added box with RCRA criteria. RLEP 1.1, Checklist 3.1 consistency. e. Step 8, minor wording change. RLEP 1.1, Checklist 3.1 consistency. f. Step 12 (new) regarding preservation of evidence at event scene. RLEP 1.1, Checklist 3.1 and MA-110, Exhibit A.16 consistency. g. Renumbered all steps after 12. <p>20. Exhibit 12.5, ICP Communicator Checklist-</p> <ul style="list-style-type: none"> a. Inserted new step 5, related to actions required if event does NOT reach EAL criteria. PNNL-MA-110, Exhibit A.17 consistency. b. Renumbered remaining steps. c. Step 15, editorial change copy to copy. <p>21. Exhibit 12.6, ICP Hazard Assessor Checklist</p> <ul style="list-style-type: none"> a. Step 3, minor editorial change, RLEP 1.1, Checklist 3.9 consistency. b. Step 8, minor editorial change, RLEP 1.1, Checklist 3.9 consistency. c. Part 2, Step 8, added not regarding decision to transport injured and contaminated personnel. RLEP 1.1, Checklist 3.9 consistency. <p>22. Exhibit 12.7, Staging Area Supervisor Checklist-</p> <ul style="list-style-type: none"> a. Step 2, Revised Warning regarding use of additional electronic equipment in bomb threats. RLEP 1.1, Checklist 3.11 consistency b. Added new step 7 to query staff regarding medications or medical conditions of which the BED needs to be made aware. Renumbered remaining steps. Change requested by SAS. c. Added new step to remind SAS to have RHA confirm habitability of staging area and ICP. <p>23. Exhibit 12.10, MSG Checklist</p> <ul style="list-style-type: none"> a. Added a step to have the MSG Liaison get safe route of travel and be dispatched to ICP. b. Added new step for notifying BMI.(Their emergency number is (614) 424-4444) c. Added new step related to preservation of evidence. <p>24. Exhibit 12.11, Facility Operation Specialist Checklist</p> <ul style="list-style-type: none"> a. Step 2, added statement to remind FOS to communicate location of event scene operations to the BED. RLEP 1.1, Checklist 3.13 consistency. <p>25. Exhibit 12.13, ICP Hazard Communicator checklist-</p> <ul style="list-style-type: none"> a. Step 2 and 3, added shading to text boxes. RLEP 1.1, Checklist 3.10 consistency. b. Added new step 5 to provide PNNL exposure evaluator number for the hazard communicator if needed. <p>26. Exhibits 13.5, 6, 7 added new emergency equipment maps from the MIT.</p> <p>27. Exhibit 14.a, 300 Area Protective Actions, revised table per RLEP 1.1, Appendix C, added 300 Area offsite Protective Actions & Recommendations. (nmm/lef)</p>
4/15/05	1	Fixed page numbering to start at page 2 on second page. Updated Bill Buyers phone number to 376-5612, and changed Jeff Rencken as Facility Operations Specialist and Zone warden to Ed Arel. lef

Date	Rev. #	Description
6/13/05	1	Updated BERO contact names & numbers on pages 54-55, changed the MSG Support Lead to Mike Moran on page 62. (lef)
8/22/05	1	Updated ICP Hazards Communicator- Primary/Jack Horne and Alternate/Lindsay Nelson. Updated ICP Hazard Assessor/Radiological – Primary/Bob Free and Alternate/Jack Horne. Updated Zone Wardens: Zone 4A Alternate – Don Kelly; Zone 7 Alternate – Mike Lindberg; and Zone 9 Primary – Lewis Hogan. On page 49, section 9.2.2, added Note: Only Rad Worker 2 trained staff are allowed to volunteer for receiving emergency radiological exposures. lef
9/9/05	1	On page 60, replaced Todd Haynie as Zone Warden for Zone 4A and Industrial Hygiene/Occupational Safety with Don Kelly on page 62, and added Don’s cell phone. lef
9/13/05	1	Updated Rad Hazards Assessors to Lindsay Nelsen (primary) and Rob Sitsler (secondary) and Hazards Communicators Jack Horne (primary), Holly Black-Kania (1 st Alternate) and Forrest Bronson (2 nd Alternate). lef
9/26/05	1	Updated the “300 Area Protective Actions” section 14.1 per TL Bettendorf “the RLEP has changed”. Added Table of Contents. Fixed spelling error for Deborah Coffey, SAS Secondary. lef
