Duke Energy Oconee Nuclear Station **Crud Burst Posting, Monitoring and Access Controls** **Multiple Use**	Procedure No. HP/**0**/B/1000/106 Revision No. 011 Electronic Reference No. OX002S6W

REVISION SUMMARY
PRR 02391690
DESCRIPTION

- Revised table numbers throughout procedure to restart table numbering from Table 1 in each enclosure.
- Procedure body Steps 5.6, 5.8 & 5.10- Updated titles of enclosures to include HRA for correct enclosure name.
- Enclosure 5.3:
  - Added new 2nd bullet and preceding note to Step 1 to address notification to Operations.
  - Added clarifying information to rooms 115 and 222 in Table 1.
  - Added new Step 3 and preceding note to address dose rates significantly higher than prior to crud burst.
  - Added clarifying information to room 222 in Table 1A.
- Enclosure 5.4 - Added clarifying information to rooms 155 and 262.
- Enclosure 5.5:
  - Moved Step 1, bullet 4 and preceding note to Step 1 bullet 1.
  - Added clarifying information to room 53 pipe chase opening, rooms 206 and 348 in Table 1.
  - Deleted unnecessary information from room 306
- Enclosure 5.6 - Added clarifying information to LPI hatch area, rooms 206 and 306.
- Enclosure 5.7:
  - Moved Step 1, bullet 4 and preceding note to Step 1 bullet 1.
  - Added clarifying information to room 222
- Enclosure 5.8:
  - Added new Step 3 and preceding note to address dose rates significantly higher than prior to crud burst.
  - Added clarifying information to room 222 in Table 1.
- Enclosure 5.9 - Added clarifying information to room 262.
- Enclosure 5.10:
  - Corrected enclosure title to refer to HRA instead of LHRA.
  - Added clarifying information to room 262.

Crud Burst Posting, Monitoring and Access Controls

Information Use

1. Purpose

This procedure defines requirements for posting, monitoring and access controls during induced crud bursts.

2. References

2.1 AD-RP-ALL-0001, PORTABLE SURVEY INSTRUMENTS

2.2 AD-RP-ALL-0004, RADIOLOGICAL POSTING AND LABELING

2.3 AD-RP-ALL-0005, ACCESS CONTROLS FOR RADIOLOGICAL AREAS

2.4 AD-RP-ALL-0011, RADIATION PROTECTION FUNDAMENTALS

2.5 AD-RP-ALL-2008, REMOTE MONITORING

2.6 AD-RP-ALL-2017, ACCESS CONTROLS FOR HIGH, LOCKED HIGH AND VERY HIGH RADIATION AREAS

2.7 AD-RP-ALL-7002, OPERATION OF RADIATION PROTECTION PORTABLE SURVEY INSTRUMENTS

2.8 OP/1,2,3/A/1102/010, Controlling Procedure For Unit Shutdown

2.9 CR 01747116, Exposure under the Reactor Vessel

2.10 CR 01887857, Controlling CRD Filter Rooms For Crud Burst

3. Limits And Precautions

3.1 Prior to locking cages or doors for access control, area(s) shall be clear of personnel.

3.2 Free egress requirements shall be maintained during Radiation Area, High Radiation Area, Locked High Radiation Area and Very High Radiation Area entries.

3.3 Unless directed otherwise, completion of enclosures in this procedure are used in lieu of applicable enclosures from AD-RP-ALL-2017, ACCESS CONTROLS FOR HIGH, LOCKED HIGH AND VERY HIGH RADIATION AREAS.

4. Procedure

4.1 **IF** establishing remote monitoring in Reactor Building prior to crud burst activities, review below suggested list of monitoring locations:

- A1 J Leg Eye Level
- A2 J Leg Eye Level
- B1 J Leg Eye Level
- B2 J Leg Eye Level
- A1 RCP Discharge
- A2 RCP Discharge
- B1 RCP Discharge
- B2 RCP Discharge
- HPI Letdown Line 1st Floor, eye level
- LPI Line 1st Floor U-1 South East, U2&3 North East
- LPI Line 1st Floor U-1 South West, U2&3 North West
- Basement LPI Crossover Line - Overhead West Side
- LPI Drop Line - U-1 2nd grating B cavity, U-2/3 2nd grating A cavity
- Basement Incore Cage - U2, 3LP 64
- 1LP64 1st Floor West Side

4.2 **IF** establishing controls during induced crud burst in Reactor Building, implement access controls as specified in Enclosure 5.1.

4.3 **IF** performing surveys for downgrading of Reactor Building following crud burst, utilize Enclosure 5.11.

4.4 **IF** "Full Inventory" induced crud burst is taking place on Unit 1, perform radiological monitoring and establish access controls in Auxiliary Building as specified in Enclosure 5.2.

4.5 **IF** 'Full Inventory' induced crud burst is taking place on Unit 2, perform radiological monitoring and establish access controls in Auxiliary Building as specified in Enclosure 5.3.

4.6 **IF** 'Full Inventory' induced crud burst is taking place on Unit 3, perform radiological monitoring and establish access controls in Auxiliary Building as specified in Enclosure 5.4.

4.7 **IF** 'Reduced Inventory' (Drop and Shock) induced crud burst is taking place on Unit 1, perform radiological monitoring and establish access controls in Auxiliary Building as specified in Enclosure 5.5.

4.8 **IF** performing downgrade on Unit 1 in Auxiliary Building following 'Reduced Inventory' (Drop and Shock) induced crud burst, perform Enclosure 5.6.

4.9 **IF** 'Reduced Inventory' (Drop and Shock) induced crud burst is taking place on Unit 2, perform radiological monitoring and establish access controls in Auxiliary Building as specified in Enclosure 5.7.

4.10 **IF** performing downgrade on Unit 2 in Auxiliary Building following 'Reduced Inventory' (Drop and Shock) induced crud burst, perform Enclosure 5.8.

4.11 **IF** 'Reduced Inventory' (Drop and Shock) induced crud burst is taking place on Unit 3, perform radiological monitoring and establish access controls in Auxiliary Building as specified in Enclosure 5.9.

4.12 **IF** performing downgrade on Unit 3 in Auxiliary Building following 'Reduced Inventory' (Drop and Shock) induced crud burst, perform Enclosure 5.10.

5. Enclosures

5.1 Radiological Monitoring And Access Controls in Reactor Building: Induced Crud Burst

5.2 Unit 1 Auxiliary Building Radiological Monitoring and Access Controls: Full Inventory Induced Crud Burst

5.3 Unit 2 Auxiliary Building Radiological Monitoring and Access Controls: Full Inventory Induced Crud Burst

5.4 Unit 3 Auxiliary Building Radiological Monitoring and Access Controls: Full Inventory Induced Crud Burst

5.5 Unit 1 Auxiliary Building Radiological Monitoring And Access Controls: Reduced Inventory Induced Crud Burst

5.6 Unit 1: Auxiliary Building Reduced Inventory Induced Crud Burst: HRA Downgrade

5.7 Unit 2 Auxiliary Building Radiological Monitoring And Access Controls: Reduced Inventory Induced Crud Burst

5.8 Unit 2: Auxiliary Building Reduced Inventory Induced Crud Burst HRA Downgrade

5.9 Unit 3 Auxiliary Building Radiological Monitoring And Access Controls: Reduced Inventory Induced Crud Burst

5.10 Unit 3: Auxiliary Building Reduced Inventory Induced Crud Burst HRA Downgrade

5.11 Reactor Building Induced Crud Burst Downgrade Survey

5.12 Accessing an HRA Verification List

5.13 Accessing LHRA Checklist

Information Use

NOTE:
- RP Management will determine when crud burst monitoring shall begin and end.
- RP Management will determine access control requirements **IF** remote monitoring is **NOT** available.
- **Full Inventory** crud burst has shown to increase dose rates in Reactor Building cavities and basement inside bioshield wall, but normally does **NOT** increase dose rates to HRA levels. **Reduced Inventory** crud burst has shown to increase dose rates in Reactor Building basement outside bioshield wall at all piping associated with LPI system.

1. **IF** performing full inventory crud burst, increase surveillance for entries into Reactor Building cavities, basement and areas at LPI piping based on remote monitoring indication of an increase in radiation levels.

   1.1 Exit Enclosure.

2. **IF** Reduced Inventory crud burst is to take place, perform the following:

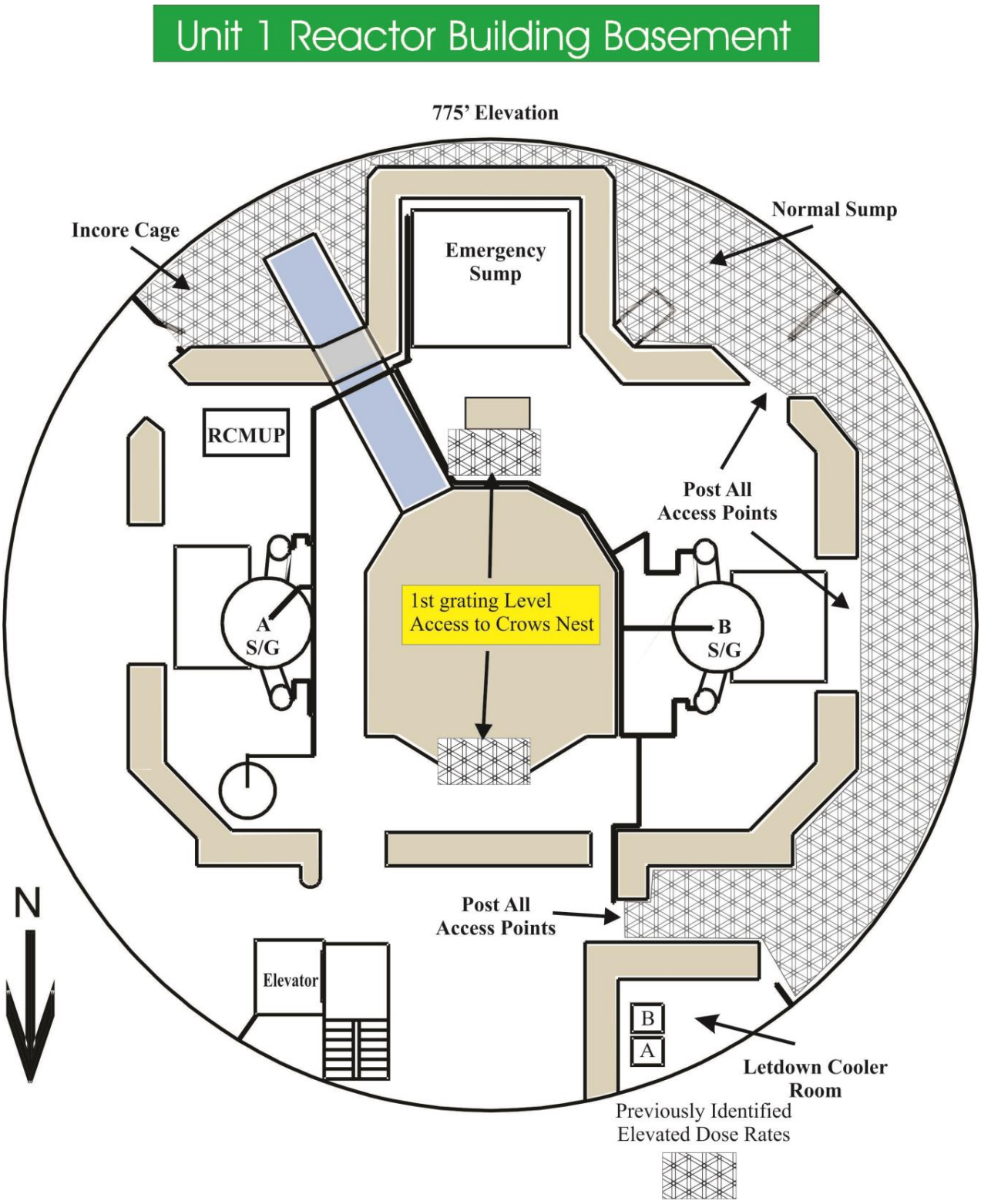
   - **IF** Unit 2 **OR** 3, post basement incore cage, per the map (Pages 4 or 5), in affected Unit's Reactor Building 'RP Escort Required For Entry'.

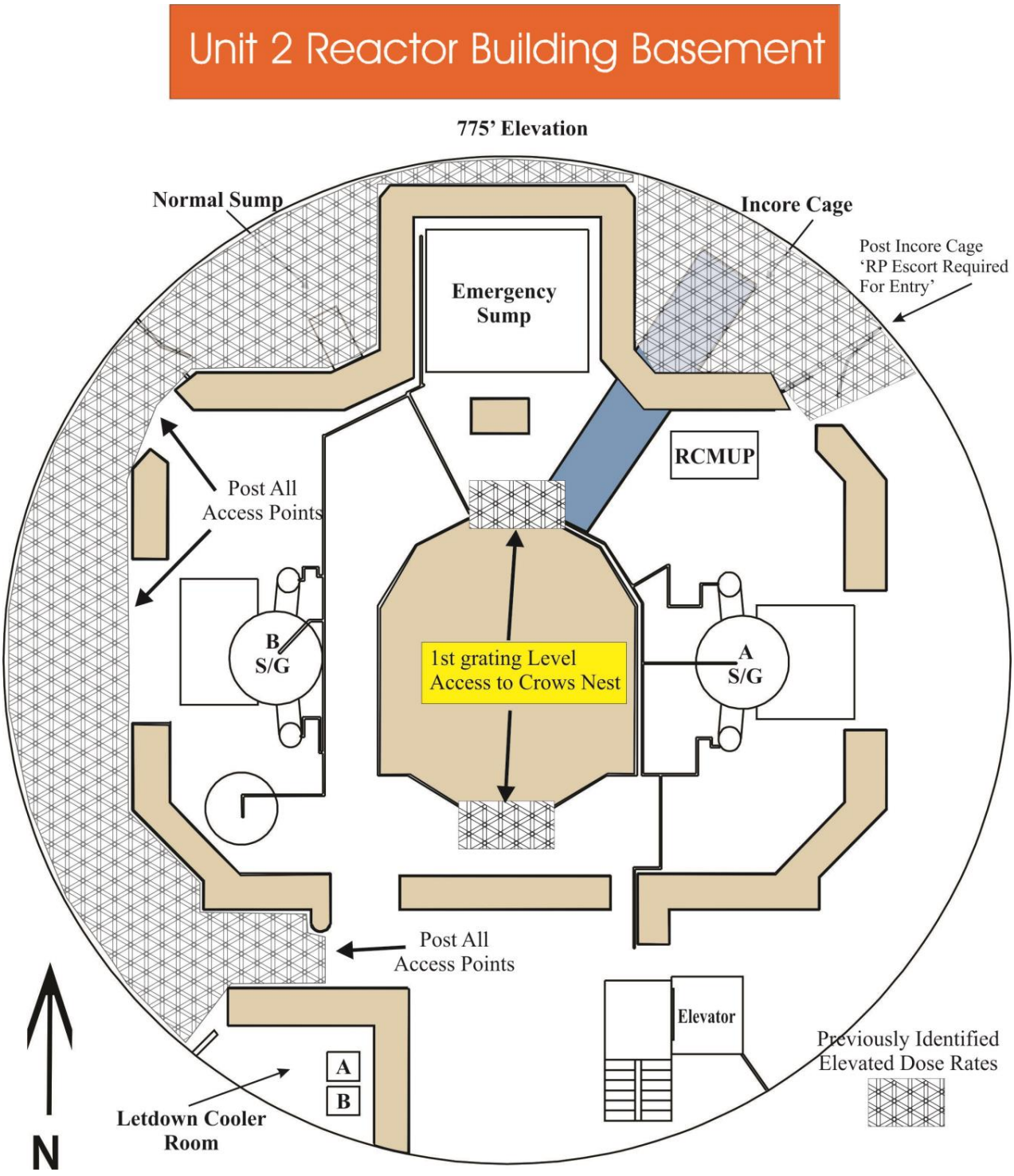
NOTE: The below listed locations were previously identified as areas known to have elevated dose rates. Surveys in other areas may show additional locations.

