

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-84-25 CP: CPPR-103

Docket: 50-

Licensee: Louisiana Power & Light Company (LP&L)
Delronde Street
New Orleans, Louisiana 70174

Facility Name: Waterford Steam Electric Station, Unit 3

Inspection At: Taft, Louisiana

Inspection Conducted: June 4-8, 1984

Inspectors: J.R. Boardman 7/23/84
J. R. Boardman, Reactor Inspector, Project Section A, Reactor Project Branch 1 Date

Approved: E.H. Johnson 7/30/84
PJC J. P. Jaudon, Chief, Project Section A, Reactor Project Branch 1 Date

Inspection Summary

Inspection Conducted June 4-8, 1984 (Report 50-84-25)

Areas Inspected: Reactive, unannounced inspection of followup on previously identified items, licensee closeout actions regarding significant construction deficiency (SCD) 79, and maintenance.

The inspection involved 34 inspector-hours onsite by one NRC inspector.

Results: Within the three areas inspected, two violations were identified in one area (maintenance), (lack of procedures for obtaining, use, and control of vendor manuals and technical data for maintenance, and failure to have maintenance procedures implementing ANSI N45.2.5).

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DETAILS

1. Persons Contacted

Principal Licensee Employees

- *K. A. Simister, Commercial Manager
- *R. F. Burski, Engineering and Nuclear Safety Manager
- *J. R. McGaha, Maintenance Superintendent
- *M. J. Meisner, Licensing
- *L. F. Storz, Assistant Plant Manager
- *J. Woods, Plant Quality Assurance Manager
- T. Chiles, Material Superintendent
- *W. M. Morgan, Operation QA Manager
- *W. J. Baldwin, Senior Operations QA Representative
- *J. B. Perez, Senior Operations QA Representative
- *R. Bennett, Senior Operations QA Representative
- *P. V. Prasankumar, Technical Support Supervisor
- *D. T. Simpson, Plant Training
- *J. M. Guillot, Senior QA Representative
- *K. Dols, QA Representative
- R. B. Willis, Nuclear Safety Supervisor
- *J. K. Somsell, On-Site Licensing Engineer
- C. N. Hooper, Operations QA Engineer
- S. Alleman, Assistant Plant Manager
- R. Masters, Mechanical Maintenance
- R. Legene, Plant Engineering Administration
- D. Ricca, Maintenance
- M. Green, QA Engineer
- T. Payne, Instrumentation and Controls
- K. LeBlanc, Maintenance
- H. A. Canavier, Maintenance
- R. J. Bently, On-Site Licensing Engineer

EBASCO Services, Inc. (EBASCO)

- J. R. Pertuit, QA Engineer
- *J. B. Hart, Nuclear Licensing
- *K. O'Gara, Nuclear Licensing

NRC Personnel

- *T. Flippo, Resident Inspector

*Denotes those attending the exit interview on June 8, 1984.

The NRC inspector also interviewed other licensee and contractor personnel.

2. Follow-Up On Previously Identified Items

a. (Closed) (50-382/8424-03) Unresolved Item

This item dealing with the generic aspects of control and implementation of vendor maintenance instructions is covered in paragraph 4 of this report.

b. (Closed) (50-382/8424-04) Unresolved Item

This item dealing with licensee control of manuals is covered in paragraph 4 of this report.

3. Review of Licensee Significant Construction Deficiency

a. (Closed) SCD 79. Unqualified Components in Hydrogen Analyzers

The NRC inspector reviewed licensee and EBASCO documentation and verified that adequate documentation existed on the pump-to-motor coupling (the old coupling was apparently remachined), and that the replacement motors were acceptable. Generic concerns discussed in NRC inspection report 50-382/84-24, paragraph 2.j. are discussed in paragraph 4 of this report.

This SCD is closed.

4. Maintenance

The NRC inspector reviewed LP&L and EBASCO maintenance and maintenance procedures as follows:

a. Lack of Procedures for Control of Vendor Instruction Manuals and Other Technical Data

(1) Apparent Use of Unapproved Manuals

Because of the concerns raised in NRC inspection report 84-24 by the lack of control for vendor instruction manuals, the NRC inspector reviewed the licensee's control of vendor manuals and technical data.

