UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report No.: 50-482/84-42

Licensee: Kansas Gas and Electric

Docket No.: 50-482 Construction Permit No.: CPPR-147

Facility Name: Wolf Creek

Inspection Conducted: September 30 - October 5, 1984

Team Leader: A. J. Ignatonis for W. Orders 10/25/84
Date Signed

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Approved by: Virgil L. Brownlee 10/26/84
V. Brownlee, Section Chief Date Signed
Division of Reactor Projects, Region II

SUMMARY

Scope: This special, announced inspection involved 378 inspector-hours on site in the area of Technical Specification review.

Results: No violations or deviations were identified in the areas inspected.

OCT 29 1984

ENCLOSURE 1

INSPECTION

OF

WOLF CREEK TECHNICAL SPECIFICATIONS

INSPECTION REPORT NO. 50-482/84-42

REPORT DETAILS

1. Licensee Employees Contacted

F. Rhodes, Plant Manager
*J. Zell, Superintendent Operations
*G. Boyer, Superintendent Technical Services
M. Williams, Superintendent Regulatory Compliance
*M. Hall, Licensing Engineer
*W. Lindsay, Supervisor Quality Systems
O. Maynard, Supervisor of Licensing
R. Richardson, Reactor Operator

Other licensee employees contacted included 15 technicians and 10 operators.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on October 5, 1984, with those persons indicated in paragraph 1 above. The applicant acknowledged understanding of the concerns expressed related to technical specification deficiencies revealed during the inspection. Concurrent with this inspection an in-office Region II review was conducted of the Technical Specifications. Comments derived from that review are attached to this report. Those comments were not reviewed with the licensee.

3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Technical Specifications Review

The Technical Specifications define certain features, characteristics, and conditions governing operation of a facility. The final approved Technical Specifications become a part of the operating license. Included are sections covering definitions, safety limits, limiting safety systems settings, limiting condition for operation, surveillance requirements, design features, and administrative controls.

The Technical Specifications for the Wolf Creek facility are based on "Standard Technical Specifications for Westinghouse Pressurized Water Reactors" (NUREG-0452, Revision 4). This document has been updated from earlier revisions as a result of continued discussion with Westinghouse and other licensees with Westinghouse PWRs.

The Staff, working with the applicant prepared and revised a draft of the Technical Specifications for the Wolf Creek plant.

During this inspection the latest revision of the Wolf Creek Technical Specifications, the "Post Proof and Review" copy was reviewed in order to determine if the specifications are accurate, technically viable and reflect as-built plant conditions.

The Wolf Creek Technical Specifications were reviewed and compared against the Wolf Creek FSAR, Wolf Creek and Callaway SERs, Westinghouse Standard Technical Specifications, Callaway Technical Specifications, Wolf Creek electrical logic and mechanical prints, Wolf Creek system descriptions and actual as-built systems configurations.

It should be noted that some of the changes proposed by the applicant in the previous Wolf Creek Technical Specifications "Proof and Review" copy dated July 20, 1984, which were received by the staff, were not incorporated into the "Post Proof and Review" copy available for this inspection. NRR licensing staff was represented on-site during the review which facilitated expedient resolution of most of those changes following discussions with inspection team members and applicant representatives. In addition, a number of simple typographical errors were brought to NRR licensing staff attention, and will be corrected by NRR. Although the more significant ommissions have been identified herein, for purposes of efficiency simple typographical errors are not generally included in this report. Included in this report are examples of technical issues which should have been changed and other findings not previously identified. In the interest of safety, these issues are addressed to assure reconsideration and prompt appropriate resolution.

System walkdowns were selective in nature, and although the actual configurations were analyzed to confirm FSAR/as-built agreement, the review was targeted primarily at Technical Specification/as-built agreement.

Selected Technical Specification surveillances were analyzed to determine viability, surveillance interval and accuracy. Detailed below are the team inspection concerns identified during the review. Sections reviewed for which there were no concerns are not addressed in this report.

Section 2.1 Safety Limits

TS 2.1.1 addresses thermal power, pressurizer pressure and loop temperatur for three loop operation. The Wolf Creek SER Section 16, Technical Specifications, identifies certain issues mandated by the staff to be included in the Wolf Creek Technical Specifications. One of these issues is the prohibition of N-1 loop operation; therefore, the reference to three loop operation should be removed. Accordingly, Figure 2.1-2, now blank should be removed.

TS Figure 2.1-1 should incorporate identified areas of acceptable and unacceptable operation. RCS TAVG scale typographyical error should be corrected to read 580 instead of 680.

Section 3/4.1 Reactivity Control Systems

TS 3.1.3.6 Rod Bank Insertion Limits addresses Figure 3.1-2 which refers to N-1 or three loop operations which is prohibited in the Wolf Creek SER, Section 16. This should be corrected.

TS 4.1.2.3.2 surveillance requirement for centrifugal charging pump inoperability when in Modes 4, 5, and 6 addresses charging pump surveillance to demonstrate required inoperability at least once per 31 days, except when the reactor vessel head is removed by verifying that the motor circuit breakers are secured in the open position. The Standard TS requires inoperability demonstration every 12 hours, and that the motor circuit breakers be removed from their electric supply circuits. Discussion with NRR revealed they feel this discrepancy is justified. The basis for acceptability of this condition should be provided.

Section 3/4.2 Power Distribution Limits

TS 3.2.5, DNB Parameters, Table 3.2-1, the column on three loop operation should be deleted. Wolk Creek SER section 16 prohibits three loop operation.

TS 3.2.1, Axial Flux Difference, the abscissa of Figure 3.2-1 on page 3/4 2-3 should be labeled "Flux Difference (WI)%" not "Flux Difference (W1)%". Typographical errors should be corrected.

TS 3.2.3 RCS Flow Rate and Nuclear Enthalpy Rise Hot Channel Factor Figure 3.2-1 should include measurement uncertainties of "2.1%" for flow, not "2.0%" as stated in caption.

Section 3/4.3 Instrumentation

TS 3/4.3.1 Table 3.3-1, Reactor Trip System Instrumentation:

- Item 6.b, Source Range Neutron Flux, (Shutdown) Action 5 gives requirements when the number of operable channels are one less than the minimum channels operable. TS 3.0.3 is not applicable in Modes 5 and 6, therefore with the loss of both source range neutron flux channels, 48 hours is allowed (per Action 5) before corrective actions are required while in Mode 5. This allowance appears to be excessive considering the safety significance of loss of all source range nuclear instrumentation. This appears to be a generic issue for Westinghouse plants.

- Item 16.a, Turbine Trip (Low Fluid Oil Pressure), Action 7 allows operation with the number of operable channels one less than the minimum channels operable requirement until performance of the next

required analog channel operational test. Discussions with the NRR staff indicates that Action 11 is the appropriate action for this item. This comment also applies to Callaway and should be resolved.

