



Information Use

NUCLEAR OPERATING FLEET
ADMINISTRATIVE PROCEDURE

AD-RP-ALL-9003

HOT SPOT TRACKING AND CONTROL

REVISION 1

Effective Dates:

08/07/2018
Brunswick

08/07/2018
Catawba

08/07/2018
Harris (HNP)

08/07/2018
McGuire

08/07/2018
Oconee

08/07/2018
Robinson

08/07/2018
NGO

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REVISION SUMMARY
PRR 2180997 DESCRIPTION
<ul style="list-style-type: none"> Throughout: Replaced superseded procedure AD-RP-ALL-2001 with AD-RP-ALL-0002, Radiation and Contamination Surveys, and superseded procedure AD-RP-ALL-2005 with AD-RP-ALL-0004, Radiological Posting and Labeling. Section 4.1 Step 2: Changed hot spot update to Site ALARA Committee from quarterly to annual and only require priority 1 hot spots.

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1.0 PURPOSE

1. This procedure provides guidance to prioritize, mitigate, and track radiation Hot Spots to maintain personnel dose ALARA.

2.0 SCOPE

1. This procedure applies to all operating Duke Energy sites.

3.0 DEFINITIONS

1. **Hot Spot:** An accessible, localized source of radiation with a contact dose rate of greater than 100 mrem/hr and more than five times the general area dose rate at 30 centimeters.
2. **Priority Level:** Assessment performed on Hot Spot characteristics by ALARA Group to determine actions to be taken for the identified Hot Spot.

4.0 RESPONSIBILITIES

4.1 ALARA Supervisor

1. Ensures Hot Spots are tracked, prioritized, and mitigated in accordance with this procedure.
2. Ensures Site ALARA Committee performs an annual review of priority 1 Hot Spots.

4.2 Radiation Protection (RP)Technicians

1. Identify, post, and de-post Hot Spots in accordance with AD-RP-ALL-0004, Radiological Posting and Labeling.
2. Perform and document radiological surveys used to identify Hot Spots in accordance with AD-RP-ALL-0002, Radiation and Contamination Surveys.
3. Notify the ALARA group upon identification of a Hot Spot.
4. Complete section A of Attachment 1, Hot Spot Evaluation, Prioritization, and Resolution Worksheet.
5. Perform and document follow up Hot Spot surveys.

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4.3 **ALARA Group**

1. Evaluate, prioritize, and ensure steps are taken for removal, reduction, or barricading of Hot Spots.
2. Maintain Hot Spot electronic log on the RP or ALARA SharePoint.
3. Complete Attachment 1, Hot Spot Evaluation, Prioritization, and Resolution Worksheet.
4. Ensure a Nuclear Condition Report (NCR) is initiated for all priority 1 Hot Spots.
5. Ensure priority 1 Hot Spots have actions taken for removal, reduction, or barricading.
6. Manage listing of priority 2 Hot Spots using Hot Spot electronic log.

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5.0 INSTRUCTIONS

1. The ALARA Group will perform this procedure unless otherwise denoted.
2. [RP] Contact ALARA Group.
 - a. Obtain a Hot Spot tracking number.
3. [RP] Tag Hot Spot in accordance with AD-RP-ALL-0004, Radiological Posting and Labeling .
4. [RP] Complete Section A of Attachment 1, Hot Spot Evaluation, Prioritization, and Resolution Worksheet.
5. [RP] Attach copies of surveys to Attachment 1, Hot Spot Evaluation, Prioritization, and Resolution Worksheet.
 - a. Forward Attachment 1, Hot Spot Evaluation, Prioritization, and Resolution Worksheet, to ALARA Group.
6. Enter Hot Spot into Hot Spot log.
7. Complete Section B of Attachment 1, Hot Spot Evaluation, Prioritization, and Resolution Worksheet, and complete the prioritization of the Hot Spot.
8. A resolution is **NOT** required for a priority 2 Hot Spot.
 - a. Ensure Hot Spot log is updated.
9. Create an NCR for priority 1 Hot Spots.
 - a. Enter priority 1 information into NCR.
10. Initiate Section C of Attachment 1, Hot Spot Evaluation, Prioritization, and Resolution Worksheet, for resolution options.

