REGULATORY CONFERENCE

Energy Harbor Nuclear Corp. –
Davis-Besse Nuclear Power Station
February 1, 2022

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

Agenda

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- **Opening Remarks and Purpose of Meeting**
  - **Deputy Director, Division of Reactor Safety**
- **Enforcement & Investigation Coordination Briefing**
  - **Enforcement & Investigation Officer, Region III Office of Regional Administrator**
- **Apparent Violation & Preliminary Significance**
  - **Region III Staff, Division of Reactor Safety**
- **Apparent Violation & Preliminary Significance**
  - **Director of Engineering, Davis-Besse Nuclear Power Station (DBNPS)**

Apparent Violation

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The apparent violation existed from April 2006 until May 27, 2021. The licensee apparently failed to establish and implement written procedures covering the preventative maintenance schedules for the inspection of equipment.

Specifically, the licensee apparently failed to provide a preventive maintenance schedule for inspection of the field flash selector switch contacts for the Division 1 and Division 2 safety-related Emergency Diesel Generators.

Apparent Violation

The DBNPS's Technical Specifications (TS) Section 5.4.1., "Administrative Controls Procedures," states written procedures shall be established, implemented, and maintained covering the following activities:

a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978.

b. The emergency operating procedures required to implement the requirements of NUREG-0737 and to NUREG-0737, Supplement 1, as stated in Generic Letter 82-33

c. Quality assurance for effluent and environmental monitoring; and

d. All programs specified in Specification 5.5

Section 3 of Regulatory Guide 1.33, Appendix A, Revision 2, February 1978, states, in part, that instructions for energizing, filling, venting, draining, startup, shutdown, and changing modes of operation should be prepared, as appropriate, for the following systems: s.2.1) Emergency Power Sources (e.g., diesel generator, batteries).

Section 9.b of Regulatory Guide 1.33, Appendix A, Revision 2, February 1978, states, in part that preventive maintenance schedules should be developed to specify lubrication schedules, inspections of equipment, replacement of such items as filters and strainers, and inspection or replacement of parts that have a specific lifetime such as wear rings.

Significance Determination

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The finding was evaluated using quantitative risk assessment and determined the dominant scenario was a fire causing the Loss of Offsite Power (LOOP).

The NRC preliminary determination is that this finding is greater than green and the increase in core damage frequency (ΔCDF) for this event was evaluated as 2.15×10^{-5} subject to several uncertainties that can influence the significance.

Inspection Manual Chapter 0609

Significance Determination

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- Uncertainties

- Assumed exposure time.
- Emergency Diesel Generator recovery actions and associated training.
- Emergency Diesel Generator recovery actions' feasibility and reliability.
- Conservatisms or non-conservatisms in Davis-Besse's fire probabilistic risk assessment (PRA).
- Perspectives on the role of contact contamination and its relationship to the failure of the Emergency Diesel Generator.