TS 3/4 3.1, Table 3.3-2, Reactor Trip System Instrumentation Response Times, Table title on page 3/4 3-8 reads "Actor Trip System Instrumentation Response Times".

Table title should read "Reactor...".

- Table 3.3.2, Table 3.3-3 Engineered Safety Features Actuation System Instrumentation:

- Table headings are mislabeled on pages 3/4 3-15, 3-17, and 3-18.

- Item 5.a, Turbine Trip and Feedwater Isolation: Action 21 requires Hot Standby within 6 hours and Hot Shutdown within the following 6 hours. Callaway TS indicates Action 27 for this item which requires only Hot Standby within 6 hours. The Wolf Creek TS is more conservative. NRR staff states that Section 21 is correct; however, applicable modes should be expanded to include Mode 3.

- Item 6.a., Auxiliary Feedwater, Manual Initiation indicates two (2) Total Channels, one (1) Channel To Trip and two (2) Minimum Channels Operable with Action number 22 requiring restoration of an inoperable channel within 48 hours or be in Hot Standby within 6 hours and Hot Shutdown within following 6 hours. The Wolf Creek Auxiliary Feed system has three manual start channels, one per pump, from the control room. TS should read: 3 (1/pump) Total Channels, 1/pump Channels To Trip, 1/pump Minimum Channels Operable with Action 24 requiring that with one channel inoperable, declare the affected pump inoperable and take Actions required by TS 3.7.1.2. This item was identified by the licensee in a July 20, 1984, submittal; however, the change was not made to the "Proof and Review" copy by NRR. This change should be incorporated.

- Item 6.g., Trip of All Main Feedwater Pumps should read like Callaway TS; i.e., Channels to Trip, 2- (1/pump in same separation) and Minimum Channels Operable, 3. This item was identified by the licensee in a July 20, 1984, submittal; however, the changes were not made to the "Proof and Review" copy by NRR. This change should be incorporated.

- Item 9 Control Room Isolation; Item 9.a., Manual Initiation requires Action 18 and Item 9.b, Automatic Actuation requires Action 14. Callaway TS Items 9.a and 9.b both require Action 26: i.e., with the number of channels less than required, restore channels to an operable status within 48 hours or initiate and maintain operation of the Control Room Emergency Ventilation System. This item was identified by the licensee in a July 20, 1984, submittal; however, the changes were not made to the Proof and Review by NRR. This item should be corrected.

- TS 3.3.2, Table 3.3-4, Engineered Safety Features Actuation System Instrumentation Trip Setpoints.

  - Multiple differences exist between Calloway and Wolf Creek values. Discussions with licensee indicates that plant specific differences in test equipment and plant instruments yield slightly different values for Wolf Creek. Values were not specifically verified during this inspection. Verification should be performed.

  - Item 8.b, Loss of Power identifies a trip setpoint with a 19 second delay. The specification should be read 119s delay. This item was identified by the licensee in a July 20, 1984, submittal; however, change was not made to proof and review by NRR. This item should be corrected.

TS 3/4 3.3.1, Radiation Monitoring Instrumentation For Plant Operation:

- Item 2.a, Fuel Building Exhaust - Gaseous Radioactivity High indicates Action 27 that requires in part, initiation of the Control Room Emergency Ventilation System. The appropriate action is Action 30 which requires in part, initiation of the Fuel Building Ventilation System. The Callaway TS indicate Action 30 for this item. This item was identified by the licensee in a July 20, 1984, submittal; however, the change was not made to the "Proof and Review" copy by NRR. This item should be corrected.

- Item 2.b, Criticality - Radiation Level indicates that the applicable monitors are RE-37 and RE-38. FSAR Table 12.3-2, Area Radiation Monitors indicates that RE-34, RE-35, RE-36, RE-37 and RE-38 serve as criticality monitors. The licensee stated that Item 2.b would be revised to include all plant criticality monitors in the fuel building. Furthermore, since spent fuel shipment offsite is not planned at this time, RE-34-Cask Handling Area Radiation Monitor will not be included in the TS. This item should be corrected.

TS 3/4 3.3.3, Seismic Instrumentation, Table 3.3-7, Item 1.g, Triaxial Peak Recording Accelerographs (Steam Generator Support) indicates that the accelerograph is located on the 'B' steam generator support. The accelerograph is actually located on the 'C' steam generator support. This item also needs correction in Table 4.3-4, Item 1.g.

TS 3/4 3.3.5, Remote Shutdown Instrumentation Table 3.3-9, Item 9, Steam Generator Pressure: Instrument name tags for the 'A' and 'C' Steam Generator pressure indicators on the remote shutdown panel read PI-516B and PI-535B, respectively. A review of the FSAR and system control drawings indicate that pressure indicators PI-516X and PI-535X are located at the Remote Shutdown Panel. The licensee stated that appropriate changes to the Remote Shutdown Panel labels would be made. TS are correct; however, label changes need to be made to the remote shutdown panel.

TS 3/4 3.3.6, Accident Monitoring Instrumentation, Table 3.3-10, Item 16, Containment Radiation Level (High Range) indicates that the required minimum channels operable is one (1). Generic Letter No. 83-37, NUREG-0737, Technical Specifications states that a minimum of two containment radiation-level monitors should be operable at all times except for cold shutdown and refueling outages. As the Wolf Creek TS is written, there are no requirements (actions) upon the removal from service of one of the containment Radiation Monitors; i.e., operation can continue indefinitely without corrective action to repair an inoperable monitor as long as one monitor remains operable. NRR staff stated that the TS is correct as written. The basis for acceptability of this condition should be provided.

TS 3.3.3.8, Fire Detection Instrumentation, Action statements (a) and (b) reference TS 4.6.1.6 for the location of the containment air temperature monitors. The correct reference should be TS 4.6.1.5. This typographical error should be corrected.

Section 3/4.4 Reactor Coolant System

There are no TS for the reactor coolant system vents (NUREG-0737, II.B.1). NRC Generic Letter 83-37 provided guidance on the scope of TS as they relate to NUREG items. TS should be incorporated.

TS 3.4.4(a) Relief Valves, requires that when one or more PORV's are inoperable, that within one hour the associated block valve must be closed with power removed. A review of Callaway TS revealed special considerations afforded for PORV's which were inoperable due only to seat leakage. This specification allowed the block valve to be closed, but did not require the removal of power. This in effect left the affected PORV "available" for pressure relief. Discussions with the applicant reveal that the PORV's are required for primary side pressure reduction to combat a steam generator tube rupture. This item should be reviewed for generic applicability.

TS 3.4.1.2, Hot Standby, states in Action b that: with only one reactor coolant loop in operation, restore at least two loops to operation within 72 hours or within 1 hour open the Reactor Trip System breakers. This TS does not appear to be commensurate with previously reviewed and approved TS, in that a specific requirement to be in Hot Shutdown within the next 12 hours is not required. This discrepancy should be resolved.

