

August 15, 1985

Docket No.: 50-267

MEMORANDUM FOR: Edward J. Butcher, Acting Chief, ORB #3, Division of Licensing,
Office of Nuclear Reactor Regulation

FROM: Thomas L. King, Chief, ARG, Division of Safety Technology,
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF MEETING WITH PUBLIC SERVICE COMPANY OF COLORADO
(PSC) ON FORT ST. VRAIN (FSV) TECHNICAL SPECIFICATIONS UPGRADE

On April 1, 1985 (via letter P-85098) the licensee forwarded, for the staff's review, a draft FSV Technical Specification developed as a result of the licensee's Technical Specification Upgrade Program. The staff reviewed the April 1, 1985 draft and provided comments to the licensee in the form of a markup of the draft in May 1985. Subsequently, a meeting was held with the licensee on July 22-26, 1985 to discuss the staff's comments and to develop a plan for their resolution. Enclosure 1 is a list of attendees from the July 22-26, 1985 meeting.

As a result of the meeting a list of items requiring NRC action was developed (Enclosure 2) along with a list requiring PSC action (Enclosure 3). NRC comments from the May 1985 markup of the licensee's April 1, 1985 draft which do not appear on these lists were resolved at the July 22-26, 1985 meeting. Copies of the lists were provided to the licensee on August 12, 1985 for the purpose of discussion and a conference call was held with the licensee on August 14, 1985 to finalize the lists and to discuss a schedule for their resolution. NRC participants in the conference call were P. Wagner (Rg. IV), G. L. Plumlee (DL), K. Heitner (DL) and myself.

As discussed with the licensee in the August 14, 1985 conference call it is our intent to provide guidance to PSC prior to September 1, 1985 for those items listed as NRC actions. For items listed as PSC actions, resolution will be reflected in the next draft of the upgrade Technical Specifications (currently scheduled for submission to NRC by October 15, 1985) except for PSC actions #27, 28, 30, 31 and 35 which, due to the extensive nature of the revision required, will be submitted separately for NRC review by September 15, 1985. It is requested that copies of Enclosures 2 and 3 and a summary of the August 14, 1985 discussion be formally transmitted to the licensee for action.

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DATE							

In accordance with memorandum H. Thompson to T. Speis, dated August 1, 1985 the TSRG will assume the lead on the FSV Technical Specification Upgrade Program, including the resolution of the items listed in Enclosures 2 and 3. Accordingly, this memorandum has been coordinated with Mr. G. L. Plumlee, TSRG, and any future questions regarding the upgrade program should be directed to him.

/s/
Thomas L. King, Chief,
Advanced Reactors Group
Division of Safety Technology
Office of Nuclear Reactor Regulation

Enclosures:

1. List of Attendees
2. NRC Actions
3. PSC Actions

OFFICE	ARG:DST-NRR						
SURNAME	TKing/er <i>TKing</i>						
DATE	8/15/85						

ATTENDEES
JULY 22-26, 1985 NRC/PSC MEETING ON
FSV TECHNICAL SPECIFICATION UPGRADE

NAME

T. L. King
S. Chesnutt
J. M. Gramling
M. H. Holmes
F. J. Novachek
R. E. Collins
W. Wittich
M. Joseph
D. Rodger
R. E. Ireland
P. M. Williams
G. L. Plumlee
P. Wagner
K. Heitner
D. Hoffman
D. Alberstein
J. Kennedy

ORGANIZATION

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PSC - FSV Nuc. Prod.
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NRC ACTIONS

GENERAL

- 1) Provide guidance on the acceptability of using a document separate from the Tech Specs for in-service inspection and testing requirements. This document would then be referenced in the Tech Specs with NRC approval of its content called for in the Admin. Controls.
- 2) Provide guidance on whether or not the Tech Specs should include LCOs only on systems and components relied upon in the FSV-FSAR Chapter 14 analysis to protect the barriers to radiation release or should they also include LCOs on systems and components which provide an additional line of defense to prevent radiation release.
- 3) Provide guidance on whether components, which are required to function to maintain other equipment within an environment for which it is qualified, should also be in the Tech Specs (example, main steam isolation valves).
- 4) Is it acceptable to include for completeness in Section 3/4.3 "Instrumentation," trip setpoints for non-safety related items? These would then not be subject to enforcement.
- 5) PSC would like to have agreement that when in the Startup or Low Power modes it would be acceptable to proceed to the next higher power mode even if they are in an LCO Action Statement. Currently, general LCO 3.0.6 prohibits this.
- 6) Provide guidance on how much detail associated with the operability of a system (relief valve setpoints, valve position, water chemistry, etc.) goes into the Tech Specs and how much is left to be picked up by procedures which implement the defined term "OPERABLE."

