

MD 8.3 Evaluation *Revision 1*
Decision Documentation for Reactive Inspection
(Deterministic and Risk Criteria Analyzed)

PLANT: Palisades	EVENT DATE: 02/11/26 (Event) 02/24/26 (Discovery)	DETERMINISTIC CRITERIA EVALUATION DATE: 03/2/26 <i>Revision 0</i> 04/15/26 <i>Revision 1 (Revised Edits Italicized)</i>
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Brief Description of the Significant Operational Event or Degraded Condition:

During maintenance activities associated with the Spent Fuel Pool (SFP) Tilt Pit performed under a radiation work permit, airborne radioactivity concentrations of 173 derived air concentration (DAC) were identified on February 11, 2026, and 469 DAC on February 13, 2026. The licensee is evaluating whether these sample results are true indications or a result of cross contamination during sample collection.

These values exceeded the established stop-work criteria of 30 DAC. A DAC is defined as the concentration of a given radionuclide in air which, if breathed by the reference man for a working year of 2,000 hours under conditions of light work, results in an intake of one annual limit on intake (ALI).

The identification of the airborne radioactivity concentrations was performed with a low-volume air sampler that was run during work activities, with a sample collected following the work activities. The concentration of the DAC was predominantly from alpha contaminants. The work activities lasted for approximately 1.5 hours each day, and it is believed that the work activities caused the elevated DAC levels.

Workers performing the maintenance within the SFP Tilt Pit utilized powered air-purifying respirators (PAPRs) and lapel air sampling in the breathing zone within the PAPR. These samplers did not identify any worker intake of radioactive material above the minimum detectable activity.

Surveys during the activities on the SFP floor above the Tilt Pit indicated approximately 2 DAC on February 11, 2026, and 4 DAC on February 13, 2026. Workers in this area were not in PAPRs but wore lapel air samplers within the breathing zone. During subsequent reviews, lapel air sampling of the workers in this area identified results above the MDA; however, no dose was assigned to the individuals. The results were informally attributed to "cross-contamination" using a historical method historically utilized at the plant. This determination was based on professional technical judgment but does not appear to have been formally documented or proceduralized.

In addition, this event was not communicated in a clear or timely manner within the licensee's radiation protection organization, and no corrective action program document was generated prior to NRC engagement.

Y/N	DETERMINISTIC CRITERIA
N/A	1. Involved operations that exceeded, or were not included in, the design bases of the facility
	Remarks: This event did not involve operations that exceeded, or were not included in, the design bases of the facility.
N/A	2. Involved a major deficiency in design, construction, or operation having potential generic safety implications
	Remarks: This event did not involve a major deficiency in design, construction, or operation having potential generic safety implications.
N/A	3. Led to a significant loss of integrity of the fuel, primary coolant pressure boundary, or primary containment boundary of a nuclear reactor
	Remarks: This event did not lead to a loss of integrity of the fuel, primary coolant pressure boundary, or primary containment boundary of a nuclear reactor.
N/A	4. Led to the loss of a safety function or multiple failures in systems used to mitigate an actual event
	Remarks: There were no loss of safety function or multiple failures in systems used to mitigate an actual event.
N/A	5. Involved possible adverse generic implications
	Remarks: This event did not involve possible adverse generic implications.
N/A	6. Involved significant unexpected system interactions
	Remarks: This event did not involve significant unexpected system interactions.
N/A	7. Involved repetitive failures or events involving safety-related equipment or deficiencies in operations
	Remarks: This event did not involve repetitive failures or events involving safety-related equipment or deficiencies in operations.
N/A	8. Involved questions or concerns pertaining to licensee operational performance
	Remarks: There are no questions pertaining to licensee operational performance as it relates to power reactor operations, however radiation safety operational performance will be assessed in accordance with the deterministic criteria associated with radiation safety below.

