

UNION ELECTRIC COMPANY
1901 GRATIOT STREET
ST. LOUIS, MISSOURI

April 13, 1983

DONALD F. SCHNELL
VICE PRESIDENT

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

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

ULNRC- 618

Dear Mr. Little:

INSPECTION REPORT NO. 50-483/82-20

This reply is in response to your letter of March 15, 1983 which transmitted the report of the inspection conducted at Callaway Plant, Unit 1 during the period of December 13-14, 1982 and January 5-7, 1983. Our responses to the Items of Noncompliance are presented below in the order listed within the body of Inspection Report Number 50-483/82-20.

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

(50-483/82-20-01) SEVERITY LEVEL V VIOLATION

10 CFR 50, Appendix B, Criterion III, states, in part, that "Measures shall be established to assure that applicable...design basis...for those structures, systems, and components...are correctly translated into specifications, drawings, procedures, and instructions."

10 CFR 50, Appendix B, Criterion V, states, in part, that "Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

Standardized Nuclear Unit Power Plant System (SNUPPS) "QA Program for Design and Construction", Revision 4, dated December 1981, Paragraph 17.1.3 states, in part, that "The SNUPPS utilities quality assurance program requires that the design of the safety-related structures, systems, equipment and components of the SNUPPS nuclear power plants be controlled so that applicable regulatory requirements and design bases are properly translated into specifications and drawings. The SNUPPS utilities require that the major contractors identify sequential review requirements and assignments for each function throughout the design and engineering process, such as: conceptual and

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preliminary design and development of drawings, specifications and supporting calculations."

Contrary to the above, the architect engineer's design control relative to the piping suspension systems was considered to be deficient in the following areas:

- a. The program lacked design criteria that would ensure piping seismic movement was sufficient to allow snubber lock up and compression to reach its full load capacity. Several of the observed snubber installations had not been evaluated to ensure their functionability.
- b. The inspection instructions for the stiff re-enforced pipe clamps provided by the architect engineer were not adequate to ensure sufficient critical load bearing surfaces were achieved to maintain overall snubber design structural assembly spring stiffness.

Response

Union Electric Nuclear Engineering and the lead A/E are continuing to evaluate this item. A response to this item will be transmitted to Region III no later than June 1, 1983.

(50-483/82-20-03) SEVERITY LEVEL V VIOLATION

10 CFR 50, Appendix B, Criterion X states, in part, "A program for inspection of activities affecting quality shall be established and executed by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity."

Standardized Nuclear Unit Power Plant System (SNUPPS) "QA Programs for Design and Construction", Revision 4, dated December 1981, Paragraph 17.1.10 states, in part, that, "The SNUPPS utilities have assigned the responsibility for detailed implementation of inspection to the following: Bechtel, Westinghouse, each site A/E, and each construction manager or constructor for their respective scope of work. Each utility has or will establish provisions for auditing the implementation of their involvement in the inspection of activities affecting quality. Since many of the activities associated with design and construction are performed by major contractors, the SNUPPS utilities place emphasis on audit and surveillance of inspection activities performed by these organizations. This surveillance supplements the detailed inspections utilized by the major contractors."

Contrary to the above, the present QC inspection program did not require final piping suspension system inspection until all components were installed and fasteners tightened. As a result, deficiencies could not be identified by the QC staff in a timely manner and thus initiate management corrective action and preventive measures.

Corrective Action Taken and the Results Achieved:

QCP-200 has been revised to more clearly describe in-process inspections. General configuration and location is now defined to include item dimensions, angularity/perpendicularity, axial orientation, fit-up inspection, and location verification using pipe location together with building and column lines and elevations.

Corrective Action To Be Taken to Avoid Further Noncompliance:

Exhibit BI of QCP-200, Revision 17 (Component Support Inspection Checklist) has been revised to more accurately reflect the stage of inspection. This was achieved by incorporating an additional matrix in the checklist.

The Date When Full Compliance Will Be Achieved:

Full compliance was achieved on January 22, 1983.

(50-483/82-20-04) SEVERITY LEVEL V VIOLATION

10 CFR 50, Appendix B, Criterion XVI, states that, "Measures shall be established to assure that conditions adverse to quality, such as failure, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management".

Standardized Nuclear Unit Power Plant System (SNUPPS) "QA Program for Design and Construction," Revision 14, dated December 1981, Paragraph 17.1.16 states, in part, that, "The SNUPPS utilities have established a corrective action program which determines the need for corrective action and assures that conditions adverse to quality are promptly identified, reported, corrected and that the corrective action is appropriate and effective. The program requires that the cause of the adverse condition be determined, corrective action be taken to preclude repetition, and verification be made that these actions have been implemented in a timely manner in accordance with specified requirements."