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5.0 INSTRUCTIONS (continued)

11. Initiate work order to implement resolution strategy from the following list:
 - Flushing
 - Shielding
 - Barricading
 - Other (e.g., locking door)
 - No Action (least desirable option)
12. Update Hot Spot log with action to be taken.
13. [RP] Perform follow up surveys.
 - a. Update postings.
14. Review post surveys.
 - a. Update Hot Spot log.

6.0 RECORDS

1. No records generated by this procedure.

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7.0 REFERENCES

7.1 Commitments

None

7.2 Procedures

1. [AD-RP-ALL-0002](#), Radiation and Contamination Surveys
2. [AD-RP-ALL-0004](#), Radiological Posting and Labeling

7.3 Miscellaneous Documents

1. INPO 05-008, Guidelines for Radiological Protection at Nuclear Power Stations
2. Regulatory Guide 8.38, Control of Access to High and Very High Radiation Areas

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ATTACHMENT 1

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<< Hot Spot Evaluation, Prioritization, and Resolution Worksheet >>

Section A (Evaluation):				
Hot Spot ID number assigned: (Retain with Hot Spot until elimination)				
Date:	Time:	Survey#:	Unit#:	System:
Area or room #:		Elevation:	Column #:	
Contact dose rate (mR/hr):		30cm (mR/hr):		
Description of component: (e.g., valve, pipe, elbow):				
R.P. Technician:		ALARA Technician:		
Section B (Prioritization) (Check the appropriate applicable number):				
Dose rate at 30cm:				
0	>50 mR/hr			<input type="checkbox"/>
1	>25 mR/hr and ≤ 50 mR/hr			<input type="checkbox"/>
2	>10 mR/hr and ≤ 25 mR/hr			<input type="checkbox"/>
3	0.2 mR/hr and ≤ 10 mR/hr			<input type="checkbox"/>
Area occupancy factors: (man-hours) average				
0	> 10 hrs/month			<input type="checkbox"/>
1	> 5 hrs/month but < 10 hrs/month			<input type="checkbox"/>
2	> 1 hrs/month to < 5 hrs/month			<input type="checkbox"/>
3	0 hrs/month to < 1 hrs/month			<input type="checkbox"/>
Access control:				
0	Access cannot be restricted.			<input type="checkbox"/>
1	Access can be restricted with changes to normal area access.			<input type="checkbox"/>
2	Access is easily restricted with no disruption to routine plant activities, or dose rates in the general area are not affected by the Hot Spot.			<input type="checkbox"/>
3	Area is normally locked, controlled by RP, or inaccessible.			<input type="checkbox"/>
Probability of returning:				
1	Hot spot is not expected to return.			<input type="checkbox"/>
2	Hot spot is expected to return within one fuel cycle.			<input type="checkbox"/>
3	Hot spot is chronic due to the nature of the system.			<input type="checkbox"/>
Sum total from above:				
Derived Priority Level for scale below: _____ (1 or 2) (The Priority Level is derived from the sum of all ratings as it is applied to the scale below).				
Derived Priority Level:				
(1) = 1-6 pts (2) = ≥ 7				

<< Hot Spot Evaluation, Prioritization, and Resolution Worksheet >>

Section C (Resolution):

Check Priority Level:

Level 1 ☐ NCR# _____ Level 2 ☐

Check removal or reduction method chosen:

Flushing ☐ Shielding ☐ Modification ☐ Barricade ☐ Other ☐ NA ☐

Comments:

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface.

Post survey number: _____

Check Disposition:

Hot spot unchanged ☐ Hot spot removed ☐

Re-prioritizing Required ☐ Priority un-changed ☐

Date: _____ Time: _____

ALARA Technician: _____

Note: Retention of this worksheet is **NOT** required.