UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
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Office of Inspection and Enforcement, Headquarters

TOLEDO EDISON COMPANY (DAVIS-BESSE I)
DOCKET NO. 50-346
REGIONAL COMMENTS ON "PROOF AND REVIEW" COPY OF DAVIS-BESSE I
TECHNICAL SPECIFICATIONS

In accordance with the requirements of module 71301B, the following regional comments regarding the Technical Specifications for the subject facility are forwarded to you for review and handling. These comments have been categorized as to the importance of their impact on inspection activities after the facility is licensed.

ITEMS FOR WHICH RESOLUTION IS CONSIDERED MANDATORY

1. T.S. 1.11.b - Channel Functional Test Definition

   The above definition offers some problems in understanding what is meant by "the injection of a simulated signal into the channel sensor..." (underlining added). Bistable channel sensors are not defined terms and could be interpreted as being the differential pressure switch actuating some function. Then the above definition would constitute a CHANNEL CALIBRATION rather than a CHANNEL FUNCTIONAL TEST.

2. T.S. 4.0.2 - Clarification of Applicability

   The subject Technical Specification which defines the tolerance permitted on surveillance intervals needs to be further clarified so that uniform application of the requirements of 4.0.2 can be achieved. The apparent problem of applying 4.0.2 arises from the use of certain expressions within the Technical Specifications, examples of which are given below:

   "...at least once per ___ days, (minutes, hours)..." (4.1.2.8, 4.1.1.1.1.a, etc.)

   "...within ___ hours (days, minutes)..." (4.1.1.1.1.c, 4.1.1.3.2.b, etc.)

   "...at least once every ___ days..." (4.1.3.1.2, Table 4.4-3, etc.)

"...after ___ months, but within ___ months..." (4.4.5.3)

"...maximum of once per ___ months." (4.4.5.3.b)

"...no greater than ___ months." (4.6.1.2.d)

The terminology shown above and used extensively in the Technical Specifications suggests that the listed intervals are not subject to the application of T.S. 4.0.2; however, there is no specific clarification of this point. For example, if T.S. 4.0.2 is applicable to T.S. 4.6.1.2.d, that specification would be in conflict with Appendix J to 10 CFR 50.

3. T.S. 4.0.5 - Use of ASME Section XI

T.S. 4.0.5 relates to the use of Section XI of the ASME Code for inservice testing of ASME Code Class 1, 2 and 3 pumps and valves. IWP-3400(a) of that code indicates that if a pump is not tested during plant shutdown periods, "...the pump shall be tested within one week after plant is returned to normal operation." T.S. 4.0.4 indicates that entry into an OPERATIONAL MODE shall not be made unless the surveillance requirements associated with an LCO have been performed. Surveillance requirements 4.1.2.3, 4.1.2.5, 4.1.2.6 and several others refer to only 4.0.5.

As a licensee, based on the above, I would assert that if I meet IWP-3400(a), I have satisfied 4.0.5, and therefore have satisfied 4.1.2.3, 4.1.2.5, etc. I think this point needs to be clarified, and that T.S. 4.0.4 be rewritten to preclude using the option of IWP-3400(a).

4. T.S. 3.4.7 - Chemistry Limits

We have the following comments on the ACTION statement for this specification:

a. We understand that the statement "at all times" obliges the licensee to meet this specification and surveillance requirements even when no fuel is present, once the operating license is issued.

b. With regard to the requirement to perform the engineering evaluation of the RCS, we read the specification to state that if the chloride or fluoride limit exceeds the steady state value for 24 hours in modes 1-4, and the licensee goes to cold shutdown but is able to restore the value below its limit within the next 24 hours, then an engineering evaluation of the effects on structural integrity need not be performed. It would be useful if this specification could be made less ambiguous.

5. T.S. 4.6.1.2 - Containment Leakage

T.S. 4.6.1.2.d indicating the retest frequency for type B and C tests should be revised to include "...at every reactor shutdown for refueling..." or similar wording to reflect the requirements of Section III.0.2 and .3 of Appendix J to 10 CFR 50, otherwise, this specification should be noted as an exemption to Appendix J as appropriate.

T.S. 4.6.1.2.i refers to the selection of a "...balanced integrated leakage measurement system." It would be useful if specific criteria could be established by which the satisfying of this requirement could be determined.