11/7/05	1	<p>Page 36 - Updated Section 6.1.8 #2a,per TL Bettendorf:</p> <ul style="list-style-type: none"> • Move personnel from affected area to a safe location. • If the health and safety of the building occupants is such that a building evacuation is necessary, pull the fire alarm. • Notify the PNNL Operations Center at 375-2400. • Notify the Safety and Health Representative. <p>Page 64, Section 12.2.4, Table 14.a per DE Clark:</p> <ul style="list-style-type: none"> • New 90-day Storage Area SFO: Greg Varljen; • New 90-Day Storage Non-SFO Mark Vucelick. (lef)
2/2006	2006	<ul style="list-style-type: none"> • Reformatted per F&O guidelines. • Added Cindy Caldwell as Safety & Health approval signature. • Clarified the acronyms throughout the document. • Updated SPC to PNNL Operations Center throughout the BEP. • Section 1.6, added a building specific alarm for Hot cell DP at Randy Thornhill and Randy Scheele’s request to standardize HLRF response procedures. • Replaced DOE-RL throughout the document with DOE. • Section 3.2.8, clarified that responses apply to ZW alternates also. • Section 3.3, Clarified where individuals can find the electronic copy of the RPL BEP. • Section 6.1.5.1, added a bullet regarding need to notify the Environmental Support Contact to perform appropriate notifications to the Department of Ecology for a major tank spill. • Section 6.1.9, added clarification that various alarms may occur on Radiological Material Release. • Section 6.3, editorial change. • Section 6.4.2 “Hostage Situation/Armed Intruder/Violence in the Workplace” added information based on drills from violence in the workplace. • Section 7.5, corrected location of the air compressor isolation valve. • Section 7.9, corrected location of the local disconnect switch for RPL ramp sump pump. • Section 8.2. Added clarification for the need to notify the Dept of Ecology within 30 days after an incident involving a release from a tank system to the environment that does not result in an activation of the contingency plan. • Attachment 13.1, update BERO listing to new members. • Attachment 13.1, updated BED (Francis Buck), 1st Alt BED (Bill Buyers), 2nd Alternate N/A. • Attachment 13.1, updated ICP Communicator adding Karla Smith as Primary Responder; Robert Schumacher as 1st Alternate and Francis Buck as 2nd Alternate.

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Date	Rev. #	Description
		<ul style="list-style-type: none"> • Attachment 13.5, updated names for ZW assignments. • Attachment 13.6, New Staging Area Supervisor- Deborah Coffey, 1st Alternate- Karla Smith, 2nd Alternate-N/A. • Attachment 13.7, added the secondary phone line number for the PNNL Operations Center. • Exhibit 13.13 – Handling of Radiologically Contaminated/Deceased Worker Checklist, added a step to verify the appropriate DOE Facility Representative has been notified. (nmm) • Added Zone Warden Area maps and updated other building MIT maps. • SES: RPL-2006-021D. FG Buck. (lef)
4/25/06	2006	<ul style="list-style-type: none"> ○ Update FG Buck cell phone: 528-0141 and WT Buyers cell phone 521-0217. ○ Page 65; Deleted Forrest Bronson as ICP Hazards Communicator. Replaced Jack Horne/ICP Hazards Assessor (Radiological)/Primary with Bob Free. Jack Horne is now 1st Alternate and Holly Black-Kania is 2nd Alternate. ○ Page 65: ICP Hazards Communicator: Lindsay Nelson/Primary and Rob Sitsler/1st Alternate. ○ Replaced MSG Checklist with current checklist from the EP Office, per TL Bettendorf. (lef) CE: RPL-2004-194D. USQE FG Buck.
8/10/06	2006	<ul style="list-style-type: none"> • Update 1st Alternate BED to Sanjay Sanan. • Deleted home phone number for Lori Ashbeck • Updated Management Support Group Contact: RD Sharp(lef) CE: RPL-2004-194D. USQE/FG Buck.
