

**PWROG-NRC Meeting to Discuss WCAP-17308  
“Treatment of Diesel Generator (DG) Technical  
Specification Frequency and Voltage  
Tolerances”**

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# Background

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- NRC Component Design Bases Inspections (CDBIs)
- Previous PWROG-NRC Meetings
- WCAP-17308 Correspondence
- NRC Review Fees

# CDBIs

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- McGuire Nuclear Station – NRC Component Design Bases Inspection Report 05000369/2006007 and 05000370/2006007, dated June 22, 2006
- “Introduction: The team identified a Green, non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, Design Control. Specifically, the licensee did not account for emergency diesel generator under-frequency in test acceptance criterion for ASME Section XI testing of the NV pumps 1A and 1B.”

## CDBIs (cont.)

- Description: The team identified that acceptance criterion for the ASME Section XI testing of the NV pumps, PT/1(2)/A/4209/012 A(B), Centrifugal Charging Pump 1(2)A(B) Head Curve Performance Test, did not account for the emergency diesel generator (EDG) allowed under-frequency variation. The team evaluation identified that the test results, when corrected for the EDG allowed under-frequency variation and other non-conservative assumptions, were less than the pump acceptance criterion.

## CDBIs (cont.)

- The acceptance criterion for the NV pumps was established in the licensee's calculation MCC-1552.08-0197, CNC-1552.08-00-0181, Rev. 15, Safety Injection Flows for Safety Analysis. This calculation was performed in support of the TS surveillance requirement (SR) for the TS 3.5.2. This calculation established the minimum acceptable performance for all ECCS pumps based on their required performance to mitigate the spectra of large and small break loss of coolant accidents (LOCA and SBLOCA). The acceptance criteria established by this calculation did not take into account the EDG under-frequency. The test results were also not corrected for the EDG under-frequency. The EDG under-frequency value of 58.8 hertz (i.e., a 2% reduction) used in the team's evaluation was the TS limit provided in SR 3.8.1.2, "Verify each DG starts from standby conditions and achieves steady state voltage  $\geq 3740$  V and  $\leq 4580$  V, and frequency  $\geq 58.8$  hertz and  $\leq 61.2$  hertz." The effect of the 2% frequency reduction would result in the decrease of the pump flows by 2% and the total developed head (TDH) by 4%. When the test results were corrected for the EDG under-frequency and instrument error, the corrected test results were below the acceptance criterion for NV Pumps 1A and 1B in the minimum flow region."

# Previous PWROG-NRC Meetings

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- An initial program meeting was held on June 30, 2010
- The pre-submittal meeting for the Topical Report (TR) was held on August 10, 2011

# WCAP-17308 Correspondence

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- The TR was submitted for NRC review on May 1, 2012 via OG-12-162
- The NRC's Acceptance Letter for the review of the TR was issued on July 16, 2012
- The first set of NRC RAIs was issued on February 25, 2013
- The PWROG responded to the first set of NRC RAIs on March 28, 2013 via OG-13-126

## WCAP-17308 Correspondence (cont.)

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- The second set of NRC RAIs was issued on July 10, 2013
- The PWROG responded to the second set of NRC RAIs on August 22, 2013 via OG-13-294
- The PWROG transmitted additional changes to the TR on February 12, 2015 via OG-15-64



# NRC Review Fees

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- The PWROG has been billed **\$54,047** for Review Fees as of **1<sup>st</sup> Quarter 2015**