SPECIFIC

- 1) Check whether or not adequate control on primary system He inventory is provided by LCO 3.3.1 (PPS) and LCO 3.2.4.
- 2) Pg. 1-2 - Definition 1.9 - Is PSC original wording in 4/1/85 draft acceptable?
- 3) Pg. 1-3 - Denfinition 1.14 - PSC wants to use the wording in their 4/1/85 draft since there is no Iodine, only noble gas, in their primary coolant. Is this acceptable?

- 4) Pg. 3/4.2-9 - Surveillance b.2 Core Inlet Orifice Valves - Is the second sentence understandable?
- 5) Pg. 3/4.3-1 - Instrumentation - The basis for this entire section is contained in a PSC submittal of 6/21/85 (P-85214) covering instrumentation setpoints changes. NRC review and comment on the 6/21/85 PSC submittal is required.
- 6) Pg. 3/4.3-7 - Note (k) - Is note (k) acceptable as is or should its requirements be included in Section 3/4.10 - "Special Test Exceptions"?
- 7) Pg. 3/4.3-8 - PSC would like to use their wording from the 4/1/85 draft for the Action Statements on this page as well as on pages 3/4.3-16, 23 and 31. Is this acceptable?

NRC's suggested wording is based upon the STS; PSC's upon their existing Tech Specs.
- 8) Pg. 3/4.3-87 - LCO 3.3.3 Control Room Temperature Monitoring - PSC would like to revise this LCO along the lines of the BWR-STs. Is this acceptable?
- 9) Section 3/4.8 "Electrical Systems" - PSC wants to revise all of their electrical system LCOs along the lines of the Tech Specs for VEPCO's North Anna plants. Is this acceptable?
- 10) Pg. 3/4.7-1 - LCO 3.7.1.1 Boiler Feed Pumps - PSC relies on non-safety grade boiler feed pumps in their safety analysis for mitigating the effects of design basis accidents. Is this acceptable and should there be a Tech Spec on these pumps? NRC will review this LCO for completeness and provide any comments to PSC.
- 11) Pg. 3/4.7-11 - LCO 3.7.3 "Instrument Air System" - Why was one hour chosen as the time limit in Action (b)?
- 12) Pg. 3/4.6-37 - Surveillance 4.6.5.2-d "Reactor Bldg. Confinement" - Do BWRs have a 4400 hr surveillance interval for continuously operating charcoal adsorber exhaust filters?
- 13) Pg. 3/4.7-43- Surveillance 4.7.9-d - Control Room Ventilation System - Is a control room positive pressure of 0.02 H₂O acceptable per NUREG-0737 requirements?

14) Section 6.0 - "Admin Controls" - What is the latest standard admin controls section? PSC would like to use:

- a) LER for safety limit violation report,
- b) words from their current Tech Specs for staff qualifications,
- c) words from their 4/1/85 draft for the shift technical advisor.

Are these changes acceptable? Also PSC wants to delete words requiring an Independent Safety Engineering Group. FSV approved to not have one?

PSC ACTIONS

- 1) To ensure adequate coverage of the He purification system PSC will evaluate the need to add to LCO 3.7.5 "Primary Coolant Depressurization" surveillance requirements on the availability of standby pipe spools for emergency cooling and the operability of interlocks and block valves which isolate the system upon a leak.
- 2) PSC will evaluate the need for an LCO on PCRV support ring temperatures separate from the upgrade program.
- 3) PSC will add deck plate configuration surveillance to the Tech Specs.
- 4) PSC will evaluate the Tech Specs for their applicability to one loop operation and propose changes where necessary to support one loop operation.
- 5) Surveillance on a connection between the circulating water makeup system and the service water pit will be added.
- 6) PSC will explore the following options for incorporation of in-service inspection and testing requirements into the upgrade Tech Specs:
 - reference ASME Code Section XI, Div. 2, with exceptions
 - put all ISIT into the Tech Specs
 - develop a document separate from the Tech Specs containing all ISIT requirements which would be referenced in the Tech Specs.
- 7) Pg. 1-6 - Definition 1.28 - PSC will develop a definition that is consistent with FSV analysis.
- 8) Pg. 1-7 - Definition 1.37 - PSC will develop a definition that is consistent with FSV analysis.
- 9) Pg. 3/4.0-3 - LCO 4.0.3 - "Surveillance Frequencies" - PSC wants to have the flexibility to interpret surveillance intervals as requiring a check once any time during the specified interval, not once at least so many hours/days. PSC will prepare justification supporting their position.
- 10) Pg. 2-6 - Safety Limit 2.1 - Bases - PSC will provide in the next FSAR update information which supports the bases for Safety Limit 2.1. Currently, the FSAR does not address the limits contained in this Safety Limit and the Tech Spec bases provides the only description of how the limits are derived.

