

Docket No: 50-267

Date: 4/30/87

Note to: Docket Files 042

From: K. L. Heitner P-¹¹³⁰~~234~~
Project Manager
Fort St. Vrain

Subj: Attached Draft
Document

The attached draft document has been provided to the Public Service Company of Colorado. In accordance with NRR Office Letter No. 43, we request that you provide copies to the NRC and Local PDR's

K. L. Heitner

(2)

4/30/87

Comments on Draft

Updated Technical Specifications
Sections 3/4, 8

Attachment 1 - Addresses previously
proposed technical specification
changes (P-84187 and P-83415)

Attachment 2 - Addresses STS,
meetings with PSC and P-85448.

Formal letter to follow.

FORT ST. VRAIN NUCLEAR GENERATING STATION
DOCKET NO. 50-267
REVIEW OF NOVEMBER 1985 TECHNICAL SPECIFICATION DRAFT
SECTION 3/4.8

REFERENCES

DRAFT

1. NRC letter (P.C. Wagner) to Public Service Company (PSC) of Colorado (M. Holmes), August 28, 1985.
2. PSC letter (O. R. Lee) to NRC (E. H. Johnson), "Proposed Supplemental Technical Specification Change to Sections 4.4 and 5.4," June 26, 1984, P-84187.
3. PSC letter (O. R. Lee) to NRC (J. T. Collins), "Proposed Technical Specification Changes - Fort St. Vrain Electrical System Requirements," December 30, 1983, P-83415.
4. Final Draft Upgrade Technical Specifications for the Fort St. Vrain Nuclear Generating Station dated November 30, 1985, Section 3/4.8.
5. PSC letter (R. F. Walker) to NRC (H. N. Berkow), "Technical Specification Change Request to the Plant Protective System Trip Setpoints," May 15, 1986, P-86279.

This review is to compare, as directed by Action 1 of Reference 1, References 2 and 3 to the revised Technical Specification Draft (Reference 4).

DRAFT

1. Tables 4.4.5 and 5.4.5 and associated notes were to be added to the Technical Specifications by Reference 2. Reference 4 included these tables as Tables 3.3.1.5 and 4.3.1.5. We note that the time dial setting for Functional Unit 3 changed from 6 to 5 in the process. However, Reference 5 deleted these tables and notes, and provided no commitment to reinstate these tables regarding the bus undervoltage

DRAFT

(4)

protection. The licensee should verify the correct settings of these undervoltage relays and commit to having these tables and notes in the upgraded Technical Specifications. It should include nominal setpoints and allowable limits (where voltage and time tolerances exist).

The following refer to Reference 3.

2. LCOs 4.6.1.1.b) and 4.6.1.2.b) parts 4)(one starting air compressor and receiver) and 5)(One Boiler Fuel Oil pump operable between the auxiliary fuel supply and the diesel fuel oil day tank(s)) were not included in Reference 4. The licensee should include these requirements in the corresponding sections.
3. LCO 4.6.1.1.d) 3) requires the DC bus to be energized from its associated battery. The corresponding section, 3.8.3.2c of Reference 4 does not include the words "energized from its associated battery." The wording should be revised to include a battery that is connected to its DC bus during shutdown.
4. LCO 4.6.1.2.c) and d) require bus tie breakers to be open between buses with different power sources. The corresponding section in Reference 4 does not include this restriction. A similar restriction in Section 4.6.2.f) for the DC system prohibits closed connections between the DC sources. Corresponding sections of the updated Technical Specifications should prohibit the use of bus tie breakers that could prevent division independence and redundancy of the Class 1E distribution system.
5. Notes from Specification LCO 4.6.1
 2. One hour is specified to demonstrate the operability of the associated battery versus 2 hours specified in the revised Action b under 3.8.2.1. The licensee should either continue the one hour requirement or justify extending the limit to 2 hours.

