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DCS(010)

Docket Nos: 50-390
and 50-391

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Docket Nos. 50-390/391

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Mr. H. G. Parris
Manager of Power
Tennessee Valley Authority
500A Chestnut Street, Tower II
Chattanooga, Tennessee 37401

Dear Mr. Parris:

Subject: Request for Additional Information Regarding TVA's
Utilization of the Black & Veatch (B&V) Independent
Design Verification Program (IDVP) at Watts Bar

During the course of its review of TVA's utilization of the B&V IDVP, the staff has identified additional information and documents required to complete its review. These are listed in Enclosure 1 by the categories defined by the TVA task force in its generic evaluation of the B&V findings.

To expedite our review we ask that you have documents and responses ready and available to the NRC staff for review at your Knoxville offices. In addition, a site visit may be necessary to assist our review. We also ask that you make staff available on an on-call basis to respond to NRC staff questions during their review at the Knoxville offices.

Should the staff identify additional information needed it will be transmitted to you promptly. Any questions should be directed to either Tom Kenyon on FTS 492-7266 or me on FTS 492-7831.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

/S/

Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Enclosure:
As stated

cc: See next page

DL:LB #4
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7/ /85

LA:DL LB #4
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QUESTIONS ON WATTS BAR IDVPCATEGORY 3

Questions:

- 3.1) With respect to FCR E-3508 previously provided, were the drawing changes corrected on this FCR associated with incorrectly wired electrical terminations?
- 3.2) If the wiring was incorrect, how was it discovered?
- 3.3) If only the drawings were incorrect, how were those errors discovered?

Documents Required:

- 1) J. C. Standifer memo to H. L. Jones, dated 9/29/83 (WBP 830929 024).

CATEGORY 4

Questions:

- 4.1) Has the FSAR review required by EN DES SER 83-05 been completed?
- 4.2) If yes, have all FSAR changes been docketed in an amendment?
- 4.3) If not, what is TVA's schedule for completion of the review and docketing of changes?
- 4.4) What W-2 switches on the unit control board have P-auto contacts that are not monitored by the indicating light circuit modification described in IE Bulletin 80-20?
- 4.5) Provide switch identification information with respect to equipment controlled, function, and system.
- 4.6) Show that these switches are not used to control equipment necessary for safe shutdown of the reactor or to mitigate an accident condition.

Documents Required:

- 1) EN DES calculation, B&V Task Force Category 4 (NEB 840319 219).

CATEGORY 5

The Task Force evaluation for generic examples required a review of all safety related valves procured by EEB.

The Task Force evaluation for cause lists "misuse of the S1 ECN..." Corrective action for future work state that EP 4.02 has been revised; a memorandum has been issued by management controlling the use of the S1 ECN; and EP 5.06 has been issued (5/27/80) to control preparation and issue of specifications.

Questions:

- 5.1) Were all of the valves involved in the B&V review procured by EEB?
- 5.2) If so, what specification was used?
- 5.3) If not, who procured the valves and why were they not included in the generic review?
- 5.4) What is the S1 ECN that was apparently misused?
- 5.5) Are EP 4.02, S1 ECN and EP 5.06 applicable to other than EEB?

Documents Required:

- 1) Design standards used for procurement of the check valves and isolation valve identified in B&V findings F300 and F314.
- 2) Any and all procedures used in conjunction with "the S1 ECN"
- 3) EP 4.02 - all issues from original issue through current issue.
- 4) EP 5.06 - all issues from original issue through current issue.
- 5) Copy of the memorandum issued by management controlling the use of the S1 ECN.

CATEGORY 6

Questions:

- 6.1) Provide the documentation to show that the licensing basis has been satisfied relative to findings F310, F751 and F868.
- 6.2) It is not clear from the TVA program that the revised version of the ANCHOR program was validated against benchmark problems for all situations (e.g., rigorous analysis on one side and alternate analysis on the other side).
- 6.3) Verify that in Watts Bar Unit 1 the 32 problems which were found to be affected by the ANCHOR program (12 of which were reanalyzed) represents the total number of the affected problems for this unit.
- 6.4) The scope of the evaluation for generic examples included a review of all rigorous analyzed lap zones and anchors (affected by the ANCHOR program) in WBN Unit 1. Were anchors with rigorous analysis on one side and alternate analysis on the other side and anchors which did not have calculations to support the anchor load tables included in this evaluation?

