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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF SECRETARY
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BRANCH

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)

CAROLINA POWER & LIGHT COMPANY)
and NORTH CAROLINA EASTERN)
MUNICIPAL POWER AGENCY)

) Docket Nos. 50-400 OL
) 50-401 OL
)
)

(Shearon Harris Nuclear Power)
Plant, Units 1 and 2))

APPLICANTS' RESPONSE TO INTERVENOR
EDDLEMAN'S PROPOSED REVISED
CONTENTION 161 (SAFETY SHUTDOWN SYSTEM FAILURE)

By a pleading dated October 10, 1983, Intervenor Wells Eddleman has proposed a revised Contention 161. Applicants Carolina Power & Light Company ("CP&L") and North Carolina Eastern Municipal Power Agency hereby oppose the admission of revised Contention 161 for the reasons set forth in detail below.

I. BACKGROUND

In a pleading dated May 7, 1983, as supplemented on May 14, 1983, Mr. Eddleman proposed a new contention 161 which alleged as follows:

Applicants have not demonstrated that the Harris nuclear reactors can be safely shutdown when shutdown is required, because of defects and possible malfunction of Westinghouse DS-416 circuit breakers used in the safety related shutdown systems at Harris.

Applicants, in their "Response to Intervenor Eddleman Proposed Contention 161 (DS-416 Circuit Breakers)," dated May 31, 1983 ("May 31 Response"), opposed admission of Contention 161 because of Mr. Eddleman's failure to state sufficient basis for the allegations made. Alternatively, Applicants proposed that the Board defer ruling on Contention 161 to allow Mr. Eddleman a period of time within which to review the recent design change to the DS-416 reactor trip switchgear undervoltage (UV) attachments, and thereafter to amend, modify or withdraw his proposed Contention 161.^{1/}

In its Memorandum and Order (Ruling on Wells Eddleman's Proposed Contention 161), dated September 7, 1983, the Board adopted Applicants' alternative to outright rejection of Contention 161. The Board noted:

Proposed Contention 161 is quite broad and does not identify any specific defects in the original circuit breaker design. The Applicants' proposal would serve the useful purpose of giving Mr. Eddleman the opportunity to formulate the contention (if he still chooses to do so) on the basis of more complete information now available.

The Board granted Mr. Eddleman thirty days from the date of its Order to revise or withdraw Proposed Contention 161 in light of the information contained in Applicants' May 31 Response.

^{1/} The NRC Staff initially did not oppose admission of proposed Contention 161. "NRC Staff Response to Wells Eddleman's Proposed Contention #161," dated May 31, 1983.

The information which Applicants provided to Mr. Eddleman and the Board regarding the DS-416 reactor trip switchgear identified a design problem and the proposed actions to correct the problem. This information was set forth in four letters attached to the May 31 Response:

- (1) Letter from E. P. Rahe, Manager, Westinghouse Nuclear Safety Department, To R. C. DeYoung, Director, Division of NRC Inspection and Enforcement, dated March 31, 1983 (Attachment A to the May 31 Response) (informing the NRC of the potential for intermittent malfunction of the UV attachment to the DS-416 reactor trip switchgear).
- (2) Letter from R. L. Whitney, Westinghouse, to L. I. Loflin, CP&L, dated April 12, 1983 (Attachment B to the May 31 Response) (informing the Harris Project Staff of the identified problem).
- (3) Letter from R. L. Whitney, Westinghouse, to L. I. Loflin, CP&L, dated April 21, 1983 (Attachment C to the May 31 Response) (identifying the design discrepancy in the UV attachment to the DS-416 reactor trip switchgear and committing to replace the defective UV attachments with components that have been modified to correct the problem).
- (4) Letter from R. M. Parsons, CP&L, Harris Project General Manager, to J. P. O'Reilly, NRC Region II, dated May 26, 1983 (Attachment D to the May 31 Response) (enclosing a report on the DS-416 reactor trip switchgear problem and the proposed corrective action).