DRAFT

DRAFT

5

- 6 & 11. Reference 4 does not verify that 1) the engine driven fire pump is operable or 2) that the emergency condensate header is operable as specified here. The licensee should either continue this operability verification or justify its deletion.
7. This requirement to shutdown the auxiliary boiler upon reaching the minimum fuel level is not carried over to Reference 4. The licensee should continue this requirement.
8. The conditioned allowance for the boiler fuel oil pumps to be inoperable for 24 hours is not carried over to Reference 4. The licensee may want to continue this conditioned allowance.
10. This action requirement on operability of the 4160 V buses is not entirely covered by action a of 3.8.3.1 of Reference 4. The licensee should justify those differences.
11. This action requirement on the operability of these 480 VAC essential buses is not entirely covered by action a of 3.8.3.1. of Reference 4. The licensee should either justify these differences or continue these requirements.
- 13,14,15. The 24 hours for an equalizing charge is currently under discussion as Reference 4 would allow 5 days as required by the present battery design. The licensee should provide a satisfactory resolution to this issue.

6. Surveillance Requirement 5.6.1

DRAFT

- 2.a)4) The requirement to verify the operability of the boiler fuel oil pumps is not carried over to Reference 4. The licensee should continue this requirement.

4) The requirement to verify the battery charger current supplying capability is not carried over to Section 4.8.2.1. The licensee should provide for this test in the upgraded technical specifications.

8. Table 5.6.2.1 (4.8.2-1)

DRAFT

The licensee is to provide battery specific values for this table.

DRAFT

DRAFT

7

- 5) The option of either a manual start or an undervoltage relay test actuation signal start is not carried-over to Reference 4. The licensee should explain why this option is deleted.
- 6) This requires a 2 hour loaded run time while the corresponding Section 4.8.1.1.2a.7 requires 1 hour. We note that the 1 hour loaded run time is in accordance with Generic Letter 84-15 and therefore acceptable.
- c) The impurity test per ASTM-D2274-70 (impurity > 2 mg insolubles per 100 ml) is not carried over to Section 4.8.1.1.2c.2. The licensee should either provide this requirement or justify its deletion.
- d)3) This specified test is with the generator operating in parallel with the offsite power system. The corresponding section of Reference 4 (4.8.1.1.2d.4) does not specify parallel operation. The licensee should resolve this discrepancy.
- 6) The verification of the diesel generator capability to transfer loads to offsite power and to be restored to standby status is not carried over to Reference 4. The licensee should justify this deletion of requirements.
- 8) The verification of the accuracy of the load sequence timers (load sequencing programmers) is not carried over to Reference 4. The licensee should provide for this test in the upgraded technical specifications, for both sequence A and B and the determination of which diesel generator is first in service.

7. Surveillance Requirement 5.6.2

DRAFT

- c)3) The requirement to check the temperature difference of each cell-to-cell and terminal connection is not carried over to Section 4.8.2.1c of Reference 4. The licensee should justify this deletion.

8

FORT ST. VRAIN NUCLEAR GENERATING STATION
DOCKET NO. 50-267
REVIEW OF NOVEMBER 1985 UPGRADED TECHNICAL SPECIFICATION DRAFT
SECTION 3/4.8

REFERENCES

DRAFT

1. "Final Draft Upgrade Technical Specifications" for the Fort St. Vrain Nuclear Generating Station, dated November 30, 1985, Section 3/4.8.
2. Fort St. Vrain No. 1 Technical Specifications, Amendment No. 34 dated March 21, 1983, Sections 4.6, 5.6.
3. Standard Technical Specifications for Westinghouse Pressurized Water Reactors, NUREG-0452, Revision 5 draft.
4. Attachment 2, "Justification for not Incorporating Certain NRC Comments," to Public Service Company of Colorado (PSC) letter (O. R. Lee) to NRC (H. N. Berkow), "Upgraded Technical Specifications," November 27, 1985, P-85448.
5. Attachment 3, "Response to PSC Action Items Resulting From July 1985 Meeting With the NRC," IBID.
6. Meeting, PSC/NRC personnel at Fort St. Vrain, December 18, 1986.

This review is to compare the sections regarding the auxiliary electric power system of the draft upgraded technical specifications (Reference 1) to various criteria. These criteria are called out in the questions raised below.

1. Sections 3.8.1.1b.1 and 2 require the verification of fuel level in the day tank (minimum of 325 gallons, and in storage (minimum of 20,000 gallons). Section 3.8.1.2b.1 and 2 is similiar (325 and 10,000 gallons respectively). The surveillance section does not call out

DRAFT

DRAFT

9

this instrumentation, nor channel functional tests or a calibration check on the instrumentation used for this measurement. The licensee should describe how this measurement is done. If instrumentation (rather than sight glass or dip stick) is used, it should be included by the licensee in surveillance requirements for channel functional tests and calibration checks.