TS Section 3/4.4.7, Chemistry, states that with the specific activity of the reactor coolant greater than 1 microcurie per gram Dose Equivalent I-131 or greater... In the next Annual Report, pursuant to TS 6.9.1.4, submit the results of the specific activity analyses... This TS does not appear to be commensurate with Callaway TS in that a specific requirement to report within 30 days per TS 6.9.2 is not required. This discrepancy should be resolved.

TS 3.4.9.3, Overpressure Protection Systems, Limiting Condition for Operation and the associated Action and Surveillance sections do not address the RHR relief valves as an Overpressure Protection System. This TS does

not appear to be commensurate with Callaway TS that addressed the RHR relief valves as an overpressure protection system. Further this is in conflict with section 5.2.2. of Wolf Creek SER (Reference NUREG-0830 paragraph 5.2.2, page 5-3) which takes credit for the RHR relief valves. This discrepancy should be resolved.

Section 3/4.5, Emergency Core Cooling Systems

TS 3/4.5.3, ECCS Subsystems; Tavg. $\geq$350°F should read when Tavg is <350°F, not $\geq$350°F. This item should be corrected.

Section 3/4.6 Containment Systems

TS 3.6.4, Combustible Gas Control has no TS for the hydrogen mixing system. This system consists of four vaneaxial fans inside containment designed to provide uniform H2 concentration inside containment following a LOCA. The applicant did propose TS on this system, but they were subsequently withdrawn because analyses have shown that the fans were no longer required. Also, since no credit is given for these fans, TS are not required to assure operability of these fans. Additionally, there are no TS for hydrogen purge subsystem even though this subsystem is addressed in the standard TS. However, since hydrogen purge is a backup to the hydrogen recombiners and is not safety related, TS are not required for this subsystem. This matter should be confirmed.

TS 4.6.4.1, the hydrogen analyses channel calibration is to be performed using a sample gas containing ten volume percent hydrogen with a balance of nitrogen. For a LOCA, the objective is to maintain less than four volume percent of hydrogen in containment. Furthermore, NRC Generic Letter 83-37, suggested that for channel calibration the sample gas contain one volume percent and four volume percent hydrogen, respectively. However, the applicant and NRR determined that channel calibration based on ten volume percent is acceptable. The major reason for acceptance is that the hydrogen concentration gauge in the control room has a range up to 10 percent volume and calibration should be performed at the upper end of scale to obtain accuracy. The basis for this discrepancy should be determined.

Section 3/4.7, Plant Systems

TS 3.7.5, Ultimate Heat Sink requires that the crest of the ultimate heat sink dam...be at or above elevation 1069.5 (feet), Mean Sea Level. Available documentation indicates the elevation should be 1070 (feet). Further, there are no units associated with the elevation in the specification. This item was identified by the licensee in a July 20, 1984 submittal however, the changes have not been made to the TS. The same comment as above concerning elevation applies to TS 4.7.5(b). This item should be corrected.

TS 4.7.6.e.1), Control Room Emergency Ventilation System is not clear in its requirement that flows achieved thru the filters for testing are done in the recirculation mode. It is recommended that the TS be changed to read

"...while operating the system in the recirculation mode at a flow rate..." for clarification.

The following concerns and discrepancies were identified regarding compatibility of system design and TS and should be reviewed for resolution:

- The chlorine and radiation monitors are located downstream of the control room supply fans. The FSAR Section 9.4.1.2.3 states that they are located upstream of the supply. With the detectors downstream of the fans and isolation dampers the sensors cannot monitor supply air before fans are started.

- On the high chlorine isolation signal the control room ventilation system automatically switches to its emergency mode with the pressurization system taking suction thru an unmonitored opening. This allows chlorine contaminated air to be drawn into the control room through the pressurization system filters and mix with the recirculated air in the control room. This appears to be a non-conservative design. Other industry designs escape this problem by adding an automatic trip of the pressurization portion of the control room emergency ventilation system (CREVS) on a high chlorine condition.

- Only one smoke detector is associated with the CREVS (KC-119-XSN-10-001). This sensor gives control room indication on the smoke alarm panel and is allowed to be out of service for 14 days before a fire watch is established. The inspector considers the design less conservative than industry standards which dictate that multiple smoke detectors be available, and that on activation the detectors cause a trip of the running control room supply fans to minimize the smoke introduced into the CR.

- The temperature switches located on charcoal filter assemblies throughout the plant do not appear in the heat detector section within TS. The inspector also noted that filter assemblies did not employ any direct fire suppression system. The means used is a manual connection of the hose when a high temperature in the absorber banks annunciator is received in the control room.

TS 3.7.10.1.a, Fire Suppression Systems, should include the required head for the specified flow to be consistent with TS 4.7.10.1.1.f.2.

TS 4.7.10.1.1.f.4 is not being implemented as written in that the actual pump start setpoints are lower than that specified. The diesel fire pump starts at 70 psig. and the electric motor driven pump starts at 75 psig. while the TS specifies that pumps start at greater than or equal to 80 psig.

TS 4.7.10.1.3.c.1 cannot be adequately implemented in that "...visual verification that battery cell plates have not experienced abnormal deterioration.." is not possible because battery casings are of the heavy black rubber type, not the clear plastic type. Viewing thru the fluid ports

at the top of the battery allows only a very small area to be verified and is not adequate. This item should be corrected.

TS 3.7.10.2.b, (Spray and/or Sprinkler Systems) for the Pre-action Spinkler System, name should be changed from "Upper Cable Penetration Area" to "Upper Cable Spreading Room".

TS 3.7.3., Component Cooling Water System, Contains surveillance requirements that cannot be performed. An apparent discrepancy in design features of the system to be verified by surveillance testing was identified. This discrepancy relates to surveillance requirements 4.7.3.b.1 & 2, which require verification by test signal (at 18 month intervals) that automatic valves actuate to correct positions and CCW pumps start automatically on Loss-of-Power. A review of system drawings and discussions with licensee representatives failed to reveal a design feature(s) of the system which would accomplish the automatic positioning of valves and pump start consistent with these surveillance test requirements. The TS does not agree with the as-built plant. This discrepancy must be corrected.

TS 3.7.4, Essential Service Water System Contains an apparent discrepancy, similar to that discussed in the previous paragraph on the Component Cooling Water System, was identified with regard to the Essential Service Water System. Automatic positioning of valves and start of the ESW pumps on loss-of-power could not be confirmed by the inspectors. This discrepancy must be resolved.