CONDITIONAL RISK ASSESSMENT	
RISK ANALYSIS BY: N/A	DATE: N/A
Brief Description of the Basis for the Assessment (may include assumptions, calculations, references, peer review, or comparison with licensee's results): This event was not associated with power reactor operations and was rather associated with occupational radiation safety. Accordingly, a conditional risk assessment is not warranted.	
The estimated conditional core damage probability (CCDP) is _____ N/A _____ and places the risk in the range of a _____ N/A _____ and _____ N/A _____ inspection.	
RESPONSE DECISION	
USING THE ABOVE INFORMATION AND OTHER KEY ELEMENTS OF CONSIDERATION AS APPROPRIATE, DOCUMENT THE RESPONSE DECISION TO THE EVENT OR CONDITION, AND THE BASIS FOR THAT DECISION	
DECISION AND DETAILS OF THE BASIS FOR THE DECISION: Based on the current information available regarding licensee performance, no deterministic criterion have been met and a detailed risk-significance assessment was not required. Therefore, a reactive inspection is not warranted. The staff will re-evaluate this decision If additional information is available that changes the answer to any deterministic criterion or risk assessment inputs. The staff will assess the radiation safety "Deterministic-only Criteria Analyzed" in the following section.	
BRANCH CHIEF: David Hills / RA /	DATE: 04/21/2026
SRA: N/A	DATE:
DIVISION DIRECTOR: Jason Kozal / RA /	DATE: 04/21/2026
DIVISION DIRECTOR: Jared Heck / RA /	DATE: 04/23/2026
RA (if reactive inspection is initiated): N/A	DATE:
ADAMS ACCESSION NUMBER: ML26110A280 Revision 1 ADAMS ACCESSION NUMBER: ML26063A512 Revision 0 ADAMS PACKAGE ACCESSION NUMBER: ML26063A552 EVENT NOTIFICATION REPORT NUMBER (as applicable): N/A	

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Decision Documentation for Reactive Inspection (Deterministic-only Criteria Analyzed)		
PLANT: Palisades	EVENT DATE: 02/11/26 (Event) 02/24/2026 (Discovery)	DETERMINISTIC CRITERIA EVALUATION DATE: 03/02/26
Brief Description of the Significant Operational Event or Degraded Condition: During maintenance activities associated with the Spent Fuel Pool (SFP) Tilt Pit performed under a radiation work permit, airborne radioactivity concentrations of 173 derived air concentration (DAC) were identified on February 11, 2026, and 469 DAC on February 13, 2026. The licensee is evaluating whether these sample results are true indications or a result of cross contamination during sample collection. These values exceeded the established stop-work criteria of 30 DAC. A DAC is defined as the concentration of a given radionuclide in air which, if breathed by the reference man for a working year of 2,000 hours under conditions of light work, results in an intake of one annual limit on intake (ALI). The identification of the airborne radioactivity concentrations was performed with a low-volume air sampler that was run during work activities, with a sample collected following the work activities. The concentration of the DAC was predominantly from alpha contaminants. The work activities lasted for approximately 1.5 hours each day, and it is believed that the work activities caused the elevated DAC levels. Workers performing the maintenance within the SFP Tilt Pit utilized powered air-purifying respirators (PAPRs) and lapel air sampling in the breathing zone within the PAPR. These samplers did not identify any worker intake of radioactive material above the minimum detectable activity. Surveys during the activities on the SFP floor above the Tilt Pit indicated approximately 2 DAC on February 11, 2026, and 4 DAC on February 13, 2026. Workers in this area were not in PAPRs but wore lapel air samplers within the breathing zone. During subsequent reviews, lapel air sampling of the workers in this area identified results above the MDA; however, no dose was assigned to the individuals. The results were informally attributed to "cross-contamination" using a historical method historically utilized at the plant. This determination was based on professional technical judgment but does not appear to have been formally documented or proceduralized. In addition, this event was not communicated in a clear or timely manner within the licensee's radiation protection organization, and no corrective action program document was generated prior to NRC engagement.		

REACTOR SAFETY	
Y/N	IIT Deterministic Criteria
N	1. Led to a Site Area Emergency
	Remarks: This event did not lead to a Site Area Emergency.
N	2. Exceeded a safety limit of the licensee's technical specifications
	Remarks: This event did not result in the licensee's Technical Specification Safety Limit being exceeded.
N	3. Involved circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission
	Remarks: This event did not involve circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission.
Y/N	SI Deterministic Criteria
N	4. Significant failure to implement the emergency preparedness program during an actual event, including the failure to classify, notify, or augment onsite personnel
	Remarks: This event did not involve any failure to implement the emergency preparedness program.
N	5. Involved significant deficiencies in operational performance which resulted in degrading, challenging, or disabling a safety system function or resulted in placing the plant in an unanalyzed condition for which available risk assessment methods do not provide an adequate or reasonable estimate of risk.
	Remarks: This event did not involve significant deficiencies in operational performance which resulted in degrading, challenging, or disabling a safety system function or resulted in placing the plant in an unanalyzed condition for which available risk assessment methods do not provide an adequate or reasonable estimate of risk.