2. Section 3.8.1.1b does not have the following requirements for Section 4.6 of the existing Technical Specifications (Reference 2):

Section 4.6.1d.2 One starting air compressor and receiver per diesel generator set.

Section 4.6.1g Should the diesel fuel quantity be less than 20,000 gallons, the auxiliary boiler is to be shut down.

Section 4.6.1h The requirement that at least one Boiler Fuel Oil Feed Pump is operable between the auxiliary boiler fuel supply and the day tanks.

The licensee should incorporate these existing requirements in the upgraded technical specifications.

3. Section 3.8.1.1b.4 was added per the Westinghouse Standard Technical Specifications (Reference 3) requiring 150 gallons of lubricating oil. We understand that this lubricating oil is hand fed, and storage is in the shipping drums. We find this acceptable, however, the licensee should indicate that this is 150 gallons per diesel generator set.

4. Actions associated with LCO 3.8.1.1

- o The requirement to "be in at least SHUTDOWN within the next 24 hours" is to be in HOT STANDBY (which is not an operating mode

DRAFT

DRAFT

at Fort St. Vrain) within 6 hours and to be in COLD SHUTDOWN within the following 30 hours in the Westinghouse Standard Technical Specification (Reference 3). This change was justified by the licensee in their attachments 2 and 3 of their November 27, 1985 letter (References 4 & 5) as appropriate to the Final Safety Analysis Report, and having the unit auxiliary transformer out of service. It is also consistent with the existing 24 hour technical specification requirement. Therefore, we find the 24 hour requirement acceptable.

- o The statement regarding demonstrating the OPERABILITY of the diesel generators in Action a. is noted to be consistent with Generic Letter 84-15 and is, therefore, acceptable.
- o The licensee had deleted the NRC comment regarding loss of both offsite sources in this draft. Discussion with the licensee in December 1986 (Reference 6) leaves this item to be resolved by the licensee by having some requirement regarding the loss of both offsite AC electrical power sources.
- o The licensee had removed an action statement that would allow the unit auxiliary transformer to be out of service for 12 hours to perform switching. The justification (Reference 4) that this is covered by Action a is acceptable.
- o Action f is stated (Reference 5) to reflect commitments concerning the fuel oil composition. It would allow a second fuel oil sample to be taken if the first is out of tolerance, if the second is taken within 8 hours and the OPERABILITY of both diesel generators is shown in the same eight hours or has been shown in the previous seven days. We find this action acceptable.

DRAFT

5. Section 4.8.1.1.1b should read, per Reference 3, "At least once per 18 months during shutdown," instead of "At least once per 18 months."
6. Section 4.8.1.1.2a-- Reference 4 states that this is functionally equivalent to Reference 3. We find this to be so except as listed below:

DRAFT

(11)

- a.3 the capability to transfer fuel oil from the storage system to the day tanks should include the Boiler Fuel Oil Feed Pumps (see comment 2 above).
 - a.4 Reference 5 states that this requirement on water-jacket heaters reflects the BWR standard technical specifications. We find this requirement acceptable.
 - a.6 The amount of lubrication oil inventory in storage should be consistent with comment 3 above.
- 7. Section 4.8.1.1.2c.2 tests on the diesel fuel oil are not directly equivalent with those called out in Reference 3. Reference 4 states that they are consistent with the station's experience. The December 1986 meeting (Reference 6) discussed this item and left the action to the NRC to decide if the testing specified is functionally equivalent to that testing specified in Reference 3.
 - 8. Section 4.8.1.1.2c should also include the existing SR 5.6.1d functional test of the diesel engine exhaust temperature "shutdown" and "declutch" functions on a 31 day basis.
 - 9. Per Reference 3, Section 4.8.1.1.2d.4 should read "without tripping." rather than "without tripping the diesel engines."
 - 10. Section 4.8.1.1.2d 5, concerning the simulated undervoltage relay actuation signal, was added per Reference 3. Address the following (we note there is no ESF actuation of the diesels):
 - b. The words "energize the autosequenced loads," should be "energize the autosequenced loads through the load sequencer," and "OPERATE" should be "OPERATES with permanently connected loads within 10 seconds."