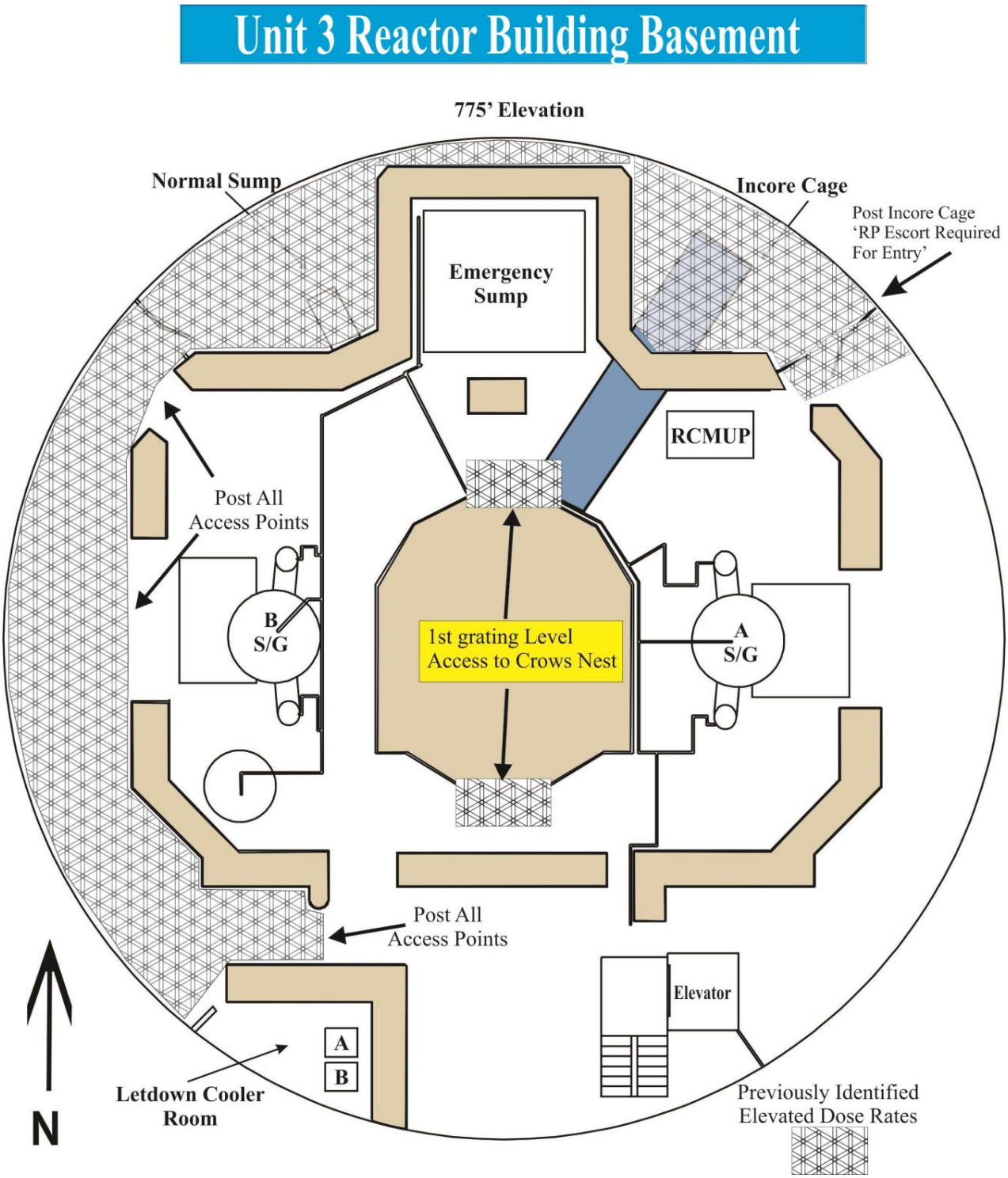
   - **IF** Reactor Building is posted HRA **OR** LHRA, post areas previously identified with elevated dose rates in the list in Table 1 'RP Brief Required For Entry':

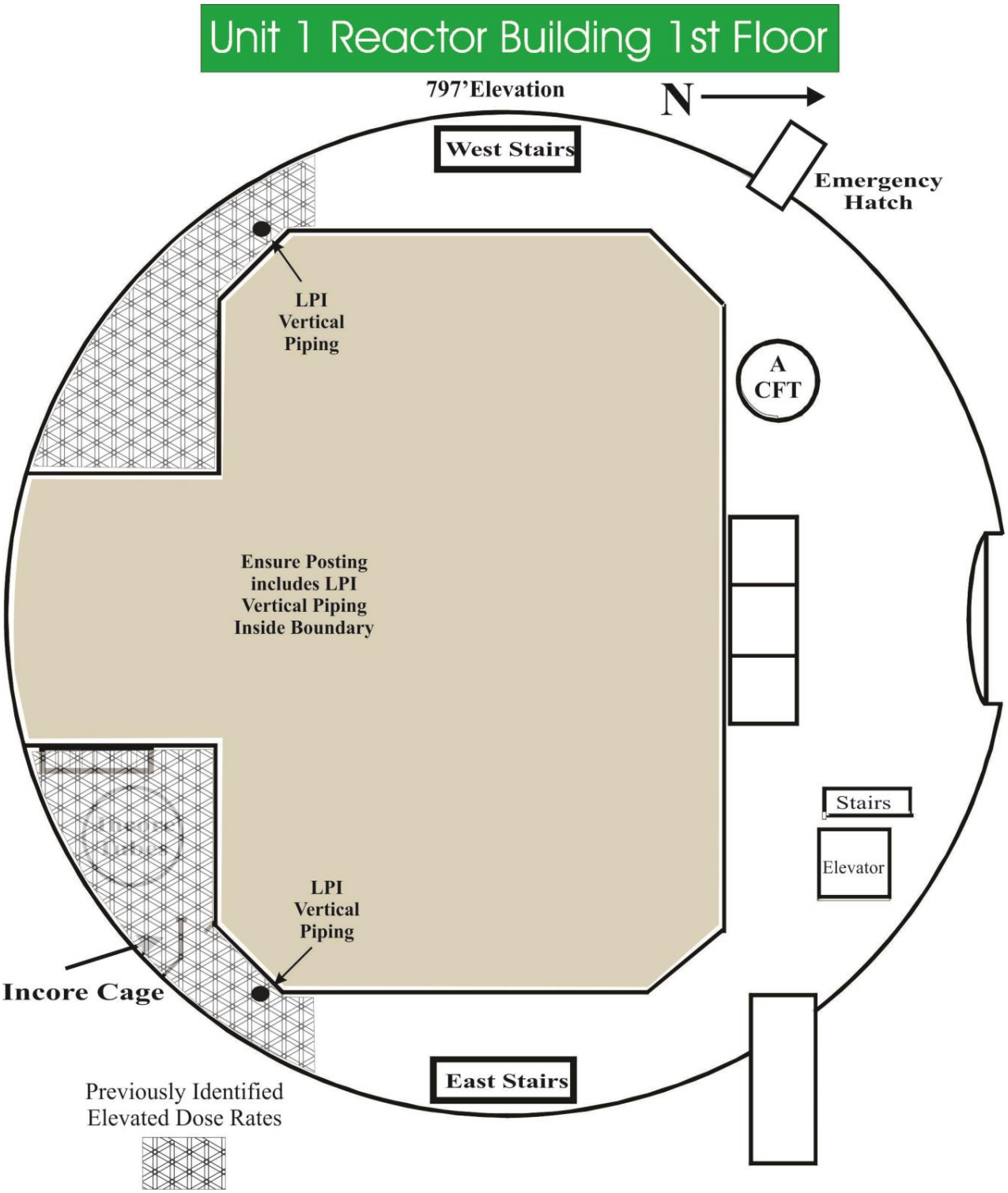
Table 1
Location/Number
☐ Basement (normal sump and outside bioshield wall) per shaded area on map (Pages 3, 4 or 5)
☐ **IF** Unit 2 **OR** 3, basement per shaded area on map outside incore cage. (Pages 4 or 5)
☐ **IF** Unit 1, incore cage in basement per shaded area on map (Page 3)
☐ 1st Floor East side per shaded area on map (Pages 6, 7 or 8)
☐ 1st Floor West side per shaded area on map (Pages 6, 7 or 8)
☐ Cavity 1st grating level Access to Crows Nest 1,2 or 3CF12 (Pages 3, 4 or 5)
☐ Cavity 1st grating level Access to Crows Nest 1,2 or 3CF14 (Pages 3, 4 or 5)
☐ **IF** Unit 1, 'B' Cavity 2nd grating level at LPI Drop Line (Page 9)
☐ **IF** Unit 2 **OR** 3, 'A' Cavity 2nd grating level at LPI Drop Line (Pages 10 or 11)
☐ 1st grating level East Side - area at 1,2 or 3LP48 (Not shown on map)
☐ 1st grating level West Side - area at 1, 2 or 3LP47 (Not shown on map)

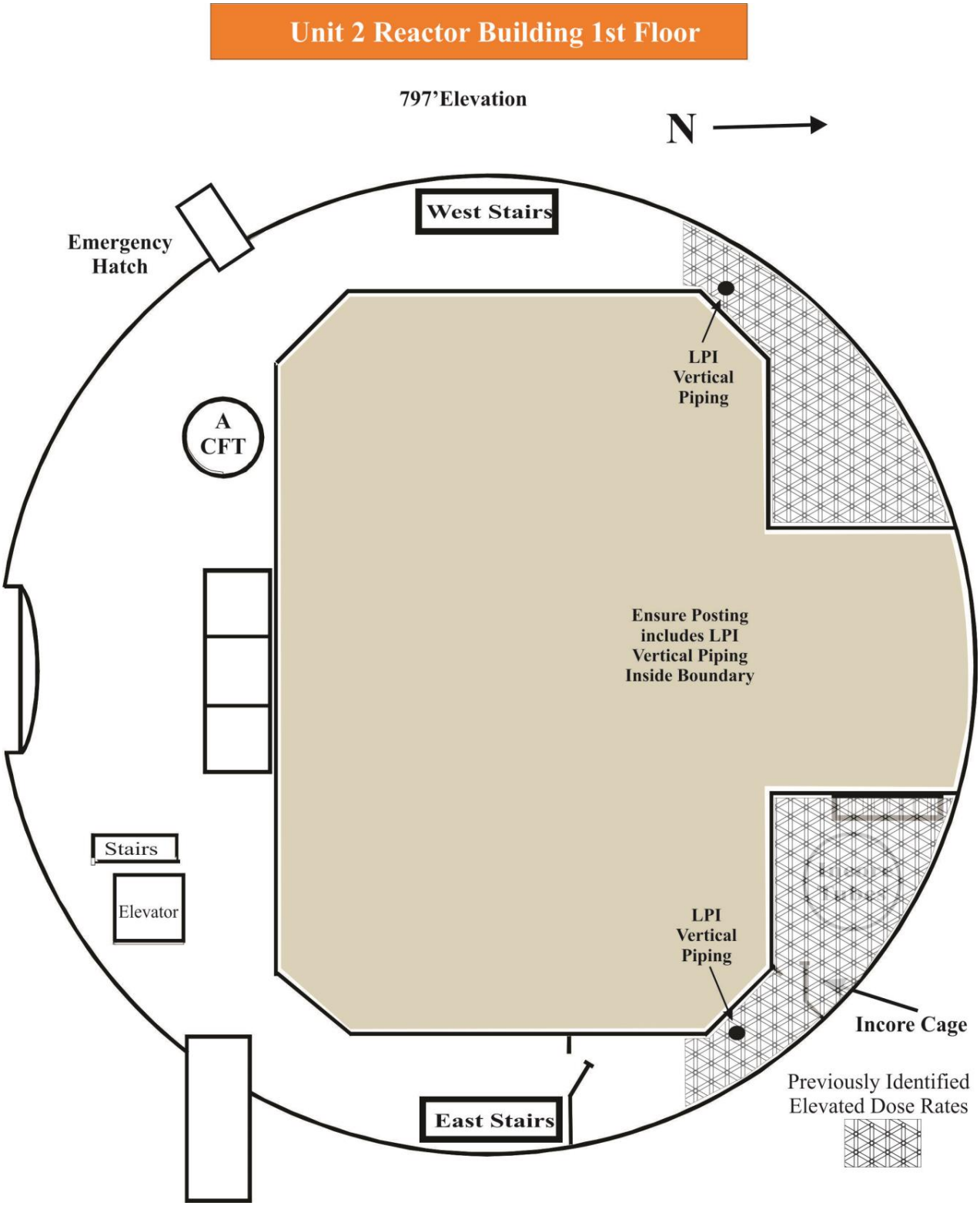
3. Notify RP OCC Manager that posting for crud burst in Reactor Building is complete:

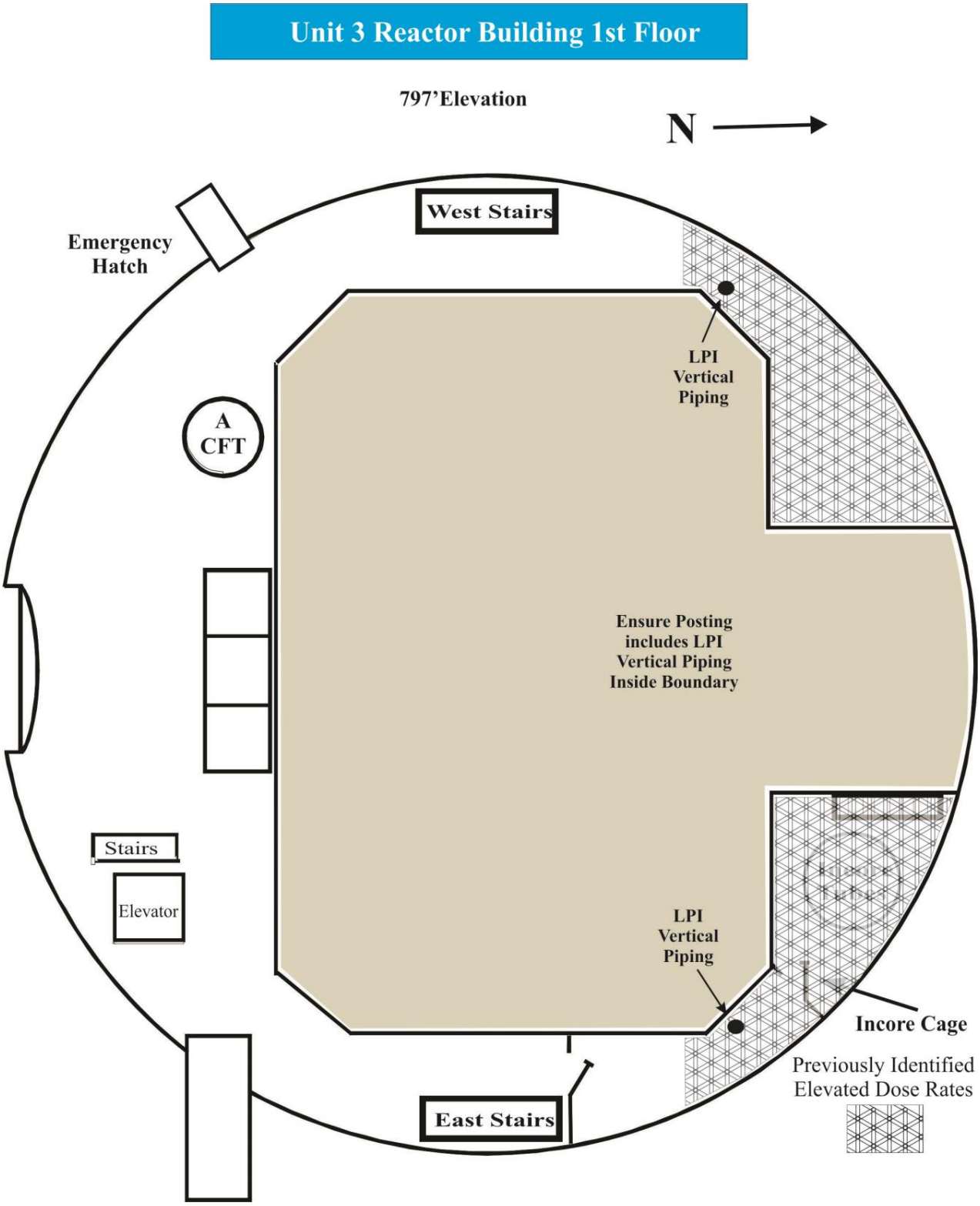

Unit 1 Reactor Building Basement
775' Elevation
Incore Cage
Emergency Sump
Normal Sump
RCMUP
Post All Access Points
1st grating Level Access to Crows Nest
A S/G
B S/G
N
Post All Access Points
Elevator
B
A
Letdown Cooler Room
Previously Identified Elevated Dose Rates

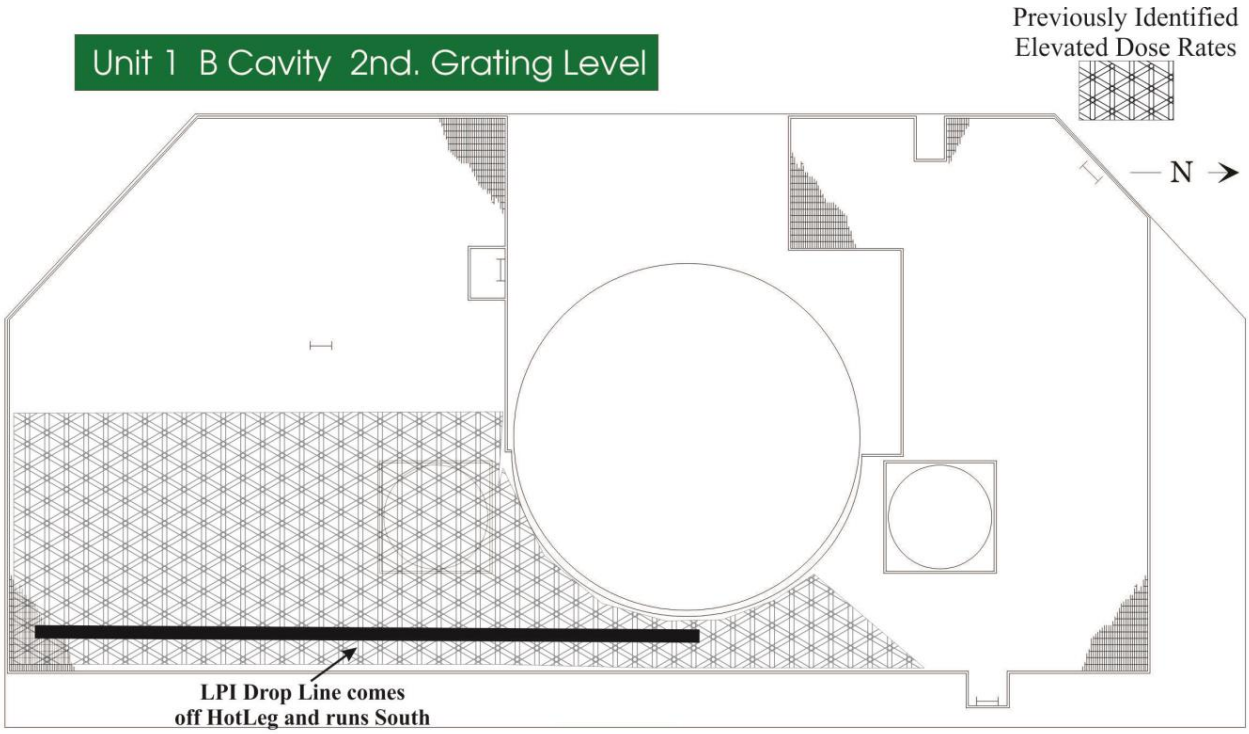

Unit 2 Reactor Building Basement
775' Elevation
Normal Sump
Incore Cage
Post Incore Cage
'RP Escort Required
For Entry'
Emergency
Sump
RCMUP
Post All
Access Points
B
S/G
1st grating Level
Access to Crows Nest
A
S/G
Post All
Access Points
Elevator
Previously Identified
Elevated Dose Rates
A
B
Letdown Cooler
Room
N