- 11) The following comments refer to the draft Tech Specs provided in PSC letter P-85242, dated 7/10/85, regarding interim Tech Specs for reactivity control:
 - a) Pg. 3/4.1-2 - Surveillance 4.1.1.A.2 - PSC will consider requiring surveillance of a flowrate in each individual CRDM purge line when sufficient experience is gained with the flow meters being installed on each of the individual CRDM purge lines, with CRDM subheader purge flow used as a backup.
 - b) Pg. 3/4.1-9 - Surveillance 4.1.2.B - PSC is to clarify that the rod in limit indication need be checked only once during each startup, not every time a rod is withdrawn.
 - c) Pg. 3/4.1-15 - Surveillance 4.1.3.D - PSC is to clarify when the analog and digital rod position indications must be checked when in the shutdown and refueling modes.
 - d) Pg. 3/4.1-44 - Surveillance 4.1.9 - PSC may propose a change as to when reserve shutdown system operability is to be checked when in the shutdown and refueling modes.
- 12) PSC is to recommend how changes to the Tech Spec bases are to be processed. Handle as a 50.59 change or request separate NRC approval of the change.
- 13) Pg. 3/4.2-1 - LCO 3.2.1 "Core Irradiation" - PSC is to propose revisions to this LCO which add the control rod lifetime and address appropriate limits depending on whether or not the control rod is inserted or withdrawn.
- 14) Pg. 3/4.2-4 - Surveillance 4.2.2.2.b - PSC is to evaluate the need for performing a channel functional test every 31 days versus quarterly.
- 15) Pg. 3/4.2-11 - LCO 3.2.4 "Core Inlet Orifice Values/Min He Flow" - A draft Tech Spec to replace this LCO, prepared by ORNL (under contract with NRC - Rg. IV), will be reviewed and PSC will propose appropriate changes to the specification.
- 16) PSC must ensure FSV operations personnel comments on the draft specifications are obtained and incorporated prior to submittal of the October 15, 1985 final draft.

- 17) Pg. 3/4.3-26 - Table 3.3.1-4 - PSC is to revise to correctly state range of allowable values for items 2 and 3.
- 18) Pg. 3/4.3-27 - Table 3.3.1-4 - PSC will check on adding to this table the rod withdrawal sequence prohibit function.
- 19) PSC is to evaluate which automatic protective functions currently listed in the 4/1/85 draft are not safety items (are equipment protection items) and may propose they be deleted from the Tech Specs.
- 20) Pg. 3/4.3-39 - Note (a 8) - PSC is to propose a different wording to address the case of cycling in and out of a mode.
- 21) Pg. 3/4.3-61 - LCO 3.3.2.1 "Analytical Moisture Monitors" - PSC is to re-evaluate the need for the PPS moisture monitors in the "indicate" mode.
- 22) Pg. 3/4.3-65 - Table 3.3.2-1
 - a) PSC is to evaluate why radiation monitor RT-7312 is not included in this table.
 - b) Verify that process monitor RT-21251 is addressed in the environmental Tech Specs.
 - c) PSC will check on which, if any, of their radiation monitors are considered criticality monitors and ensure these are included in this table.
- 23) Pg. 3/4.3-70 - LCO 3.3.2.3 "Seismic Instrumentation" - PSC will evaluate whether or not they can accept a requirement in the action statement for a report to the NRC in 10 days (vs. their proposal of 30 days) if the seismic monitoring instrumentation is inoperable for more than 30 days.
- 24) Pg. 3/4.3-70 - Surveillance 4.3.2.3.2 - PSC will check the requirements in this surveillance against previous commitments in a letter to NRC on actions to be taken in the event a seismic monitor is actuated.
- 25) Pg. 3/4.3-73 - LCO 3.3.2.4 "Meteorological Instrumentation" - PSC will evaluate whether or not they can accept a requirement in the action statement for a report to the NRC in 10 days (vs. their proposal of 30 days) if the meteorological instrumentation is inoperable for more than 7 days.