The design discrepancy was identified as an improper tolerance between the UV attachment pivot shaft and a retaining ring. The groove in the shaft receiving the retaining ring was not increased in width to be consistent with an earlier retaining ring design change. The new retaining ring is wider than the original design and does not properly seat in the existing grooves. Westinghouse committed to

replace the UV attachments on DS-416 reactor trip switchgears. The new UV attachments have modified (widened) grooves to accommodate the new retaining ring. Furthermore, Westinghouse is developing and will implement a procedure for installation of the new UV attachments, which will ensure proper alignment and interface of the UV attachment with the breaker trip shaft. On May 26, 1983, Applicants committed to the NRC to implement DS-416 design change to correct the identified design deficiency. Applicants also indicated they were considering the implementation of another design change, then undergoing industry review, which would provide redundant actuation of an undervoltage trip signal by activation of both the UV attachment and the shunt coil attachment on the DS-416 reactor trip switch gear. Applicants have since committed to install this second design change as well.^{2/}

Revised Contention 161 alleges as follows:

Applicants have not demonstrated the ability of the Harris automatic shutdown system (SCRAM system) to avoid ATWS events in light of (1) similar events caused by improper maintenance and/or excessive wear due to added cycling of the automatic SCRAM (Federal Register Notice 7590-01, 9/22/83), and (2) improper tolerances and parts design in Westinghouse DS-416 undervoltage trip devices for

^{2/} On June 14, 1983, the Westinghouse Owner's Group (of which CP&L is a member) submitted to the NRC a proposed design change to the Westinghouse reactor protection systems to accommodate the addition of an automatic reactor trip by way of the reactor trip switchgear shunt coil trip attachment. This will provide a backup to the existing UV trip mechanism for tripping the reactor breaker. By letter dated October 21, 1983, from M. A. McDuffie, Senior Vice-President of CP&L, to H. P. Denton, Director, NRR, Applicants committed to implement

Harris. By using identical relays, undervoltage attachments and other devices in both trains of its shutdown systems, the Harris Plant also violates General Design Criterion 22 (10 CFR 50 Appendix A) requiring "functional diversity or diversity in component design . . ."

II. ARGUMENT

The Board previously agreed with Applicants that Contention 161, as originally drafted, was "quite broad." September 7 Order at 3. Revised Contention 161 is even more sweeping in scope. Mr. Eddleman previously failed to identify any specific defects in the original circuit breaker design. Revised Contention 161 offers no additional specificity. In this regard, Mr. Eddleman simply ignored the information provided by Applicants which described the modifications that would be made to the UV attachment to the DS-416 reactor trip switchgear to ensure the design problem identified by Westinghouse would be corrected. As such, revised Contention 161 fails to meet the requirements of adequate basis with requisite specificity. In addition, Mr. Eddleman attempts to bootstrap an entirely new contention to the issue originally raised in Contention 161. This new allegation misconstrues and misapplies General Design Criterion 22 and is not supported by arguments addressing the five lateness criteria of 10 C.F.R. § 2.714(a)(1).

(continued)

the shunt coil design modification. The NRC Staff has completed its review of the shunt coil trip of the reactor trip breaker and issued a Safety Evaluation Report on August 10, 1983. With the addition of the shunt coil trip, each reactor trip switchgear will be provided two independent mechanisms, either of which could result in a trip of the breaker upon a signal from the reactor protection system.

- A. WHERE INTERVENOR EDDLEMAN HAS FAILED TO ADDRESS APPLICANTS' DISCUSSION OF THE CORRECTIVE ACTION AND PREVENTIVE MEASURES TO CORRECT THE DESIGN DEFECT IN THE UV ATTACHMENT TO THE DS-416 REACTOR TRIP SWITCHGEAR, REVISED CONTENTION 161, WHICH DOES NO MORE THAN GENERALLY ALLEGE DEFECTS IN TOLERANCE AND PARTS DESIGN, MUST BE REJECTED FOR LACK OF A SPECIFIC BASIS.
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The Board afforded Mr. Eddleman an opportunity to address the information provided to the NRC by Applicants regarding measures to correct the defect detected by Westinghouse in the manufacture of the UV attachment to the DS-416 reactor trip switchgear. However, Mr. Eddleman failed to address the corrective and preventive action detailed by Applicants in their May 26, 1983 letter to the NRC which resolves the problem identified by Westinghouse in the UV attachment to the DS-416 reactor trip switchgear. See Attachment D to the May 31 Response. The Board has previously ruled that where Mr. Eddleman had failed to address Applicants' treatment of a subject as set forth in the FSAR or ER, a contention on that subject must be rejected for lack of a specific basis. Memorandum and Order (Reflecting Decisions Made Following Prehearing Conference), September 22, 1982, at 56. This ruling is clearly applicable here as well.^{3/} Applicants have no way of knowing what, if any, aspect of their proposed corrective action Mr. Eddleman finds wanting. He simply alleges "improper tolerances and parts design in Westinghouse DS-416 undervoltage trip devices." In light of Applicants' commitment to replace defective UV attachments with devices that include a