6. T.S. 3.6.1.3 - Containment Air Locks

Item b of this specification allows an air lock leakage rate of 0.05 La, but the air lock leakage is "bypass" leakage limited to 0.015 La by T.S. 3.6.1.2.c (penetrations 80 and 81).

7. T.S. 3.3.3.6 - Post Accident Monitoring

These requirements are fairly recent additions to STS. If they are now to be added to the licensee's Tech Specs, then we note that the cable utilized for the nuclear instrumentation at this facility are not designed to withstand the post LOCA environment (Section 7 of FSAR, Table 7-4). For background information, see memo of June 23, 1975, Seyfrit to Knop (AITS F30072H1) covering this matter.

8. T.S. 3.4.2 and 3.4.3 - Safety Valves

The pressurizer safety valves used by the licensee cannot meet this specification over the entirety of modes 1-5. For additional information, see memo of October 13, 1976, (Knop to Grier thru Fiorelli, AITS F30224H1). We would also point out that there may be applicability of this problem to T.S. 4.7.1.1 regarding main steam line safety valves.

9. T.S. 4.6.2.2 - Containment Coolers

We recommend an additional requirement be added that the service water system supplies to these coolers be separated by appropriate positioning of SW60, SW61, SW62 and SW63.

ITEMS FOR WHICH RESOLUTION WOULD BE DESIRABLE

10. T.S. 3.1.3.4 - Rod Drop Time

The use of the expression "...which could affect the drop time..." poses inspectability problems in that it lacks specific criteria. We urge that any rod receiving mechanical maintenance be considered INOPERABLE until its rod drop time is remeasured.

11. Table 3.3-5 - SFS Response Times

We have the following questions regarding the information in this table:

a. If all the response times are NA as shown for manual initiation, it seems unnecessary to include all the detail shown in the chart. However, we believe response times still have a meaning even when manually initiated, and these should be the same or similar values as shown for the other initiations since the response time of the automatic initiating circuitry should be small.

b. The response times shown for the containment isolation valves seems to be an abbreviated version of the information contained in Table 3.6-2. If this is so, could the redundancy be eliminated and T.S. 3.6.3.1 refer to Table 3.3-5 while retaining T.S. 4.6.3.1.1.

12. Table 4.3-2 - SFAS Surveillance

The notes shown on page 3/4 3-25 do not specifically appear on the table to identify applicability. Moreover, note (3) conflicts with the surveillance requirements shown for items 11 and 12 in the table.

13. Unnumbered - SFRCS Technical Specifications

We noted that technical specifications for the steam and feedwater rupture control system (SFRCS) were not included in the PROOF AND REVIEW copy. We understand this was because the licensee did not provide the information in time for the publication of the P&R copy. We have reviewed what we understand to be what the licensee submitted, and we have the following comments:

a. The ACTION statement conflicts with similar ACTION statements with regard to when a channel is declared INOPERABLE.

b. The response time shown for the MSIVs (Table Z) conflicts with the value given in T.S. 4.7.1.5. We also note that no response time limit is given for minimum [illegible] time. We believe this to be correct but we desire [illegible] that no limits need be imposed to reduce mechanical forces and pressure transients to acceptable values.

c. The surveillance intervals shown in their Table A does not conform to intervals used on other similar safety related instrumentation.

14. T.S. 3.4.5 - Steam Generators

We have the following comments on the surveillance requirements for this specification:

a. T.S. 4.4.5.2.b.1 should be ≥20% since 20% is a definable imperfection by eddy current testing methods.

b. The note under the category classifications should be revised to read ≥10% since 10% is a definable increment by eddy current testing methods.

c. T.S. 4.4.5.4.a does not contain an acceptance criteria for non-through wall cracks except item 6. We believe item 6 to be more appropriate to wastage, wear and general corrosion, but to be non-conservative for an imperfection such as a crack.

15. T.S. 3/4.4.9 - Pressure/Temperature Limits

We note that this specification does not address the design transients included in the design of the RCS, and tabulated in Table 5.7-1. While T.S. 5.7.1 indicates that the transients "shall" be limited as shown on the table, Section 5 statements are not LCOs, and therefore the enforceability of Section 5 is also unclear. We believe the information in Table 5.7-1 should be made a part of T.S. 3/4.9.9.