TS 3.7.12, Area Temperature Monitoring contains a possible error. A review of facility heating, ventilation and air-conditioning (HVAC) drawings, revealed that certain rooms specified in Table 3.7-6 of the TS are not equipped with constant temperature monitoring instrumentation with alarm capability from the plant computer. A licensee representative states that temperature determination in these rooms will be by hand held temperature instrumentation, or other suitable means, at the frequency (once per 12 hours) required by surveillance requirement 4.7.12 of the Technical Specifications. As some of these areas may be high radiation areas or otherwise inaccessible surveillance may become impossible.

Section 3/4.8 Electrical Power Systems

TS. 3/4.8.2, D.C. Sources are non-conservative when compared to the FSAR and the standard TS. Specifically TS 4.8.2.1(f) calls for 18 month performance tests of those batteries which have reached 85% of their expected service life while the Standard TS and FSAR section 8.3.2.2.1, Item D calls for annual performance tests. This discrepancy should be resolved. This comment applies to Callaway also.

Section 3/4.9 Refueling Operation

TS 3.9.13.d.2, Emergency Exhaust System wording does not match TS Table 3.3.-6, item 2.a for the name given to the fuel building radiation instrument test signal. TS 4.9.13.d.1 does not clearly reflect the

requirement that the specified flows must be achieved while aligned in the emergency actuated mode. These clarifications should be considered.

Section 3/4.11, Radioactive Effluent

Callaway TS Table 4.11-2(1)(2) Lower limit of detection limits in μCi/ml have been evaluated and approved as acceptable at a setpoint of 1×10^{-4}; Wolf Creek TS reflect setpoints of 2×10^{-4}. This apparent discrepancy should be resolved.

Section 6.2, Organization

TS 6.2.2(a), Table 6.2-1 allows the unit to operate in modes 1, 2, 3, or 4 with the position of STA unmanned provided the Shift Supervisor or the individual with a Senior Reactor Operator License meets the qualifications for the STA position. NUREG-0737 item 1.A.1.1 as clarified in a staff letter from H. R. Denton, to all Operating Plants, dated October 30, 1979, allows for the elimination of the STA position provided that a) the shift supervisors and senior operators meet the qualifications for STA and b) the "man-machine interface in the control room has been successfully upgraded." A terse review of available documentation reveals that the training appears to have been completed; however, the control room design review has not been approved. In as much as the criteria facilitating the elimination of the STA has not been met, the TS is inappropriate.

TS 6.2.2(e) stipulates that "...the fire brigade shall not include 3 members of the minimum shift crew necessary for safe shutdown of the unit...". Further, the applicant has proposed that the requirement to maintain the brigade "onsite" be changed to within the site boundary. Callaway TS are specific in excluding the shift supervisor from the brigade. Further site boundary is defined as "the line beyond which the land is neither owned, nor leased, nor otherwise controlled by the licensee". The specification as written, with the incorporation of the "site boundary" in the place of "onsite" would allow the shift supervisor to respond to a fire at a remote site boundary location which in turn may take him beyond a two minute return. Further, this is in direct contradiction of paragraph 13.1.3.4, Operations, in Wolf Creek SER, NUREG-0881, April 1982, page 13-20. This TS errors must be corrected.

Section 6.4, Training

Although the SER accepted the applicant's training program for the Shift Technical Advisors, the TS does not appear to address the same training requirements. NRC Generic Letter No. 82-16 provided guidance for incorporation of STA training into the TS. Model TS for NUREG-0737 items provided in the NRR July 2, 1980 letter included STA qualification requirements. The Wolf Creek TS do not specify STA qualification requirements nor do they reference the July 2, 1980 letter. This item should be resolved.

Section 6.5, Review and Audit

TS 6.5.1.7(c) requires that the Plant Safety Review Committee (PSRC) provide written notification within 24 hours to the Director Nuclear Operations and the Nuclear Safety Review Committee (NSRC) of disagreement between the PSRC and the Plant Manager. The Plant Manager is the Chairman of the PSRC (refer to TS. 6.5.1.2) and has the authority and/or responsibility for resolution of such disagreements pursuant to TS. 6.1.1. TS. 6.1.1 simply states that the Plant Manager is responsible for overall unit operation. In summary, the Plant Manager can overrule the recommendations of the PSRC. This philosophy, prevails also in the Westinghouse Standard TS and Callaway TS. In a review of recently approved specifications for similar facilities it was detected that for this specification, the Plant Manager could overrule the PSRC; however, it was further stipulated that his decision had to be in the conservative direction. This restriction is not included in the Wolf Creek specification and should be considered.

OCT 29 1984

ENCLOSURE 2

REGION II IN-OFFICE REVIEW

OF

WOLF CREEK TECHNICAL SPECIFICATIONS

NOTE: Those items marked with an asterisk (*) within this attachment indicate a duplicate comment identified in Enclosure 1.

REGION II IN OFFICE REVIEW
WOLF CREEK TECHNICAL SPECIFICATION

Section 2.1 Safety Limits

Figure 2.1-1, "RCS Tavg (°F)" scale contains a typographical error: The "680" value between "560" and "600" should be "580."

Section 3/4.3 Instrumentation

Table 3.3-1, Item 6, "Source Range Neutron Flux" Action 5, which is identical to the Callaway TS item, requires that with the number of OPERABLE channels one less than the Minimum Channels OPERABLE, restore the inoperable channel to OPERABLE status within 48 hours or open the Reactor trip breakers, suspend all operations involving positive reactivity changes and verify Valves BG-V178 and BG-V601 are closed and secured in position within the next hour.

The Wolf Creek and Callaway TS are not conservative in that they do not require verification of compliance, within one hour, of shutdown margin requirements under any circumstances as required by the standard TS. This matter should be resolved.

*Table 3.3-1 Items 7 and 8 of the Standard TS differs from the Wolf Creek and Callaway TS in that the Standard TS have provisions for three loop operation while the Wolf Creek and Callaway TS do not. This is because three loop operation has not yet been approved by NRC.

Table 3.3-1 Item 12.

The Title of the Functional Unit for Wolf Creek (and Callaway), "Reactor Coolant Flow-Low" differs from the standard TS Title "Loss of Flow."

However, this appears to be acceptable and the comment is for information only.

Table 3.3-1, Item 13 of the Wolf Creek (and Callaway) TS differ from the Standard TS in that Wolf Creek states there are 4 total Steam Generator water level LoLo channels per Steam Generator while the standard reflects 3, Wolf Creek specifies 3 minimum channels operable per Steam Generator while the standard reflects 2.

If the actual site conditions reflect the 4 channels of low low Steam Generator level of the TS, these differences are considered acceptable.

Table 3.3-1, Table 3.3-2 and Table 4.3-1

The Wolf Creek (and Callaway) TS do not address a "Steam Generator Low Level Coincident with Steam/Feedwater Flow Mismatch" trip nor a "Reactor Coolant Pump Breaker Position Trip" function while the Standard TS does.

