

efficiency bulletin

Sept. 30, 2016

Efficiency Bulletin: 16–26c Implement Common NANTeL Radiation Worker Training

Eliminate site/fleet-specific radiation worker training (RWT) by aligning standards and incorporating into Common NANTeL RWT Lesson Plan.

Addressees: Chief nuclear officers, NEI APCs and INPO APCs

Issue: RP-22, Implement Common NANTeL Radiation Worker Training

Summary of Efficiency Opportunity

- Desired end-state—All radiation workers are trained and tested to one standard for work in radiologically controlled areas (RCA).
- Value proposition (vision of excellence)—This will result in (1) reduced time to train radiation workers by eliminating site/fleet-specific RWT and (2) improved radiation worker performance by aligning standards across the industry.
- Why it is important?—Aligning the industry to a common core of radiation worker expectations will improve radiation worker performance. Additionally, this initiative will reduce costs by eliminating the need for stations and fleets to maintain and deliver unique radiation worker training materials.
- Industry benchmark value(s)—The number of radiation worker human performance-related events should decline or remain consistent with current performance (i.e., few and infrequent).
- Measure of effectiveness—Key performance indicators for human performance-related high radiation area events, unplanned dose, radioactive material control events and consequential personal contamination events should decline or remain consistent with current performance.

Color Code: Red
Due: January 2017

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- Maximum benefit is obtained when this efficiency opportunity is implemented in conjunction with efficiency bulletins EB 16-26a, “Standardizing Nuclear Access Processing and Requirements”; EB 16-26b, “Standardization of In-Processing Training”; and EB 16-26d, “Supplemental Supplier Contracts/Use of NANTeL and EPRI STEs.”

Relevant Standards

- Performance Objectives and Criteria (INPO) RS.1
- Performance Objectives and Criteria (INPO) RP.1
- Performance Objectives and Criteria (INPO) RP.2
- Performance Objectives and Criteria (INPO) RP.3
- Performance Objectives and Criteria (INPO) RP.4
- ACAD 00-007, Guidelines for Radiation Worker and Radiological Respiratory Protection Training

Guidance

- INPO 05-008, “Guidelines for Radiological Protection at Nuclear Power Stations”
- Performance Objectives and Criteria (INPO) NP.1, Nuclear professionals apply the essential knowledge, skills, behaviors and practices needed to conduct their work safely and reliably.

Recommended Industry Actions

- Review and revise site procedures to reflect administrative guidelines for radiation dose based on industry standards:
 - TEDE guideline is 2000 millirem per year.
 - Skin Extremities and Total Organ guideline is 40 rem per year.
 - Lens of the eye is 12 rem per year.
 - Declared pregnant worker is 450 millirem for an entire term of pregnancy, not to exceed 50 millirem per month.
- Review and revise site procedures to reflect industry standards for survey symbols.
 - A radiological boundary will be designated with a line (dashed or X's) followed by the appropriate acronym—for example RA for Radiation Area or HRA for High Radiation Area.
 - A smear location is shown as a number within a circle showing the location where each smear was taken.
 - A dose rate is shown by number at the location where the dose rate was measured. Only the dose rate number (in millirem per hour unless otherwise noted) is written onto the map. The levels are for general area readings (at least 30 centimeters away from components).
 - A contact dose rate is shown by an asterisk, followed by a slash and the dose rate at 30 centimeters (e.g. *500/40). Dose rates are in millirem per hour unless otherwise noted.
 - An air sample location is shown by a triangle. Airborne area boundaries are also depicted on survey maps.

Key to Color Codes:

Red: NSIAC initiative – full participation required for viability

Blue: Action expected at all sites, but is not needed for broad industry viability

Green: Utility discretion to implement, consistent with its business environment

- Review and revise site procedures to reflect industry standards for posting shapes:
 - Very High Radiation Area—octagon (stop sign)
 - Locked High Radiation Area—octagon (stop sign)
 - High Radiation Area—triangle (yield sign)
 - Radiation Area—rectangle with the longest part vertically oriented
 - Other conditions—contaminated, airborne and neutron areas can be posted in conjunction with other radiological postings, as an insert (for example), or separately when it is unique to the area.
- Review and revise procedures and/or postings to reflect recommended sequences for donning and removing protective clothing.
- Review and revise procedures to change instructions to notify Radiation Protection for removal of tools from contaminated areas.
- Review and revise procedures, radiation work permits and ALARA plans to change the terms TLD or OSLD to dosimeter of legal record (DLR).
- Review and revise procedures, radiation work permits, and ALARA plans to change the term EAD to SRD (self-reading dosimeter).
- Revise site training programs as required to:
 - eliminate site/fleet-specific NANTeL training
 - align dress-out practical with updated industry standard
 - align Initial Radiation Worker Training Material with Industry-Common Radiation Worker Training material
 - Change the term RRA to RCA
 - Change the term TLD or OSLD to DLR
 - Change the term EAD to SRD
 - Change the term SAM to TEM (tool and equipment monitor)

Change Management Considerations

Industry Activities

- Industry webinar on Oct. 6, 2016, to discuss the program and provide an open forum to clarify expectations and address questions. Webinar information can be found at <https://web.inpo.org/Pages/Nuclear-Promise-Issues.aspx>
- Discussion at RPM meetings (INPO RPM working meeting and NEI RPM forum)
- Discussion on Periodic RPM Teleconference calls

Company Actions

- Station RPMs to revise procedures to implement the common industry guidance.
- Station nonaccredited training programs to eliminate site-specific RWT, align dress-out practical to industry standard and revise initial radiation worker training material to reflect ACAD 00-007 changes.
- Each site to develop a specific change management plan based on the changes required at the station or utility.
- Station communications to site personnel on the change.

Guid rails

- Monitor for unintended consequences using current industry methods: KPI monitoring, management observations, self-assessments, etc.
- Industry Training Review meetings will be conducted periodically to review outage performance and make recommended changes to the training programs.
- Changes to training content are directed through SAT process, not by the corrective action program.

Report Your Site's Results

Please report your company's implementation of this improvement opportunity, including the date of completion. Send this information along with your company point of contact to EfficiencyBulletin@NEI.org.

Industry Contacts

- Industry champion for this issue: David A. Thompson, (704) 582-9394, david.thompson4@duke-energy.com
- INPO contact: Paul McNulty, (770) 644-8812, McNultyPJ@INPO.org
- NEI contact: Ellen Anderson, (202) 739-8043, exa@nei.org
- On the web: www.nei.org/bulletin1626c

Industry Approval:

Bill Pitesa, CNO Lead



David P. Igyarto, Institute of Nuclear Power Operations



Anthony R. Pietrangelo, Nuclear Energy Institute

