



Program Management Office
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WCAP-17308- NP, Revision 0
Project Number 694

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OG-15-64

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

Subject: PWR Owners Group
Transmittal of Additional Changes to WCAP-17308-NP, Revision 0,
"Treatment of Diesel Generator (DG) Technical Specification Frequency and
Voltage Tolerances," PA-LSC-0681

References:

1. Letter OG-12-162, "Submittal of WCAP-17308-NP, Revision 0, "Treatment of Diesel Generator (DG) Technical Specification Frequency and Voltage Tolerances," PA-LSC-0681, May 1, 2012 (ML12234A250)
2. NRC Letter of Acceptance for Review of PWROG Topical Report WCAP-17308-NP, Revision 0, "Treatment of Diesel Generator (DG) Technical Specification Frequency and Voltage Tolerances dated July 16, 2012 (TAC NO. ME8689)
3. NRC Letter for Request for Additional Information RE: PWROG Topical Report WCAP-17308-NP, Revision 0, "Treatment of Diesel Generator (DG) Technical Specification Frequency and Voltage Tolerances", dated February 25, 2013 (TAC NO. ME8689)
4. Letter OG-13-126, Submittal of Request for Additional Information (RAI) Response Regarding WCAP-17308-NP, Revision 0, " Treatment of Diesel Generator (DG) Technical Specification Frequency and Voltage Tolerances," PA-LSC-0681
5. NRC Letter for Request for Additional Information RE: Pressurized Water Reactor Owners Group Topical Report WCAP-17308-NP, Revision 0, "Treatment of Diesel Generator (DG) Technical Specification Frequency and Voltage Tolerances", dated July 10, 2013 (TAC NO. ME8689) – ML13151A065

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6. Letter OG-13-294, Submittal of Request for Additional Information Response Regarding WCAP-17308-NP, Revision 0, "Treatment of Diesel Generator (DG) Technical Specification Frequency and Voltage Tolerances," PA-LSC-0681

On May 1, 2012, the Pressurized Water Reactor Owners Group (PWROG) requested formal NRC review and approval of WCAP-17308-NP, Revision 0, in accordance with the Nuclear Regulatory Commission (NRC) Topical Report (TR) program for review and acceptance for referencing in regulatory actions (Reference 1). The NRC staff determined that additional information was needed (RAI) to complete the review via an NRC letter dated February 25, 2013 (Reference 3). Responses to those RAIs were transmitted to the NRC staff via PWROG letter OG-13-126 (Reference 4). Subsequently, the PWROG received a second set of RAIs from the NRC staff on July 10, 2013 (Reference 5). On August 22, 2013 the PWROG responded to the second set of NRC RAIs (Reference 6).

The purpose of this letter is transmit additional changes to WCAP-17308-NP, Revision 0, in addition to the changes that were previously transmitted to the NRC via PWROG letter OG-13-126. OG-13-126 provided responses to NRC RAIs that were transmitted to the PWROG via Reference 3. OG-13-126 included proposed changes to the WCAP in response to EPTB-RAIs 1 through 5. The proposed changes to the WCAP were contained in Attachments 1-4 of the Enclosure to OG-13-126.

Enclosed please find a marked-up copy of the original OG-13-126 Enclosure response to the EPTB-RAIs, in its entirety, with additional changes as discussed below.

Enclosure 1 includes changes to WCAP-17308-NP in response to EPTB-RAI 1. The consistency of symbols and definitions of symbols throughout the WCAP-17308-NP, was not completely applied. Enclosure 1 completes the response to EPTB-RAI 1 consistently throughout the WCAP-17308-NP.

In particular, the following items were addressed in Enclosure 1.

- The word "is" was revised to "in" on page 2-13 (OG-13-126 Enclosure Attachment 1). Equation 14 on Page 4-2 of the WCAP requires the rotational speed to be in rad/sec, as opposed to rpm, and the gravitational acceleration to be in the denominator, for consistency of units throughout the equation. This equation is used to derive another equation (WCAP Equation 25, which is for calculating change in inertia) and is not used for performance calculations. These changes do not impact the Equation 25 methodology, however applying the original equation that was transmitted in OG-13-126 would not produce correct results. These changes are reflected in the marked-up in Enclosure 1. The definitions of terms for Equations 16 and 18 were relocated directly under their respective equations consistent with the format of the other equations. The proper location is reflected in the marked-up OG-13-126 Enclosure Attachment 1.
- The Equation referenced in Section 4.2.1, on Page 4-4 of the WCAP and in OG-13-126 Enclosure Attachment 1 was revised due to a Microsoft Word field link error. The revised Equation reference is reflected in the mark-up. OG-13-126 Enclosure Attachment 4 revised Equation 5 in Section 2.2.6 on Page 2-3 of the WCAP to ensure

that the maximum change in pump speed would be obtained. Changes to the symbols for speed (change of "S" to " ω ") in the response to EPTB-RAI 1 were not completely applied in OG-13-126 Enclosure Attachment 4. The enclosed changes complete the changes associated with the EPTB-RAI 1 response consistently throughout the document.

- OG-13-126 Enclosure Attachment 4 included changes to the pump speed uncertainty in Section 2.4.6 on Page 2-7 of the WCAP in the worked example problem of Section 2.4 as a result of the change in Equation 5 (Section 2.2.6, Page 2-3). The number of significant digits associated with the change in speed in Section 2.4.6 was not truncated from 26.73 rpm to 26.7 rpm in the OG-13-126 Attachment 4 markup. This markup was revised and was also applied in Section 2.4.7 on Page 2-7 of the WCAP.

Enclosure 2 includes changes to WCAP-17308 in response to EPTB-RAI 4.

Enclosure 3 includes changes to WCAP-17308 in response to EPTB-RAI 5. The response to RAI-EPTB 5 in OG-13-126 Enclosure Attachment 3 provided a worked example, instead of the final margin calculation in Section 4.4 of the WCAP. The RAI response identified that the required margin of the worked example increased to 2.4%. Enclosure 3 mark-up provides clarifications and corrections to equations, assumptions, and calculations. The discussion that the resultant margin has to be greater than or equal to 1 was deleted.

Enclosure 4 includes changes to WCAP-17308 associated with revision to Equation 5.

Enclosure 5 contains additional changes to WCAP-17308-NP that were not included in OG-13-126. These changes are included to define additional acronyms in the text (WCAP Pages 1-1, 1-2, and 4-1), to correct the subject-verb agreement on Page 1-5 of the WCAP, and to complete the application of the response to EPTB-RAI 1 on Page 2-5 of the WCAP.

Following receipt of the Final Safety Evaluation for WCAP-17308-NP, the NRC approved version will be issued as WCAP-17308-NP-A, Revision 1 and will incorporate all changes as described above.

If you have any questions, please do not hesitate to contact me at 205-992-7037 or Mr. W. Anthony Nowinowski of the PWR Owners Group Program Management Office at 412-374-6855 or Chad Holderbaum at 412-374-6230.

Sincerely yours,



Jack Stringfellow, Chairman
PWR Owners Group

NJS:CMH:rft

Enclosures (5)

cc: PWROG Management Committee
PWROG Licensing Committee
PWROG Steering Committee
PWROG PMO
J. Rowley, USNRC
C. Holderbaum, W
J. Andrachek, W
J. Moorehead, W
S. Swantner, W
D. Olinski, W
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R. Becse, W
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