Table 3.3-1, Item 14 "Under voltage - reactor coolant pumps " and "under frequency - reactor coolant pumps"

The Wolf Creek (and Callaway) TS differ from the Standard TS as follows:

	Total No Channels	Channels to Trip
Wolf Creek (Callaway)	4 - 2/bus	2 - 1/bus
Standard	4 - 1/bus	2

Table 3.3-1, Item 16b "Turbine Trip - Turbine Stop Value Closure" of the Wolf Creek (and Callaway) TS differ from the Standard TS in that the minimum channels operable should be 4.

Unit	Total No. Channels	Channels To Trip	Minimum Channels Operable	Applicable Modes	Action
Wolf Creek	4	4	1	1	11#
Standard	4	4	4	1	7

Table 3.3-1 and Table 4.3-1 Item 18d. "Power Range Neutron Flux, P-9"

The P-9 permissive (blocks reactor trip if turbine trips with 10%≤P≤50%) is addressed in the Wolf Creek (and Callaway) TS but is not addressed in the Standard TS.

Table 3.3-1 (Page 3/4 3-4) and Table 4.3-1 (Page 3/4 3-11).

The title of the P-10 functional unit for Wolf Creek (and Callaway) is different from the Title for the Standard TS.

Wolf Creek - "Power Range Neutron Flux, P-10"

Standard - "Low Set Point Power Range Neutron Flux, P-10"

However, this appears to be acceptable and the comment is for information only.

Table 3.3-1 (Page 3/4 3-4); Table 3.3-2 (Page 3/4 3-8); Table 4.3-1 (Page 3/4 3-11) item 20:

The title differs between Wolf Creek (and Callaway) and the Standard TS.

Wolf Creek - Automatic Trip and Interlock Logic
Standard - Automatic Trip Logic

However, this is considered acceptable and the comment is for information only.

Table Notations (Page 3/4 3-5):

The wording is different between Wolf Creek (and Callaway) and the Standard TS.

Wolf Creek (Callaway) - "Only if the Reactor Trip System breakers happen to be in the closed position and the control rod drive system is capable of rod withdrawal."

STANDARD - "With the reactor trip system breakers in the closed position, the control rod drive system capable of rod withdrawal.

However, the above appears to be acceptable and the comment if for information only.

Action 3, Page 3/4 3-5

The "and" between subparagraphs a. and b. should be deleted for both Wolf Creek and Callaway TS. Its presence is not consistent with the Standard TS and it makes the action requirement inappropriate.

Action 11 - Page 3/4 3-6

The Wolf Creek and Callaway TS differ from the Standard TS in that the Wolf Creek TS allows more than one less channel than the total number of channels for the "Turbine Stop Valve Closure - Turbine Trip". In addition, Action 11 of the Standard TS does not correspond to Action 11 of the Wolf Creek TS.

Table 3.3-2, Page 3/4 3-7, * Notation at Bottom of Page

The notation exempts neutron detectors from response time testing. The Standard TS allows this exemption for licensees whose construction permits were docketed prior to or on January 1, 1978.

If Wolf Creek Construction Permit was docketed after January 1, 1978, this * notation should be deleted. This comment should be resolved.

Table 3.3-2 (Page 3/4 3-8) item 12:

For Wolf Creek, item 12 is titled "Reactor Coolant Flow-Low"
For Callaway, item 12 is titled "Low Reactor Coolant Flow-Low"
For Standard, item 12 is titled "Loss of Flow"

However, the above titles appear to be acceptable and are delineated for information only.

Table 4.3-1 (Page 3/4 3-9, thru 3/4 3-11) Channel Check Column

The Wolf Creek (and Callaway) TS for 12 hour channel check of the following functional units

2a - Power Range Neutron Flux - High Set Point
2b - Power Range Neutron Flux - Low Set Point
5 - Intermediate Range Neutron Flux
7 - Source Range, Neutron Flux

differ from the Standard TS in that the Standard TS require the actions of Table Notation (9)

> "(9) Monthly Surveillance in MODES 3*, 4*, and 5* shall also include verification that permissives P-6 and P-10 are in their required state for existing plant conditions by observation of the permissive" annunciator window.

The Wolf Creek (Callaway) TS do not implement this surveillance and should be corrected.

Furthermore, it appears Notation 9 in the Standard TS is misplaced with 12 hour inspections when its applicability is for monthly inspection.

Table 4.3-1, Item 6. "Source Range Neutron Flux", channel calibration column of the Wolf Creek (Callaway) TS refers to table notation item 12 while the Standard TS does not.

> "(12) At least once per 18 months during shutdown, verify that on a simulated Boron Dilution Doubling test signal the normal CVCS discharge valves will close and the centrifugal charging pumps suction valves from the RWST will open within 30 seconds."

Table 4.3-1 Item 7 "Overtemperature ΔT", channel calibration column of the Wolf Creek (Callaway) TS refers to table notation item 13 while the Standard does not.

> "(13) Channel calibration shall include the RTD bypass loops flow rate."

Table 4.3-1 Item 16, "Turbine Trip" Channel Calibration Column of the Wolf Creek (Callaway) TS calls for an 18 month channel calibration on both low fluid oil pressure trip and turbine stop valve closure trip. The Standard TS have both of these marked N.A. for channel calibration.

Table 4.3-1 Item 19 "Reactor Trip Breaker" Trip actuating device operational test column of the Wolf Creek (Callaway) TS refers to table notation Item 11 while the Standard TS does not.

> "(11) At least once per 18 months and following maintenance or adjustment of the Reactor trip breakers, the TRIP ACTUATING DEVICE OPERATIONAL TEST shall include independent verification of the Undervoltage and Shunt trips."

Table 4.3-1, (Page 3/4 3-12) Notation (2) for Wolf Creek (Callaway) and Standard TS Differs.

Wolf Creek -

> "(2) Comparison of calorimetric to excore power indication above 15% of RATED THERMAL POWER. Adjust excore channel gains consistent with calorimetric power if absolute difference is greater than 2%. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1."

Standard -

> "(2) Heat balance only, above 15% of RATED THERMAL POWER. Adjust channel if absolute difference greater than 2 percent."

Wording of Wolf Creek TS appears to clarify how to accomplish Standard TS surveillance.

Entry into Mode 2 or 1 is allowed at Wolf Creek without completing the daily channel calibration for power range high neutron flux set point on this item since provisions of Spec 4-0.4 are designated N.A. under these conditions.

Table 4.3-1, (Page 3/4 3-12) Table Notation (3) for Wolf Creek (Callaway) differs from Standard TS.

Wolf Creek -

> "(3) Single point comparison of incore to excore AXIAL FLUX DIFFERENCE above 15% of RATED THERMAL POWER. Recalibrate if the absolute difference is greater than or equal to 3%. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1."