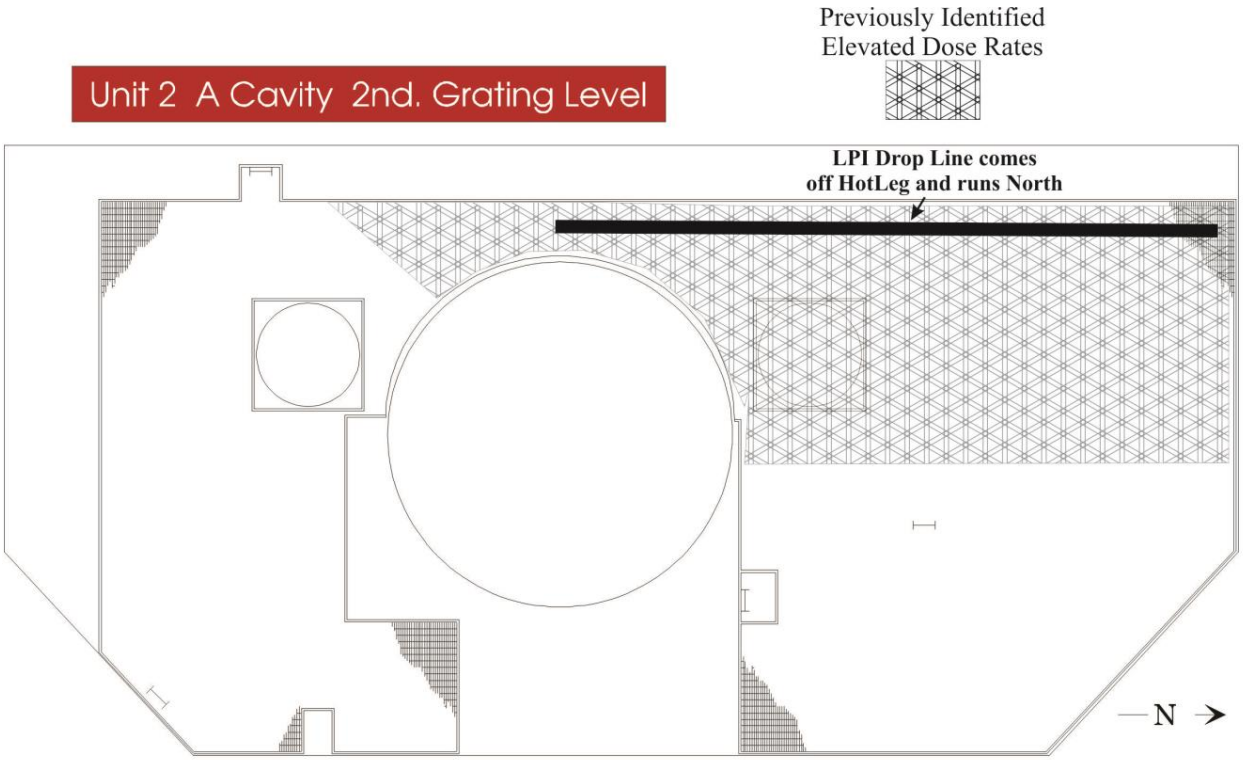

Unit 3 Reactor Building Basement
775' Elevation
Normal Sump
Incore Cage
Post Incore Cage
'RP Escort Required
For Entry'
Emergency
Sump
RCMUP
Post All
Access Points
B
S/G
1st grating Level
Access to Crows Nest
A
S/G
Post All
Access Points
Elevator
A
B
Letdown Cooler
Room
N
Previously Identified
Elevated Dose Rates

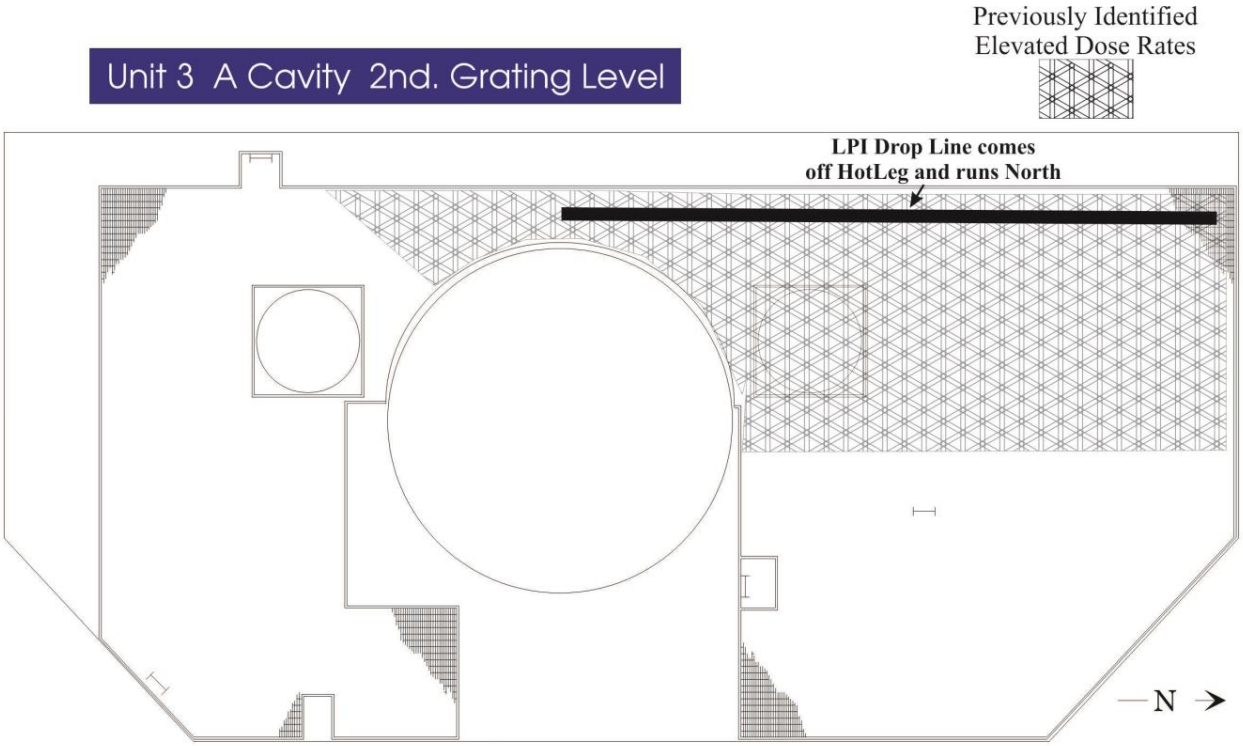

Unit 1 Reactor Building 1st Floor
797'Elevation
N
West Stairs
Emergency Hatch
LPI Vertical Piping
A CFT
Ensure Posting includes LPI Vertical Piping Inside Boundary
Stairs
Elevator
LPI Vertical Piping
Incore Cage
East Stairs
Previously Identified Elevated Dose Rates


Unit 2 Reactor Building 1st Floor
797'Elevation
N
West Stairs
Emergency Hatch
LPI Vertical Piping
A CFT
Ensure Posting includes LPI Vertical Piping Inside Boundary
Stairs
Elevator
LPI Vertical Piping
Incore Cage
East Stairs
Previously Identified Elevated Dose Rates


Unit 3 Reactor Building 1st Floor
797'Elevation
N
West Stairs
Emergency Hatch
LPI Vertical Piping
A CFT
Ensure Posting includes LPI Vertical Piping Inside Boundary
Stairs
Elevator
LPI Vertical Piping
Incore Cage
Previously Identified Elevated Dose Rates
East Stairs


Unit 1 B Cavity 2nd. Grating Level
Previously Identified
Elevated Dose Rates
N
LPI Drop Line comes
off HotLeg and runs South


Previously Identified
Elevated Dose Rates
Unit 2 A Cavity 2nd. Grating Level
LPI Drop Line comes
off HotLeg and runs North
N


Previously Identified
Elevated Dose Rates
Unit 3 A Cavity 2nd. Grating Level
LPI Drop Line comes
off HotLeg and runs North
N

Unit 1 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

Reference Use

Printed Name	RP Badge	Initials	Printed Name	RP Badge	Initials

NOTE:
- RP Management will determine when crud burst monitoring shall begin and end.
- Rooms currently posted and controlled as LHRA are **NOT** required to be posted and locked per Step 1.

_____ 1. Perform the following:

NOTE:
- Remote radiological monitoring will be established in areas per RP Management/ALARA direction.
- Required posting listed below is in addition to other required posting (i.e., Contaminated Area, etc.).

_____ • **IF** rooms/areas listed in **Table 1** are **NOT** posted as 'High Radiation Area', post areas listed in **Table 1** in accordance with AD-RP-ALL-0004, RADIOLOGICAL POSTING AND LABELING as 'High Radiation Area' and 'RP Brief Required For Entry.'

Unit 1 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

NOTE:
- Security should be notified two hours prior to locking, and may want to be at door when locking.
- Security rounds/fire watches are suspended during crud burst.

_____ • Notify Security of the following: Due to high radiation levels associated with crud burst activities, CAD #313 (Room 348), Rooms 402 and 409 (U1East and West Penetration Rooms) will be locked:

_____ _____/_____
Person Notified Date Time

_____ • Notify Operations Fire Protection SRO/designee that rooms listed in **Table 1** will be locked:

_____ _____/_____
Person Notified Date Time

_____ • Notify Unit 1 Control Room that rooms listed in **Table 1** will be locked:

_____ _____/_____
Person Notified Date Time

_____ • Utilize HRA Posting Checklist as a guide to post areas.

_____ • Lock/secure rooms/areas.

Unit 1 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

NOTE:
- CAD Door #4120 is entrance from Unit 1 East Penetration Room to cable room and is for emergency use only.
- Room 506 does **NOT** have a key and is locked using a master key.
- Room 53 has 2 areas that need to be controlled. The normal entrance from Room 54 to 53 on west side, and pipe chase opening located on the north east wall in Room 54. Normal entrance can be controlled via locked/secured swing gate and the pipe chase opening can be controlled via barricading and posting.

HRA Posting Checklist
Date:_____Time:_____
Prior to performing an HRA posting change, the RP Technician(s) shall review this checklist.
What are the IMPORTANT steps associated with this task?
☐ Post areas correctly and consistently (Think of posting requirements applicable to the area)
☐ Recognize conditions of the area (dose rate, contamination levels, etc.)
☐ Notifications (Ops, Security, Fire, RP Supervision, OCC, others as required)
☐ Documentation (electronic RP log)
Error likely situations?
☐ Ladders, scaffolding, doors leading into or out of areas
☐ Plant transients or power changes
☐ Transient dose potential (RAM movement, resin transfers, etc.)
What actions shall ensure proper radiological controls?

Unit 1 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

YOU ARE PREPARING TO POST AN HRA. This is being performed to protect and inform Plant personnel of the radiological hazards. You must remain focused on the task to ensure error free performance
Check list for posting and verifying an HRA:
☐ Stanchions and swing-gate secured in position as needed. (i.e., positive latching device)
☐ Swing-gate verified closed when moved into position
☐ Rad-rope, ribbon, or chain properly secured (do **NOT** use tape)
☐ Gaps in barrier. **NO** gaps that would allow access of the whole body
☐ **NO** scaffold or ladders in area that would allow unauthorized access
☐ All access points properly posted (stairwells, back doors, etc.)
☐ Unauthorized personnel out of the area. For authorized personnel, verify correct RWP and correct task for work activity.
☐ Verify correct RWP and correct task for work activity
☐ HRA postings attached with required inserts in place
☐ Are all postings consistent...Self-Check
☐ Stop and Look...do postings make sense
☐ Challenge access point doors.

Enclosure 5.2

Unit 1 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

Table 1
Location/Number
☐ Low Pressure Injection Room 61
☐ Low Pressure Injection Room 62
☐ Sump & Component Drain Sump Room 53 West side entrance
☐ Sump & Component Drain Sump Room 53 Northeast wall opening
☐ Seal Supply Filter Room 208
☐ East Penetration Room 402 @ Freight Elevator Entrance
☐ East Penetration Room 402 @ Stairwell Entrance
☐ West Penetration Room 409 Entrance
☐ 506 N - Freight Elevator 5th floor Entrance
☐ 506 S - Access Through U-1 North Lobby on 5th Floor
☐ CAD Door #4120 - North of Col. P-71 in U-1 Cable Room. (Lock with HRA padlock)
☐ Low Pressure Injection Room 107/108 - North Entrance
☐ Low Pressure Injection Room 107/108 - South Entrance
☐ CRD Filter Room 306 (CR 01887857)
☐ Pipe Room 206
☐ Demineralizer Hatch Area Room 214
☐ Spent Fuel Cooler Room 218 North Split Doors - Top Door
☐ Spent Fuel Cooler Room 218 North Split Doors - Bottom Door
☐ Spent Fuel Cooler Room 218 South Entrance
☐ LDST Room 113 Gate
☐ Cask Decon Tank Room 348
☐ **IF** LPI Room 61 **OR** 62 shield plugs have been removed, post as 'High Radiation Area' in accordance with AD-RP-ALL-0004 (Radiological Posting And Labeling)
All applicable areas have been:
☐ Posted
☐ Area(s) secured/locked
Performed by (Signature(s)): _____ Date/Time:_____/_____
Supervisor Verification by (Signature): _____ Date/Time:_____/_____

NOTE: Due to changing dose rates during crud burst, planview information is **NOT** current. Updating planviews during the crud burst process is **NOT** practical or ALARA.

_____ 2. **IF** planview is used for room/area, remove/turn around planview during crud burst process.

_____ 3. Perform the following:

_____ • Notify RP OCC Manager that posting for crud burst in Auxiliary Building is complete:

_____ _____/_____
Person Notified Date Time

_____ • Log into electronic RP Log:

_____ _____/_____
Logged by Date Time

_____ 4. **WHILE** crud burst is in progress, perform survey of the following areas:

- Unit 1 Cable Room in areas adjacent to Unit 1 East Penetration Room
- Room 508, Janitor Storage Room
- Low Pressure Injection Hatch Area at 1LP21 and 1LP22

_____ 4.1 **IF** required, based on survey results, post areas per AD-RP-ALL-0004, RADIOLOGICAL POSTING AND LABELING.

NOTE: RP Personnel equipped with a survey meter are **NOT** required to refer to Enclosure 5.12 (Accessing an HRA Verification List), but are required to comply with all RWP requirements, including dosimetry requirements, for the specified area.

_____ 5. **IF** non-RP personnel will be entering HRA, reference Enclosure 5.12 to ensure all requirements to enter an HRA have been met.

NOTE:	Areas listed in **Table 1A** are entrances to rooms. Surveys for downgrading rooms/areas will include entire room/area.

_____ 6. **WHEN** crud burst is complete **OR** dose rates have decreased to allow down-posting of areas, perform the following:

_____ 6.1 Utilize HRA Down-Posting Checklist as a guide to down-post areas listed in **Table 1A**.

- Notify Security of the following: Crud Burst is complete and CAD #313 (Room 348), CAD Door #4120 (Entrance from U1 East Penetration Room to Cable Room) Rooms 402 and 409 (U1 East and West Penetration Rooms) will be unlocked:

  _____ _____/_____
  Person Notified Date Time

NOTE:	**IF** all rooms/areas are **NOT** downgraded from HRA, notification still needs to be made to OPS Fire Protection SRO/designee of rooms/areas downgraded.

- Notify Operations Fire Protection SRO/designee that the rooms listed in **Table 1A** will be down-posted from HRA:

  _____ _____/_____
  Person Notified Date Time

Unit 1 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

HRA Down-Posting Checklist
Date:_____.Time:_____.
Prior to performing an HRA posting change, the RP Technician(s) shall review this checklist.
What are the IMPORTANT steps associated with this task?
☐ Down post areas correctly and consistently (think of posting requirements applicable to the area)
☐ Recognize conditions of the area (dose rate, contamination levels, etc.)
☐ Notifications (Ops, Radwaste, fire, RP Supervision, OCC, others as required)
☐ Documentation (Surveys, electronic log, turnover)
Error likely situations?
☐ Ladders, scaffolding, doors leading into or out of areas
☐ Plant transients or power changes
☐ Transient dose potential (RAM movement, resin transfers, etc.)
☐ Variations in dose rates
☐ Discrete radioactive particles
☐ Streaming
What actions shall ensure proper radiological controls?
YOU ARE PREPARING TO DOWN POST AN HRA. This is being performed to protect and inform Plant personnel of the radiological hazards. You must remain focused on the task to ensure error free performance
Check list for posting and verifying an HRA:
☐ Stanchions or swing-gate removed or repositioned as needed
☐ Swing-gate verified closed when moved into position (if applicable) .
☐ Rad-rope, ribbon, or chain removed or repositioned
☐ All postings consistent....Self Check
☐ Stop and look...do the postings make sense

Unit 1 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

Table 1A
Location/Room Number
☐ Low Pressure Injection Room 61
☐ Low Pressure Injection Room 62
☐ Sump & Component Drain Sump Room 53 West side entrance
☐ Sump & Component Drain Sump Room 53 Pipe chase opening behind spiral stairs in Room 54.
☐ Low Pressure Injection Cooler Room 107/108 - North Entrance
☐ Low Pressure Injection Cooler Room 107/108 - South Entrance
☐ **IF** posted, Low Pressure Injection Hatch Area @ 1LP-21 and 1LP-22
☐ Seal Supply Filter Room 208 Pipe Chase
☐ Demineralizer Hatch Area 214
☐ LDST Room 113 Gate
☐ East Penetration Room 402 at Freight Elevator Entrance
☐ East Penetration Room 402 at Stairwell Entrance
☐ West Penetration Room 409 Entrance
☐ 506 N - Freight Elevator 5th floor Entrance
☐ 506 S - Access Through U-1 North Lobby on 5th Floor
☐ **IF** posted, Room 508, Janitor Storage Room
☐ **IF** posted, Unit 1 Cable Room in areas adjacent to Unit 1 East Penetration Room
☐ CAD Door #4120 - North of Col. P-71 in U-1 Cable Room
☐ Pipe Room 206
☐ U1/2 SFP Cooler Room 218 South End
☐ Spent Fuel Cooler Room 218 North Split Doors - Top Door
☐ Spent Fuel Cooler Room 218 North Split Doors - Bottom Door
☐ Room 306 Pipe Chase at handrail (Ensure to post handrail on both sides of column)
☐ Cask Decon Storage Tank Room 348 (Normally locked with padlock)
☐ **IF** LPI Room 61 **OR** 62 shield plugs have been removed **AND** area was posted, remove postings.
All applicable areas have been:
☐ Down-posted
☐ RP Supervisor verify radiological survey information for all HRA postings
Performed by (Signature(s)): _____ Date/Time:_____/_____
Supervisor Verification by (Signature): _____ Date/Time:_____/_____

_____ 7. Perform following:

_____ • Notify Unit 1 Control Room that rooms listed in **Table 1A** have been unlocked:
_____ _____/_____
Person Notified Date Time

_____ • Notify RP OCC Manager that crud burst posting has been removed in Auxiliary Building:
_____ _____/_____
Person Notified Date Time

_____ • Log into electronic RP Log:
_____ _____/_____
Logged by Date Time

_____ • Update planview(s).

Reference Use

Printed Name	RP Badge	Initials	Printed Name	RP Badge	Initials

NOTE:
- RP Management will determine when crud burst monitoring shall begin and end.
- Rooms currently posted and controlled as LHRA are **NOT** required to be posted and locked per Step 1.

_____ 1. Perform the following:

NOTE:
- Remote radiological monitoring will be established in areas per RP Management/ALARA direction.
- Required posting listed below is in addition to other required posting (i.e., Contaminated Area, etc.).