DRAFT

- 11. Section 4.8.1.1.2d 7, per Reference 3, should be divided into Section "a) be synchronized ...," and have added "b) transfer its loads to the offsite power source and c) be restored to its standby status."
- 12. Section 4.8.1.1.2d, per Reference 3, should have the following additional sections (we note that there is no ESF actuation of the diesels):

DRAFT

- 10. Verify that the diesel fuel oil transfer pumps 1A & 1B and the Auxiliary boiler fuel oil feed pumps 1A & 1B each transfers fuel from each fuel storage tank to the day tank of each diesel via the installed cross-connection lines;
- 11. Verifying that the automatic load sequence timer is OPERABLE with the interval between each load block within %10% of its design interval;
- 12. Verifying that the following diesel generator lockout features prevent diesel generator starting only when required:
(site specific)
- 13. Verifying that with all diesel generator air start receivers pressurized to less than or equal to _____ psig and the compressors secured, the diesel generator starts at least (5) times from ambient conditions and accelerates to at least (_____) rpm in less than or equal to (10) seconds.

Additionally, due to the relaying used to energize bus 2 from the first up diesel generator, a paragraph should be added to test the capability of this mechanism.

- 13. Section 4.8.1.1.2f, per Reference 3, should have a pressure test added on applicable portions of the diesel fuel oil system.

DRAFT

DRAFT

14. Table 4.8.1-1

- a. The test frequency at least once per 31 days is at variance with the UFSAR, Section 8.2.3.3 which states weekly. The UFSAR should be changed accordingly.
 - b. For GTE 3, the test frequency should be "at least once per 7 days and see Table 4.8.1-2."
 - c. The last sentence for each of the table notes differs from both the standard technical specifications and Generic Letter 84-15. For the first note the concluding sentence is not necessary for Fort St. Vrain. For the second note, there is no basis for loss of redundancy caused by not staggering the testing. Therefore, the tests should be done on a STAGGERED TEST BASIS.
15. Section 3.8.1.2b--Comment 2 also applies here, modified for startup, shutdown and refueling modes, even though existing technical specifications do not address AC power sources for these modes.
16. Section 3.8.1.2, 3.8.2.2 and 3.8.3.2, ACTION a, does not require depressurization and venting of the reactor coolant system as does Reference 3, nor suspension of crane operation with loads over the fuel storage pool. These actions are to be immediate with no 6 hour grace period. The standard technical specification "positive reactivity changes" has been changed to "control rod movements resulting in positive reactivity changes." This ACTION statement should more closely resemble that in Reference 3.

DRAFT

17. Section 3.8.2.1 and 3.8.2.2

- b. The 2 hrs to demonstrate the operability of the associated battery bank in ACTION b should be 1 hr per Reference 3.
- c. The licensee's 5 days to restore a battery due to an equalizing charge is not adequate should the battery be inoperative due to

other causes. Also there should be a cumulative limit on the number of 5 days inoperative actions each battery can use in a cycle.

DRAFT

- 18. Section 3.8.2.1 ACTION statements are being rewritten as discussed in Reference 6. Further discussion is inappropriate here.
- 19. Section 4.8.2.1a does not measure the temperature of the cells adjacent to the pilot cell as presently required in SR 5.6.2a. The licensee should justify this deletion or incorporate it into the upgraded technical specifications.
- 20. Section 4.8.2.1b.2-- "abnormal corrosion" should be "visible corrosion" per Reference 3.
- 21. Section 4.8.2.1c--Per Reference 3, the following surveillance should be added--"The battery chargers will supply at least (200) amperes at (129) volts for at least 8 hours."
- 22. Section 4.8.2.1d.--the words "all of the emergency loads" should be "all of the actual or simulated emergency loads" per Reference 3.
- 23. Table 4.8.2-1 in the Electrolyte Level row, "above indication mark" should be "above maximum level indication mark" per Reference 3.
- 24. Section 3.8.3.1a, b, & c--the requirement for the tie breakers to be open between redundant buses is appropriate, however, for the 4160 V buses, our understanding is that one tie must be established when using the unit auxiliary transformer and two ties must be established when using the startup transformer. The 4160 V AC buses should therefore be addressed separately from the 480 V AC, the 120 V AC non-interruptible and the 125 V DC essential buses which must have the tie breakers open.