Standard -

> "(3) Compare incore to excore axial flux difference above 15% of RATED THERMAL POWER. Recalibrate if the absolute difference is greater than or equal to (3) percent."

Wording of Wolf Creek TS appears to clarify how to accomplish Standard TS surveillance. Entry into Mode 2 or 1 is allowed at Wolf Creek without completing Monthly Channel Calibration for Power Range High Neutron Flux Set Point on this item since provisions of Spec. 4.0.4 are designated N.A. under the conditions.

Table 4.3-1, Table Notation (6) for Wolf Creek (Callaway) differs from Standard TS.

Wolf Creek states, "(6) Incore - Excore Calibration, above 75% of RATED THERMAL POWER. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1."

STANDARD states - "(6) - Incore - Excore Calibration"

Wolf Creek restricts quarterly channel calibration for power range high neutron Flux setpoint associated with incore-excore calibration to when above 75% RATED THERMAL POWER. Also Wolf Creek allows for entry into Mode 2 or 1 without completing this quarterly surveillance since provisions of Spec 4.0.4 are designated as N.A. under these conditions.

General Comment - Wolf Creek specifies "Analog Channel Operational Test". Standard TS specify "Operational Test".

Table 4.3-1, page 3/4 3-12, Table Notation (9) for Wolf Creek (Callaway) includes a provision that the monthly surveillance shall include verification of the Boron Dilution Alarm Setpoint of less than or equal to an increase of twice the count rate within a 10-minute period.

This provision is not addressed in the Standard TS.

Table 4.3-1, page 3/4 3-12, Table Notation (10) of Wolf Creek states setpoint verification is not "required." The standard and Callaway state setpoint verification is not "applicable."

TS 3/4.3.2 ESF Actuation System Instrumentation

Table 3.3-3, pages 3/4 3-15, 3/4 3-17, 3/4 3-18, Column Headings are Incorrect (Editorial Error) and Different from Callaway. These headings should read:

Functional Unit	Total No. Channels	Channels To Trip	Minimum Channels Operable	Applicable Modes	Action

Table 3.3-3, The phrase "(SSPS)" is not provided after "Automatic Actuation Logic and Actuation Relays" for items 1.b, 2.b and Table 3.3-4 item 1.b.

Table 3.3-5, items 1.m, 2.a.8, 3.a.8 and 4.a.8, the "Emergency diesel generator" for Wolf Creek should be plural.

*Table 3.3-3 Item 5.a.

"Turbine Trip and Feedwater Isolation, Automatic Actuation Logic and Actuation Relay (SSPS)" Specifies Action 21 for Wolf Creek and specifies Action 27 for Callaway.

*Table 3.3-3 Item 6a.

"Auxiliary Feedwater, Manual Initiation"

The total number of channels, channels to trip and minimum channels operable differ between Wolf Creek and Callaway. The Wolf Creek TS needs correction.

*Table 3.3-3 Item 6a "Auxiliary Feedwater, Manual Initiation" specifies Action 22 for Wolf Creek and Action 24 for Callaway.

Wolf Creek Action 22 states - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within six hours and in at least HOT SHUTDOWN within the following six hours."

Callaway Action 24 states - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, declare the affected auxiliary feedwater pump inoperable and take the ACTION required by Specification 3.7.1.2.

Wolf Creek TS should implement Action 24.

*Table 3.3-3 item 6g "Auxiliary Feedwater, All Main Feedwater Pumps - Start Motor Driven Pumps the channels to trip "2 - (1/pump)" for Wolf Creek and "2-(1/pump in same separation)" for Callaway. Wolf Creek appears to be editorially incorrect.

Also for Minimum Channels Operable Wolf Creek states "3 - (2/pump in same separation)" and Callaway states "3."

Again Wolf Creek appears to be editorially incorrect.

*Table 3.3-3, Item 9a "Control Room Isolation, Manual Initiation" Specifies Action 18 for Wolf Creek and Action 26 for Callaway.

Wolf Creek Action 18 states - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next six hours and in COLD SHUTDOWN within the following 30 hours.

Callaway Action 26 states - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or initiate and maintain operation of the Control Room Emergency Ventilation System.

Table 3.3-3, Item 9b "Control Room Isolation, Automatic Actuation Logic and Actuation Relays (SSPS)" Specifies Action 14 for Wolf Creek and Action 26 for Callaway.

Wolf Creek Action 14 states - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1, provided the other channel is OPERABLE.

Callaway Action 26 states - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or initiate and maintain operation of the Control Room Emergency Ventilation System.

Table 3.3-3, Action 23 in the secc d line, "inoperate" should be "inoperable."

Table 3.3-4, Item 1. "Component Cooling Water" is listed twice in the functional unit.

*Table 3.3-4, Item 7b. "Automatic Switchover to Containment Sump, RWST Level Low-Low" Trip set Point and Allowable Value.

" $\leq$ " should be " $\leq$ "

Table 3.3-4, the parameters for total allowance (TA), Z, Sensor Error(s), Trip Setpoint, and Allowable Value Differ Between Wolf Creek and Callaway as follows:

a) Item 1d "Pressurizer Pressure Low"

	Wolf Creek	Callaway
TA	16.2	18.6
Z	10.71	14.41
S	2.49	2.0
Trip set point	$\geq$1830 psig	$\geq$1849
Allowable Value	$\geq$1815 psig	$\geq$1834

b) Item 1.c. "Safety Injection Containment Pressure High-1"

	Wolf Creek	Callaway
S	1.98	2.0

c) Item 1.e "Safety Injection Steam Line Pressure Low"

	Wolf Creek	Callaway
S	1.93	2.0

d) Item 2.c "Containment Spray, Containment Pressure High-3"

	Wolf Creek	Callaway
S	1.98	2.0

e) Item 3.b.3 "Containment Isolation, Phase "B" Isolation, Containment Pressure - High-3"

Wolf Creek	Callaway
1.98	2.0

f) Item 4.c "Steam Line Isolation, Containment Pressure High-2"

	Wolf Creek	Callaway
S	1.98	2.0

g) Item 4.d "Steam Line Isolation, Steam Line Pressure Low"

	Wolf Creek	Callaway
S	1.93	2.0

h) Item 4.e "Steam Line Isolation Steam Line Pressure - Negative Rate - High

	Wolf Creek	Callaway
	≤125 psi/s**	≤124 psi**

i) Item 5.b "Turbine Trip and Feedwater Isolation, Steam Generator Water Level High High "

	Wolf Creek	Callaway
S	2.51	2.0
Allowable Value	≤79.7%	≤79.8%

j) Item 6.d 1) "Auxiliary Feedwater Steam Generator Water Level Low-Low, Start Motor Driven Pumps

	Wolf Creek	Callaway
S	2.51	2.0
Allowable Value	≥22.3%	≥22%

k) Item 6.d.2) "Auxiliary Feedwater Steam Generator Water Level Low-Low, Start Turbine Driven Pumps