RADIATION SAFETY	
Y/N	IIT Deterministic Criteria
N	1. Led to a significant radiological release (levels of radiation or concentrations of radioactive material in excess of 10 times any applicable limit in the license or 10 times the concentrations specified in 10 CFR Part 20, Appendix B, Table 2, when averaged over a year) of byproduct, source, or special nuclear material to unrestricted areas Remarks: This event did not involve a radiological release to unrestricted areas.
N	2. Led to a significant occupational exposure or significant exposure to a member of the public. In both cases, "significant" is defined as five times the applicable regulatory limit (except for shallow-dose equivalent to the skin or extremities from discrete radioactive particles) Remarks: This event did not lead to a significant occupational exposure or significant exposure to a member of the public. Significant is defined as five times the applicable regulatory limit (except for shallow-dose equivalent to the skin or extremities from discrete radioactive particles).
N	3. Involved the deliberate misuse of byproduct, source, or special nuclear material from its intended or authorized use, which resulted in the exposure of a significant number of individuals Remarks: This event did not involve any deliberate misuse of byproduct, source, or special nuclear material that resulted in the exposure of individuals.
N	4. Involved byproduct, source, or special nuclear material, which may have resulted in a fatality Remarks: This event did not involve any byproduct, source, or special nuclear material, that resulted in a fatality.
N	5. Involved circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission Remarks: This event did not involve circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission.
Y/N	AIT Deterministic Criteria
N	6. Led to a radiological release of byproduct, source, or special nuclear material to unrestricted areas that resulted in occupational exposure or exposure to a member of the public in excess of the applicable regulatory limit (except for

	shallow-dose equivalent to the skin or extremities from discrete radioactive particles)
	Remarks: This event did not involve a radiological release of byproduct, source, or special nuclear material to unrestricted areas.
N	7. Involved the deliberate misuse of byproduct, source, or special nuclear material from its intended or authorized use and had the potential to cause an exposure of greater than 5 rem to an individual or 500 mrem to an embryo or fetus
	Remarks: This event did not involve a deliberate misuse of byproduct, source, or special nuclear material.
N	8. Involved the failure of radioactive material packaging that resulted in external radiation levels exceeding 10 rads/hr or contamination of the packaging exceeding 1000 times the applicable limits specified in 10 CFR 71.87
	Remarks: This event did not involve a failure of radioactive material packaging.
N	9. Involved the failure of the dam for mill tailings with substantial release of tailings material and solution off site
	Remarks: This event did not involve a failure of the dam for mill tailings.
Y/N	SI Deterministic Criteria
N	10. May have led to an exposure in excess of the applicable regulatory limits, other than via the radiological release of byproduct, source, or special nuclear material to the unrestricted area; specifically • occupational exposure in excess of the regulatory limits in 10 CFR 20.1201 • exposure to an embryo/fetus in excess of the regulatory limits in 10 CFR 20.1208 • exposure to a member of the public in excess of the regulatory limits in 10 CFR 20.1301
	Remarks: This event would not have led to an exposure in excess of the applicable regulatory limits. Specifically, licensee staff in the Tilt Pit wore respiratory protection while performing work. Lapel air samplers within the breathing zone of the workers did not identify material above the MDA. Even if the workers in the Tilt Pit were not in respiratory protection, rough calculations indicated their uptake would have been less than 40 percent of the applicable regulatory limit.
N	11. May have led to an unplanned occupational exposure in excess of 40 percent of the applicable regulatory limit (excluding shallow-dose equivalent to the skin or extremities from discrete radioactive particles)
	Remarks: This event would not have led to an unplanned occupational exposure in excess of 40 percent of the applicable regulatory limit (excluding shallow-dose equivalent to the skin or extremities from discrete radioactive particles. Specifically, licensee staff in the Tilt Pit wore respiratory protection while performing work. Lapel

	air samplers within the breathing zone of the workers did not identify material above the MDA. Even if the workers in the Tilt Pit were not in respiratory protection, rough calculations indicate their uptake would have been less than 40 percent of the applicable regulatory limit.
N	12. Led to unplanned changes in restricted area dose rates in excess of 20 rem per hour in an area where personnel were present or which is accessible to personnel
	Remarks: This event did not involve any unplanned changes in dose rates in excess of 20 rem per hour in an area where personnel were present or which is accessible to personnel.
N Y (See Details)	13. Led to unplanned changes in restricted area airborne radioactivity levels in excess of 500 DAC in an area where personnel were present or which is accessible to personnel and where the airborne radioactivity level was not promptly recognized and/or appropriate actions were not taken in a timely manner
	Remarks: This event did not lead to unplanned changes in restricted area airborne radioactivity levels in excess of 500 DAC in an area where personnel were present or which is accessible to personnel and where the airborne radioactivity level was not promptly recognized and/or appropriate actions were not taken in a timely manner. Specifically, while personnel were present in the SFP Tilt Pit, there was an unplanned change in restricted area airborne level to 469 DAC in the Tilt Pit, however this is less than 500 DAC. Uncertainty (conservatively or non-conservatively) exists whether this value is representative of the conditions present when personnel were performing work in the SFP Tilt Pit. The unanticipated high airborne radioactivity level was not promptly (while work was being performed) recognized as the area was only being monitored through a low-volume air sampler, which was collected and assessed following the work activity. However, it should be noted even though there was a significant change in airborne radioactivity levels in the Tilt Pit, all workers performing the maintenance within the SFP Tilt Pit utilized powered air-purifying respirators (PAPRs) and lapel sampling in the breathing zone within the PAPR. These samplers did not identify any intake of radioactive material above the minimum detectable activity. Accordingly, this criteria is not met.