^{3/} See Duke Power Company, et al. (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 N.R.C. ____ (June 30, 1983) (slip op. at 11)

"pivot shaft with wider grooves to accommodate the new retaining ring," coupled with Westinghouse's "revised manufacturing drawings and quality control procedures to assure that critical design dimensions are maintained during manufacture," it is difficult to speculate as to the specific concern now being advanced by Mr. Eddleman.

Applicants submit that the issue raised in revised Contention 161 regarding the DS-416 reactor trip switchgear must be rejected for lack of basis with requisite specificity.

B. INTERVENOR EDDLEMAN'S GENERALIZED REFERENCE TO A FEDERAL REGISTER NOTICE REPORTING ON AN "ABNORMAL OCCURRENCE" AT SALEM UNIT 1 DUE TO THE FAILURE OF WESTINGHOUSE DB-50 REACTOR TRIP BREAKERS AT THAT AND OTHER PLANTS DOES NOT SUPPORT A BROADLY WORDED ATTACK ON THE HARRIS REACTOR PROTECTION SYSTEM, ESPECIALLY WHERE THE HARRIS SYSTEM DOES NOT UTILIZE WESTINGHOUSE DB-50 REACTOR TRIP BREAKERS

Mr. Eddleman has attempted to expand Contention 161 to a generalized allegation regarding Applicants' ability to "avoid ATWS events."^{4/} In addition to the allegations regarding the DS-416

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(intervenors are required "to diligently uncover and apply all publicly available information to the prompt formulation of contentions"); Washington Public Power Supply Systems, et al (WPPSS, Nuclear Project No. 3), Docket No. 50-508, Memorandum and Order (Ruling on Proposed Contentions) (September 27, 1983) (slip opinion at 11) (rejecting bases for a contention because petitioner failed specifically to address treatment of the issue in the CESSAR and FSAR).

^{4/} The Board has previously rejected a contention proposed by Mr. Eddleman concerning Anticipated Transients Without Scram (ATWS). This generic issue is currently the subject of an ongoing rulemaking. September 22, 1982 Order at 68-69.

UV attachment, Mr. Eddleman cites to "similar events caused by improper maintenance and/or excessive wear due to added cycling of the automatic SCRAM (Federal Register Notice 7590-01, 9/22/83)." The Federal Register Notice citation is to an "Abnormal Occurrence" report by the NRC relating to the February 25, 1983 event at Salem Unit 1.^{6/} Mr. Eddleman fails to share with the Board and Applicants what specific information found in the Federal Register notice he finds applicable to the Harris Plant design. This is particularly important since the Harris Plant does not incorporate the DB-50 breaker design which failed at Salem Unit 1.^{7/} The Abnormal Occurrence report discusses the actions taken by licensees and vendors to prevent a recurrence of the event at Salem Unit 1. 48 Fed. Reg. at 44,288. Mr. Eddleman fails to address these actions and to state with specificity what he finds inadequate.

Again, this aspect of revised Contention 161 provides no statement of a contention with adequate specificity and basis to put Applicants on notice of a litigable issue. At a minimum, Mr. Eddleman is required to detail the specific information in the lengthy Federal Register notice which he believes is relevant to the Harris Plant design and to state why the proposed corrective

6/ The correct citation to the Federal Register is 48 Fed. Reg. 44,287 (September 28, 1983). This was confirmed in a telephone conversation with Mr. Eddleman.

7/ There is a discussion in the Federal Register notice regarding

actions are not, in his view, adequate to resolve the identified problem (to the extent the problem is relevant).