_____ • **IF** rooms/areas listed in **Table 1** are **NOT** posted as 'High Radiation Area', post areas listed in **Table 1** in accordance with AD-RP-ALL-0004, RADIOLOGICAL POSTING AND LABELING as 'High Radiation Area' and 'RP Brief Required For Entry'.

NOTE:
- Rooms/areas that are locked that affect Unit 1 will require time-critical evaluations to be performed by Operations.
- A minimum of 4 hours prior to scheduled crud burst start should be given to Operations personnel to ensure adequate time to perform time-critical evaluation.

_____ • Discuss Unit 1 rooms that will require posting listed in **Table 1** with Unit 1 CRS for evaluation of time-critical actions and established contingency plans.

_____ _____/_____
Person Notified Date Time

Unit 2 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

NOTE:
- Security should be notified two hours prior to locking, and may want to be at door when locking.
- Security rounds/fire watches are suspended during crud burst.

_____ • Notify Security of the following: Due to high radiation levels associated with crud burst activities, Rooms 407 and 410 (U2 East and West Penetration Rooms) will be locked:

_____ _____/_____
Person Notified Date Time

_____ • Notify Operation Fire Protection SRO/designee that rooms listed in **Table 1** will be locked:

_____ _____/_____
Person Notified Date Time

_____ • Notify Unit 2 Control Room that rooms listed in **Table 1** will be locked:

_____ _____/_____
Person Notified Date Time

_____ • Utilize HRA Posting Checklist as a guide to post area.

_____ • Lock/secure rooms/areas.

Unit 2 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

NOTE:
- Room 519 does **NOT** have a key and is locked using a master key.
- Room 60 normal entrance is from Room 59 on the west side. This entrance can be controlled via locked/secured swing gate.

HRA Posting Checklist
Date:_____Time:_____
Prior to performing an HRA posting change, the RP Technician(s) shall review this checklist.
What are the IMPORTANT steps associated with this task?
☐ Post areas correctly and consistently (Think of posting requirements applicable to the area)
☐ Recognize conditions of the area (dose rate, contamination levels, etc.)
☐ Notifications (Ops, Security, Fire, RP Supervision, OCC, others as required)
☐ Documentation (electronic RP log)
Error likely situations?
☐ Ladders, scaffolding, doors leading into or out of areas
☐ Plant transients or power changes
☐ Transient dose potential (RAM movement, resin transfers, etc.)
What actions shall ensure proper radiological controls?
YOU ARE PREPARING TO POST AN HRA. This is being performed to protect and inform Plant personnel of the radiological hazards. You must remain focused on the task to ensure error free performance
Check list for posting and verifying an HRA:
☐ Stanchions and swing-gate secured in position as needed. (i.e., positive latching device)
☐ Swing-gate verified closed when moved into position
☐ Rad-rope, ribbon, or chain properly secured (do **NOT** use tape)
☐ Gaps in barrier. **NO** gaps that would allow access of the whole body
☐ **NO** scaffold or ladders in area that would allow unauthorized access
☐ All access points properly posted (stairwells, back doors, etc.)
☐ Unauthorized personnel out of the area. For authorized personnel, verify correct RWP and correct task for work activity.

Unit 2 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

☐ Verify correct RWP and correct task for work activity
☐ HRA postings attached with required inserts in place
☐ Are all postings consistent...Self-Check
☐ Stop and Look...do postings make sense
☐ Challenge access point doors.

Table 1
Location/Number
☐ Low Pressure Injection Room 62
☐ Low Pressure Injection Room 63
☐ Waste and Component Drain Pump Room 60
☐ Seal Supply Filter Room 217
☐ Demineralizer Hatch Area 214
☐ East Penetration Room 407
☐ West Penetration Room 410
☐ East Penetration Room 519
☐ Low Pressure Injection Cooler Room 121 North Entrance
☐ Low Pressure Injection Cooler Room 121 South Entrance
☐ CRD Filter Room 327(CR01887857)
☐ Pipe Room 222 (Area at LPI Piping)
☐ LDST Room 115 Gate
☐ **IF** LPI Room 62 **OR** 63 shield plugs have been removed, post as 'High Radiation Area', and-in accordance with AD-RP-ALL-0004
All applicable areas have been:
☐ Posted
☐ Area secured/locked
Performed by (Signature(s)): _____ Date/Time:_____/_____
Supervisor Verification by (Signature): _____ Date/Time:_____/_____

Unit 2 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

> **NOTE:** Due to changing dose rates during crud burst, planview information is **NOT** current. Updating planviews during the crud burst process is **NOT** practical or ALARA.

_____ 2. **IF** planview is used for room/area, remove/turn around planview during crud burst process.

> **NOTE:** The "RP Briefing Required" insert may be removed as dose rates continue to decrease during LPI purification.

_____ 3. **IF** dose rates are significantly higher than pre-crud-burst dose rates on plan views, add "RP Briefing Required" insert to final postings.

_____ 4. Perform the following:

_____ • Notify RP OCC Manager that posting for crud burst in Auxiliary Building is complete:

_____ _____/_____
Person Notified Date Time

_____ • Log into electronic RP log:

_____ _____/_____
Logged by Date Time

_____ 5. **WHILE** crud burst is in progress, perform survey of the following areas:

- Unit 2 Cable Room in areas adjacent to Unit 2 East Penetration Room
- Low Pressure Injection Hatch Area at 2LP21 and 2LP22

_____ 4.1 **IF** required, based on survey results, post area per AD-RP-ALL-0004.

> **NOTE:** RP Personnel equipped with a survey meter are not required to refer to Enclosure 5.12 (Accessing an HRA Verification List), but are required to comply with all RWP requirements, including dosimetry requirements, for the specified area.

_____ 6. **IF** non-RP personnel will be entering HRA, reference Enclosure 5.12 to ensure all requirements to enter an HRA have been met.

Unit 2 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

NOTE: Areas listed in **Table 1A** are entrances to rooms. Surveys for downgrading rooms/areas will include entire room/area.

_____ 6. **WHEN** crud burst is complete **OR** dose rates have decreased to allow down-posting of areas, perform the following:

_____ • Utilize HRA Down-Posting Checklist as a guide to down-post areas listed in **Table 1A**.

_____ • Notify Security of the following: Crud Burst is complete and Rooms 407 and 410 (U2 East and West Penetration Rooms) will be unlocked:

_____ _____/_____
Person Notified Date Time

NOTE: **IF** all rooms/areas are **NOT** downgraded from HRA, notification still needs to be made to OPS Fire Protection SRO/designee of rooms/areas downgraded.

_____ • Notify Operations Fire Protection SRO/designee that the rooms listed in **Table 1A** will be down-posted from HRA:

_____ _____/_____
Person Notified Date Time

HRA Down-Posting Checklist
Date: _____.Time: _____.
Prior to performing an HRA posting change, the RP Technician(s) shall review this checklist.
What are the IMPORTANT steps associated with this task?
☐ Down post areas correctly and consistently (think of posting requirements applicable to the area)
☐ Recognize conditions of the area (dose rate, contamination levels, etc.)
☐ Notifications (Ops, Radwaste, fire, RP Supervision, OCC, others as required)
☐ Documentation (Surveys, electronic log, turnover)
Error likely situations?
☐ Ladders, scaffolding, doors leading into or out of areas
☐ Plant transients or power changes
☐ Transient dose potential (RAM movement, resin transfers, etc.)
What actions shall ensure proper radiological controls?

Unit 2 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

YOU ARE PREPARING TO DOWN POST AN HRA. This is being performed to protect and inform Plant personnel of the radiological hazards. You must remain focused on the task to ensure error free performance
Check list for posting and verifying an HRA:
☐ Stanchions or swing-gate removed or repositioned as needed
☐ Swing-gate verified closed when moved into position (if applicable)
☐ Rad-rope, ribbon or chain removed or repositioned
☐ All postings consistent....Self Check
☐ Stop and look.....do the postings make sense
Table 1A
Location/Room Number
☐ Low Pressure Injection Room 62
☐ Low Pressure Injection Room 63
☐ Waste and Component Drain Pumps Room 60
☐ **IF** posted, Low Pressure Injection Hatch Area @ 2LP21 and 2LP22
☐ LDST Room 115 Gate.
☐ Seal Supply Filter Room 217
☐ Demineralizer Hatch Area 214
☐ East Penetration Room 407
☐ West Penetration Room 410
☐ **IF** posted, Unit 2 Cable Room in areas adjacent to Unit 2 East Penetration Room
☐ East Penetration Room 519
☐ Low Pressure Injection Cooler Room 121 North Entrance
☐ Low Pressure Injection Cooler Room 121 South Entrance
☐ CRD Filter Room 327(CR 01887857)
☐ Pipe Room 222 (Area at LPI Piping)
☐ **IF** LPI Room 62 **OR** 63 shield plugs have been removed **AND** area was posted, remove postings.,
All applicable areas have been:
☐ Down-posted
☐ RP Supervisor verify radiological survey information for all HRA postings
Performed by (Signature(s)): _____ Date/Time:_____/_____
Supervisor Verification by (Signature): _____ Date/Time:_____/_____

_____ 7. Perform the following:

_____ • Notify Unit 2 Control Room that rooms listed in **Table 1A** have been unlocked:

_____ _____/_____
Person Notified Date Time

_____ • Notify RP OCC Manager that crud burst posting has been removed in Auxiliary Building:

_____ _____/_____
Person Notified Date Time

_____ • Log into electronic RP Log:

_____ _____/_____
Logged by Date Time

_____ • Update planview(s)

Unit 3 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

Reference Use

Printed Name	RP Badge	Initials	Printed Name	RP Badge	Initials

NOTE:
- RP Management will determine when crud burst monitoring shall begin and end.
- Rooms currently posted and controlled as LHRA are **NOT** required to be posted and locked per Step 1.

_____ 1. Perform the following:

NOTE:
- Remote radiological monitoring will be established in areas per RP Management/ALARA direction.
- Required posting listed below is in addition to other required posting (i.e., Contaminated Area, etc.).

_____ • **IF** rooms/areas listed in **Table 1** are **NOT** posted as 'High Radiation Area', post areas listed in **Table 1** in accordance with AD-RP-ALL-0004, RADIOLOGICAL POSTING AND LABELING as 'High Radiation Area' and 'RP Brief Required For Entry'.

NOTE:
- Security should be notified two hours prior to locking, and may want to be at door when locking.
- Security rounds/fire watches are suspended during crud burst.

_____ • Notify Security of the following: Due to high radiation levels associated with crud burst activities, Rooms 452 and 456 (U3 East and West Penetration Rooms) will be locked:

_____ _____/_____
Person Notified Date Time

_____ • Notify Operations Fire Protection SRO/designee that rooms listed in **Table 1** will be locked:

_____ _____/_____
Person Notified Date Time

_____ • Notify Unit 3 Control Room that rooms listed in **Table 1** will be locked:

_____ _____/_____
Person Notified Date Time

_____ • Utilize HRA Posting Checklist as a guide to post areas.

_____ • Lock/secure rooms/areas.

NOTE:
- Room 562 does **NOT** have a key and will be locked using a master key.
- Room 80 normal entrance is from Room 79 on the west side. This entrance can be controlled via locked/secured swing gate.

HRA Posting Checklist
Date:_____Time:_____
Prior to performing an HRA posting change, the RP Technician(s) shall review this checklist.
What are the IMPORTANT steps associated with this task?
☐ Post areas correctly and consistently (Think of posting requirements applicable to the area)
☐ Recognize conditions of the area (dose rate, contamination levels, etc.)
☐ Notifications (Ops, Security, Fire, RP Supervision, OCC, others as required)
☐ Documentation (electronic RP log)
Error likely situations?
☐ Ladders, scaffolding, doors leading into or out of areas
☐ Plant transients or power changes
☐ Transient dose potential (RAM movement, resin transfers, etc.)
What actions shall ensure proper radiological controls?

Unit 3 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

YOU ARE PREPARING TO POST AN HRA. This is being performed to protect and inform Plant personnel of the radiological hazards. You must remain focused on the task to ensure error free performance
Check list for posting and verifying an HRA:
☐ Stanchions and swing-gate secured in position as needed. (i.e., positive latching device)
☐ Swing-gate verified closed when moved into position
☐ Rad-rope, ribbon, or chain properly secured (do **NOT** use tape)
☐ Gaps in barrier. **NO** gaps that would allow access of the whole body
☐ **NO** scaffold or ladders in area that would allow unauthorized access
☐ All access points properly posted (stairwells, back doors, etc.)
☐ Unauthorized personnel out of the area. For authorized personnel, verify correct RWP and correct task for work activity.
☐ Verify correct RWP and correct task for work activity
☐ HRA postings attached with required inserts in place
☐ Are all postings consistent...Self-Check
☐ Stop and Look...do postings make sense
☐ Challenge access point doors.

Table 1
Location/Number
☐ Low Pressure Injection Room 81
☐ Low Pressure Injection Room 82
☐ Sump, MWHUT, Component Drain Pump Room 80
☐ Seal Supply Filter Room 256
☐ Demineralizer Hatch Area 251
☐ East Penetration Room 452
☐ West Penetration Room 456
☐ East Penetration Room 562
☐ Low Pressure Injection Cooler Room 160 North Entrance
☐ Low Pressure Injection Cooler Room 160 South Entrance
☐ CRD Filter Room 374 (CR 01887857)
☐ Pipe Room 262, area at LPI Piping
☐ LDST Room 155 gate
☐ **IF** LPI Room 81 **OR** 82 shield plugs have been removed, post as 'High Radiation Area' in accordance with AD-RP-ALL-2004.

Unit 3 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

All applicable areas have been:
☐ Posted
☐ Areas secured/locked
Performed by (Signature(s)): _____ Date/Time:_____/_____
Supervisor Verification by (Signature): _____ Date/Time:_____/_____

NOTE: Due to changing dose rates during crud burst, planview information is **NOT** current. Updating planviews during the crud burst process is **NOT** practical or ALARA.

_____ 2. **IF** planview is used for room/area, remove/turn around planview during crud burst process.

_____ 3. Perform the following:

_____ • Notify RP OCC Manager that posting for crud burst in Auxiliary Building is complete:

_____ _____/_____
Person Notified Date Time

_____ • Log into electronic RP Log:

_____ _____/_____
Logged by Date Time

_____ 4. **WHILE** crud burst is in progress, perform survey of the following areas:

- Unit 3 Cable Room in areas adjacent to Unit 3 East Penetration Room
- Low Pressure Injection Hatch Area at 3LP21 and 3LP22

_____ 4.1 **IF** required based on survey results, post areas per AD-RP-ALL-0004.

NOTE: RP personnel equipped with a survey meter are not required to refer to Enclosure 5.12 (Accessing an HRA Verification List), but are required to comply with all RWP requirements, including dosimetry requirements, for the specified area.

_____ 5. **IF** non-RP personnel will be entering HRA, reference Enclosure 5.12 to ensure all requirements to enter an HRA have been met.

Unit 3 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

NOTE: Areas listed in **Table 1A** are entrances to rooms. Surveys for downgrading rooms/areas will include entire room/area.

_____ 6. **WHEN** crud burst is complete **OR** dose rates have decreased to allow down-posting of areas, perform following:

_____ • Utilize HRA Down-Posting Checklist as a guide to down-post areas listed in **Table 1A**.

_____ • Notify Security of the following: Crud Burst is complete and Rooms 452 and 456 (U3 East and West Penetration rooms) will be unlocked:

_____ _____/_____
Person Notified Date Time

NOTE: **IF** all rooms/areas are **NOT** downgraded from HRA, notification still needs to be made to OPS Fire Protection SRO/designee of rooms/areas downgraded.

_____ • Notify Operations Fire Protection SRO/designee that the rooms listed in **Table 1A** will be down-posted from HRA:

_____ _____/_____
Person Notified Date Time

HRA Down-Posting Checklist
Date: _____.Time: _____.
Prior to performing an HRA posting change, the RP Technician(s) shall review this checklist.
What are the IMPORTANT steps associated with this task?
☐ Down post areas correctly and consistently (think of posting requirements applicable to the area)
☐ Recognize conditions of the area (dose rate, contamination levels, etc.)
☐ Notifications (Ops, Radwaste, fire, RP Supervision, OCC, others as required)
☐ Documentation (Surveys, electronic log, turnover)
Error likely situations?
☐ Ladders, scaffolding, doors leading into or out of areas
☐ Plant transients or power changes
☐ Transient dose potential (RAM movement, resin transfers, etc.)
☐ Discrete Radioactive Particles
☐ Streaming
What actions shall ensure proper radiological controls?

Unit 3 Auxiliary Building Radiological Monitoring And Access Controls: FULL Inventory Induced Crud Burst

YOU ARE PREPARING TO DOWN POST AN HRA. This is being performed to protect and inform Plant personnel of the radiological hazards. You must remain focused on the task to ensure error free performance
Check list for posting and verifying an HRA:
☐ Stanchions or swing-gate removed or repositioned as needed
☐ Swing-gate verified closed when moved into position (**IF** applicable)
☐ Rad-rope, ribbon or chain removed or repositioned
☐ All postings consistent....Self Check
☐ Stop and look...do the postings make sense
Table 1A
Location/Room Number
☐ Low Pressure Injection Room 81
☐ Low Pressure Injection Room 82
☐ Sump, MWHUT, Component Drain Pump Room 80
☐ **IF** posted, Low Pressure Injection Hatch area at 3LP21 & 3LP22
☐ Seal Supply Filter Room 256.
☐ Demineralizer Hatch Area 251
☐ East Penetration Room 452
☐ West Penetration Room 456
☐ **IF** posted, Unit 3 Cable Room in areas adjacent to Unit 3 East Penetration Room
☐ East Penetration Room 562
☐ Low Pressure Injection Cooler Room 160 North Entrance
☐ Low Pressure Injection Cooler Room 160 South Entrance
☐ CRD Filter Room 374 (CR 01887857)
☐ Pipe Room 262 (Area at LPI pipe)
☐ LDST Room 155 gate
☐ **IF** LPI Room 81 **OR** 82 shield plugs have been removed **AND** area was posted, remove postings.
All applicable areas have been:
☐ Down-posted
☐ RP Supervisor verify radiological survey information for all HRA postings
Performed by (Signature(s)): _____ Date/Time:_____/_____
Supervisor Verification by (Signature): _____ Date/Time:_____/_____

_____ 7. Perform the following:

NOTE:	In some cases, rooms may remain locked.