	<u>Updated Information Gained During Additional Inspection</u> <i>The NRC staff performed follow-up inspection utilizing subject matter experts in accordance with the "Response Decision" associated with Revision 0 of this MD 8.3 Evaluation. During the inspection, staff identified an additional airborne sample indicating the presence of approximately 890 DAC during a single work activity in the West Safeguards room. The NRC staff performed a review of information available to the staff and identified all workers performing work activities within the West Safeguards work area during the elevated airborne concentration utilized powered air-purifying respirators (PAPRs) and lapel sampling in the breathing zone within the PAPR. These samplers did not identify any intake of radioactive material above the minimum detectable activity.</i>
N	14. Led to an uncontrolled, unplanned, or abnormal release of radioactive material to the unrestricted area • for which the extent of the offsite contamination is unknown; or, • that may have resulted in a dose to a member of the public from loss of radioactive material control in excess of 25 mrem (10 CFR 20.1301(e)); or, • that may have resulted in an exposure to a member of the public from effluents in excess of the ALARA guidelines contained in Appendix I to 10 CFR Part 50
	Remarks: This event did not involve an uncontrolled, unplanned, or abnormal release of radioactive material to the unrestricted area.
N	15. Led to a large (typically greater than 100,000 gallons), unplanned release of radioactive liquid inside the restricted area that has the potential for ground-water, or offsite, contamination
	Remarks: This event did not involve an unplanned release of radioactive liquid inside the restricted area that had the potential for ground-water, or offsite, contamination.
N	16. Involved the failure of radioactive material packaging that resulted in external radiation levels exceeding 5 times the accessible area dose rate limits specified in 10 CFR Part 71, or 50 times the contamination limits specified in 49 CFR Part 173
	Remarks: This event did not involve a failure of radioactive material packaging.
N	17. Involved an emergency or non-emergency event or situation, related to the health and safety of the public or on-site personnel or protection of the environment, for which a 10 CFR 50.72 report has been submitted that is expected to cause significant, heightened public or government concern
	Remarks: This event did not involve an event that was expected to cause significant, heightened public or government concern.

SAFEGUARDS/SECURITY	
Y/N	IIT Deterministic Criteria
N	1. Involved circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission
	Remarks: This event did not involve any complex, unique, or not well enough understood, or safeguards concerns.
N	2. Failure of licensee significant safety equipment or adverse impact on licensee operations as a result of a safeguards-initiated event (e.g., tampering).
	Remarks: This event did not involve a safeguards-initiated event.
N	3. Actual intrusion into the protected area
	Remarks: This event did not involve an intrusion into the protected area.
Y/N	AIT Deterministic Criteria
N	4. Involved a significant infraction or repeated instances of safeguards infractions that demonstrate the ineffectiveness of facility security provisions
	Remarks: This event did not involve any instances of safeguards infractions.
N	5. Involved repeated instances of inadequate nuclear material control and accounting provisions to protect against theft or diversions of nuclear material
	Remarks: This event did not involve any nuclear material control and accounting provisions.
N	6. Confirmed tampering event involving significant safety or security equipment
	Remarks: This event did not involve a tampering event.
N	7. Substantial failure in the licensee's intrusion detection or package/personnel search procedures which results in a significant vulnerability or compromise of plant safety or security
	Remarks: This event did not involve a failure in the licensee's intrusion detection or package/personnel search procedures.