CATEGORY 7

NCR WBNSWP 8307 which was topic of a 50.55(e) report to NRC states that corrective action to prevent recurrence would be:

"The Hanger Engineering and Quality Control units will receive additional training, emphasizing for explicit implementation of drawing requirements including notes specified on the drawings."

Question:

- 7.1) Was any training or retraining given to any of the craft (workers or supervision) involved with hanger work?

CATEGORY 9

Surveillance report dated November 16, 1984, lists a problem with implementation and effectiveness of corrective action. States that deviation was documented on NCR WBN QMS 8401.

WBNCB 8203 was superseded by WBNCB 8203 R1 which was not included.

Engineering procedure EN DES-EP 4.03 Revision 9 issued 3/2/84 which changed (relaxed) requirements for processing of field change requests on multiple attachments to embedded plates.

Questions:

- 9.1) What is the status of NCR WBN QMS 8401?
- 9.2) How were the 69 sample embedded plates selected to close out NCR WBN CEB 8203 R1?
- 9.3) What is the total population of embedded plates supporting safety related loads?
- 9.4) How many field change requests were processed under Revision 8 of EN DES-EP 4.03 (original issue of Supplement 4)?
- 9.5) What was average time to process FCR's under Supplement 4 of Revision 8?
- 9.6) Revision 9 references DOC 840221 003 as basis for part of the changes. What is this reference?

Documents Required:

- 1) NCR WBN QMS 8401
- 2) Field change requests processed under Revision 8 of EN DES-EP 4.03
- 3) Field change requests processed under Revision 9 of EN DES-EP 4.03

- 4) DOC 840221 003
- 5) Any other documentation used to justify relaxations of requirements under Revision 9 of EN DES-EP 4.03
- 6) NCR WBN CEB 8203 RI

CATEGORY 11

EN DES-SEP 82-15 Sampling program for review of operational modes data used in rigorously analyzed piping.

CEB was required to prepare and issue a final report documenting the results of all work done under SEP 82-15.

Questions:

- 11.1) Has the CEB report been issued?
- 11.2) What is the justification for limiting the review to rigorously analyzed piping?

Documents Required:

- 1) EN DES-SEP 82-15 - All editions from original issue through current issue.
- 2) Any reports issued by CEB concerning work done under SEP 82-15.

CATEGORY 12

(Failure by EN DES and CONST to properly implement and document the alternate analysis criteria for seismically supported piping: F347)

The corrective action for NCR WBN SWP 8252 (and other associated EN DES NRC's) and 4164 R is a 100 percent verification per EN DES SEP 82-18 of all piping alternately analyzed by WBP and all pipe supports located by CONST on piping that should have been supported in accordance with 47A053 drawing series prior to August 27, 1983.

The majority of the WBP corrective action was carried out by a Personal Services Contractor. However, some was performed by WBP personnel.

Questions:

- 12.1) Explain how it was ensured that the Personal Services Contractor adequately provided the analysis methods, procedures and training to its staff which performed the corrective action.
- 12.2) Did CEB and WBP review the calculations performed by the Personal Services Contractor? If so, to what extent?

- 12.3) In the identification and evaluation of ongoing corrective action for future work it is not clear who has the primary responsibility. If it's SWP, to what extent does it review to confirm proper implementation?
- 12.4) To what extent will alternate analysis and /or rigorous analysis be used in either reanalysis or verification at WBN Unit 1? If rigorous analysis is to be used to reanalyze current alternate analysis problems, as stated in NCR WBN SWP 8252 R2, then where are the alternate analysis requirements being implemented?

CATEGORY 13

Questions:

- 13.1) In the Beasley memorandum dated 5/14/85 the second sentence in paragraph 1 of the list of conclusions is not clear. Clarify this sentence and explain the intent.
- 13.2) Have the conditions of NCRs WBN QMS 8401 and 5889 RO (WBN 841218 100) been fully corrected, including actions to prevent recurrence?
- 13.3) If yes, provide documentation of TVA line closeout and any Quality Assurance staff review and closeout.
- 13.4) If not, what is TVA's completion schedule?
- 13.5) What actions has TVA taken or planned to resolve the cable tagging/identification deficiencies for medium voltage cables identified in von Weisenstein's memorandum QMS 841210 203? Provide pertinent documentation.

Documents Required:

- 1) Response to potential generic condition evaluation for NCR WBN QMS 8401 (841115 007).
- 2) NCR WBN QMS 8401 including closeout documentation.
- 3) Wadewitz memo documenting review of 51 AFW termination records as discussed in paragraph 3.B of Category 13 evaluation sheet.
- 4) von Weisenstein memo 841210 203 identified that the shields of medium voltage cables are not shown on connection drawings. Provide documentation showing what TVA has done to correct this problem and showing any Quality Assurance staff re-review and closeout.