_____ • Notify Unit 3 Control Room of rooms listed in **Table 1A** that have been unlocked:

_____ _____/_____
Person Notified Date Time

_____ • Notify RP OCC Manager crud burst posting has been removed in Auxiliary Building:

_____ _____/_____
Person Notified Date Time

_____ • Log into electronic RP Log:

_____ _____/_____
Logged by Date Time

_____ • Update planview(s)

Unit 1 Auxiliary Building Radiological Monitoring And Access Controls: REDUCED Inventory Induced Crud Burst

Reference Use

Printed Name	RP Badge	Initials	Printed Name	RP Badge	Initials

NOTE: RP Management will determine when crud burst monitoring shall begin.

_____ 1. Prior to crud burst start, perform the following:

NOTE:
- Rooms/areas that are locked that affect Unit 2 will require time critical evaluations to be performed by operations.
- A minimum of 4 hours notice prior to scheduled crud burst start should be given to operations personnel to ensure adequate time to perform time critical evaluation.

_____ • Discuss U-2 rooms/areas that will require postings with U-2 Control Room SRO for evaluation of Time Critical actions and established contingency plans:

_____ _____/_____
Person Notified Date Time

NOTE:
- Security should be notified two hours prior to locking, and may want to be at door when locking.
- Security rounds/fire watches are suspended during crud burst.

_____ • Notify Security of the following: Due to high radiation levels associated with crud burst activities, the following rooms will be locked:

◊ CAD #313 (Room 348)

◊ CAD #4120 (North of Col. P-71 in U-1 Cable Room)

◊ Rooms 402 U1 East Penetration Room and 409 U1West Penetration Room - Entrance at Top of Stairwell:

_____ _____/_____
Person Notified Date Time

_____ • Notify Operations Fire Protection SRO/designee that rooms listed in **Table 1** will be locked:
_____ _____/_____
Person Notified Date Time

_____ • Notify Unit 1 Control Room that rooms listed in **Table 1** will be locked:
_____ _____/_____
Person Notified Date Time

NOTE:
- Rooms/areas may be posted HRA due to LPI System start.
- RP Personnel equipped with a survey meter are **NOT** required to refer to Enclosure 5.12 (Accessing an HRA Verification List), but are required to comply with all RWP requirements, including dosimetry requirements, for specified area.

_____ 2. **IF** non-RP personnel will be entering an HRA, utilize Enclosure 5.12 (Accessing an HRA Verification List) to ensure all requirements to enter an HRA have been met.

_____ 3. Perform the following:

NOTE:
- Remote radiological monitoring will be established in areas per RP Management/ALARA direction.
- Required posting listed below is in addition to other required posting (i.e., Contaminated Area, etc.).

_____ • Utilize HRA Posting Checklist as a guide to post areas.

_____ • Post areas listed in **Table 1** in accordance with AD-RP-ALL-0004, RADIOLOGICAL POSTING AND LABELING as 'High Radiation Area' and 'RP Brief Required For Entry'.

_____ • Lock/secure rooms/areas.

NOTE: Due to changing dose rates during crud burst, planview information is **NOT** current. Updating planviews during crud burst process is **NOT** practical or ALARA.

_____ • **IF** planview is used for room/area, remove or turn around planview during crud burst process.

Unit 1 Auxiliary Building Radiological Monitoring And Access Controls: REDUCED Inventory Induced Crud Burst

NOTE:

- Room 506 does **NOT** have a key and is locked with a master key.
- Access to 506 N - Freight Elevator 5th Floor Entrance is via the freight elevator only. The freight elevator 5th Floor button is normally disabled, so **IF NOT** accessible, door will **NOT** have to be posted and controlled.
- CAD Door #4120 is entrance from Unit 1 East Penetration Room to Cable Room, and is for emergency use only. Door is locked on Cable Room side of door and key is controlled by Security. Door will also be locked by RP using an HRA padlock.
- Room 53 has two areas that need to be controlled. The normal entrance from Room 54 to 53 on west side, and opening located on north east wall in Room 54. The pipe chase opening on north east wall of Room 54 is large enough for a person to crawl through into Room 53.

HRA Posting Checklist
Date:_____Time:_____
Prior to performing an HRA posting change, the RP Technician(s) shall review this checklist.
What are the IMPORTANT steps associated with this task?
☐ Post areas correctly and consistently (Think of posting requirements applicable to the area)
☐ Recognize conditions of the area (dose rate, contamination levels, etc.)
☐ Notifications (Ops, Security, Fire, RP Supervision, OCC, others as required)
☐ Documentation (electronic RP log)
Error likely situations?
☐ Ladders, scaffolding, doors leading into or out of areas
☐ Plant transients or power changes
☐ Transient dose potential (RAM movement, resin transfers, etc.)
What actions shall ensure proper radiological controls?
YOU ARE PREPARING TO POST AN HRA. This is being performed to protect and inform Plant personnel of the radiological hazards. You must remain focused on the task to ensure error free performance
Check list for posting and verifying an HRA:

Unit 1 Auxiliary Building Radiological Monitoring And Access Controls: REDUCED Inventory Induced Crud Burst

☐	Stanchions and swing-gate secured in position as needed. (i.e., positive latching device) **.**
☐	Swing-gate verified closed when moved into position
☐	Rad-rope, ribbon, or chain properly secured (do not use tape)
☐	Gaps in barrier. No gaps that would allow access of the whole body
☐	No scaffold or ladders in area that would allow unauthorized access
☐	All access points properly posted (e.g., stairwells, back doors) **.**
☐	Unauthorized personnel out of area. For authorized personnel verify correct RWP and correct task for work activity
☐	Verify correct RWP and correct task for work activity
☐	HRA postings attached with required inserts in place
☐	Are all postings consistent…Self-Check
☐	Stop and look…do the postings make sense?
☐	Challenge access point doors

Unit 1 Auxiliary Building Radiological Monitoring And Access Controls: REDUCED Inventory Induced Crud Burst

Table 1 (Unit 1 Auxiliary Building Locations)
Location/Room Number
☐ Low Pressure Injection Room 61
☐ Low Pressure Injection Room 62
☐ Low Pressure Injection Cooler Room 107/108 - North Entrance
☐ Low Pressure Injection Cooler Room 107/108 - South Entrance
☐ Sump and Component Drain Sump Room 53 West Side Entrance
☐ Sump and Component Drain Sump Room 53 Pipe chase opening behind spiral stairs in Room 54
☐ Area around 1LP21 & 1LP22
☐ Seal Supply Filter Room 208
☐ Pipe Room 206 (Area at LPI Piping)
☐ Spent Fuel Cooler Room 218 North Split Doors - Top Door
☐ Spent Fuel Cooler Room 218 North Split Doors - Bottom Door
☐ Spent Fuel Cooler Room 218 South Entrance
☐ CRD Filter Room 306
☐ East Penetration Room 402 at Freight Elevator Entrance
☐ East Penetration Room 402 at Stairwell Entrance
☐ West Penetration Room 409 Entrance at Top of Stairwell
☐ **IF** accessible, 506 N - Freight Elevator 5th Floor Entrance
☐ 506 S - Access Through U-1 North Lobby on 5th Floor
☐ CAD Door #4120 - North of Col. P-71 in U-1 Cable Room. Entrance to Rm. 402.
☐ CAD #313 Room 348 Cask Decon Tank Room (High Rad Padlock)
☐ **IF** LPI Room 61 **OR** 62 shield plugs have been removed, post openings as 'High Radiation Area' High Radiation Area and 'RP Brief Required for Entry', in accordance with AD-RP-ALL-0004.
All applicable areas have been:
☐ Posted
☐ Areas locked/secured
Performed by (Signature(s)): _____ Date/Time:_____/_____
Supervisor Verification by (Signature): _____ Date/Time:_____/_____

_____ 4. Post 212 Corridor area outside of Room 218-N, 'RP Brief Required For Entry'.

_____ 5. Perform the following:

_____ • Notify RP OCC Manager that posting for crud burst in Auxiliary Building is complete:

_____ _____/_____
Person Notified Date Time

_____ • Log into electronic RP Log:

_____ _____/_____
Logged by Date Time

_____ • **IF** required, based on survey results (as close as practical to crud burst peak), post Unit 1 Cable Room adjacent to Unit 1 East Penetration Room per AD-RP-ALL-0004.

NOTE: During 1EOC27 crud burst, dose rates in Room 508 Janitor's Storage were 3 mr/hr contract and 1 mr/hr general area.

_____ • **IF** required, based on survey results (as close as practical to crud burst peak), post Room 508, Janitor's Storage area per AD-RP-ALL-0004.

Unit 1: Auxiliary Building REDUCED Inventory Induced Crud Burst: HRA Downgrade

Reference Use

Printed Name	RP Badge	Initials	Printed Name	RP Badge	Initials

NOTE:
- The following requirements are for RP to access areas for downgrading.
- RP Management will determine when crud burst monitoring shall end.

_____ 1. **WHEN** crud burst is complete **OR** dose rates have decreased to allow down-posting of areas, perform the following:

_____ 1.1 Utilize HRA Down-Posting Checklist as a guide to down-post areas listed in **Table 1**.

NOTE: RP personnel equipped with a survey meter are **NOT** required to refer to Enclosure 5.12 (Accessing an HRA Verification List), but are required to comply with all RWP requirements, including dosimetry requirements, for the specified area.

_____ 2. **IF** non-RP personnel will be entering an HRA, utilize Enclosure 5.12 to ensure all requirements to enter an HRA have been met.

_____ 2.1 **IF** areas/rooms to be entered are protected via protected train/system program, obtain permission to enter areas/rooms for downgrading:

_____ _____/_____
Person Notified Date Time

NOTE:
- Steps 3 - 6 may be performed concurrently. Following survey of area, permission to downgrade area may be obtained and area downgraded at that time. Permission may be obtained via phone, radio, etc.
- Areas listed in **Table 1** are entrances to rooms/areas. Surveys for downgrading rooms/areas will include entire room/area.

3. Perform following:

- Notify Security of the following: Crud Burst activities are complete and the following rooms will be unlocked:
  - CAD #313 (Room 348)
  - CAD Door #4120 (North of Col. P-71 in U-1 Cable Room**)**
  - Rooms 402 and 409 U1 East and West Penetration Rooms:

    _____ _____/_____
    Person Notified Date Time

NOTE: **IF** all rooms/areas are **NOT** downgraded from HRA, notification still needs to be made to OPS Fire Protection SRO/designee of rooms/areas downgraded.

_____ • Notify Operations Fire Protection SRO/designee of rooms listed in **Table 1** that will be down-posted/unlocked:

_____ _____/_____
Person Notified Date Time

Unit 1: Auxiliary Building REDUCED Inventory Induced Crud Burst: HRA Downgrade

NOTE:
- CAD Door #4120 is entrance from Unit 1 East Penetration Room to Cable Room, and is for emergency use only. Door is locked on Cable Room side of door and key is controlled by Security. Door was also locked by RP with an HRA padlock.
- Room 506 does **NOT** have a key and will be unlocked with a master key.

HRA Down-Posting Checklist
Date:_____ Time:_____
Prior to performing an HRA posting change, the RP Technician(s) shall review this checklist.
What are the IMPORTANT steps associated with this task?
☐ Down post areas correctly and consistently (think of posting requirements applicable to the area)
☐ Recognize conditions of the area (dose rate, contamination levels, etc.)
☐ Notifications (Ops, Radwaste, fire, RP Supervision, OCC, others as required)
☐ Documentation (Surveys, electronic log, turnover)
Error likely situations?
☐ Ladders, scaffolding, doors leading into or out of areas
☐ Plant transients or power changes
☐ Transient dose potential (RAM movement, resin transfers, etc.)
☐ Variations in dose rates
☐ Discrete radioactive particles
☐ Streaming
What actions shall ensure proper radiological controls?
YOU ARE PREPARING TO DOWN POST AN HRA. This is being performed to protect and inform Plant personnel of the radiological hazards. You must remain focused on the task to ensure error free performance
☐ Stanchions or swing-gate removed or repositioned as needed
☐ Swing-gate verified closed when moved into position (if applicable)
☐ Rad-rope, ribbon, or chain removed or repositioned
☐ Are all postings consistent.....Self Check
☐ Stop and look.....do the postings make sense

Unit 1: Auxiliary Building REDUCED Inventory Induced Crud Burst: HRA Downgrade

Table 1
Location/Room Number
☐ Low Pressure Injection Room 61
☐ Low Pressure Injection Room 62
☐ Sump & Component Drain Sump Room 53 West side entrance
☐ Sump & Component Drain Sump Room 53 Pipe chase opening behind spiral stairs in Room 54.
☐ Low Pressure Injection Cooler Room 107/108 - North Entrance
☐ Low Pressure Injection Cooler Room 107/108 - South Entrance
☐ Low Pressure Injection Hatch Area at 1LP-21 and 1LP-22 (If posted)
☐ Seal Supply Filter Room 208 Pipe Chase
☐ Pipe Room 206 (Area at LPI pipe)
☐ U1/2 SFP Cooler Room 218 South Entrance
☐ Spent Fuel Cooler Room 218 North Split Doors - Top Door
☐ Spent Fuel Cooler Room 218 North Split Doors - Bottom Door
☐ Room 306
☐ CAD# 313 Cask Decon Storage Tank Room 348
☐ East Penetration Room 402 at Freight Elevator Entrance
☐ East Penetration Room 402 at Stairwell Entrance
☐ West Penetration Room 409 Entrance @ Top of Stairwell
☐ **IF** Locked, 506 N - Freight Elevator 5th Floor Entrance
☐ 506 S - Access Through U-1 North Lobby on 5th Floor
☐ CAD Door #4120 - North of Col. P-71 in U-1 Cable Room
☐ **IF** LPI Room 61 **OR** 62 shield plugs have been removed **AND** openings were posted.
All applicable areas have been:
☐ Down-posted
☐ RP Supervisor verify radiological survey information for all HRA postings
Performed by (Signature(s)): _____ Date/Time:_____/_____
Supervisor Verification by (Signature): _____ Date/Time:_____/_____

Unit 1: Auxiliary Building REDUCED Inventory Induced Crud Burst: HRA Downgrade

NOTE:	Steps 4 - 7 may be performed concurrently.

_____ 4. **IF** Unit 1 Cable Room in areas adjacent to the Unit 1 East Penetration Room are posted, perform the following:

_____ • Perform survey of room/area.

_____ • **IF**, based on survey results, the area no longer meets posting criteria, update/remove posting and barricades.

_____ 5. **IF** 508 Janitor Storage Room is posted, perform the following:

_____ • Perform survey of room/area.

_____ • **IF** based on survey results, the area no longer meets posting criteria, update/remove posting and barricades.

_____ 6. Perform the following for 212 Corridor (outside of Room 218-N):

_____ • Perform survey of area.

_____ • **IF**, based on survey results, area **NO** longer needs to be posted 'RP Brief Required For Entry', update/remove posting and barricades.

_____ 7. Perform the following:

_____ • Notify RP OCC Manager that crud burst posting has been removed in Auxiliary Building:

_____ _____/_____
Person Notified Date Time

_____ • Notify Unit 1 Control Room of rooms listed in **Table 1** that were unlocked:

_____ _____/_____
Person Notified Date Time

_____ • Log into electronic RP Log:

_____ _____/_____
Logged by Date Time

_____ • **IF** needed, update planview.

Unit 2 Auxiliary Building Radiological Monitoring And Access Controls: REDUCED Inventory Induced Crud Burst

Reference Use

Printed Name	RP Badge	Initials	Printed Name	RP Badge	Initials

NOTE: RP Management will determine when crud burst monitoring shall begin.

_____ 1. Prior to crud burst start, perform the following notifications:

NOTE:
- Rooms/areas that are locked that affect Unit 1 will require Time Critical evaluations to be performed by Operations.
- A minimum of four hours notice prior to scheduled crud burst start should be given to Operations personnel to ensure adequate time to perform Time Critical evaluation.

_____ • Discuss U-1 rooms that will require posting listed in **Table 1** with Unit-1 Control Room SRO for evaluation of Time Critical actions and established contingency plans:

_____ _____/_____
Person Notified Date Time

NOTE:
- Security should be notified two hours prior to locking, and may want to be at door when locking.
- Security rounds/fire watches are suspended during crud burst.

_____ • Notify Security of the following: Due to high radiation levels associated with crud burst activities, Rooms 407 and 410 (U2 East and West Penetration Rooms) will be locked:

_____ _____/_____
Person Notified Date Time

_____ • Notify Operations Fire Protection SRO/designee that rooms listed in **Table 1** will be locked:

_____ _____/_____
Person Notified Date Time

_____ • Notify Unit 2 Control Room that rooms listed in **Table 1** will be locked:

_____ _____/_____
Person Notified Date Time

NOTE:
- Rooms/areas may be posted HRA due to LPI System start.
- RP personnel equipped with a survey meter are **NOT** required to refer to Enclosure 5.12 (Accessing an HRA Verification List), but are required to comply with all RWP requirements, including dosimetry requirements, for the specified area.

_____ 2. **IF** non-RP personnel will be entering an HRA, utilize Enclosure 5.12 to ensure all requirements to enter an HRA have been met.

_____ 3. Perform the following:

NOTE:
- Remote radiological monitoring will be established in areas per RP Management/ALARA direction.
- Required posting listed below is in addition to other required posting (i.e., Contaminated Area, etc.).

_____ • Utilize HRA Posting Checklist as a guide to post areas.

_____ • Post areas listed in **Table 1** in accordance with AD-RP-ALL-0004, Radiological Posting And Labeling as 'High Radiation Area' and 'RP Brief Required For Entry'.

_____ • Lock/secure rooms/areas.

NOTE: Due to changing dose rates during crud burst, planview information is **NOT** current. Updating planviews during the crud burst process is **NOT** practical or ALARA.

_____ • **IF** planview is used for room/area, remove/turn around planview during crud burst process.

Unit 2 Auxiliary Building Radiological Monitoring And Access Controls: REDUCED Inventory Induced Crud Burst

NOTE: Room 519 does **NOT** have a key and will be locked with a master key.

