



910

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

Docket Nos.: STN 50-483  
STN 50-486

REC-70 1980

Union Electric Company  
ATTN: Mr. J. K. Bryan  
Vice President  
P.O. Box 149  
St. Louis, Missouri 63166

Dear Mr. Bryan:

SUBJECT: QA PROGRAM FOR DESIGN, CONSTRUCTION AND FIRE PROTECTION

We have completed our review of the Callaway Plant specific quality assurance program description included in the SNUPPS submittal of December 20, 1979. From our review we have determined that we need additional information as set forth in Enclosure 1. Questions regarding the SNUPPS portion of the December 20, 1979 submittal were forwarded to SNUPPS (Mr. N. A. Petrick) by letter dated January 22, 1980.

Additionally, as a result of our review of your Fire Protection Quality Assurance Program, also forwarded in the SNUPPS submittal of December 20, 1979, we find that we need additional information as set forth in Enclosure 2.

Please notify us as to when we can expect responses to this request for information. If questions arise regarding this request, please contact us.

Sincerely,

*Olan D. Parr*  
Olan D. Parr, Chief  
Light Water Reactors, Branch No. 3  
Division of Project Management

Enclosures:  
As stated

8004070189

Mr. J. K. Bryan

MAR 20 1980

cc: Mr. Nicholas A. Petrick  
Executive Director - SNUPPS  
5 Choke Cherry Road  
Rockville, Maryland 20850

Gerald Charnoff, Esq.  
Shaw, Pittman, Potts,  
Trowbridge & Maddox  
1800 M Street, N.W.  
Washington, D. C. 20036

Mr. J. E. Birk  
Assistant to the General Counsel  
Union Electric Company  
P. O. Box 149  
St. Louis, Missouri 63166

Dr. Vern Starks  
Route 1, Box 863  
Ketchikan, Alaska 99901

Ms. Treva Hearn, Assistant General  
Counsel  
Missouri Public Service Commission  
P. O. Box 360  
Jefferson City, Missouri 65102

Resident Inspector  
U. S. Nuclear Regulatory Commission  
P. O. Box 1748  
Jefferson City, Missouri 65101

ENCLOSURE 1

CALLAWAY PLANT (SNUPPS)

Request for Additional Information

1. The responsibilities of Daniel International Corporation are listed in the first paragraph on page 17.0-2. The list does not include quality control. Identify the organization(s) responsible for quality control at the Callaway Plant site.
2. The description of the QA program for the Callaway Plant refers to PSAR Section 17.1. (See the first paragraph on page 17.1-1 for example.) Since the SNUPPS submittal of December 20, 1979 includes the "Quality Assurance Program for Design and Construction," which updates PSAR Chapter 17, change references to PSAR Section 17.1 to reference the appropriate sections of this later QA program description.
3. There appears to be an inconsistency between the text and Figure 17.1-1 in that the last paragraph on page 17.1-2, the first paragraph on page 17.1-3, and elsewhere refer to "a site QA group leader" whereas Figure 17.1-1 shows a "Supv. Engr. QA (Site)." Please clarify.
4. The last sentence of the first complete paragraph on page 17A.1-3 introduces the concept of the QA Department reviewing selected design documents. Identify who (by position title) selects which design documents are reviewed by the QA Department and the bases of the selection. The next paragraph and the first complete paragraph on page 17A.1-11 state that QA personnel either participate in the Integrated Design Review or audit it. Identify who (again by position title) selects which Integrated Design Reviews do not require QA personnel participation and the bases of the decision. Identify which organization reviews for quality assurance when QA personnel do not participate.
5. Discuss the significance of changing "decisions" to "problems" in part (d) on page 17B.1-5 and part (h) on page 17B.1-8.
6. Discuss the significance of the change made on page 17B.1-22, under part 17B.1.15 from:  
  
"Documented approval is provided to Daniel prior to releasing any nonconforming item for installation or construction when it has been repaired or designated 'use as is.'" to  
  
"Documented approval of the nonconformance disposition is provided to Daniel for those items dispositioned 'repair' or 'use as is'."
7. In Appendix A on page 17B.1-27, Daniel takes exception to two requirements in Section 5.4 of ANSI N45.2.5-1974. When others have taken these same exceptions, we required additional controls as shown below:

The construction manager or constructor will provide quality control measures on direct tension indicators based on applicable AISC documents, and as a minimum will perform the following:

- a. To verify the load indicating qualities of the load indicators, at least three load indicators from each keg shall be verified in a calibration device similar to that required for wrench calibration. If nut face washers are used between the indicators and the nuts, the indicators shall be tested with washers at the rate of three washers from each keg. Each verification test shall show not less than the specified gap when bolt is tightened to the specified tension.
- b. Load indicator washers shall be installed in accordance with the manufacturer's instructions. When a load indicator is required under the nut a special nut face washer shall be fitted between the indicator and the nut.
- c. Bolted joints made with load indicators shall be inspected visually to ensure that all bolts have the load indicators properly installed and to the proper gap. At least 20 percent of the bolts in each connection but not less than two bolts shall be checked with a feeler gage to determine the bolts are properly tightened.
- d. Direct tension indicators used with bolts that have been tightened to the full extent specified in Table 3 of AISC specification S314-5/75, "Structural Joints Using ASTM A325 or A490 Bolts," May 8, 1974, shall not be reused.