	Wolf Creek	Callaway
S	2.51	2.0
Allowable Value	≥22.3%	≥22%

l) Item 6.h. "Auxiliary Feedwater, Auxiliary Feedwater Pump Suction Pressure Low (Transfer to ESW)"

	Wolf Creek	Callaway
Trip Set Point	≥21.56 psia	≥21.71
Allowable Value	≥20.53 psia	≥20.64

m) Item 7.b "Automatic Switchover to Containment Sump, RWST Level Low-Low"

	Wolf Creek	Callaway
S	1.86	2.0

n) Item 8.a "Loss of Power, 4KV Undervoltage - Loss of Voltage"

	Wolf Creek	Callaway
Trip Setpoint	≥83v (120V Bus) w/1s delay	83V(120V Bus) w/1s delay
Allowable Value	≥74.7V (120 V Bus) w/1+0.2-0.5s delay)	83+0,-8.3 V (120 V Bus) w/1+0.2,-0.5s delay

o) Item 8.b "Loss of Power, 4KV Undervoltage - Grid Degraded Voltage"

	Wolf Creek	Callaway
Trip Setpoint	≥107.1V (120V Bus) w/19s delay	104.5V (120V Bus) w/delay 119s
Allowable Value	≥104.5V (120V Bus) w/119 ± 11.6s delay	104.5 + 2.6-0V (120V Bus) w/119 ± 11.6s delay

p) Item 11a "ESF Actuation System Interlocks, Pressurizer Pressure, P-11

	Wolf Creek	Callaway
Allowable Value	≤1979 psig	≤1981 psig

The acceptability of these values should be verified.

Table 3.3-12, Action 31 and Action 33 should require isolation of the waste tank from all influent sources while being released .

TS 3.3.3.10, Action a states "immediately suspend the release"; draft Rev. 5 of Standard TS uses "without delay suspend the release".

TS 3.3.3.11, Action a - same comment as above (3.3.3.10 Action a)

Table 3.3-9, "Remote Shutdown Monitoring Instrumentation" for the Wolf Creek TS provides a footnote which states that Source Range, Neutron Flux instruments are not required to be operable in Mode 1 or in Mode 2 above P-6 setpo nt. This footnote does not appear in the Callaway TS.

Table 4.3-9, Notation (3) Second line, word "certified" mispelled.

TS 3.3.3.7, Chlorine Detection Systems is not found in the Callaway TS. NRR representative states that there is no Calorine inventory at Callaway.

TS 4.3.4.2 of Callaway TS for Turbine Overspeed Protection reads significantly different from Wolf Creek TS and Standard TS.

Without seeing the Callaway 'Turbine Overspeed Protection Reliability Program,' it is not possible to determine which TS is most conservative. The Wolf Creek TS is, for the most part, patterned after the Standard TS. However, Wolf Creek Section 4.3.4.2(b) is not included in the Standard TS or Callaway TS.

Section 3/4.4 Reactor Coolant System

*TS 3.4.1.2, Action Statement b of Wolf Creek T/S requires that if operability requirements are not met and not restored within 72 hours then within one hour open the Reactor Trip System breakers. Callaway allows for a more controlled shutdown by allowing to be in HOT SHUTDOWN within the next twelve hours. The Standard TS does not address only one pump in operation.

Figure 3.4.1, Title should be 3.4-1 to be consistent with text.

Figure 3.4-2, page 3/4 4-30 Wolf Creek curves are applicable up to "16EFPY" Callaway Curves are applicable up to "7EFPY"

Figure 3.4-3, page 3/4 4-31 the Wolf Creek curves for 20, 40, 60°F/hr cooldown rates are discontinuous between 150°F and 195°F. The Callaway curves are discontinuous for all cooldown rates between 125°F and 195°F. RT NDT initial is 40°F for Wolf Creek and 50°F for Callaway.

Also, the applicable service period is "16 EFPY" for Wolf Creek and 7 EFPY for Callaway.

Table 4.4-5, page 3/4 4-32 "Y" capsule withdrawal time is 5 EFPY for Wolf Creek and 6 EFPY for Callaway.

*TS 3.4.9.3 "Overpressure Protection Systems" Page 3/4 4-34 and 4-35.

Wolf Creek does not have RHR relief valve overpressure protection and surveillance while Callaway TS does. The Standard TS does not contain this provision but the SER credits this equipment.

Section 3/4.5 Emergency Core Cooling Systems

TS 4.5.2.h.2 b) for Wolf Creek, the SI total pump flow rate required is 650gpm - and 655 gpm for Callaway.

*TS 3/4.5.3 Title states, "Tavg ≥350°" and should be "Tavg <350°F"

TS 3/4.5.4 Wolf Creek notation states "An inoperable pump may be energized for testing per specification 4.0.5 or for filling..."

Callaway states "an inoperable pump may be energized for testing or for filling..."

Section 3/4.6 Containment Systems

TS 4.6.1.3.b.2, Requires an exemption to Appendix J, Paragraph III.D.2(b)(ii) of 10 CFR Part 50. This is identical to Callaway; however, it is a deviation from the standard Technical Specifications.

TS 4.6.1.5 contain identical elevations for Wolf Creek and Callaway. This data should be verified.

TS 4.6.2.2.c of Wolf Creek TS refers to Containment Pressure - High -3 (CSAs). Callaway TS reference Containment pressure-High (CSAs). This difference should be resolved.

TS 4.6.4.2.1, should be TS 4.6.4.2. This typographical error should be corrected.

Section 3/4.7 Plant Systems

Table 3.7-2 and Table 3.7-3 of Wolf Creek should indicate (*) in left hand column as in the Callaway TS.

TS 3.7.1.2, Action Step(b) of Wolf Creek misspells 'within'

TS 4.7.5.3 of the Callaway TS requires a 31 day visual inspection of the UHS riprap cover. There is no comparable surveillance requirement in the Wolf Creek TS.

TS 3.7.8, should add "s" to system in "nonsafety-related system". This typographyical error should be corrected.

TS 4.7.8, should replace "in lieu of" with "and". This discrepancy should be corrected to be consistent with Standard TS. Same comment applies to the Callaway TS.

TS 4.7.8.a, should delete "and manufacturer" and replace with "...design, e.g., hydraulic snubber, or mechanical snubber, irrespective..." Paragraph 4.7.8.a of the Wolf Creek TS defines snubber types as snubbers of the same design and manufacturer. This definition is too broad. We recommend that type be defined as snubbers of the same general design, either mechanical or hydraulic, and delete the words "and manufacturer." We feel that many utilities will classify snubbers of different manufacturers as different types of snubbers, where, in fact, the snubbers are all the same type. For example, Bergen-Patterson (B&P) hydraulic snubbers will be classified as one type, Grinnel hydraulic snubber, and so on. They are, for all practical purposes, the same type snubber utilizing the same operating principles and similar components.