DRAFT

As it now reads, operation could not occur without violating this specification.

DRAFT

25. 3.8.3.1 Actions

- a. The following must be met according to present technical specifications:
 - o 4160 V bus 1B must be operable (LCO 4.6.1C.2).
 - o The diesel generator(s) supplying the remaining 480 V essential buses must be operable (LCO 4.6.1C.5).
 - o The equipment supplied by the operable essential buses associated with safe shutdown cooling must be operable (LCO 4.6.1C.6).
 - o The reactor building exhaust fans supplied by the operable essential buses must be operable (LCO 4.6.1C.7).

The licensee should include these requirements or justify their deletion.

- b. 1. The wording "from the alternate source" should be deleted per Reference 3. This would allow the repair of the inverter and reenergizing the bus from it.
- 2. The wording "the following" should be deleted per Reference 3.
- c. The present technical specifications (LCO 4.6.1e) allow a DC bus to be inoperable for 12 hours if 5 conditions are met. A battery may be inoperable for 24 hours. This is less restrictive than the proposed 24 hours/5 days. This limit needs to be resolved.

DRAFT

- o The 24 hours to achieve SHUTDOWN is 6 hours to be in at least HOT STANDBY (which is not a Fort St. Vrain mode) and in COLD SHUTDOWN within the following 30 hours in the Standard Technical Specifications (Reference 3). This change was justified by the licensee in References 4 and 5 as appropriate to the Final Safety Analysis Report and having the unit auxiliary transformer out of service. It is also consistent with the existing 24 hour battery, PPS battery and inverter requirements. Therefore, we find the 24 hour limit acceptable.

DRAFT

26. Section 3.8.3.2b, ends "connected to their respective battery banks, and" versus the Reference 3 "connected to their respective DC buses, and." Due to 120 V bus 1C/1C-1 connection to battery 1C rather than a bus we suggest the following wording as the battery banks may be disconnected for an equalizing charge: "connected to their respective DC bus (or battery bank for 120 V AC bus 1C/1C-1."
27. Section 3.8.3.2b, to be consistent with Reference 3, should be changed from "One 125 volt DC bus" to "One 125 volt DC bus energized from its associated battery bank."
28. The licensee provided justification for not incorporating certain NRC comments on the previous (April 1985) upgraded draft technical specifications in Reference 4. The following address these comments for Section 3/4.8 that were not addressed above and not incorporated.
 - a. The licensee's addition of STARTUP and SHUTDOWN but only when decay heat levels warrant multiple power sources being OPERABLE (i.e., whenever CALCULATED BULK CORE TEMPERATURE is greater than 760_F) is being addressed separately by the NRC.
 - b. ACTION e for loss of both offsite sources of AC power was not incorporated as the general ACTION statements (3.0.3) would require the plant to be in SHUTDOWN within 24 hours. We find this justification acceptable.

DRAFT

DRAFT

17

- c. The licensee has proposed a level of testing for diesel fuel oil that is consistent with past experience and is available locally. This is being addressed separately by the NRC.
- d. The licensee states that the definition of the word "verify" in the basis is consistent with Reference 3. We find this justification acceptable.
- e. Reference to Generic Letter 84-15 rather than the Westinghouse Standard Technical Specification was left as is because the generic letter reflects the concern for diesel generator operability. We concur with the use of Generic Letter 84-15 in this instance.
- f. The battery equalizing charge requires more than 30 hours. Per Reference 6, the issue of 5 days versus 2 hours for an inoperable battery is to be further addressed by the licensee. Inoperable batteries for causes other than equalizing charges should not be allowable per action statements for this length of time.
- g. An ACTION statement proposed concerning 2 or more inoperable battery banks is stated to be covered by LCO 3.0.5, which would reduce the mode within 12 hours if existing LCOs cannot be met by existing action statements.
- h. The licensee states that the surveillances are equivalent to Reference 3 but are modified as necessary to correspond to Fort St. Vrain specific voltages, currents and similar parameters. We find this method of adapting plant specific requirements acceptable.
- i. The licensee added a requirement to have 2 batteries operable after 5 days. This was discussed in Reference 6 as indicated in f) above.

DRAFT

DRAFT

18

- j. The suggested operability requirement on 125 V DC Bus 1C is not necessary as there is no 125 V DC Bus 1C. We concur.

DRAFT