CATEGORY 14

(Various supports on the AFW system have been modified, redesigned or initially designed per the revised analysis ECN 2576.)

Questions:

- 14.1) The Black and Veatch review indicates 24 findings which were affected by ECN 2576. The TVA Task Force in their review lists only 22 findings. Clarify this discrepancy and provide details of resolution of the two B&V findings.
- 14.2) Provide the detailed requirements of the revised analysis required under ECNs 2576 and 3184.
- 14.3) Approximately 5000 rigorously analyzed support designs were reviewed against the current analysis under ECN 2576. Identify and provide the details of the supports which required construction rework or documentation changes.
- 14.4) It appears that the effects of the revised loads (under ECNs 3184 and 2576) on the piping system were made in a qualitative way to determine whether or not the piping would fail. Explain how the TVA task force was able to conclude that the licensing basis had been satisfied on the basis of these qualitative assessments and without a quantitative determination of the revised piping stresses to ensure that they satisfy the ASME Code requirements under all service levels.

CATEGORY 18

- a. The Task Force report states that "EN DES has issued a construction specification that provides requirements for locating attachments on any embedded plate. This specification (N3C-928) will require a detailed review of connections of this nature."

Questions:

- 18.1) Does Specification N3C-928 require detailed review of connections to embedment plates used in lieu of anchor bolts?
- 18.2) If so, what is the nature of this review? How is it documented?
- b. The TVA Task Force, according to Item 4B of the Evaluation Sheet, is continuing its evaluation to determine if there are other supports (with another type of bolts with sizes larger than 7/8" diameter) that are a potential candidate for the note #3. It therefore appears that a potential exists that there may be unidentified bolts of other types, not covered by the 10 systems investigated by ENDES, for which note #3 would be valid.

Questions:

- 18.3) Has this issue been resolved?

- 18.4) If so, provide the documentation verifying that all bolts for which note #3 is valid have been identified and corrective action identified and/or implemented.
- 18.5) Of the 22 supports identified to CONST, the substitution of welds for anchor bolts was made on 5 supports. Provide the supporting calculations to show that these supports are adequate.

Documents Required:

- 1) Provide the documentation to indicate that the note #3, referred to above, was issued with the intention that its application is good for self drilling anchors only (the maximum diameter is 7/8 inch).

CATEGORY 20

Questions:

- 20.1) What is the basis for the statement in 8.B of the Category 20 evaluation sheet that all time delay settings determined by preoperational test prior to issuance of the interim memorandum were adequately documented?
- 20.2) For those time delay relay settings that are specified only by change, what is TVA's justification for accepting the preoperational test value vice a value pre-determined by OE?
- 20.3) If any value within a range is acceptable, what is the significance of recording the preop test value on the drawing?
- 20.4) ENDES SEP 83-11 was issued 10/14/83 to review and determine the setpoints of variable time delay relays for, in part, Watts Bar. Standifer's memorandum WBP 830427 022 seems to indicate this was already done. Explain this apparent discrepancy.

Documents Required

- 1) Chandler to Jones memorandum EEB 831125 436.
- 2) Attachment to Standifer memorandum WBP 830427 022.

CATEGORY 30

Questions:

- 30.1) Provide documentation that verifies generic review of status monitoring for all operating equipment which supports the operability of safety-related equipment.

- 30.2) Provide information regarding the implementation, completion and/or current status of the commitment to conduct the generic review of status monitoring as referenced in J. A. Coffey's memorandum to R. W. Cantrell dated Feb. 28, 1984.

Documents Required:

- 1) C. C. Fisher memorandum to WBP Files dated 6/10/83 (WBP 830610 032)
- 2) DCR-P524 (DES 840312 008) including closeout documents.
- 3) Coffey memorandum to Cantrell dated 2/28/84 (DES 840229 021). Include status of this generic review to date.

CATEGORY 35

Questions:

- 35.1) Provide information/justification for not including breakers with time delay/instantaneous trips for generic evaluation.
- 35.2) Provide information/justification for not including breakers with instantaneous only (and breakers with time delay/instantaneous) in other low voltage load centers and/or switchboards.
- 35.3) How has the licensee assured that the instantaneous settings are not too high on circuit breakers in these load centers?