Y/N	SI Deterministic Criteria
N	8. Involved inadequate nuclear material control and accounting provisions to protect against theft or diversion, as evidenced by inability to locate an item containing special nuclear material (such as an irradiated rod, rod piece, pellet, or instrument)
	Remarks: This event did not involve any inadequate nuclear material control and accounting provisions.
N	9. Involved a significant safeguards infraction that demonstrates the ineffectiveness of facility security provisions
	Remarks: This event did not involve a safeguards infraction.
N	10. Confirmation of lost or stolen weapon
	Remarks: This event did not involve any lost or stolen weapon.
N	11. Unauthorized, actual non-accidental discharge of a weapon within the protected area
	Remarks: This event did not involve the discharge of a weapon.
N	12. Substantial failure of the intrusion detection system (not weather related)
	Remarks: This event did not involve a failure of the intrusion detection system.
N	13. Failure to the licensee's package/personnel search procedures which results in contraband or an unauthorized individual being introduced into the protected area
	Remarks: This event did not involve a failure to the licensee's package/personnel search procedures.
N	14. Potential tampering or vandalism event involving significant safety or security equipment where questions remain regarding licensee performance/response or a need exists to independently assess the licensee's conclusion that tampering or vandalism was not a factor in the condition(s) identified
	Remarks: This event did not involve tampering or vandalism.

RESPONSE DECISION

USING THE ABOVE INFORMATION AND OTHER KEY ELEMENTS OF CONSIDERATION AS APPROPRIATE, DOCUMENT THE RESPONSE DECISION TO THE EVENT OR CONDITION, AND THE BASIS FOR THAT DECISION.

DECISION AND DETAILS OF THE BASIS FOR THE DECISION:

Based on the current information available regarding licensee performance, no deterministic criterion has been met. Therefore, a reactive inspection is not warranted. The staff will re-evaluate this decision if additional information is available that changes the answer to any deterministic criterion or risk assessment input. The staff recommends follow-up inspection utilizing subject matter experts under IMC 2562 and guidance from IP 71124.01, "Radiological Hazard Assessment and Exposure Controls," IP 71124.03, "In-Plant Airborne Radioactivity Control and Mitigation," and IP 71124.04, "Occupational Dose Assessment" to gather the information needed to evaluate events, to assess their significance and/or re-evaluate this decision if additional information is available that changes the answer to any deterministic criterion or risk assessment input.

Updated Information Gained During Additional Inspection

The NRC staff performed follow-up inspection utilizing subject matter experts in accordance with the "Response Decision" associated with Revision 0 of this MD 8.3 Evaluation (discussed above.) During the inspection, staff identified an additional airborne sample indicating the presence of approximately 890 DAC during a single work activity in the West Safeguards room. Accordingly, "Radiation Safety" SI Deterministic Criteria 13 would be met. However, the NRC staff performed a review information available to the staff and identified all workers performing work activities within the West Safeguards work area during the elevated airborne concentration utilized powered air-purifying respirators (PAPRs) and lapel sampling in the breathing zone within the PAPR. These samplers did not identify any intake of radioactive material above the minimum detectable activity.

Upon identification of this additional information NRC inspection staff met with the responsible Branch Chiefs to determine if a change to the follow-up inspection approach was warranted.

Recognizing that this airborne condition did not lead to an internal uptake based upon information available to the staff, and the NRC staff identified this information during their follow-up inspection and were able to pursue the information through the course of inspection, an additional reactive inspection is not warranted.

BRANCH CHIEF: David Hills /RA/	DATE: 04/21/2026
SRA: N/A	DATE:
DIVISION DIRECTOR: Jason Kozal /RA/	DATE: 04/21/2026
DIVISION DIRECTOR: Jared Heck /RA/	DATE: 04/23/2026
ADAMS ACCESSION NUMBER: ML26110A280 Revision 1 ADAMS ACCESSION NUMBER: ML26063A512 Revision 0 ADAMS PACKAGE ACCESSION NUMBER: ML26063A552 EVENT NOTIFICATION REPORT NUMBER (as applicable): N/A	

Distribution: Eric.Stamm@nrc.gov; Sabrina.Atask@nrc.gov; Jason.Carneal@nrc.gov; Mohammed.Shuaibi@nrc.gov; Matt.Young@nrc.gov; Mark.Franke@nrc.gov; Gregory.Suber@nrc.gov; Laura.Pearson@nrc.gov; LaDonna.Suggs@nrc.gov; Ravi.Penmetsa@nrc.gov; Jason.Kozal@nrc.gov; Billy.Dickson@nrc.gov; Jared.Heck@nrc.gov; Patricia.Vossmar@nrc.gov; Jeffrey.Josey@nrc.gov; Lindsay.Merker@nrc.gov; Doris.Chyu@nrc.gov; Lionel.Rodriguez@nrc.gov; Matthew.Learn@nrc.gov; David.Hills@nrc.gov; NRR_Reactive_Inspection.Resource@nrc.gov;