Section 5.4, second paragraph, Item 1 of the standard requires that "Bolts are the correct length as indicated by at least two threads extending beyond the nut." This provision exceeds the requirements contained in present and past issues of the RCRBSJ Specification which requires "full thread engagement." This term is then defined: "Full thread engagement is deemed to have been met when the end of the bolt is flush with the face of the nut." The construction manager or constructor proposes the alternative to the requirement for "at least two threads extending beyond the nut" by use of the industry practice of bolts flush with the face of the nut.

Provide a commitment to such controls or alternatives for our assessment.

8. The fire protection QA program for the Callaway Plant is not clear. While providing a general commitment to selected portions of the overall QA program, part 17C then limits the commitments such that the general commitment appears meaningless, and the limiting commitments do not appear to be completely responsive to Mr. Vassallo's letter of August 29, 1977. Please clarify. (See Enclosure 2)
9. Discuss how the QA program for non-Category I Seismic Systems provided in part 17C of the Callaway submittal meets the pertinent QA requirements of Appendix B to 10 CFR Part 50.

ENCLOSURE 2

Callaway Plant &  
Wolf Creek Generating Station

Questions on Fire Protection QA Program

1. For design and installation activities after receipt of the Vassallo letter of August 29, 1977, include a commitment in the second paragraph of criterion 2 that these activities will be accomplished in accordance with documented instructions, procedures, and drawings.
2. Provide a statement under the third paragraph of criterion 2 that "appropriate fire protection requirements" include such things as precautions, control of ignition sources and combustibles, provisions for backup fire protection if the activity requires disabling a fire protection system, and restriction on material substitution unless specifically permitted by design and confirmed by design review.
3. Under criterion 4.0, "Inspection," provide a commitment that inspections related to the fire protection program include the emergency lighting and communication equipment.
4. The third paragraph under criterion 4 states that "Inspections are (or "will be") performed by individuals other than those who performed the activities being inspected." It is the staff position that these inspections be performed by QA personnel in order to assure sufficient independence of the inspector from the individual whose work is being inspected and from undue influence from cost and schedule. Commit to meet this staff position or provide an alternative for our evaluation. Also provide a commitment that the inspection personnel are knowledgeable in the design and installation requirements for fire protection.
5. Under criterion 4.0, "Inspection," provide a commitment that the QA program for fire protection includes inspection procedures, instructions, and check lists which provide for:
  - a. Identification of characteristics and activities to be inspected;
  - b. Identification of the individuals or groups responsible for performing the inspection operation;
  - c. Acceptance and rejection criteria;
  - d. A description of the method of inspection;
  - e. Recording evidence of completing and verifying a manufacturing, inspection or test operation; and
  - f. Recording inspector or data recorder and the results of the inspection operation.
6. Under criterion 4.0, "Inspection," include a commitment that periodic inspections of fire protection systems, emergency breathing and auxiliary equipment,

emergency lighting, and communication equipment will be made to assure the acceptable condition of these items.

7. Under criterion 5, "Test and Test Control," provide commitments to the following:

A test program shall be established and implemented to assure that testing is performed and verified by inspection and audit to demonstrate conformance with design and system readiness requirements. The tests are performed in accordance with written test procedures, and test results are properly evaluated and acted on. The test program includes

- a. Installation Testing - Following construction, modification, repair or replacement, sufficient testing is performed to demonstrate that fire protection systems, emergency lighting and communication equipment will perform satisfactorily in service and that design criteria are met. Written test procedures for installation tests incorporate the requirements and acceptance limits contained in applicable design documents.
  - b. Periodic Testing - The schedules and methods for periodic testing are developed and documented. Fire protection equipment, emergency lighting, and communication equipment are tested periodically to assure that the equipment will properly function and continue to meet the design criteria.
  - c. Programs are established for QA/QC to verify testing of fire protection systems and to verify that test personnel are effectively trained.
  - d. Test results are documented, evaluated, and their acceptability determined by a qualified responsible individual or group.
8. Under criterion 7, "Nonconforming Items," indicate that nonconforming emergency lighting and communication equipment is controlled as part of the QA program for fire protection.
9. Under criterion 7, "Nonconforming Items," provide a commitment that procedures identify the individuals or groups delegated the responsibility and authority for the disposition and approval of nonconforming items.
10. Under criterion 10.0, "Audits," provide a commitment that follow-up action is taken by responsible management to correct deficiencies revealed by audit.
11. Under criteria 1, "Design Control and Procurement Document Control," and 3, "Control of Purchased Material, Equipment, and Services," provide a commitment that the requirements of the corresponding criteria of the Vassallo letter of August 29, 1977 have been met since receipt of the letter and will continue to be met as long as such activities are performed unless the NRC is notified otherwise.
12. (Callaway Plant only) Replace or justify the deletion of "receipt" inspection under criterion 1.