10/24/06	2006	<ul style="list-style-type: none"> • Fixed spelling and grammar errors, web link errors, Attachment numbers, and font sizes throughout document. • Attachment 13.1 – New Assisting Communicator #1 – Lori Ashbeck. New ICP Hazards Communicators: 1- Jack Horne, 2 – Bob Free, and 3 – Rob Sitsler. New ICP Hazards Assessors – 1- Bob Free, 2- Jack Horne, and 3- Holly Black-Kania. • Attachment 13.7 - New MSG Contact – Reed Sharp. • CE: RPL-2004-194D. FG Buck/USQE 10/24/06
1/10/07	2006	Updates to the BERO staff, Waste Management, and Communicators are as follows: <i>Primary: Assisting Communicator: Lori Arel (W:376-3611, H:734-1574)</i> <i>2nd Alternate ICP Hazards Communicator: Terry Milham (Work: 376-0700)</i> <i>1st Alternate ICP Recorder: Lori Arel (W: 376-3611, H: 734-1574)</i> <i>Zone 4A Primary: Ron Del Mar (376-2822)</i> <i>Zone 5 Primary: Lewis Hogan (372-1427)</i> <i>Zone 8: Secondary: John Logan (376-1382)</i> <i>Zone 9: Primary: John Logan (376-1382)</i> <i>1st Alternate Staging Area Supervisor: Jeff Andrie (376-0502)</i> <i>2nd Alternate Staging Area Supervisor: Teresa Schlotman (376-3206)</i> <i>Under Waste Management: Remove Greg Varljen, Add Ron Del Mar (W:376-2822, C: 530-8308)</i> CE: RPL-2004-194D. FG Buck/USQE
2/5/07	2007-1	Annual BEP Update: <ul style="list-style-type: none"> • Pg. 5, editorial correction, second paragraph, “whose” • Pg. 9, deleted last sentence in paragraph 1.7. Incorrect statement. • Throughout the BEP deleted specific section reference number to PNNL-MA-110. MA-110 has been revised and all the references are now out of date. Removing section references will allow changes to be made to PNNL-MA-110 without requiring BEP revision. (pgs, 12, 21, 46 • Pg 14, added a responsibility to the BED Section 3.1 for planning conducting and documenting emergency drills per MA 110 requirements. • Pg 41, updated the step 2 of the Bomb Threat actions per RLEP 1.1 • Pg 48, Section 9.1 first bullet, revised wording related to location of Class D fire extinguishers if reactive metals are present.

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		<ul style="list-style-type: none"> • Pg 63, Updated drawing to show building removals and be consistent with TSD maps. • PG 65, new Alternate Assisting Communicator and Primary ICP Recorder- Terri Mars. 2nd Alternate ICP Hazards Communicator: Woody Buckner. 1st Alt Staging Area Supervisor- Juai Jao and 2nd Alternate – Karl Pool. • Pg 72, replaced Terri Mars/TSD contact with JK Larsen. • Pg 73, Nuclear Work Team Leader cell phone correction 521-6072 and deleted the pager. • Throughout all the checklists, revised RL to Hanford as appropriate. RLEP's refer to everything as Hanford vs. RL now. (e.g., RL Notification Form is now the Hanford Emergency Notification form.) • Pg 79, BED Checklist step 19, revised wording for personnel health advocate notification per RLEP 1.1, and corrected attachment number to 13.13. • Pg 79, Step 20, added IC or the Liaison Officer, RLEP 1.1 consistency and correct attachment number 13.13. • Pg 79, Step 23, corrected attachment number to 13.18, relocated the note regarding event closeout to step 23. • Pg 81, ICP Communicator Checklist, step 3, revised Hazard Assessors to Hazard Communicator, RLEP 1.1 consistency. • Pg 81, ICP Communicator Checklist, reformatted sub step to A. • Pg 84, Attachment 13.10 Removed ICP from Hazard Assessors checklist title. RLEP 1.1 consistency. • Pg 88, SAS Checklist, editorial change to note in step 2. • Pg 88, Step 4 added note regarding injured personnel. RPL Drill Security 07-02 corrective action. • Pg 91, Attachment 13.13, editorial change, RLEP consistency. • Pg 96, Deleted duplicate steps from the MSG checklist. • Pg 98, FOS checklist, minor editorial change step 1 & 2, RLEP consistency. Added note regarding injured personnel. RPL Drill Security 07-02 corrective action. • Pg 100, ICP Hazard Communicator checklist. Added several bullets for RLEP consistency. (NMM/lef) <p>CAT EX: RPL-2004-194D. FG Buck/USQE.</p>
8/6/07	2007	<ul style="list-style-type: none"> • Section 1.3, replaced RSEG ownership of the RPL with the Director of Nuclear Operations as senior line manager. • Updated Alternate ICP Communicator, Primary Responder/Chemical Assessor, 1st Alternate Staging Area Supervisor, and 2nd Alternate Staging Area Supervisor, and changed Zones 4 and 4A Zone Wardens per L. Arel. (lef) • CE: RPL-2004-194D. FG Buck/USQE
9/17/07	2007	<ul style="list-style-type: none"> • Page 65, change title of MSG Lead to MSG Liaison per RPL Bldg Managers office. (lef) • CE: RPL-2004-194D, FG Buck/USQE.