Significance Determination

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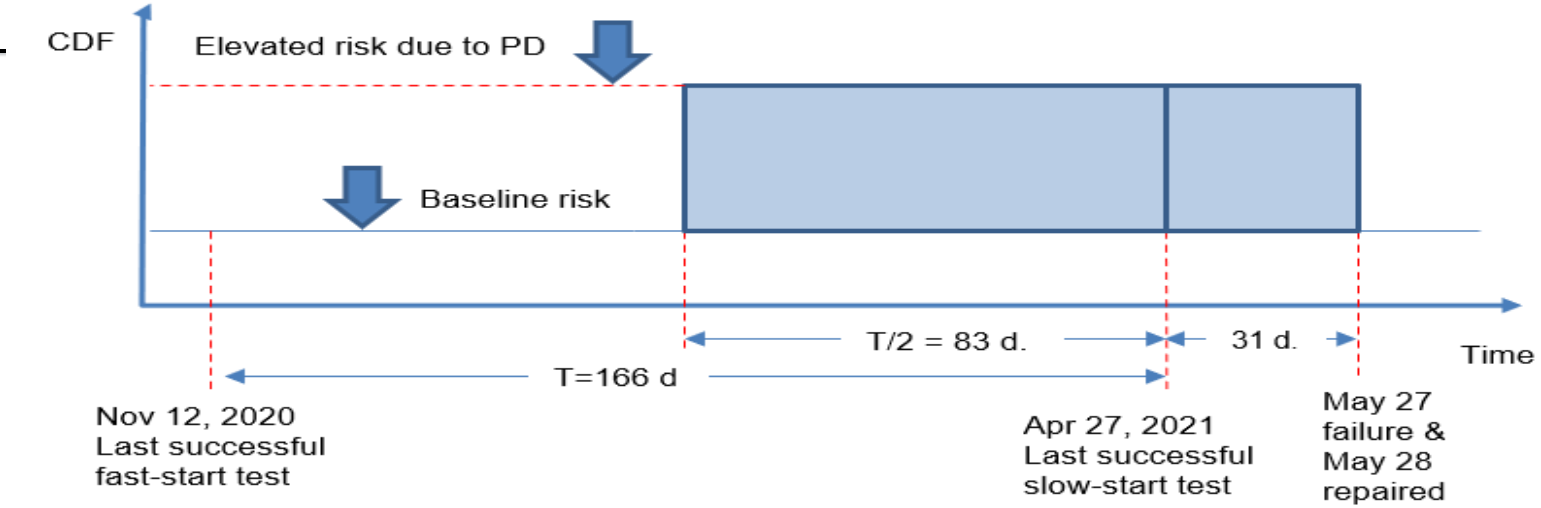
- Exposure Time - 114 days was used.



- Failure Mechanism – Emergency Diesel Generator-1 fails to start
- Common Cause – applicable to Emergency Diesel Generator-2, but not Station Blackout –Emergency Diesel Generator

Significance Determination

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- Mitigating Strategies – FLEX was credited with 3x multiplier.
- Recovery of EDG-1 given failure:
  - Nominal credit for offsite power & EDG recovery was applied in the internal results; recovery of EDG-1 given fire scenarios was evaluated in a sensitivity.

Significance Determination

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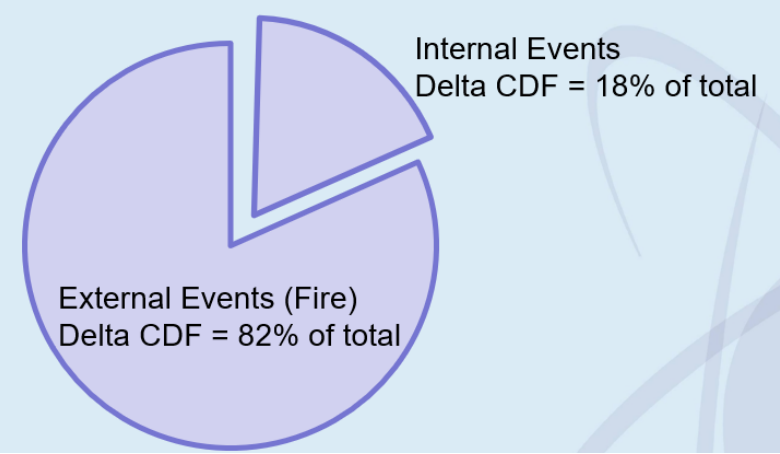
- Contribution from Internal vs. External Events



Dominant fire scenarios are:
1) Loss Of Offsite Power → Station Blackout
2) 54% of cut sets proceed to Core Damage because loss of Decay Heat Removal via Once Through Steam Generators & failure of High Pressure Injection
3) Mix of large fires, High Energy Arc Faults & Control Room abandonment scenarios

- Fire Probabilistic Risk Assessment Model Conservatisms
- Results and Uncertainty – delta Core Damage Frequency (CDF) = 2E-5/year
- Sensitivity Evaluations Performed

Apparent Violation Discussion

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» **Licensee Presentation**