The NRC inspector found that EBASCO letter LW3-1230-82, dated October 13, 1982, requested copies of all vendor instruction manuals held by LP&L which had not been reviewed and issued to LP&L by EBASCO. An enclosure to the EBASCO letter provided a list of the manuals reviewed, approved, and issued for site activities.

The licensee transmitted by letter on November 30, 1982, 140 unreviewed manuals. Neither the licensee nor EBASCO could identify to the NRC inspector that these manuals had been subsequently reviewed and issued. The NRC inspector reviewed several of the 140 listed manuals and found them to be still unapproved by EBASCO.

Limitorque manual (document access No. 45700469), which was on the list of 140, was reviewed by the NRC inspector. The licensee document review checklist, signed by a different person, showed the EBASCO Purchase Order NY-403453 (for GE switchgear). This manual still was not approved by EBASCO.

(2) Unapproved Changes to Manuals

One of the manuals reviewed by the NRC inspector was neither on the list nor approved by EBASCO. This was a "Limitorque Instruction and Maintenance" manual (licensee document access No. 457000468), copy "005". This manual had attached to its front a completed form, "Waterford 3 Document Review Checklist." The checklist showed that the manual was applicable, was for safety-related components, and was for EBASCO Purchase Order NY-403453. The NRC inspector reviewed this purchase order which is for General Electric switchgear, not Limitorque operators.

The checklist also stated that it was for copy "003" (not copy "005" to which it was attached) and that "copies 001 and 002 should be deleted as this copy (003) contains that and more information." This statement shows that there were no controls to prevent on-site changes to vendor manuals, since the master copy was "001," according to licensee personnel. The NRC inspector noted that licensee memoranda to file, W3P83-3838, dated November 18, 1983, states that Limitorque manual 457000468 was reviewed in response to IE Circular 79-04, indicating apparent use of this manual.

(3) Use of Unapproved Manuals

In NRC inspection report 50-382/84-24, paragraph 3, the NRC inspector noted that 583 manuals had been recalled on January 31, 1984, and could not be used without a review for applicability. This was unresolved item 382/8424-04.

On June 8, 1984, during this inspection the NRC inspector was in the licensee's document control area obtaining a vendor manual. A licensee employee requested, and obtained, an "Information Only" copy of a vendor manual, document access No. 457001467,

for Barton Model 764 Differential Pressure Electronic Transmitters. The person obtaining this manual stated that he needed it to determine the acceptability of parts ordered. The licensee had no system to document manual issues such as this, or controls to prevent such issues and use of unapproved manuals.

This manual was included on the January 31, 1984, recall and had not subsequently been reviewed. Also, the manual had not been reviewed, approved, nor issued by EBASCO.

This manual was not on the list of 140 manuals provided to EBASCO. The highest LP&L document access number on the list was 457001259. There is no documentation of subsequent reviews of later manuals (access numbers after 457001259) for EBASCO approval, or controls to assure their review, and prevent their use if unreviewed by EBASCO.

(4) Lack of Procedural Controls for Combustion Engineering Supplied Manuals

The NRC inspector verified with licensee personnel that there was no licensee procedure to assure obtaining and entering into the licensee's vendor manual document control system those vendor manuals provided by vendors in compliance with Combustion Engineering (CE) purchase orders. The NRC inspector also determined that CE manuals were not reviewed by EBASCO for site-specific applicability, or turned over to LP&L by EBASCO.

The NRC inspector reviewed CE Purchase Order 9102041, which contained a vendor instruction manual for the William Powell Company valves and Limitorque valve operators supplied on that order. Based on data available to the NRC inspector, this manual was not in the licensee's vendor manual document access system.

(5) Lack of Procedural Controls for Technical Changes

One of the reasons that the NRC inspector reviewed manuals for Limitorque operators was to determine if the licensee's vendor data control system contained recently identified problems, such as those experienced with Limitorque key stock and gear heads. The licensee's vendor manual system has no documented procedures to assure that the latest applicable vendor manuals or technical data are obtained.

The NRC inspector then contacted site licensing personnel. They stated that a system had been instituted to track all NRC

bulletins, notices, circulars, and generic letters associated with problems such as those with Limitorque operators. The licensing personnel showed the NRC inspector the CE Availability Data Program (ADP) bulletin (81-001) dealing with Limitorque keys.