16. T.S. 4.5.2 - ECCS Surveillance

We have the following comments:

a. T.S. 4.5.2.c:

We foresee inspection difficulties in assuring compliance with this inspection due to the use of the expression "which could be transported..." This is not as definitive or encompassing as their commitment to Regulatory Guide 1.39 through their QA Program for Station Operations. Moreover, we note that this inspection "...verifies..." which suggests confirming documentation. We do not see a viable method of producing or reviewing documentation which would be suitable for audit.

b. T.S. 4.5.2.d.2:

We see a similar difficulty with respect to criteria and documentation for this specification.

c. T.S. 4.5.2.d.3:

This specification should be clarified to identify the test pressure at which the leakage rate should be determined. If the system leaked at 2 gph at "normal" pressure, it would appear probable that the leakage would be greater at 450 psig. It is not clear whether those results would be acceptable or not. Moreover, the downstream boundary of the system for the purpose of performing this leakage test should be established. We suggest the stop-check valves DH 76 and DH 77.

d. T.S. 4.5.2.d.4:

We recommend this be a weight check rather than volumetric, unless a specific bulk density is called for. Then we should require both volume and weight with appropriate tolerances.

e. Item d on page 3/4 5-5 should be e.

17. T.S. 4.5.4 - BWST

We recommend that an item c be added requiring a periodic verification of the operability of the vacuum relief device on the tank as well as the heat tracing system installed to prevent icing up of the valve.

18. T.S. 3/4.6.2 - Containment Spray

We have the following comments:

a. APPLICABILITY calls for modes 1, 2, 3 and 4, yet Table 3.3-3 calls for core spray actuation circuits to be operable only during modes 1, 2 and 3.

b. T.S. 4.6.2.1.c should be made more specific with regard to the leak rate criteria (test pressure) and the downstream boundary for the leakage test. We suggest CS 19 and CS 20 as the downstream boundaries. We would also point out that the lines between the suction valves and the pumps are a lower service classification and may not be able to be included in the boundary defined by this specification.

19. T.S. 4.7.1.2 - Auxiliary Feedwater (AFW) System

We note the incorporation of specific acceptance criteria for the AFW pump. We had assumed that this would be covered by specification 4.0.5 regarding the use of Section XI of the ASME Code.

20. T.S. 4.7.1.5 - MSIVs

Note previous comment (13.b above) that closure time is not in accord with SFRCS submittal by licensee.

21. T.S. 4.7.5.1 - Ultimate Heat Sink

With regard to this specification, it is desirable to identify the temperature detection system used to make this determination of average water temperature as was done in T.S. 4.6.1.5. Any OPERABILITY requirements that are appropriate to this temperature system should also be addressed.

22. T.S. 4.8.1.1.2 - Diesel Generator Tests

T.S. 4.8.1.1.2.c.2 indicates load rejection capability without trip from a load of 2860 kw which is 110% of design rating of the generator units. Regulatory Guide 1.9 indicates that the capability to accept rejection of the largest single connected load should be demonstrated. The preoperational test program verified the ability to accept a load rejection of 2200 kw. These apparent differences in acceptance criteria need clarification.

23. T.S. 3.8.1.1 - Diesel Generator Fuel Storage System

This specification addresses the present design of the fuel storage system which does not meet IEEE-308. (See Question 8.3.1 of FSAR.) The licensee is presently planning the installation of a suitable system, but this will probably not be in use at the time of the fuel loading. Does NRR propose to impose additional temporary Tech Spec requirements on the licensee during the period between license issuance and completion of the acceptable fuel system?

24. T.S. 3.9.1 - Boron Concentration

The wording of this specification is misleading as to what role the reference to the "conservative allowance" of 50 ppm boron or 1% $\Delta k/k$ "for uncertainties" play in these determinations. For example, should the licensee verify 1750 ppm or 1800 ppm, or does the statement mean that a concentration of 1850 ppm would still provide adequate safety. If the latter is what is intended, then the "conservative allowance" statement is more appropriate to the BASES and should be deleted from the specification.

25. T.S. 3.9.12 - Storage Pool Ventilation

We note that no time limit exists on operating one emergency ventilation system (EVS) for storage area ventilation when the other EVS is INOPERABLE. We believe a time limit is appropriate since T.S. 4.6.5.1.c requires charcoal sample testing for adequacy after 720 hours of use.

26. T.S. 3.10.3 - No Flow Test

Our concern with this specification is that Regulatory Guide 1.68 recommends a power level of 5% for the natural convection test conducted during power ascension which is the limit of this specification. We think some additional margin should be considered for operational fluxibility during this test.