HRA Posting Checklist
Date:_____Time:_____
Prior to performing an HRA posting change, the RP Technician(s) shall review this checklist.
What are the IMPORTANT steps associated with this task?
☐ Post areas correctly and consistently (Think of posting requirements applicable to the area)
☐ Recognize conditions of the area (dose rate, contamination levels, etc.)
☐ Notifications (Ops, Security, Fire, RP Supervision, OCC, others as required)
☐ Documentation (electronic RP log)
Error likely situations?
☐ Ladders, scaffolding, doors leading into or out of areas
☐ Plant transients or power changes
☐ Transient dose potential (RAM movement, resin transfers, etc.)
What actions shall ensure proper radiological controls?
YOU ARE PREPARING TO POST AN HRA. This is being performed to protect and inform Plant personnel of the radiological hazards. You must remain focused on the task to ensure error free performance
Check list for posting and verifying an HRA:
☐ Stanchions and swing-gate secured in position as needed. (i.e. positive latching device).
☐ Swing-gate verified closed when moved into position
☐ Rad-rope, ribbon, or chain properly secured (do not tape)
☐ Gaps in barrier. No gaps that would allow access of the whole body.
☐ All access points properly posted (e.g. stairwells, back doors)
☐ Unauthorized personnel out of the area. For authorized personnel, verify correct RWP and correct task for work activity.
☐ Verify correct RWP and correct task for work activity
☐ HRA postings attached with required inserts in place

Unit 2 Auxiliary Building Radiological Monitoring And Access Controls: REDUCED Inventory Induced Crud Burst

☐ Are all postings consistent...Self-Check
☐ Stop and Look...do postings make sense
☐ Challenge access point doors

Table 1 (Unit 2 Auxiliary Building Locations)
Location/Room Number
☐ Low Pressure Injection Room 62
☐ Low Pressure Injection Room 63
☐ Waste and Component Drain Pump Room 60
☐ Area around 2LP21 & 2LP22
☐ Low Pressure Injection Cooler Room 121 - North Entrance
☐ Low Pressure Injection Cooler Room 121 - South Entrance
☐ Seal Supply Filter Room 217
☐ Pipe Room 222 (Area at LPI pipe)
☐ CRD Filter Room 327 (CR 01887857)
☐ East Penetration Room 407
☐ West Penetration Room 410 Entrance at Top of Stairwell
☐ East Penetration Room 519
☐ **IF** LPI Room 62 **OR** 63 shield plugs have been removed, post opening as 'High Radiation Area' and 'RP Brief Required For Entry' in accordance with AD-RP-ALL-0004.
All applicable areas have been:
☐ Posted
☐ Areas locked/secured
Performed by (Signature(s)): _____ Date/Time:_____/_____
Supervisor Verification by (Signature): _____ Date/Time:_____/_____

_____ 4. Perform the following:

_____ • Notify RP OCC Manager that posting for crud burst in Auxiliary Building is complete:

_____ _____/_____
Person Notified Date Time

_____ • Log into electronic RP Log:

_____ _____/_____
Logged by Date Time

_____ 5. **IF** required, based on survey results (as close as practical to crud burst peak), post theUnit 2 Cable Room in areas adjacent to Unit-2 East Penetration Room per AD-RP-ALL-0004.

Reference Use

Printed Name	RP Badge	Initials	Printed Name	RP Badge	Initials

NOTE:
- The following requirements are for RP to access the areas for downgrading.
- RP Management will determine when crud burst monitoring shall end.

_____ 1. **WHEN** crud burst is complete **OR** dose rates have decreased to allow down-posting of areas, perform the following:

_____ 1.1 Utilize HRA Down-Posting Checklist as a guide to down-post areas listed in **Table 1**.

NOTE: RP personnel equipped with a survey meter are not required to refer to Attachment 1, Accessing a HRA Verification List, but are required to comply with all RWP requirements, including dosimetry requirements, for the specified area

_____ 2. **IF** required, initiate Enclosure 5.12 (Accessing an HRA Verification List) to access HRA.

_____ 2.1 **IF** rooms/areas to be entered are protected via protected train/system program, obtain permission to enter rooms/areas for downgrading:

_____ _____/_____

Person Notified Date Time

NOTE: The "RP Briefing Required" insert may be removed as dose rates continue to decrease during LPI purification.

_____ 3. **IF** dose rates are significantly higher than pre-crud-burst dose rates on plan views, add "RP Briefing Required" insert to final postings.

NOTE:
- Steps 3 - 4 may be performed concurrently. Following survey of area, permission to downgrade area may be obtained and area downgraded at that time. Permission may be obtained via phone, radio, etc.
- Areas listed in **Table 1** are entrances to rooms. Surveys for downgrading rooms/areas will include entire room/area.

_____ 4. Perform following:

_____ • Notify Security of the following: Crud Burst is complete and Rooms 407 and 410 (U2 East and West Penetration Rooms) will be unlocked:

_____ _____/_____
Person Notified Date Time

NOTE: **IF** all rooms/areas are **NOT** downgraded from HRA, notifications still need to be made to OPS Fire Protection SRO/designee of rooms/areas downgraded.

_____ • Notify Operations Fire Protection SRO/designee of rooms listed in **Table 1** that will be down-posted/unlocked:

_____ _____/_____
Person Notified Date Time

NOTE: Room 519 does **NOT** have a key and will be unlocked with a master key.

HRA Down-Posting Checklist
Date: _____.Time: _____.
Prior to performing an HRA posting change, the RP Technician(s) shall review this checklist.
What are the IMPORTANT steps associated with this task?
☐ Down post areas correctly and consistently (think of posting requirements applicable to the area)
☐ Recognize conditions of the area (dose rate, contamination levels, etc.)
☐ Notifications (Ops, Radwaste, Fire, RP Supervision, OCC, others as required)
☐ Documentation (Surveys, electronic log, turnover)
Error likely situations?
☐ Ladders, scaffolding, doors leading into or out of areas
☐ Plant transients or power changes
☐ Transient dose potential (RAM movement, resin transfers, etc.)
☐ Variations in dose rates
☐ Discrete radioactive particles
☐ Streaming
What actions shall ensure proper radiological controls?
YOU ARE PREPARING TO DOWN POST AN HRA. This is being performed to protect and inform Plant personnel of the radiological hazards. You must remain focused on the task to ensure error free performance
☐ Stanchions or swing-gate removed or repositioned as needed
☐ Swing-gate verified closed when moved into position (if applicable)
☐ Rad-rope, ribbon, or chain removed or repositioned
☐ All postings consistent....Self Check
☐ Stop and look.....do the postings make sense

Table 1
Location/Room Number
☐ Sump and Component Drain Pump Room 60
☐ Low Pressure Injection Room 62
☐ Low Pressure Injection Room 63
☐ Low Pressure Injection Cooler Room 121 North Entrance
☐ Low Pressure Injection Cooler Room 121 South Entrance
☐ Area around 2LP21 and 2LP22 on LPI Deck Room 119
☐ Seal Supply Filter Room 217
☐ Pipe Room 222 (Area at LPI pipe)
☐ CRD Filter Room 327 (CR 01887857)
☐ East Penetration Room 407
☐ West Penetration Room 410 Entrance at Top of Stairwell
☐ East Penetration Room 519
☐ **IF** LPI Room 62 **OR** 63 shield plugs have been removed **AND** area openings were posted.
All applicable areas have been:
☐ Down-posted
☐ RP Supervisor verify radiological survey information for all HRA postings
Performed by (Signature(s)): _____ Date/Time:_____/_____
Supervisor Verification by (Signature): _____ Date/Time:_____/_____

_____ 5. **IF** Unit 2 Cable Room in areas adjacent to the Unit 2 East Penetration Room are posted, perform the following:

_____ • Survey room.

_____ • **IF** based on survey results, area no longer meets posting criteria, update/remove posting and barricade.

_____ 6. Perform the following:

_____ • Notify RP OCC Manager that crud burst posting has been removed in Auxiliary Building:

_____ _____/_____
Person Notified Date Time

_____ • Notify Unit 2 Control Room of rooms listed in **Table 1** that were unlocked:

_____ _____/_____
Person Notified Date Time

_____ • Logged into electronic RP Log:

_____ _____/_____
Logged By Date Time

_____ • **IF** needed, update planview.

Unit 3 Auxiliary Building Radiological Monitoring And Access Controls: REDUCED Inventory Induced Crud Burst

Reference Use

Printed Name	RP Badge	Initials	Printed Name	RP Badge	Initials

NOTE: RP Management will determine when crud burst monitoring shall begin.

_____ 1. Prior to crud burst start, perform the following notifications:

NOTE:
- Security should be notified two hours prior to locking, and may want to be at door when locking.
- Security rounds/fire watches are suspended during crud burst.

_____ • Notify Security of the following: Due to high radiation levels associated with crud burst activities, Rooms 452 and 456 (U3 East and West Penetration Rooms) will be locked:

_____ _____/_____
Person Notified Date Time

_____ • Notify Operations Fire Protection SRO/designee that rooms listed in **Table 1** will be locked:

_____ _____/___
__
Person Notified Date Time

_____ • Notify Unit 3 Control Room that rooms listed in **Table 1** will be locked:

_____ _____/_____
Person Notified Date Time

Unit 3 Auxiliary Building Radiological Monitoring And Access Controls: REDUCED Inventory Induced Crud Burst

NOTE:
- Rooms/areas may be posted HRA due to LPI System start.
- RP Personnel equipped with a survey meter are **NOT** required to refer to Enclosure 5.12 (Accessing an HRA Verification List), but are required to comply with all RWP requirements, including dosimetry requirements, for the specified area.

_____ 2. **IF** non-RP personnel will be entering an HRA, utilize Enclosure 5.12 (Accessing an HRA Verification List) to ensure all requirements to enter an HRA have been met.

_____ 3. Perform the following:

NOTE:
- Remote radiological monitoring will be established in areas per RP management/ALARA direction.
- Required posting listed below is in addition to other required posting (i.e., Contaminated Area, etc.).

_____ • Utilize HRA Posting Checklist as guide to post areas.

_____ • Post areas listed in **Table 1** in accordance with AD-RP-ALL-0004, RADIOLOGICAL POSTINGS AND LABELING as 'High Radiation Area', and 'RP Brief Required For Entry'.

_____ • Lock rooms/secure areas.

NOTE: Due to changing dose rates during crud burst, planview information is **NOT** current. Updating planviews during crud burst process is **NOT** practical or ALARA.

_____ • **IF** planview is used for room/area, remove or turn around planview during crud burst process.

Unit 3 Auxiliary Building Radiological Monitoring And Access Controls: REDUCED Inventory Induced Crud Burst

NOTE: Room 562 does **NOT** have a key and will be locked with a master key.

HRA Posting Checklist
Date:_____Time:_____
Prior to performing an HRA posting change, the RP Technician(s) shall review this checklist.
What are the IMPORTANT steps associated with this task?
☐ Post areas correctly and consistently (Think of posting requirements applicable to the area)
☐ Recognize conditions of the area (dose rate, contamination levels, etc.)
☐ Notifications (Ops, Security, Fire, RP Supervision, OCC, others as required)
☐ Documentation (electronic RP Log)
Error likely situations?
☐ Ladders, scaffolding, doors leading into or out of areas
☐ Plant transients or power changes
☐ Transient dose potential (RAM movement, resin transfers, etc.)
What actions shall ensure proper radiological controls?
YOU ARE PREPARING TO POST AN HRA. This is being performed to protect and inform Plant personnel of the radiological hazards. You must remain focused on the task to ensure error free performance
Check list for posting and verifying an HRA:
☐ Stanchions and swing-gate secured in position as needed. (i.e. positive latching device)
☐ Swing-gate verified closed when moved into position.
☐ Rad-rope, ribbon, or chain properly secured (do not use tape)
☐ Gaps in barrier. No gaps that would allow access of the whole body
☐ No scaffold or ladders in area that would allow unauthorized access
☐ All access points properly posted (e.g. stairwells, back doors),
☐ Unauthorized personnel out of the area. For authorized personnel, verify correct RWP and correct task for work activity.
☐ Verify correct RWP and correct task for work activity

Unit 3 Auxiliary Building Radiological Monitoring And Access Controls: REDUCED Inventory Induced Crud Burst

☐ HRA postings attached with required inserts in place
☐ Are all postings consistent...Self-Check
☐ Stop and Look...do postings make sense

Table 1 (Unit 3 Auxiliary Building Locations)
Location/Room Number
☐ Low Pressure Injection Room 81
☐ Low Pressure Injection Room 82
☐ Waste and Component Drain Pump Room 80
☐ Area around 3LP21 & 3LP22
☐ Low Pressure Injection Cooler Room 160 - North Entrance
☐ Low Pressure Injection Cooler Room 160 - South Entrance
☐ Seal Supply Filter Room 256
☐ Pipe Room 262 (Area at LPI pipe)
☐ CRD Filter Room 374 (CR 01887857)
☐ East Penetration Room 452
☐ West Penetration Room 456 Entrance at Top of Stairwell
☐ East Penetration Room 562
☐ **IF** LPI Room 81 **OR** 82 shield plugs have been removed, post openings as 'High Radiation Area' **AND** 'RP Brief Required For Entry, in accordance with AD-RP-ALL-0004.
All applicable areas have been:
☐ Posted
☐ Areas locked/secured
Performed by (Signature(s)): _____ Date/Time: _____/_____
Supervisor Verification by (Signature): _____ Date/Time: _____/_____

Unit 3 Auxiliary Building Radiological Monitoring And Access Controls: REDUCED Inventory Induced Crud Burst

_____ 3. Perform the following:

_____ • Notify RP OCC Manager that posting for crud burst in Auxiliary Building is complete:

_____ _____/_____
Person Notified Date Time

_____ • Log into electronic RP Log:

_____ _____/_____
Logged By Date Time

_____ • **IF** required, based on survey results (as close as practical to crud burst peak), post Unit 3 Cable Room in areas adjacent to Unit 3 East Penetration Room per AD-RP-ALL-0004.

Unit 3: Auxiliary Building REDUCED Inventory Induced Crud Burst HRA Downgrade

Reference Use

Printed Name	RP Badge	Initials	Printed Name	RP Badge	Initials

NOTE:
- The following requirements are for RP to access the areas for downgrading.
- RP Management will determine when crud burst monitoring shall end.

_____ 1. **WHEN** crud burst is complete **OR** dose rates have decreased to allow down-posting of areas, perform the following:

_____ 1.1 Utilize HRA Down-Posting Checklist as guide to down post areas listed in **Table 1**.

NOTE: RP personnel equipped with a survey meter are not required to refer to Attachment 1, Accessing a HRA Verification List, but are required to comply with all RWP requirements, including dosimetry requirements, for the specified area.

_____ 2. Initiate Enclosure 5.12 (Accessing an HRA Verification List) to access HRA.

_____ 2.1 **IF** rooms/areas to be entered are protected via protected train/system program, obtain permission to enter rooms/areas for downgrading:

_____ _____/_____
Person Notified Date Time

_____ 3. Perform following:

_____ • Notify Security of the following: Crud Burst is complete and Rooms 452 and 456 (U3 East and West Penetration Rooms) will be unlocked:

_____ _____/_____
Person Notified Date Time

Unit 3: Auxiliary Building REDUCED Inventory Induced Crud Burst HRA Downgrade

NOTE: **IF** all rooms/areas are **NOT** downgraded from HRA, notification still needs to be made to OPS Fire Protection SRO/designee of rooms/areas downgraded.

_____ • Notify Operations Fire Protection SRO designee of rooms listed in **Table 1** that will be down-posted/unlocked.

_____ _____/_____
Person Notified Date Time

NOTE: Room 562 does **NOT** have a key and will be unlocked with a master key.

HRA Down-Posting Checklist
Date:_____.Time:_____.
Prior to performing an HRA posting change, the RP Technician(s) shall review this checklist.
What are the IMPORTANT steps associated with this task?
☐ Down post areas correctly and consistently (think of posting requirements applicable to the area)
☐ Recognize conditions of the area (dose rate, contamination levels, etc.)
☐ Notifications (Ops, Radwaste, fire, RP Supervision, OCC, others as required)
☐ Documentation (Surveys, electronic log, turnover)
Error likely situations?
☐ Ladders, scaffolding, doors leading into or out of areas
☐ Plant transients or power changes
☐ Transient dose potential (RAM movement, resin transfers, etc.)
☐ Variations in dose rates
☐ Discrete radioactive particles
☐ Streaming
What actions shall ensure proper radiological controls?
YOU ARE PREPARING TO DOWN POST AN HRA. This is being performed to protect and inform Plant personnel of the radiological hazards. You must remain focused on the task to ensure error free performance
☐ Stanchions or swing-gate removed or repositioned as needed
☐ Swing-gate verified closed when moved into position (if applicable)
☐ Rad-rope, ribbon, or chain removed or repositioned.
☐ All postings consistent....Self Check
☐ Stop and look.....do the postings make sense

Unit 3: Auxiliary Building REDUCED Inventory Induced Crud Burst HRA Downgrade

Table 1
Location/Room Number
☐ Component and Sump Drain Pump Room 80
☐ Low Pressure Injection Room 81
☐ Low Pressure Injection Room 82
☐ Low Pressure Injection Cooler Room 160 North Entrance
☐ Low Pressure Injection Cooler Room 160 South Entrance
☐ Area around 3LP21 and 3LP22 on LPI Deck Room 159
☐ Seal Supply Filter Room 256
☐ Pipe Room 262 (Area at LPI pipe)
☐ CRD Filter Room 374 (CR 01887857)
☐ East Penetration Room 452
☐ West Penetration Room 456 Entrance at Top of Stairwell
☐ East Penetration Room 562
☐ **IF** LPI Room 81 **OR** 82 shield plugs have been removed **AND** openings were posted.
All applicable area have been:
☐ Down-posted
☐ RP Supervisor verify radiological survey information for all HRA postings
Performed by (Signature(s)): _____ Date/Time:_____/_____
Supervisor Verification by (Signature): _____ Date/Time:_____/_____

_____ 4. **IF** Unit 3 Cable Room in areas adjacent to the Unit 3 East Penetration Room are posted, perform the following:

_____ • Survey room.

_____ • **IF** survey results allow, update postings and remove barricade.

_____ 5. Perform the following:

_____ • Notify RP OCC Manager that crud burst posting has been removed in Auxiliary Building:

_____ _____/_____
Person Notified Date Time

_____ • Notify Unit 3 Control Room of rooms listed in **Table 1** that were unlocked:

_____ _____/_____
Person Notified Date Time

_____ • Log into electronic RP Log:

_____ _____/_____
Logged By Date Time

_____ • **IF** needed, update planview(s).

Information Use

1. **WHEN** crud burst is complete **OR** dose rates have decreased to allow down-posting of areas, perform the following:

NOTE:	RP personnel equipped with a survey meter are **NOT** required to refer to Enclosure 5.12 (Accessing an HRA Verification List), but are required to comply with all RWP requirements, including dosimetry requirements, for specified area.