10/29/07	2007	<ul style="list-style-type: none"> • Replaced Francis Buck with Dan Wandler as BED per BM Durst. • New ICP Communicator 1st Alt: John Logan; ICP Communicator 2nd Alt- NONE. • New FOS 1st Alt: Dan Wandler and no FOS 2nd Alt. • CE: RPL-2004-194D DGW/USQE
11/10/07	2007-2	<p>Major revision consisting of:</p> <ul style="list-style-type: none"> • New signature page/approvers per LO Casazza. • Section 1.3, revised Owner/Operator to the new NOD organization manager. • Section 1.6, Deleted the word "High" from Glove Box Differential Pressure Alarm (Signal) box • Section 2.3, added references to aDM-001, Document Production & Distribution for making minor and major revisions to this procedure. • Section 6.1.11, added new 3rd bullet "Zone Wardens for Zone 2 and Zone 8, activate flashing red warning lights. • Section 6.4.4, added new 3rd bullet: "Zone Wardens for Zone 2 and Zone 8 activate flashing red warning lights." • Attachment 13.11, Deleted #5: Verify that the Zone 2 and Zone 8 Zone Wardens turned on the flashing red access warning lights identified in the Zone Warden Checklist";

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		renumbered remaining items in the checklist. <ul style="list-style-type: none"> • Attachment 13.12, #1, added “In the event of Reduced Ventilation or Take Cover...” • New BERO staff assignments: 1st Alternate Assisting Communicator: Bob Schumacher; 1st Alternate Facility Operations Specialist; John Logan. • New Zone Warden assignments: Zone 8 Secondary and Zone 9 Primary: Bob Schumacher. (lfa/lef) • CE: RPL-2004-194D. DGW
6/13/2008	2008	<ul style="list-style-type: none"> • Annual review. • Replaced the following checklists from PNL-MA-110: Attachment 13.10, Hazards Assessors; Attachment 13.15, Facility Operations Specialist; Attachment 13.17, ICP Hazards Communicator; and Attachment 13.14, MSG Checklist. Deleted Attachment 13.16, Hanford Emergency Notification Form. • Updated phone numbers for members of the BERO; Attachments 13.1, 13.5, and 13.7. (lef) • RPL-2008-120S. DGW
9/25/08	2008	<ul style="list-style-type: none"> • Updated signature page with new BED, NOD, and FSR signatures. • Multiple updates to the RPL BERO staff list. • Added PNNL Communicator Notification System to section 1.5. • Updated fire signal in Section 1.5 from gong/electric chime to Slow Whoop followed by voice message. (DGW/lef) • CE: RPL-2004-194D. DGW 9/16/08.
12/1/08	2008	<ul style="list-style-type: none"> • Replaced crash alarm system with the Telephone Notification System (TNS) and the Communicator Notification System (CNS) as appropriate. • Deleted crash alarm phone location on Attachment 12.5. • Updated maps from MIT. • Changed location of the ICP from 3760 bldg to 350 bldg and added new fax number for the 350 bldg ICP. • SES: RPL-2008-231S DGW/USQE
12/11/08	2008	<ul style="list-style-type: none"> • Section 1.0, updated WAC [WAC 173-303-350 (3)(d)] per HT Tilden. • Updated location of ICP in 350 building to Room 131. (cak) • Moved Section 6.10 Facility Take Cover to Section 7.0 for consistency throughout ALL BEPs and renumbered all subsequent sections and attachments as appropriate. • Updated BED checklist, #7: Brief hazard assessors and FOS on event and if practical deploy them to the event scene as soon as possible. • Updated BED Checklist #15, added new NOTE: If the location of the ICP has or will be changed call 375-2400 and assure the POC will be made aware of its new location. (lef/TLB) CE: RPL-2008-087D. USQE/DG Wandler 1/7/09.