ITEMS WHICH ARE EDITORIAL IN NATURE

27. Index

It was noted that there are a number of errors in page designations in the Index starting with Section 3/4.1.3.

28. T.S. 3.1.1.1 - Clarification of ACTION Statement

The use of the expression "...at ≥18 gpm of 7875 ppm boron or its equivalent..." is somewhat ambiguous due to the use of the word "its." I understand the intent is that the rate of boration will be equivalent to or greater than that produced by 18 gpm of boric acid containing 7875 ppm boron. A similar condition exists for T.S. 3.10.4.

29. T.S. 4.1.1.2.b - DHR Flow Rate

Because of the configuration of the DH system, operation of that system under certain circumstances could result in system stratification. Accordingly, one can only verify that the DHR system supplies 2800 gpm "to" the RCS, recognizing that this flow might be restricted to circulation through the vessel only, with the loops being relatively unaffected by this flow. We therefore suggest "through" be replaced by "to" reflecting this distinction.

30. T.S. 3.1.2.1 and 3.1.2.2 - Boration System

We note here that in paragraph a, the licensee utilizes the terminology "Boric Acid Addition System."

31. T.S. 3.1.2.7 - Boric Acid Pumps

We question the need for this specification in light of definition 1.6 "OPERABLE-OPERABILITY" which requires all supporting equipment for a system, in this case the boration path of 3.1.2.2.a, be OPERABLE before that system is declared OPERABLE. The surveillance of that pump is dictated by the fact that it is designated as an ASME Code Class 1, 2 or 3 pump.

32. Tables 3.3-1 and 4.3-1 - RPS Instrumentation

We note that ACTION 8 on page 3/4 3-5 is not utilized on Table 3.3-1 and that note (6) on 3/4 3-8 is not found on Table 4.3-1.

33. Table 3.3-3 - SFAS Instrumentation

We believe the reference in ACTION 8b should be 4.3.2.1.2.

34. T.S. 4.3.3.2.a - IMS Surveillance

What constitutes an acceptable CHANNEL CHECK for the incore monitoring system should be addressed since these are fixed detectors. We suggest that comparison of output signals between "similarly" located detectors be required.

35. T.S. 3.3.3.3 - Seismic Events

This specification relates to actions to be taken in the event of seismic events (see 4.3.3.3.2), and notes that 3.0.3 and 3.0.4 are not applicable. We believe that if the analysis required by 4.3.3.3.2 reveals a ground motion greater than the seismic design criteria discussed in Section 3.7 of the FSAR, then plant shutdown and inspection should be required. We note that such a requirement to shut down is contained in 4.4.5.3.c for the purpose of inspecting the steam generators. This specification (4.3.3.3.2) should contain requirements consistent with 4.4.5.3.c.

36. T.S. 3.4.6.1 - Leakage Detection

The "and/or" in the ACTION statement for this specification is inappropriate since the "and" suggests both systems could be inoperable. This would be contrary to the first sentence of the ACTION statement which indicates operation can continue only if two of the three systems are OPERABLE.

37. T.S. 4.4.9.1.3 - Surveillance Coupons

Since the facility may contain surveillance specimens from other facilities mounted in their revised design holders, is there a need for any special requirements for removal of those specimens to be included on Table 4.4-5?

38. T.S. 4.6.1.6 and 4.6.5.3 - CV and Shield Building Structural Integrity

We foresee some difficulty in the use of the nonspecific term "abnormal degradation."

39. T.S. 4.7.1.3.2 - Service Water

We believe that the second and third lines should refer to a "service water loop is operating..."

40. T.S. 4.8.2.3.2.e - Battery Discharge Test

Can a reference for this performance discharge test of the battery system be included so that criteria for the adequacy of the test is established? We recommend that a reference to IEEE 450-1972 be included.

41. Section 6 - Administrative Controls

We have the following comments on Section 6:

a. Figure 6.2-1 is not correct in that the Senior Vice President is not shown.

b. Figure 6.2-2 is not correct in that not all Assistant Engineers will have Senior Licenses at time of fuel loading. Moreover, the Training Coordinator should be referred to as the Training Supervisor to conform to 6.4.1.

c. T.S. 6.5.2.7 should be amended to show what action the CNRB is to take on matters referred to them as per 6.5.1.7.c regarding Station Superintendent SRB disagreements.

d. T.S. 6.9.2 should be expanded to include "e. Plugged Steam Generator Tubes, Specification 4.4.5.5.a."

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