

UNION ELECTRIC COMPANY

1901 GRATIOT STREET
ST. LOUIS, MISSOURI

DONALD F. SCHNELL
VICE PRESIDENT

January 27, 1984

MAILING ADDRESS:
P. O. BOX 149
ST. LOUIS, MISSOURI 63166

Mr. W. S. Little, Chief
Engineering Branch 2
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

ULNRC-734

Dear Mr. Little:

INSPECTION REPORT NO. 50-483/83-28

This reply is in response to your letter of December 28, 1983 which transmitted the report of the inspection conducted at Callaway Plant, Unit 1 during the period of November 28-30 and December 1-2, 1983. Our response to the item of noncompliance is presented below.

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

(50-483/83-28-02) SEVERITY LEVEL V VIOLATION

10 CFR 50, Criterion V, states in part, "Activities affecting quality shall be prescribed by documented instructions, 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."

SNUPPS Quality Assurance Programs for Design and Construction, Section 7.1.5 states in part, "Each major SNUPPS contractor is responsible for controlling its activities affecting quality in accordance with documented procedures, instructions, drawings... each construction manager or constructor is responsible for establishing measures to: (a) prescribe controls for activities affecting quality in procedures, instructions, drawings or checklists as appropriate to both the activity and the relative importance to safety (b) Accomplish quality activities in accordance with these procedures, instructions, drawings or checklists (c) Provide measures for inclusion of quantitative...acceptance criteria for determining that an activity affecting quality has been satisfactorily accomplished."

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Contrary to the above, acceptance criteria for the torquing of Class 1E relay panels, identified as RP 334 and RP 335, to their respective foundations was not clearly established. The torquing criteria for cable tray splicing in drawing C-0404 was used for concrete expansion anchors instead of the required Bechtel specification No. 10466-C-103A. It appears the licensee had improperly incorporated the criteria in drawing C-0404 into the Daniel International procedure, titled Installation of Electrical Equipment QCP-305. Consequently, the twelve five-eighths inch concrete expansion anchors for each of the relay panels were torqued to 50 ft-lbs. in lieu of 80 ft-lbs, as required by Bechtel specification No. 10466-C-103A.

Response

An investigation was performed on the installation of RP 334 and RP 335. This work is documented on Work Assignment WA-EQI-31501, completed 5/26/83. The investigation included a review of the listed installation drawings. During the review Field Change Request 2FC-2595 was examined.

This FCR requests that "Bechtel to supply cabinet hold down bolt torque for each panel". Bechtel's response states, "Bolts for subject panels should be torqued per vendors' specification. If vendor drawings do not depict torque for bolts, then constructor should adhere to Civil Drawing C-0003, Note 6."

Delcon then reviewed drawing 10466-E-093-0083 for vendor recommendations; none were provided. Therefore, Note 6 on drawing C-0003 was applicable for this installation.

Note 6 on C-0003 states, "Nuts on anchor bolts shall be snug tight. Snug tight is defined as the tightness obtained by the full effort of a man using an ordinary wrench, unless otherwise indicated on the drawing."

Delcon Engineering has determined that this torque would, for a 5/8" bolt, be approximately 50 ft-lbs. Delcon discussed the installation documentation with Quality Inspection. Quality Inspection has determined that the inspector was not documenting a pre-determined torque value on the work assignment, but rather had checked for snug tight as required. The inspector determined from the inspection that the resulting torque value was 50 ft-lbs. which he recorded on the work assignment.

Delcon reviewed QCP-305 to determine if incorrect values for anchor bolts were listed. Inspection guidelines for anchor bolts are contained in Appendix III and Appendix IV. Appendix III addresses inspection of installations utilizing drilled in concrete expansion anchor bolts. Two sets of torque values are listed. The first set

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is for equipment mounted on unistrut secured by drilled-in concrete expansion anchors per Drawing C-0605. Such drilled-in anchors are torqued per Drawing C-0404. The second set is for equipment mounted directly to the concrete surface and secured by drilled-in concrete expansion anchors. Such anchors are torqued to specification 10466-C-103A.

Appendix IV addressed inspection of installations utilizing anchor bolts embedded in the concrete when it was poured, where vendor specifications do not provide torque values. This appendix reflects the requirements of Structural Steel General Notes; Note 6 on Drawing C-0003.

We have verified that RP 334 and RP 335 panels are mounted with anchor bolts embedded in the concrete. The snug tight method of torquing is therefore applicable.

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

Very truly yours,


Donald F. Schnell

WSS/jds

cc: J. E. Konklin, NRC Region III
NRC Resident Inspectors, Callaway Plant (2)
Missouri Public Service Commission