1/15/09	2008	<ul style="list-style-type: none"> • Attachment 14.7, Added EOC phone numbers for 350 building: 372-0727, 372-0801 and fax 372-0723. (lef) CE: RPL-2008-087D. DGW/USQE 1/15/09
6/10/09	2009	DSA Update and BERO staff changes: Approval changes: new Waste Operations signature: K McDowell <ul style="list-style-type: none"> • New Section 1.7 , “Deviations from Technical Safety Requirements” • Section 3.6: Deleted 90-day storage areas in rooms 44, 61, 603, and the East Storage Yard and <u>added</u> the Shielded Analytical Laboratory (SAL) Hot Cells as a new 90-day storage area. • Section 6.4 – moved NOTE from the top of Section 6.4 to the end of subsection 6.4.1.2: <i>If local audible alarm actuates as a result of a transient condition associated with a known work condition, then it is acceptable (as applicable) to attempt to manually reset the alarm or wait 10 seconds for the alarm to automatically reset before taking emergency actions. If the alarm lasts longer than 10 seconds or the direct cause of the alarm is unknown, then immediately perform emergency actions.</i>

Date	Rev. #	Description
		<ul style="list-style-type: none"> • Section 9.2.1: Added 326 Building to the list of emergency decontamination facilities. • Section 12.2: The Emergency Action Levels (EALs) are considered Official Use Only (OUO) information have have been removed from the server, therefore, the EALs statement has been revised removing the weblink and directing staff to obtain copies of the EALs for RPL from the RPL Building Manager. • Attachments 13.5 and 13.7 – updated building maps identifying new locations of the 90-day storage areas. • Attachment 14.0 – per Emergency Preparedness office: deleted Management Support Group Checklist (old Attachment 14.14) – (this checklist is now a standalone procedure; see ADM-EPIP-7.2). Renumbered remaining Attachments in Attachment 14 – 14.14 is now Facility Operations Specialist – Checklisted Duties; 14.15 is Incident Command Post Hazards Communicator Checklisted Duties, and Attachment 14.16 is Emergency Closeout Checklisted Duties. • Attachment 14.1: New BED2 – Skip Kerschner. New ICP Communicators 1- Tony DeGuia, 2- Teresa Campbell, 3- Isadore Henderson. New Assisting Communicator: Kathy Rightmire. New Chemical Assessors: Kevin Sheffield and Abby Nicholson. ICP Hazards Communicator cell phone update • Attachment 14.4 : New BED2 HF Kerschner • Attachment 14.5: Rearranged the attachment to list the zone areas on top of the zone warden assignments. New Zone Wardens: Zone 2 Secondary - Jim Larsen; Zone 3 Secondary - Tim Smith; Zone 5 Primary – Lanson Oukrop; Zone 8 Primary – Jamin Trevino; Zone 9 Secondary – Kristie Lombardo. <p>Attachment 14.7: New Safety & Health Rep: Kevin Sheffield. New Waste Management TSD contact: Kip McDowell.</p> <ul style="list-style-type: none"> • Updated Staging Area Map. • Attachment 14.16: Per the Emergency Preparedness office, reorganized table for better flow of information. (NMM/CAK/lef)
6/10/09	2009	<p>Replaced 3 Emergency checklists per the Emergency Preparedness office: Attachment 14.4 – Facility Operations Specialist (FOS) Checklist, Attachment 14.8 – BED Hazardous Material Facilities (RPL) Checklist, and Attachment 14.16, (renamed) Event Closeout Form. (lef) USQ: RPL-200</p>
6/15/09	2009	<p>Attachment 14.1, Per the Emergency Preparedness Office and the Department of Ecology, added “Environmental Support Contact” (regulatory notifications only) and the PNNL Operations Center phone number 375-2400. (lef) CX: RPL-2008-087D</p>
1/11/10	2009	<p>Updated names and points of contact management personnel for the BERO. Deleted information Note regarding audible glove box alarms. (kl) Updated Hanford Patrol Operations Center phone number from 373-3800 to 373-0911 per EP Office. (lef)</p>