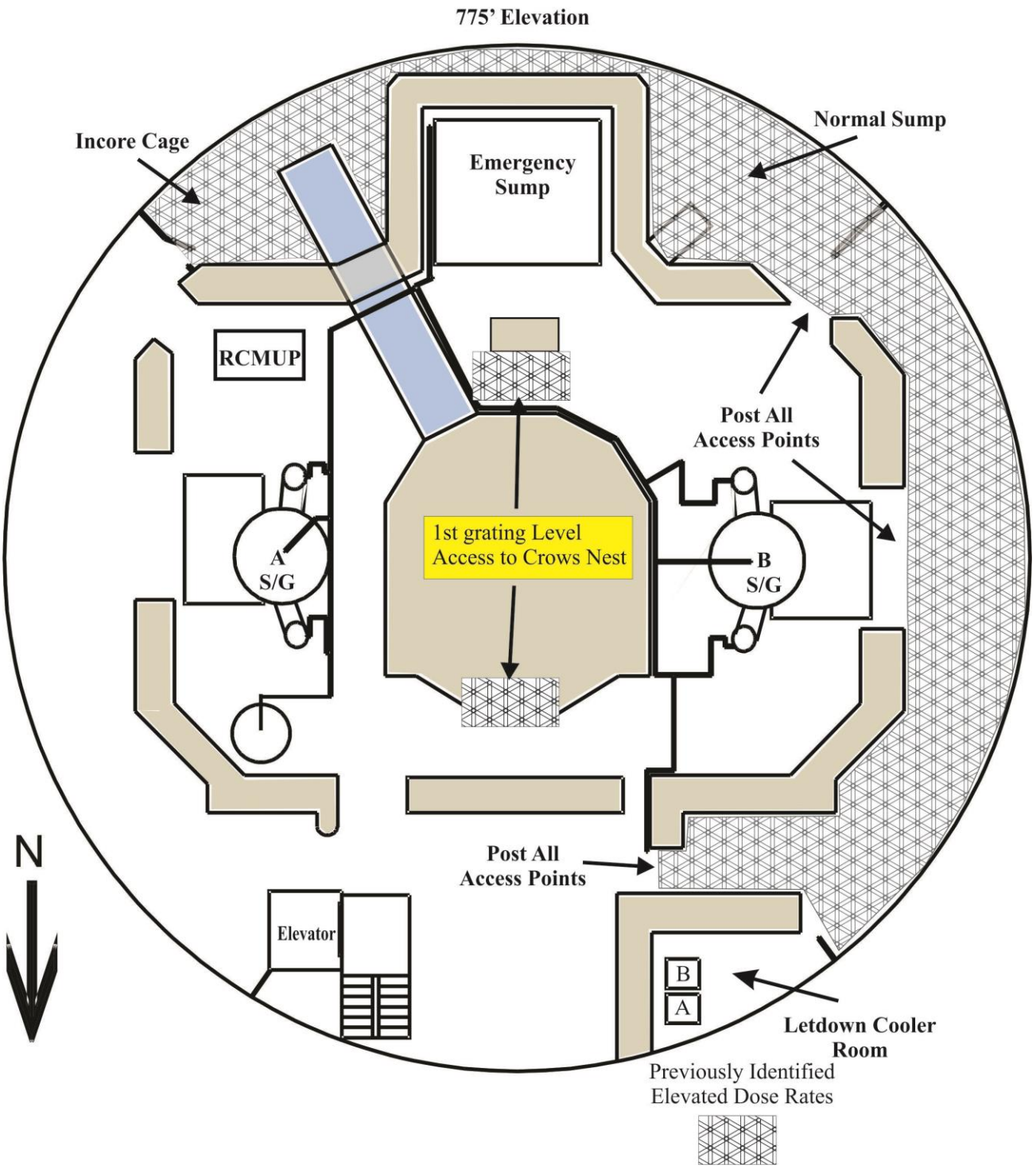
2. Down-post affected areas in the Reactor Building listed in **Table 1**.

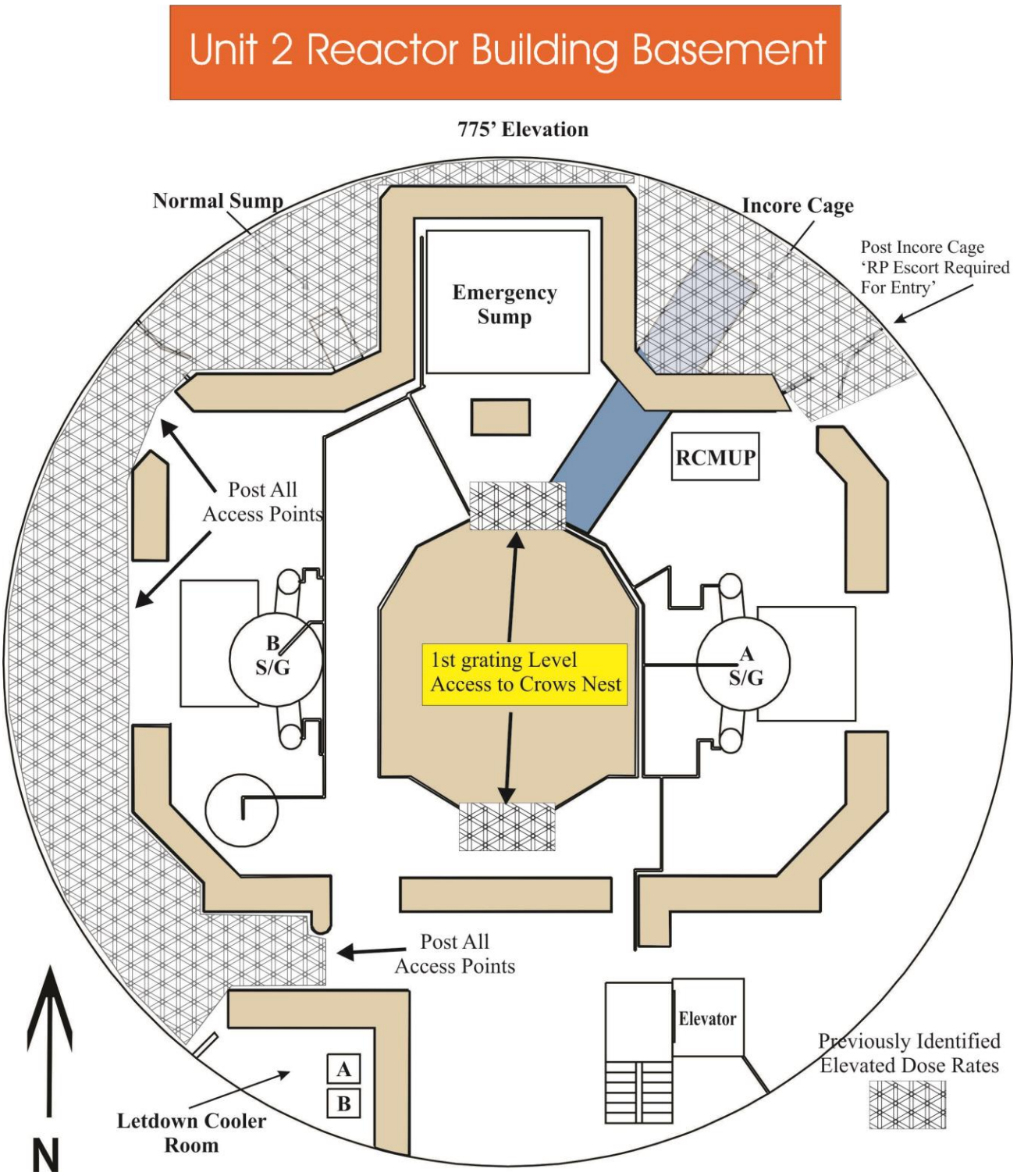
Table 1
Location
☐ **IF** Unit 2 **OR** 3, Basement incore cage map (Pages 3 or 4)
☐ **IF** Unit 2 **OR** 3, Basement per shaded area on map outside incore cage. (Pages 3 or 4)
☐ Basement (normal sump and outside bioshield wall) per shaded area on map (Pages 2, 3 or 4)
☐ **IF** Unit 1, Incore Cage in Basement per shaded area on map (Page 2)
☐ 1st Floor East side per shaded area on map (Pages 5, 6 or 7)
☐ 1st Floor West side per shaded area on map (Pages 5, 6 or 7)
☐ Cavity 1st grating level Access to Crows Nest 1,2 or 3CF12 (Pages 2, 3 or 4)
☐ Cavity 1st grating level Access to Crows Nest 1,2 or 3CF14 (Pages 2, 3 or 4)
☐ **IF** Unit 1, B Cavity 2nd grating level at LPI Drop Line (Page 8)
☐ **IF** Unit 2 **OR** 3, A Cavity 2nd grating level at LPI Drop Line (Pages 9 or 10).
☐ 1st grating level East Side - area at 1,2 or 3LP48 (Not shown on map)
☐ 1st grating level West Side - area at 1, 2 or 3LP47 (Not shown on map)

3. **IF** areas need to be established as HRA/LHRA, establish per AD-RP-ALL-0004, RADIOLOGICAL POSTING AND LABELING.

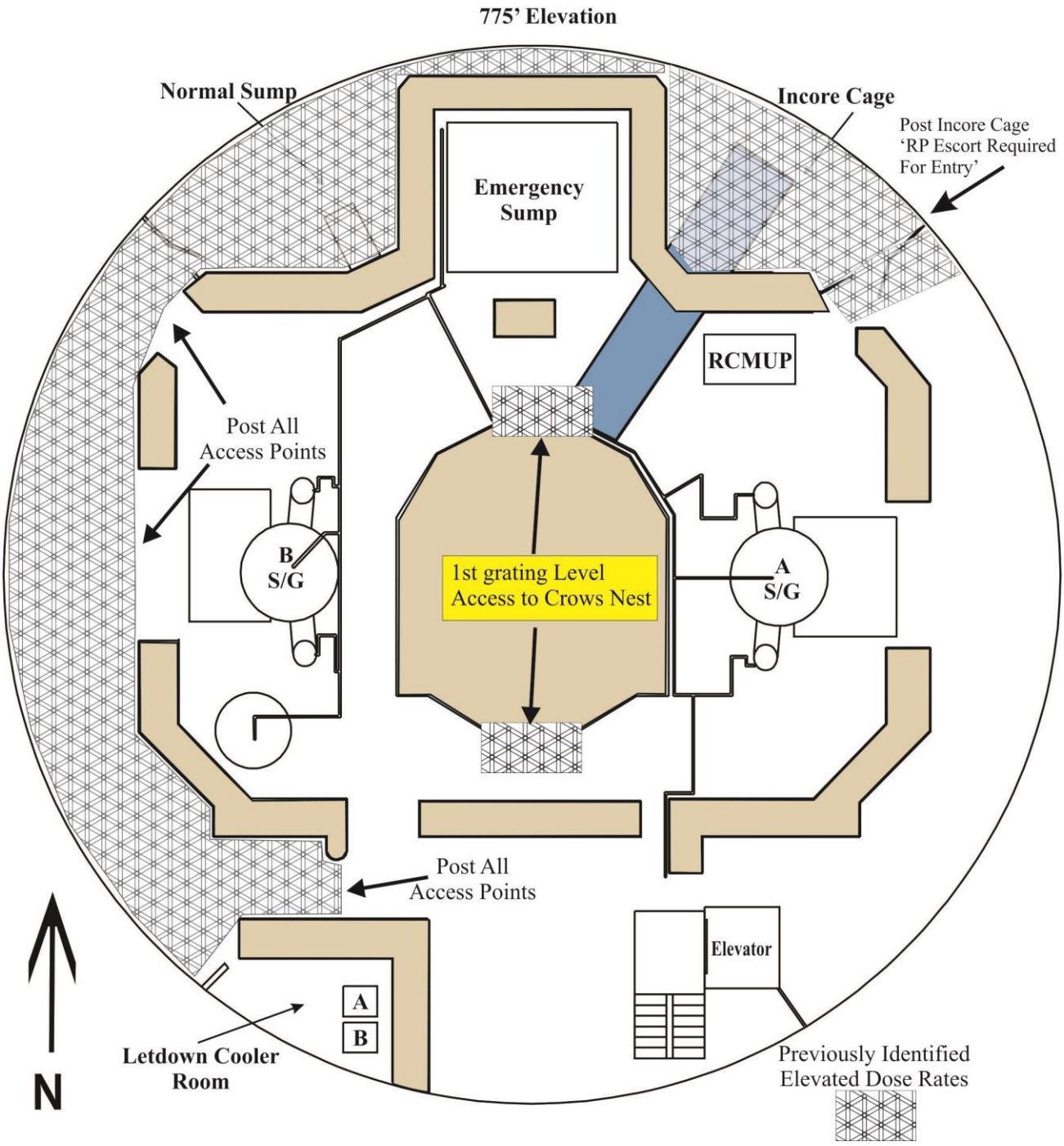
4. Notify RP OCC Manager that crud burst posting has been removed in the Reactor Building.