C. THE REACTOR PROTECTION SYSTEM FULLY COMPORTS WITH GENERAL DESIGN CRITERION 22; MR. EDDLEMAN'S CONTENTION TO THE CONTRARY IS UNTIMELY, MISPLACED AND MISSTATED

Mr. Eddleman raises for the first time the allegation that "by using identical relays, undervoltage attachments and other devices in both trains of its shutdown systems, the Harris plant also violates General Design Criterion 22 (10 CFR Appendix A) requiring 'functional diversity or diversity in component design.'"

This issue need not be considered by the Board because the allegation is clearly new and untimely. Mr. Eddleman has not addressed the five factors for a late-filed contention. Applicants' compliance with General Design Criterion 22 is discussed in the FSAR, § 3.1.18. The Reactor Protection System is discussed in FSAR, Chapter 7. Independence of redundant safety-related systems is discussed at FSAR, § 7.1.2.2. Mr. Eddleman has failed to demonstrate good cause for a late-filed contention addressing Applicants' compliance with General Design Criterion 22. Mr. Eddleman may not advance this new aspect of proposed revised Contention 161 without complying with 10 C.F.R. § 2.714(a)(1)(i)-(v).

(continued)

the potential deficiencies involving clearance and dimensional problems with the DS type breakers. 48 Fed. Reg. at 44,288. This discussion adds nothing to the information previously provided by Applicants on the problems with DS-416 UV attachments.

Mr. Eddleman misstates the requirements of General Design Criterion 22, in any event, which reads in its entirety:

Criterion 22-Protection system independence.
The protection system shall be designed to assure that the effects of natural phenomena, and of normal operating, maintenance, testing, and postulated accident conditions on redundant channels do not result in loss of the protection function, or shall be demonstrated to be acceptable on some other defined basis. Design techniques, such as functional diversity or diversity in component design and principles of operation, shall be used to the extent practical to prevent loss of the protection function.

There is a significant difference between "requiring functional diversity or diversity in component design" (as stated by Mr. Eddleman) and the full statement of Design Criterion 22, in context: "Design techniques, such as functional diversity or diversity in component design and principles of operation, shall be used to the extent practicable to prevent loss of the protection function." (emphasis added).

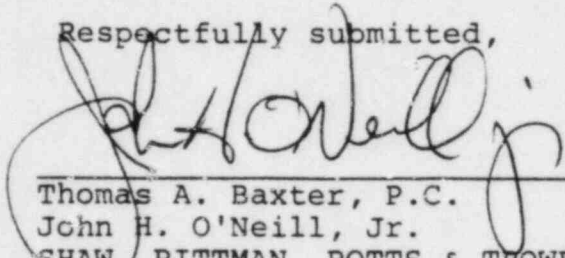
Finally, as demonstrated in the FSAR, Applicants clearly meet General Design Criterion 22. The modification that Applicants have committed to install in the DS-416 reactor trip switchgear -- which provides a redundant shunt coil trip in addition to the UV trip -- will afford even greater diversity and redundancy.

For all of these reasons, the last allegation set forth in revised Contention 161 must be rejected.

III. CONCLUSION

For all of the reasons set forth in detail above,
revised Contention 161 must be rejected.

Respectfully submitted,



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Dated: October 25, 1983

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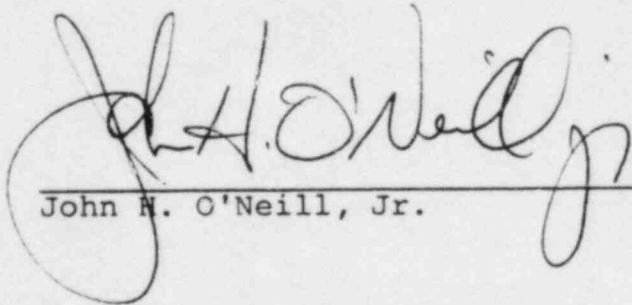
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) 50-401 OL

CERTIFICATE OF SERVICE

I hereby certify that copies of "Applicants' Response To Intervenor Eddleman's Proposed Revised Contention 161 (Safety Shutdown System Failure)" and "Applicants' Interrogatories and Request for Production of Documents to Joint Intervenors (Fifth Set)" were served this 25th day of October, 1983 by deposit in the United States mail, first class, postage prepaid, to the parties on the attached Service List.



John H. O'Neill, Jr.

Dated: October 25, 1983

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