5/24/10	2010	<p>Updated the 350 Bldg alternate ICP room number. Replaced references for SBMS with HDI. Added steps to fight fires in hot cells and gloveboxes. Updates to criticality alarm tests are now semiannual, not quarterly. Added alpha sentry cams to potential alarms. Updated emergency decontamination facility information. Corrected the location of the compressed air isolation. Added paging system information. Updated names and points of contact for BERO and standardized emergency telephone number list with the rest of the BEPs. Moved the emergency contacts to section 3.0 and added EOC Tech Reps Patello, Thornhill, and Steen. Section 4.1, added Mike Zabel as Primary Chemical Assessor, Doug Falk as 1st Alternate and Abby Nicholson as 2nd Alternate. Deleted zone warden list, moving it to RBAC. New Section 15.0 which lists all referenced documents and weblinks for emergency preparedness checklists.</p> <p>Section 4.1 – deleted MSG Recorder, Barb Ekstrom per EP Office.</p> <p>Per Environmental Managements’ request, section 11.4 has been revised to list the items in the spill kits.</p> <p>Section 8.1.2.2, Facility Take Cover event –inside RPL, added: Staff should refrain from eating and drinking during a take cover event if physically able, until an appropriate</p>

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		evaluation of the event can be made. (cak/tlb/lef)
10/20/10	2010	<ul style="list-style-type: none"> • Added the following Note in sections 6.1.1, 6.1.2, 6.2, 6.2.2, 6.2.3, 7.4, 6.5, 6.7, 6.8 and added it as a step in 6.9.2: If appropriate, classify the event using the RPL EALs. • Updated first floor and basement emergency equipment maps. • Merged Sections 3.0, Emergency Telephone Numbers and Section 4.0 Building Emergency Response Organization into one section/Section 3.0, Building Emergency Response Organization and adjusted section reference numbers throughout the document. • Replaced Kip McDowell with KM McDonald as Low Level TSD contact. • Deleted room 32 as TSD in section 3.19. (tlb/cak/lef)
4/7/2011	2011	<ul style="list-style-type: none"> • Updated emergency equipment and evacuation route maps. • Updated phone numbers due to VOIP system installation • Changed location of the decon shower to 3410. • Updated locations of TSDs and 90-day storage areas per EL Grohs. • Updated name for AMH to CSC Hanford Occupational Health Services (CSC HOHS). • Updated S&H Rep from D. Falk to M. Zabel. (cak/lef)
6/17/2011	2011a	Update section 1.7 in accordance with revised wording in TSR AC 5.11. Added clarification notes in sections 6.1.1.4 and 10.2 that fire extinguishers with glove piercing tips are for HFD use only. (tac)
8/15/11	2011b	Updated BERO staff listing. Added 373-0911 to be dialed from cell phones and added Note about Becquerel conversion to dpm in Section 6.4. (CAK/lef)
9/20/11	2011-2	Verified HDI title changes and F&O organizational titles are correct. Section 5.5, updated Criticality Hazards. Section 6.5 was also revised. Updated the location of the RPL building within in the 300 area and the PIV locations. (cak/lef)
1/30/12	2012	Further definition of restart process consistent with DOE O 420.1B, Facility Safety. Added references to PNNL institutional plans/ procedures for event recovery.
1/1/13	2013	Updated per HF Kerschner's request, changing Section 11.0 and staff response to visitors. Updated HDI references. Updated PNNL's Occupational Health Provider (OH). Revised references for ADM-EPIP-7.2 to ADM-EPIP-2.0. Updated mailing address: zip code to 99354. Deleted 3790 as an alternate staging area. Changed Section 6.9 from Hostage Situation/Armed Intruder to "Active Shooter in Building." Revised Section 11.0. Added more information about H&V emergency shutdown
3/14/13	2013a	Replaced emergency equipment maps due to emergency equipment changes.