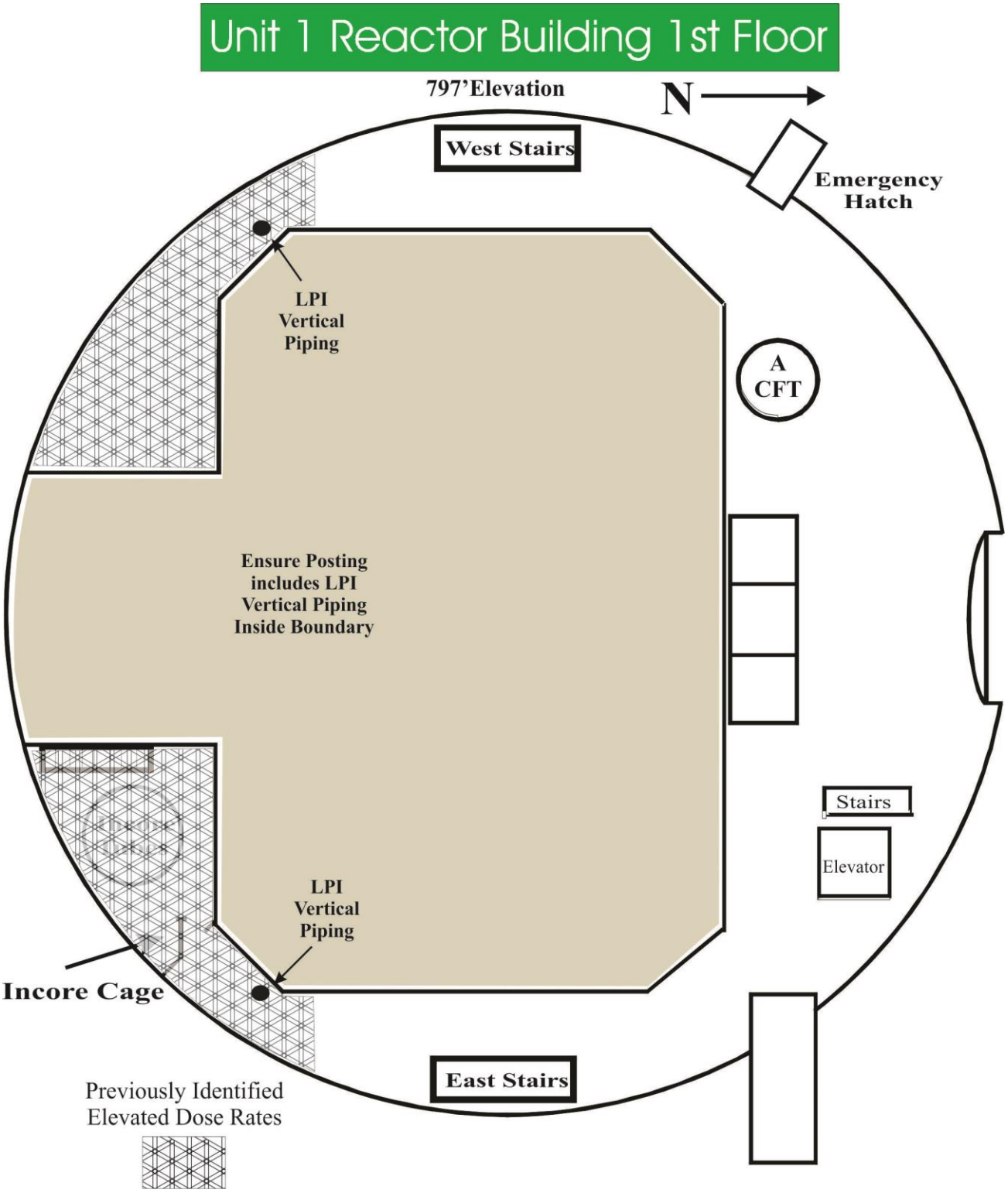
Unit 1 Reactor Building Basement

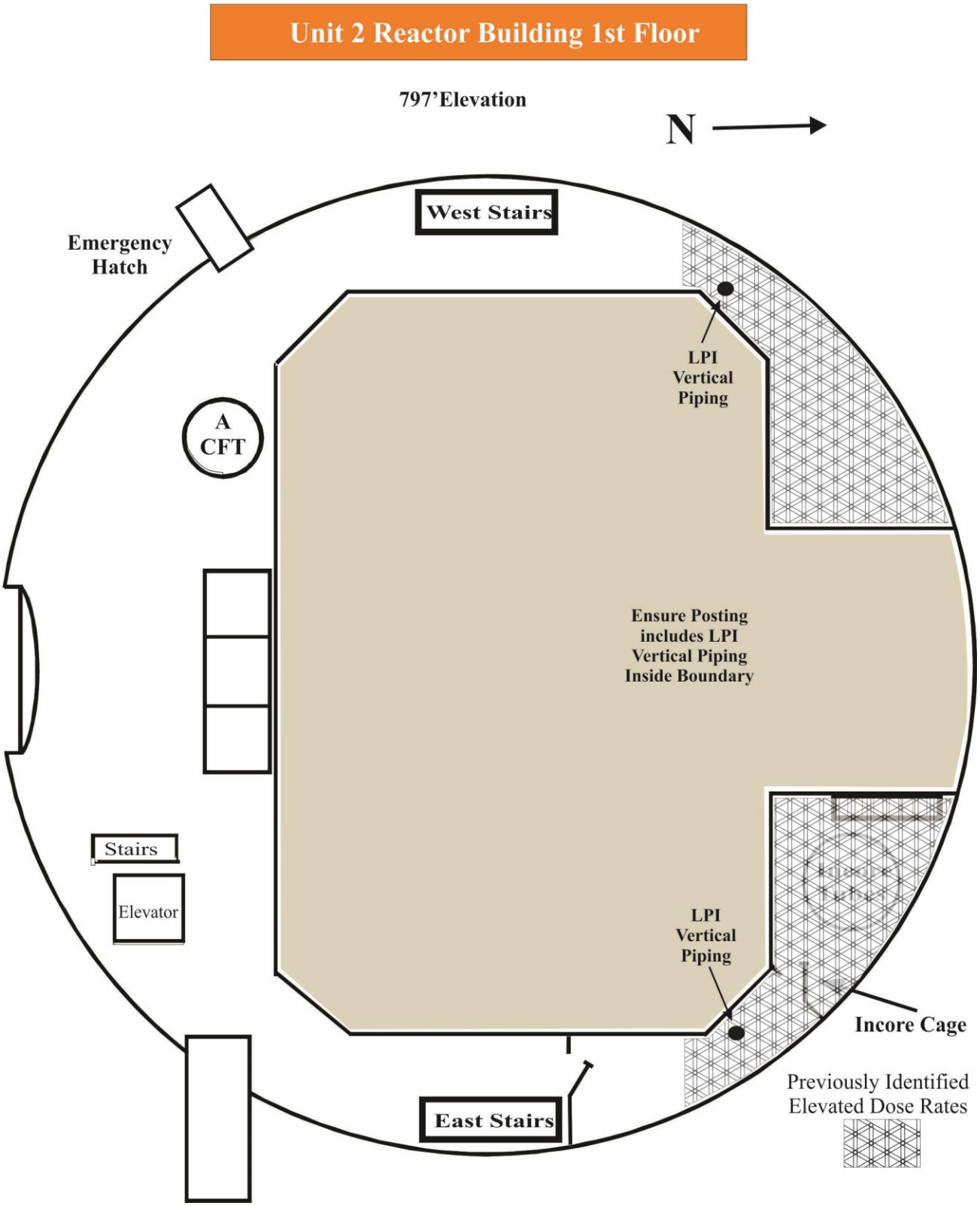


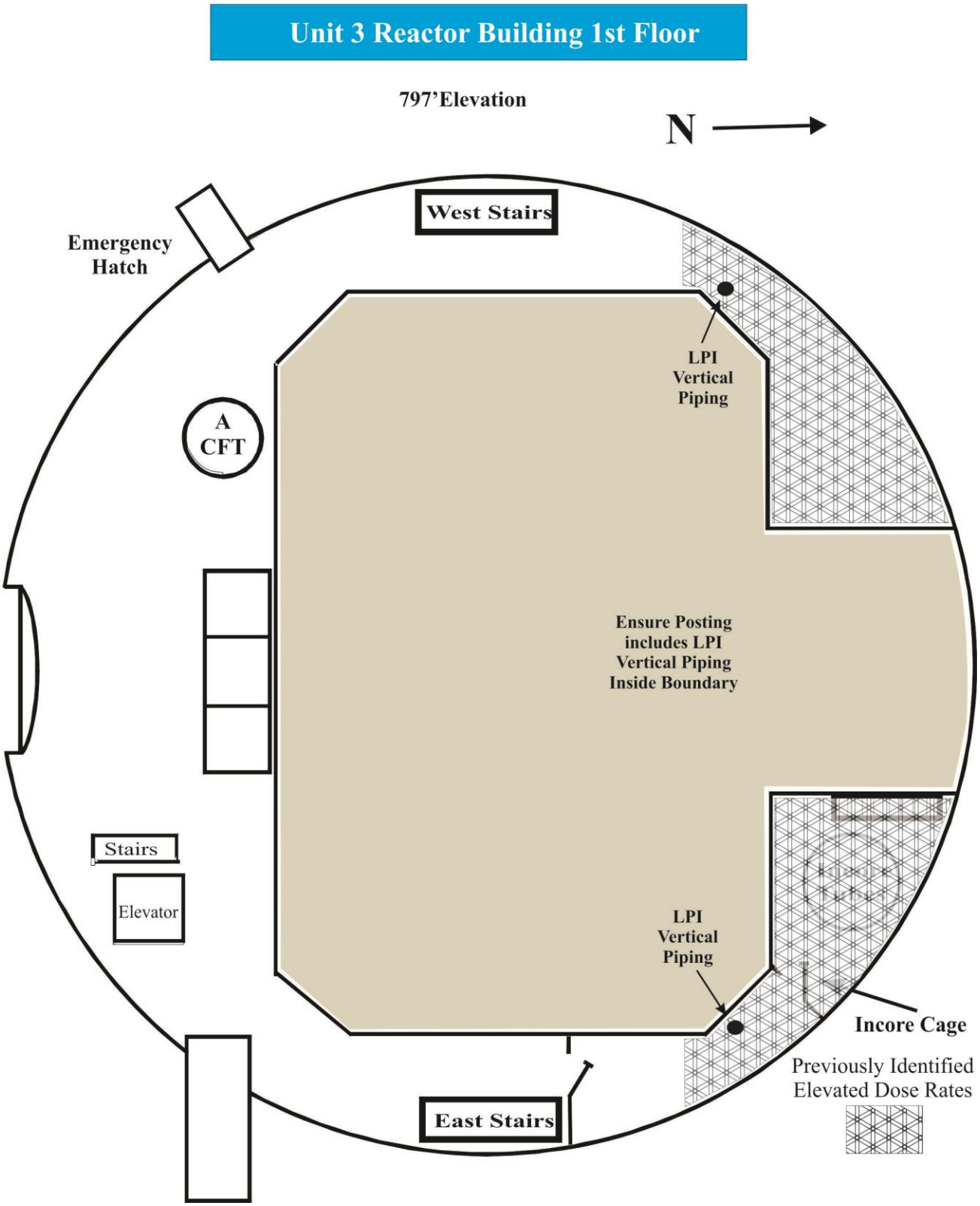

Unit 2 Reactor Building Basement
775' Elevation
Normal Sump
Incore Cage
Post Incore Cage
'RP Escort Required
For Entry'
Emergency
Sump
RCMUP
Post All
Access Points
B
S/G
1st grating Level
Access to Crows Nest
A
S/G
Post All
Access Points
Elevator
Previously Identified
Elevated Dose Rates
A
B
Letdown Cooler
Room
N

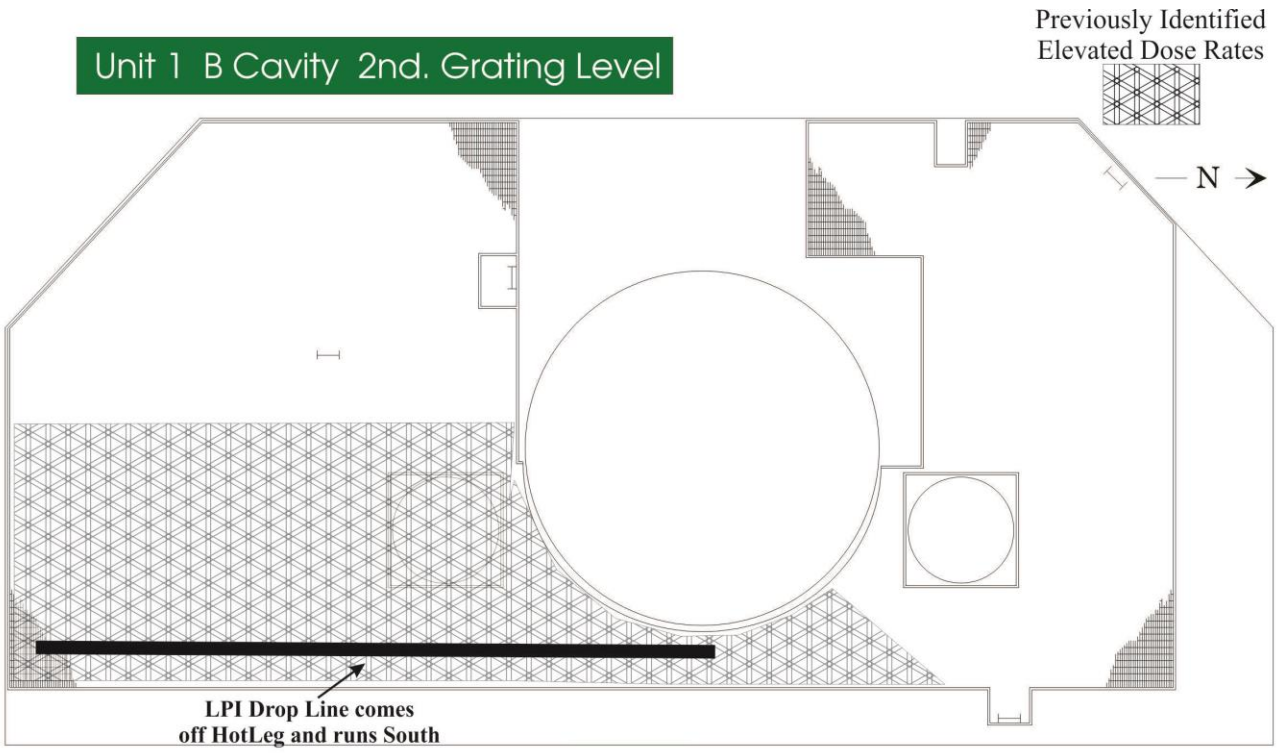
Unit 3 Reactor Building Basement

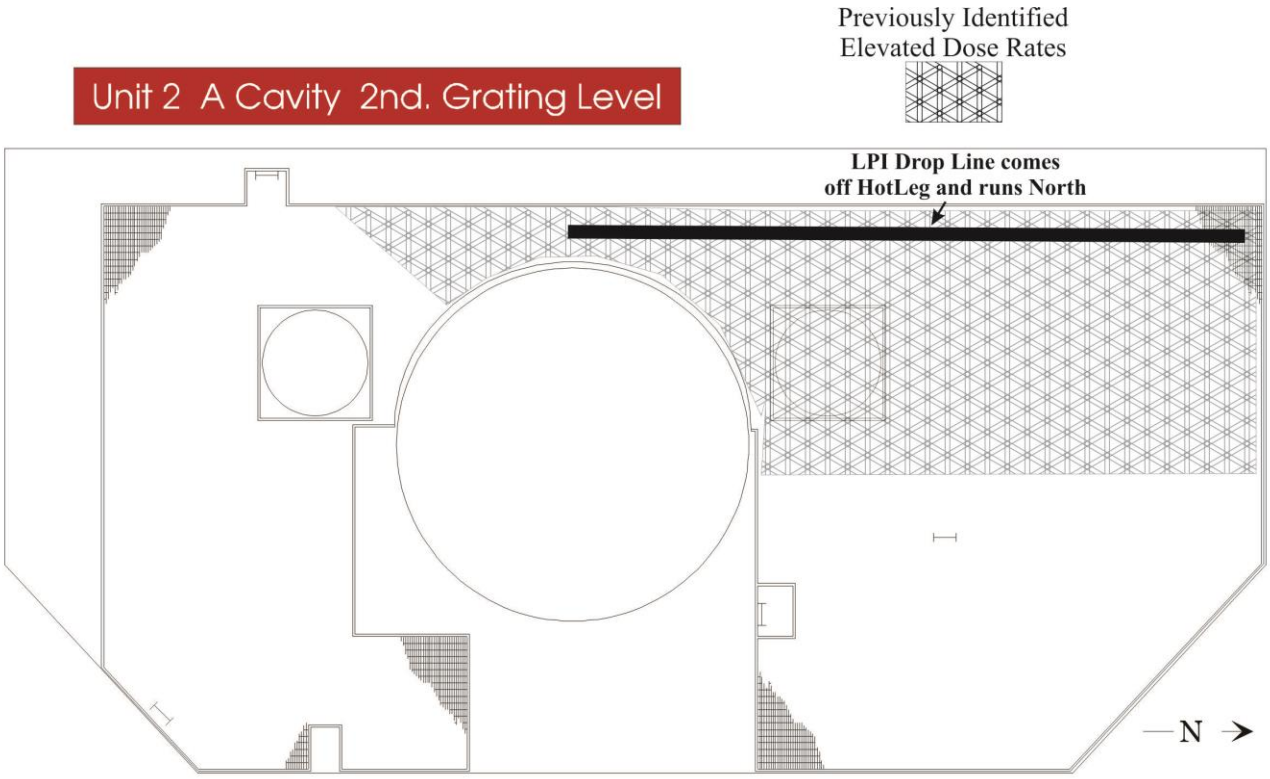


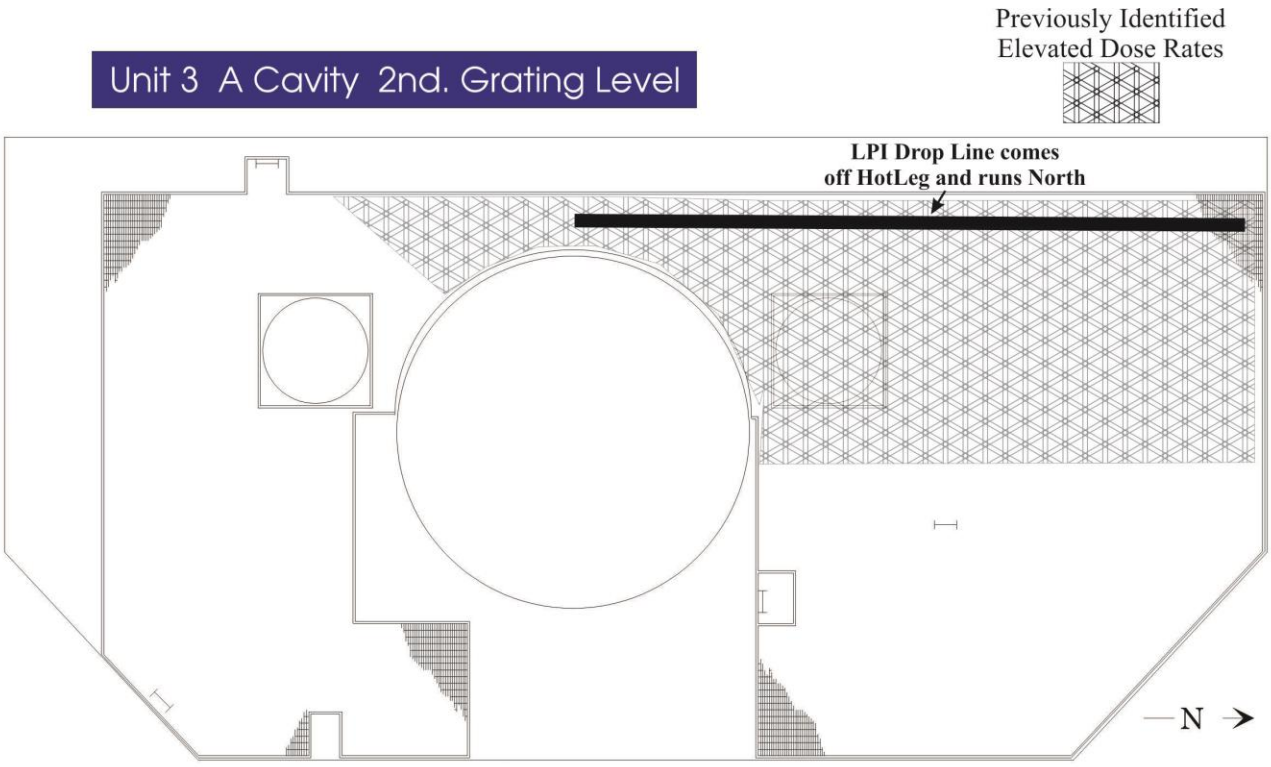

Unit 1 Reactor Building 1st Floor
797'Elevation
N
West Stairs
Emergency Hatch
LPI Vertical Piping
A CFT
Ensure Posting includes LPI Vertical Piping Inside Boundary
Stairs
Elevator
LPI Vertical Piping
Incore Cage
East Stairs
Previously Identified Elevated Dose Rates


Unit 2 Reactor Building 1st Floor
797'Elevation
N
West Stairs
Emergency Hatch
LPI Vertical Piping
A CFT
Ensure Posting includes LPI Vertical Piping Inside Boundary
Stairs
Elevator
LPI Vertical Piping
Incore Cage
East Stairs
Previously Identified Elevated Dose Rates


Unit 3 Reactor Building 1st Floor
797'Elevation
N
West Stairs
Emergency Hatch
LPI Vertical Piping
A CFT
Ensure Posting includes LPI Vertical Piping Inside Boundary
Stairs
Elevator
LPI Vertical Piping
Incore Cage
Previously Identified Elevated Dose Rates
East Stairs


Unit 1 B Cavity 2nd. Grating Level
Previously Identified
Elevated Dose Rates
N
LPI Drop Line comes
off HotLeg and runs South


Previously Identified
Elevated Dose Rates
Unit 2 A Cavity 2nd. Grating Level
LPI Drop Line comes
off HotLeg and runs North
N


Previously Identified
Elevated Dose Rates
Unit 3 A Cavity 2nd. Grating Level
LPI Drop Line comes
off HotLeg and runs North
N

Information Use

- ☐ **ACCESSING AN HRA VERIFICATION LIST** (These verifications may be performed in any order)
  - ☐ Workers are using correct RWP and RWP Task
  - ☐ ED setpoints are appropriate for work area
  - ☐ Radiological briefing is completed per AD-RP-ALL-2011, RADIATION PROTECTION BRIEFINGS.
  - ☐ Operable dosimetry, including ED and telemetry (**IF** required), and device placement as required by RWP
  - ☐ Each worker has a Pocket External Alarm (PEA) or equivalent
  - ☐ RP coverage is assigned as required by RWP
  - ☐ Stay time has been determined and timekeeper is assigned if worker is expected to receive greater than 500 mrem per entry.
  - ☐ Ensure area secured when exiting

Enclosure 5.13

Accessing LHRA Checklist

Reference Use

☐	Obtain RP supervision approval to enter LHRA and issue LHRA key
	☐ < 10 Rem/hour – RP Supervisor or RP General Supervisor:
	☐ ≥ 10 Rem/hour – RPM (or designee):
☐	Complete the following general verifications (may be performed in any order):
	☐ Verify workers are using correct RWP and RWP Task
	☐ Verify ED setpoints are appropriate for the work area
	☐ Verify radiological briefing (both RWP and ALARA Plan if issued) is completed per AD-RP-ALL-2011, RADIATION PROTECTION BRIEFINGS
	☐ Verify operable dosimetry, including ED and telemetry (if required), and device placement as required by RWP. Conduct immediately prior to LHRA entry
	☐ Verify each worker has a Pocket External Alarm (PEA) or equivalent
	☐ Verify continuous RP coverage is assigned as required by RWP
	☐ Verify stay time has been determined and timekeeper is assigned if worker is expected to receive greater than 500 mrem per entry or if work area is greater than 1.5 Rem/hour, and ensure AD-RP-ALL-2017 Attachment 10 (Stay Time Calculation and Time Keeper Worksheet) is completed.
	☐ Verify communications equipment is operable **IF** used
☐	Obtain LHRA key for area
☐	Ensure area access controls are established, including acceptable locking devices (room lock, padlock, unique locking device, flashing light **IF** approved) and access control guard established **IF** required.
☐	Perform the following upon LHRA exit:
	☐ Verify all workers have exited the area
	☐ Ensure area is secured and locked (or flashing light established **IF** approved) (signature)_____ Peer checked by (signature): _____