Contrary to the above, the corrective actions taken in relation to an item of noncompliance for not establishing an adequate piping suspension QC inspection program were considered to be deficient in the following ways:

- a. Program and installation deficiencies continued to be identified during this inspection.
- b. The licensee failed to implement their commitment to Region III in that the present procedure does not include the time limitation requirement of inspection within 30 days subsequent to the hardware installation completion.

As of the date of this inspection, more than 1,000 restraint/support assemblies, among the approximately 4,000 units installed, did not receive adequate inspections in the areas of support location, configuration, orientation, and condition.

Correction Action Taken And The Results Achieved:

At the time of the NRC Inspection, 1290 hangers were identified which were essentially completed, but had not been final inspected within a thirty (30) day time frame. That number has now been reduced to 489. Final inspection of these completed hangers will be accomplished on a system priority basis. No schedule has been set for final inspection of the remaining hangers; however, we will continue to track and reduce this number, as discussed with the Inspector at the Callaway NRC Exit Meeting.

Also at the time of the NRC Inspection, 613 hangers (estimated at 550 at the Exit Meeting) were identified which were in some stage of erection, without an inspection status. This specific category of hangers has been inspected and statused under the new inspection program utilizing the new checklist.

WP-200 (Field Fabrication and Installation of Safety Related Piping and Component Supports), Revision 20, and QCP-200 (Inspection of Fabrication and Installation of Safety Related Piping and Component Supports), Revision 17, more clearly define in-process inspection requirements. In addition, Exhibit BI of QCP-200 incorporated an additional matrix into the checklist which more accurately reflects the stage of inspection. All new erections of pipe hangers are subject to the revised inspection program and new checklist which are designed to assure timeliness.

The procedure revisions described above provide "real time" inspection, i.e., inspections are made as soon as Construction completes each erection phase.

Corrective Action To Be Taken To Avoid Further Noncompliance:

Implementation of WP-200 and QCP-200 is designed to avoid further noncompliance.

The Date When Full Compliance Will Be Achieved:

Procedure revisions and documented training to implement the program were completed by January 22, 1983.

The group of hangers (613) which were in some stage of erection, without inspection status, has been inspected and stasured. This action was completed by March 24, 1983.

(50-483/82-20-05) SEVERITY LEVEL V VIOLATION

10 CFR 50, Appendix B, Criterion XV states, in part, that "Measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation. These measures shall include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations."

Standardized Nuclear Unit Power Plant System (SNUPPS) "QA Programs for Design and Construction", Revision 4, dated December 1981, Paragraph 17.1.15 states, in part, that, "The quality assurance program established by the SNUPPS utilities provides measures to prevent inadvertent use or installation of safety-related materials, parts and components when determined not to be in compliance with the requirements of applicable codes, standards, drawings, specifications or other procurement documents. The program requires identification, classification, resolution and followup of material nonconformances which are detected during the course of design, procurement, construction and preoperational testing activities." "Reviews are made of material nonconformance reports to determine quality trends. For activities within the scope of the SNUPPS concept, these reviews are performed by the SNUPPS organization and results are documented and submitted to each utility. For activities outside the scope of the SNUPPS concept, these reviews are performed by each utility's QA organization and results are documented and submitted to the utility's management.

Contrary to the above, the present "QC Hanger Discrepancy Report" system contained in DIC Procedure WP-200, and the "Minor Discrepancy Report" system contained in DIC Procedure AP-VII-02 were considered to be inadequate based on that fact that there were no specific scope and limitations prescribed for use of these systems. In addition, there were no instructions provided for the site personnel on how these systems should be implemented.

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Corrective Action Taken And The Results Achieved:

Daniel has performed a review of the overall program utilized in reporting minor discrepancies. ICP-1 to AP-VII-02, Revision 11 proceduralized the "Hanger Discrepancy Report" (HDR) and the "Minor Discrepancy Report" (MDR) on January 14, 1983. Revision 12 of AP-VII-02 was issued on April 6, 1983, officially incorporating the ICP.

WP-200, Revision 20 and QCP-200, Revision 17 were issued effective January 22, 1983. Documented training sessions for appropriate Quality and Engineering personnel were completed by January 22, 1983.

While the above actions have substantially strengthened the MDR/HDR Program, we consider those actions to be interim. Further refinement is proposed and in-process.

Corrective Action To Be Taken To Avoid Further Noncompliance:

Meetings are currently being held to establish further refinement and develop specific uses for an MDR/HDR. Site procedures will be revised to incorporate further changes which result from the meetings.

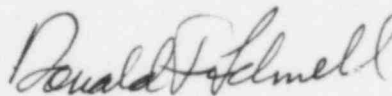
Following completion of the above actions, documented training sessions will be held for appropriate Quality and Engineering personnel.

The Date When Full Compliance Will Be Achieved:

ICPs will be issued to appropriate site procedures by April 30, 1983. Full compliance will be achieved by May 31, 1983, upon completion of documented training and incorporation of ICPs into site procedures.

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

Very truly yours,



Donald F. Schnell

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