- 26) Pg. 3/4.3-85 - LCO 3.3.2.7 "Power to Flow Ratio Recording Instrumentation" - PSC is to reevaluate this entire LCO and propose an alternative specification.
- 27) Pg. 3/4.5-1 - LCO 3.5.1.1 "Helium Circulators" -
- a) PSC is to evaluate the acceptability of operation without buffer He as a circulator shaft seal (i.e., don't require buffer He flow in the Tech Specs).
 - b) PSC is to evaluate the need to specify maximum circulator bearing water temperature in the Tech Specs.
 - c) PSC is to evaluate the need to require a backup He buffer gas supply be specified in the Tech Specs.
 - d) PSC is to evaluate the basis for the statements on FSAR pages 4.2-6 and 4.2-22 regarding interlocks which prevent circulator turbine drives from being supplied simultaneously with both water and steam. A recommendation will then be made on whether or not the operability of these interlocks should be required and checked via the Tech Specs.
- 28) PSC is to redraft LCOs 3.5.1.1 and 3.5.1.2 in light of a-d above and to propose less redundancy be required when decay heat is low (i.e., long time for recovery).
- 29) PSC will provide documentation verifying that NRC has approved FSV for operation with a non-safety grade means for decay heat removal (feedwater drive of the He circulators) when the plant is depressurized.
- 30) Pg. 3/4.5-9 - LCO 3.5.2.1 "Steam Generators"
- a) PSC will evaluate the need to include in this LCO a limit on reheater steam outlet temperature which would be based upon keeping temperatures elsewhere in the S.G. within their design limits.
 - b) PSC will reevaluate requirements on relief valve operability including the acceptability of continued plant operation with less than the required number of safety relief valves operable.
- Also, the discrepancies between FSAR Table 10.2-2 and Tech Spec Table 4.5.2-1 regarding relief valve setpoints needs to be resolved.

- 31) Pg. 3/4.5-13 - LCOs 3.5.2.2 and 3.5.2.3 "Steam Generators" - PSC is to redraft these LCOs to allow less redundancy when decay heat level or primary system temperatures are low.
- 32) Pg. 3/4.5-19 - LCO 3.5.3.3 "Emergency Condensate and Emergency Feedwater Headers" - PSC is to redraft this LCO to allow less redundancy when decay heat level or primary system temperatures are low.
- 33) Pg. 3/4.5-21 - LCO 3.5.4 "Firewater Supply System" - PSC is to consider splitting this LCO into two parts - one for the power, low power and startup modes and one for the shutdown and refueling modes. Also this LCO will be clarified regarding what functions and actions apply for decay heat removal and which apply for fire protection.
- 34) Pg. 3/4.6-4 - LCO 3.6.1.2 "S.G./Circulator Penetrations" - PSC will check on relief valve piping configuration and capacity to determine if each relief valve alone is capable of adequate pressure relief.
- 35) Pg. 3/4.6-16 - LCO 3.6.2 "LCS" - PSC is to redraft this LCO in consideration of NRC comments and will retile this LCO the Reactor Plant Cooling Water System. PSC will also clarify the allowable number of failed tubes.
- 36) Pg. 3/4.6-19 - LCO 3.6.3 "LCS Temperatures" - PSC will better define what 100°F temperature limit applies to in item e.
- 37) Pg. 3/4.6-22 - Surveillance 4.6.4.1 - PSC will evaluate specifying more detailed acceptance criteria for the tendon inspections.
- 38) Pg. 3/4.7-1 - LCO 3.7.1.1 "Boiler Feed Pumps" - PSC is to provide documentation that NRC approved the use of non-safety grade equipment (boiler feedpumps) to supply water to drive the circulators during a depressurized cooldown accident.
- 39) Pg. 3/4.7-3 - LCO 3.7.1.2 "Steam/Water Dump System" - PSC will evaluate the need to specify that both steam/water dump valves be operable.
- 40) Pg. 3/4.7-5 - LCO 3.7.1.3 "Pressure Relief Valves"
 - a) PSC will evaluate the need to add safety valves for the Bypass Flash Tank, Dearerating Heater, Main Steam Line and Hot Reheat Line to this LCO.

