

UNION ELECTRIC COMPANY

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ST. LOUIS, MISSOURI

May 4, 1983

DONALD F. SCHNELL
VICE PRESIDENT

MAILING ADDRESS:
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Mr. W. S. Little, Chief
Project Engineering Branch
US Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

ULNRC- 624

Dear Mr. Little:

INSPECTION REPORT NO. 50-483/82-21

This reply is a follow-up to our letter of April 8, 1983 (ULNRC-616) provided in response to your letter of March 8, 1983 which transmitted the report of the inspection conducted at Callaway Plant, Unit 1 during the period of November 29 to 30 and December 1 to 3, 1982. An interim response to item of noncompliance 50-483/82-21-07 is presented below.

None of the material in the inspection report or in this response is considered proprietary by Union Electric Company.

(50-483/82-21-07) SEVERITY LEVEL V VIOLATION

10 CFR, Criterion V, states in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings...and shall be accomplished in accordance with these instructions, procedures or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

Daniel International Procedure WP-303, Revision 13, "Installation of Wire and Cable," states in Section 3.10, "Caution must be observed to prevent exceeding maximum allowable pulling tensions for any particular type cable specified by Reference 2.14 (Bechtel Drawing No. E-01013(Q))."

Bechtel Drawing No. E-01013(Q), Revision 6, "Installation, Inspection, and Testing Details for Electrical Equipment and Cable," Paragraph 5.3.4, states in part, "Neither the pulling tension nor the sidewall pressure shall exceed the maximum value in Appendix B." Appendix B to Drawing E-01013(Q) lists the maximum sidewall pressure for Cable Code B32 triplexed cable as 450R pounds (R is the radius in feet).

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Contrary to the above, the tension exerted in pulling Class 1E Cable No. 1ALB01AA apparently resulted in the maximum allowable sidewall pressure exceeding Bechtel's design specification. The subject cable was pulled through a three foot radius conduit (1B2F1E) bend with a tension of 2300 pounds, in apparent violation to Bechtel's design criteria of 1350 pounds.

Response

This is an interim response as Union Electric, through our Lead A/E, is continuing to communicate with the affected cable manufacturer to verify the validity of the maximum values listed in Appendix B to E-01013(Q). In recent communications, the vendor has indicated that the maximum allowable sidewall pressure (expressed in the form of a maximum allowable pulling tension on the cables at a bend outlet) for the subject cable is 270R in lieu of the 450R value originally provided by them. In addition, they have tentatively indicated that it is inappropriate to apply additionally the weight correction factor commonly used in the industry, for a triangular or triplexed configuration, in calculating the maximum allowable sidewall pressure tension. This is contrary to accepted industry practice, our constructor's practice, and the intent of our Lead A/E regarding the use of the values in E-01013(Q) Appendix B.

The vendor is currently conducting a test program in order to confirm or reject the maximum sidewall pressure values originally provided and the appropriateness of applying industry weight correction factors (for various configurations) to these values. The results of this testing are not expected until approximately June 1, 1983. Concurrent with our Lead A/E's communications with the vendor, the other power cable vendor for the project has been contacted and has confirmed the acceptability of the E-01013(Q) Appendix B values and the appropriateness of the application of the industry weight correction factors for the various power cable configurations.

The immediate construction impact of the uncertainty surrounding the vendor's maximum sidewall pressure values is negligible as all of the subject cable has been pulled. No Class 1E re-pulls of this power cable, in conduit configurations judged by our constructor to require cable pulling tension calculations, will be permitted until clarifying information from the vendor's test program is made available. A final response to this item, including an estimated date for full compliance, will be provided as information becomes available which permits a better definition of the noncompliance. An additional response to this item will be provided no later than July 1, 1983.

May 4, 1983

If you have any questions regarding this response or if additional information is required, please let me know.

Very truly yours,



Donald F. Schnell

JJS/msc

cc: Mr. H. M. Wescott, NRC Region III
NRC Resident Inspector, Callaway Plant
Missouri Public Service Commission