9/25/13	2013-1	Changed BED/Bldg Manager from CA Kooiker to Eric Hanson (acting). Changed Utility Operations Supervisor from RL McKinney to D Cravens, deleted supervisor's pager. Changed Deborah Coffey's contact information. Added step 6.6.1.1 – Verify that all equipment and heat generating devices inside of laboratory gloveboxes and inside of hot cells are shut down. Step 6.8.1.4 modified to allow RF equipment outside 100 feet from the RPL. Revised staging area location to the south end of lane #9. Added Alternate Staging Area Map, Attachment 8. Added CS Dreyer as BED3.
1/29/14	2014	Updated to include the North Storage Pad as part of the RPL facility. Deleted "klaxon horn" from "Take Cover" alarms in Section 1.5 Identified new Hazards Communicators and Hazards Assessors. Updated Section 8.0 and reformatted cover page; updated BM to PT Saueressig
2/27/14	2014-1	<p>Changed organization title from EMSD to EP&RP (Environmental Protection & Regulatory Programs).</p> <p>Changed BEDs: BED: PT Saueressig, BED1: EM Hanson and changed FOS to DG Wandler.</p> <p>Updated emergency equipment and evacuation route maps.</p> <p>Replaced UO WTL Don Cravens with TJ Vanderlinden and changed EOC RPL Tech Rep from Gertrude Patello to Karl Pool.</p> <p>Section 2.2 – Acronyms – added PNSO</p> <p>Section 3.2 – Added PNSO representatives to table</p> <p>Section 3.3 – Added PNSO representatives to graphic</p> <p>Updated links to emergency preparedness forms.</p>

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5/15/14	12	<p>Changed revision number to 12 to support Vault implementation. Changed Safety & Health Rep to Pam Aardal Changed Chemical Assessor assignments: Added Pam Aardal as Primary Responder moved Mike Zabel to 1st Alternate and moved Doug Falk to 2nd Alternative. Changed terminology for MSDS (Material Safety Data Sheets) to SDS (Safety Data Sheets). Updated Zone Warden maps. Changed Staging Area Supervisor Assignments: Moved Teresa Schlotman to 1st Alternate and added Jake Bohlke as 2nd Alternate. Changed Facility Operations Specialist Assignments: Added Johnny Trevino as 2nd Alternative.</p>
10/20/14	13	<p>Section 3.19, added rooms 610, 3714 pad, and portions of 603 and 604A to the TSD locations. Unique Program Laboratory Expertise: added cell numbers for Trevor VanArsdale and John Holland. Added footnote language to be the same style as used in DOE 94-02 per Harold Tilden's request per the 3/2014 Ecology inspection. Replaced Ed Arel/WTL with Don Cravens as WTL; replaced Pam Aardal/S&H Rep with Mike Zabel. Pts/lef Changed reference to ADM-EPIP-8.0 (retired) to ADM-EPIP-3.0, Recovery Plan per TL Bettendorf and change approved by PT Saueressig prior to release of this revision. Changed out the 300 Area site map (Attachment 9). Updated Section 12.1 per the recent DOE-0223 updates (TLB). During routing, the following were requested to be added to the BEP per PT Saueressig:</p> <ol style="list-style-type: none"> 1. Adding a note prior to the first footnote. 2. Changing the table so that only take cover addresses gathering in the lunchroom. 3. Changing the footnote to make it clear and concise (less redundant). This would apply to all of the footnotes. 4. Adding the permit to the reference documents.
2/12/15	14	<p>Added Jason Sweesy to section 3.2 as the Primary Chemical Hazards Assessor (moved Mike Zabel and Doug Falk to 1st and 2nd Alternate, respectively). Revised Section 8.2, Air. Added new section 8.10, Decontamination Shower/Sink. This information was included in section 9.2.1 and Attachment 1. Updated pages 52 and 53 with the latest 300 Area Protective Actions info from RLEP 1.1, 4/30/14 per TL Bettendorf. Changes during approval per HT Tilden and approved per PT Saueressig: footnote corrections and added the requirement to maintaining a controlled copy BEP in the 325 HWTUs operating record. Section 3.20, moved the paragraph break between the first and second paragraphs so that only the second paragraph is RCRA enforceable. (htt/pts) 3/10/15: per email from CS Dreyer: USQ RPL-2015-058S is still valid for these changes. Thank you. (csd)</p>