- b) PSC will reevaluate the addition of the low power mode to the applicability.
 - c) PSC will check on the acceptability of having an action statement allow operation at reduced power when a relief valve is inoperable (similar to item 30b above).
- 41) Pg. 3/4.7-9 - LCO 3.7.3 "Hydraulic Power System" - PSC will propose an addition to this LCO covering hydraulic oil temperature and will assess this LCO with respect to one loop operation.
- 42) Pg. 3/4.7-13 - LCO 3.7.4 "Service Water System" - PSC will evaluate changing the applicability and actions (or perhaps splitting this LCO into two) to allow more time for restoration of equipment when decay heat or reactor system temperatures are low.
- 43) Pg. 3/4.7-15 - LCO 3.7.5 "Primary Coolant Depressurization" - PSC will evaluate alternative depressurization paths and redrafting this LCO to ensure at least 2 depressurization paths are available. Also, an action to require rapid initiation of regeneration of a He purification train may be added.
- 44) Pg. 3/4.7-18 - Action Statement - PSC wants to retain Actions a.3 and b but will clarify.
- 45) Pg. 3/4.7-35 - Surveillance 4.7.7.e - PSC will evaluate the need for a surveillance requirement on automatically operating doors and dampers.
- 46) Pg. 3/4.7-37 - LCO 3.7.8 "ACM Diesel Generator"
- a) PSC will evaluate whether or not Action b can be removed if a fire watch is established.
 - b) PSC will evaluate adding diesel surveillance requirements similar to those in LCO 3.8.1.1 and battery surveillance requirements similar to those in LCO 3.5.4.
 - c) PSC is to evaluate the loads listed in Table 4.7.8-1 to ensure they address all required loads and to see if the applicability of this LCO should be tied to when these loads have to be operable.

47) Pg. 3/4.7-43 - Surveillance

- a) Surveillance 4.7.9.d - PSC will provide information on the design value for the control room pressure when in the positive pressure mode of operation.
- b) Surveillance 4.7.9.e - PSC will check on what surveillance interval they committed to for charcoal adsorber material as part of their NUREG-0737 commitments.

48) PG. 3/4.8-1 - LCO 3.8.1.1 "A.C. Power Sources"

- a) PSC will evaluate why the FSAR limits plant operation to only 24 hours without the reserve auxiliary transformer and make appropriate changes to the FSAR and/or Tech Specs.
- b) PSC will evaluate the acceptability of that portion of action (a) which requires diesel engine start checks if less than the full complement of A.C. power sources is available.

49) PSC, as a general action, is evaluating the use of a uniform statement whenever plant shutdown is required of 12 hours to be in the startup mode and 12 more hours to be shutdown.

50) Pg. 3/4.8-3 - Surveillance 4.8.1.1.2.b - PSC will check their previous commitments regarding fuel oil composition and make this surveillance consistent with those commitments.

51) Pg. 3/4.8-5 - Surveillance 4.8.1.1.2 - PSC will check Westinghouse PWR - STS, Rev. 5, for additional surveillance requirements.

52) Pg. 3/4.8-15 - LCO 3.8.2.1 "D.C. Power Sources" - PSC will evaluate whether the note at the bottom of the page should more appropriately be an action statement. In either case PSC will ensure that the wording does not allow two or more battery banks to be inoperable at the same time. This comment also applies to LCOs 3.8.2.2 and 3.8.3.1.

53) PSC, as a general action, is evaluating adding provisions which would allow systems or equipment that have no redundancy to be out of service for a short period of time.

- 54) Pg. 3/4.9-10 - LCO 3.9.4 "Spent Fuel Shipping Cask" - PSC will evaluate what decay heat limits are associated with the spent fuel shipping cask and evaluate their applicability to this LCO.
- 55) Pg. 3/4.10-1 - LCO 3.10.1 - Xenon Stability - PSC will make this LCO consistent with a recent submittal on Xe stability testing.
- 56) Pg. 3/4.3-83 - LCO 3.3.2.6 "Chlorine Detection and Alarm System" - PSC is to evaluate the action statement and whether or not it is desirable to change control room ventilation modes.
- 57) PSC is to add definitions for "TRIP SET POINTS" and "ALLOWABLE VALUE."
- 58) Pg. 3/4.6-24 - Table 4.6.4-1 - PSC will revise this table in the area of tendon selection criteria to be consistent with the NRC SER on this subject.
- 59) When preparing the final (formal) submittal of the upgrade Tech Specs PSC must provide justification for any addition or deletion of requirements from the existing FSV Tech Specs. In submitting this package as a license amendment the licensee must pay particular attention to 10 CFR 50.91(a)(1).
- 60) PSC will update and provide to NRC the cross reference between the existing FSV Tech Specs and the upgrade Tech Specs.

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