The NRC inspector then asked about procedural controls and documentation of applicability and accomplishment of ADPs not related to NRC bulletins, notices, circulars, and generic letters. Licensee personnel stated that, prior to January 1, 1984, no such program or documentation existed.

The NRC inspector then asked for documentation that all applicable ADPs affecting reactor safety for Waterford, Unit 3 had been accomplished, and which ones were necessary for continued plant maintenance.

Plant licensing personnel stated that this information was not available. No other site personnel contacted by the NRC inspector, including EBASCO personnel, could provide that data, nor could EBASCO, New York, according to EBASCO site personnel.

Similarly, the NRC inspector asked about other vendor design, operations, and maintenance changes and technical data such as for EBASCO supplied safety-related GE panels. No one on-site could discuss this, nor could EBASCO, New York, according to EBASCO site personnel.

(6) Lack of Procedural Controls to Assure Use of Manual Requirements in Site Procedures

The NRC inspector reviewed the following licensee procedures which cover installation of crimped electrical terminal lugs on safety-related cable terminations, and calibration of the tools used to make the crimps:

"Maintenance Procedure, Medium and High Voltage Power Cable Terminations and Splices," ME-4-811, Revision 0, approved January 25, 1982

"Maintenance Procedure, Low Voltage Power Cable Terminations and Splices," ME-4-810, Revision 0, change 6, dated April 25, 1984

"Calibration Procedure, Calibration of Burndy Hypress Crimpers," MI-5-121, Revision 01, approved February 8, 1984

"Calibration Procedure, Calibration of Crimpers," MI-5-118, Revision 2, approved October 24, 1983

Procedure ME-4-810 covers installation of crimped electrical terminal lugs manufactured by AMP, Incorporated. This procedure limits the crimping tools ("crimpers") used to AMP crimpers 59170-AH, 59239-4, and 59250, Model AB.

Procedure MI-5-118 covers calibration of AMP crimpers. AMP Instruction/Maintenance/Inspection Sheet 151559 (Document Control No. 457000736) is referenced. This instruction sheet does not cover the crimpers required to be used by procedure ME-4-810.

Licensee calibration laboratory personnel told the NRC inspector that they had the correct AMP sheets; they produced sheets covering the crimpers on procedure ME-4-810 and other AMP crimpers. None of these vendor instruction sheets showed that they were approved and controlled copies.

The NRC inspector noted that licensee procedure ME-4-810 contained unreadable pages, and, in general, the procedure did not include all instructions contained in the manufacturer's instructions.

Similarly, in procedure ME-4-811, Reference 2.4, is Okonite Bulletin 776. The NRC inspector could not find this document in the licensee's document access system, or an approved controlled copy.

In like manner, procedure ME-4-811 allows only the use of the Burndy Model Y-46 Hypress Crimper, while procedure MI-5-121 covers calibration of only the Burndy Model Y35/Y35-2 Hydraulic Hypress Crimper.

Licensee personnel told the NRC inspector that no safety-related terminations had been made by LP&L at Waterford, Unit 3.

An example of significant problems resulting from the lack of procedures for vendor manuals is the following case of voiding the equipment qualification for the containment coolers' fan motors.

Waterford, Unit 3 has containment fan coolers manufactured by American Air Filter Company, Inc. The fan units are manufactured by Joy Manufacturing Company, are powered by Reliance Motors, and are environmentally qualified.

The American Air Filter Company (AAF) instruction manual for these units is licensee document access No. 457000237. This manual has been approved by EBASCO.

The NRC inspector noted that the licensee "Manual Review Checklist," dated May 5, 1981, did not contain an attribute showing that the manual was safety-related. This manual was not included, however, on the licensee's January 31, 1984, recall of manuals not having had the safety-related determination. This appears to be a generic problem.

The LP&L review sheet also states as a discrepancy that "Appendix B - FF14597 sheet 2 of 2 not in manual." No documented action had been taken on this omission.

Page 27 of the AAF instructions, designated "NESE 325", states:

"The fan, when shipped, will contain the correct amount and type of grease for proper bearing operation. Only Chevron SRI should be used. Refer to the Joy lubrication card in Appendix B for specific lubrication periods."

Chevron SRI-2 grease was used by Reliance in their equipment qualification of the subject motors, and all 1E motors, including harsh environment. No other grease is qualified, nor will Reliance approve equivalency. Reliance considers that use of other types of grease voids the post-LOCA and 1E qualifications of their motors. The NRC inspector verified the position of Reliance Manufacturing Company, the motor manufacturer.

The LP&L procedure for these motors, "Waterford III SES Plant Lubrication Manual," Revision 0, PMD-Y83-01 (undated), Section V, "Lube Data Schedule," page 8, shows that the subject motor bearings are lubricated at Waterford using Mobil SHC 32 grease.

The NRC inspector noted that this manual had not been in a "Not for Use" status since January 31, 1984, for not being reviewed for safety-related applications.

The NRC inspector also noted that the EBASCO maintenance procedure for these motors, "Care and Maintenance Instruction" (CMI) #174, Revision 4, dated April 29, 1981, Section F), states "Lubricate fan motor bearings per Owner's Lubrication Schedule"

CMI #174 also states in Section E.1.d:

"Purge existing Chevron SR-1 grease out of each motor bearing and fan pitch control mechanism, by hand-pumping in 3.0 cubic inches (minimum) of Mobilux EP-2 grease, or approved equal."

Purging the motor bearings of SRI-2 grease could have voided the environmental and IE qualifications of the containment fan cooler motors.

The NRC inspector considers that the apparent overall lack of a procedural document control system for vendor manuals and technical data does not provide an effective program to assure proper maintenance and preclude degradation of safety-related equipment which can result in common mode failure.

The licensee, as demonstrated by the examples provided, does not have documented procedures covering activities related to obtaining, verifying, approving, issuing, revising, and controlling of vendor instruction manuals and other technical data affecting the maintenance of safety-related equipment and components. Failure to have such procedures is an apparent violation of 10 CFR 50, Appendix B, Criterion V. (5J-382/8425-01)

b. Licensee Failure to Invoke the Requirement of ANSI N45.2.5-1974

10 CFR Part 50, Appendix B, Criterion V, requires that the licensee have procedures for activities affecting quality.

The licensee in their FSAR, Section 17.2, commits to Regulatory Guide 1.33, Revision 2, February 1978, and ANSI N18.7-1976, as endorsed.

ANSI N18.7-1976, Section 5.2.7, for maintenance and modifications requires mandatory use of ANSI N45.2.5-1974, "ANS Supplementary QA Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel during the Construction Phase of Nuclear Power Plants."

N45.2.5-1974, Section 5.4, "High Strength Bolting" contains qualifications, inspection, and calibration requirements for installation of structural bolting.

Licensee procedure MM-6-012, "Maintenance Procedure Structural Bolt Tensioning," Revision 0, dated May 26, 1982, does not reference nor contain applicable requirements of ANSI N45.2.5-1974, Section 5.4; specifically:

"If the turn-of-nut method is used, inspection shall be made to verify that the bolting crews understand the meaning of "snug tight" condition before the nut is turned through the required angle. If an automatic cut-off impact wrench is used, it shall be calibrated at least twice daily. The calibration of automatic cut-off impact wrenches shall be performed by tightening in a device capable of indicating actual bolt tension, using no less than three typical bolts of each diameter from the bolts being installed.

Inspection of bolting shall include visual inspections of bolting operations and torque wrench inspection of completed connections. All connection points shall be visually inspected for the following items:

1. Bolts are the correct length as indicated by at least two threads extending beyond the nut.
2. Correct type bolt is used as indicated by the manufacturer's marking on the head.
3. Torque has been applied as indicated by the burnishing or peening of the corners of the nut.
4. Turning elements are on the correct face; washers are used when required.

In addition, at the beginning of tightening operations, all bolts tightened by each bolting crew shall be checked until the results are consistently acceptable."

Failure to have procedures incorporating the requirements of N45.2.5-1974 is an apparent violation of 10 CFR Part 50, Appendix B, Criterion V (50-382/8425-02)

5. Exit Interview

The NRC inspector met with the licensee representatives (denoted in paragraph 1) and the NRC resident inspector at the conclusion of the inspection on June 8, 1984. The NRC inspector summarized the purpose, scope, and findings of the inspection.