TS 4.7.8.b, should delete reference to system, in three places and also in the Table. Inclusion of words "on any system" in TS 4.7.8.b assumes that visual

defects noted during visual inspections are dependent on the system on which they are installed. This is not necessarily the case. The Standard TS (enclosure to May 3, 1984 Generic Letter) permits the licensee to reach this conclusion only after performing an engineering study during which the licensee is required to demonstrate and document that the visual defect is unique and limited to a particular system as a result of some event, such as a transient. In the Wolf Creek TS, the assumption is made that the visual defect is system dependent and does not require the licensee to perform any evaluation. Also, delete: "for each type of snubber on a given system", "of that type" and "on that system". And TS 4.7.8.c should be revised to comply with standard TS and to delete references to system and address snubbers whose fluid port is found uncovered.

TS 4.7.8.d should delete "within 6 months". The TS requires inspection of systems "within six months following such an event." This appears to be contrary to requirement of Criterion XVI of 10 CFR 50, Appendix B, which requires prompt identification and correction of malfunctions, deficiencies, etc. Operational data should be reviewed daily or weekly, and if a problem is suspected, visual inspection should be scheduled and performed as soon as possible. There is no reason to wait six months.

TS 4.7.8.e(2) should delete fourth sentence discussing each day's testing. In sample plan 2, the results of functional testing are plotted at the "end of each days testing." The relationship between test results and the end of the each days testing is not clear. The curve, Figure 4.7-1, appears to be a continuous function based on a statistical calculation of a confidence interval. In this regard, it appears that a snubber should be plotted as tested and action taken according to the requirements of the curve and location of the plotted point. We note that in sample plan 3, each snubber point must be plotted on the curve as soon as the snubber is tested. We feel that the phrase "end of each days testing" should be deleted from the TS. The curve should be used to determine action.

Also, in the sixth sentence delete "at any time" and change "group" to "type", because using the phrase "at any time" would allow terminating the test prior to completing the initial representative sample.

TS 4.7.8.e, Last paragraph on page 3/4 7-22, should be revised to read as follows:

The representative sample selected for the functional test sample plans shall be randomly selected from the snubbers of each type and reviewed before beginning the testing. The review shall ensure as far as practical that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers of each type. The representative sample, shall not, to the extent practical, include those snubbers tested in a previous representative sample. In addition to the representative sample, snubbers which failed the previous functional test shall be retested during the next test period. If a spare snubber has been installed in place of a failed snubber then both the failed snubber (if it is repaired and installed in another position) and the spare snubber shall be retested. Test results of these snubbers may not be included for the re-sampling. If during the functional testing, additional

sampling is required due to failure of only one type of snubber, the functional testing results shall be reviewed at the time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

The reason is to delete reference to "day's testing" and to include all requirements of the standard TS.

TS 4.7.8.f, should add new fourth item to read as follows: "For snubbers specifically required not to displace under continuous load, the ability to withstand load without displacement."

This is recommended to include all the requirements of the Standard TS. Note this will require adding "; and" at the end of sentence three.

TS 4.7.8.g should revise title to read "Functional Test Failure Analysis." Service life monitoring program is referenced in paragraph 4.7.8.i. Note title will also need to be changed at top of page 3/4 7-23.

TS 4.7.8.i. should change titie to read "Snubber Service Life Monitoring Program" for clarification.

TS Table 3.3-11, Fire Detection Instruments. A number of fire detection zones appeared to be deleted from the list of required instruments. All fire detectors installed within or providing protection for safety related areas should be included in the TS.

Foot note (1) appears to be in conflict with TS 3.3.3.8. When any Function B detectors which actuate fire suppression systems are inoperative, an hourly fire watch patrol must be provided. Therefore, this footnote should be deleted.

A foot note should be added for zone nos. 016 and 017 (ESF Transformers XNB01 and XNB02), 100 (Auxiliary Building Cable Trays), 103 (Auxiliary Building Cable Trays) and 104 (Auxiliary Build Cable Trays) to indicate that a continuous fire watch with backup fire suppression equipment is required when these detector zones are out of service. These detectors activate pre-action sprinkler systems which protect redundant systems or components. TS 3.7.10.2 requires a continuous fire watch for these areas when these sprinkler systems are inoperative. The sprinkler systems require the detectors to be operable in order for the sprinkler systems to activate automatically if required.

A foot note should be added for zone nos. 105 and 112 (MG set rooms) and 314, 315, 316 and 317 (ESF switchgear rooms) to indicate that a continuous fire watch with backup fire suppression equipment is required when these detector zones are inoperative. These detectors activate halon systems which protect redundant systems or components. Technical Specification Section 3.7.10.3 requires a continuous fire watch for these areas when the Halon system is inoperative. The detection system must be in service in order for the Halon system to be operational.

TS 4.3.3.8.3, should add a new section to read: "The non-supervised circuit between the local fire detection panels and the control room and between the fire

detection panels and the fire suppression system actuation panels shall be demonstrated OPERABLE at least once per 31 days."

This section is required by the Standard TS to assure that the nonsupervised circuits in the fire protection systems remain functional. If all of the fire protection alarm and actuation circuits are supervised, this section is not required.

TS 3.7.10.1.a, should revise the first and second lines to read as follows "...capacity of ≥3300gpm at 125 psi with their discharge..." The pump should be required to maintain the capacity indicated at a head pressure equal to the design of the pump. This is required to assure that the pumps will deliver an adequate volume of water at a head pressure to supply the fire protection water systems.

TS 3.7.10.1, Action (a) should be revised to read: "... within seven days or provide an alternate backup pump or supply. The provisions of..." This change is necessary to permit the licensee to provide a backup pump in the event one of the normal fire pumps is out of service.

TS 4.7.10.1.1f(2) should be revised to read:

"...least 3300 gpm at 125 psi and at least 4950 gpm at 81 psi. Test of electric motor driven pump shall not exceed rated voltage or full load ampere rating of the motor. Voltage must not vary more than five percent below or ten percent above rated voltage."

This change is necessary to assure that the fire pumps are tested in accordance with Code of Reference (NFPA-20, Centrifugal Fire Pumps). The Standard TS requires only a single point check.

TS 4.7.10.1.2.a.(1) should be revised to read:

"The fuel... at least 300 gallons of fuel"

The fuel storage tank should contain sufficient fuel to operate the pump engine for not less than eight hours in order to meet the requirements of NFPA-20, Centrifugal Fire Pumps. NPFA-20 Section 8-4.3 would require a total fuel capacity of at least 300 gallons for a 300 HP diesel engine (one pint per horsepower per hours).

TS 3.7.10.2, should be verified to confirm all sprinkler systems provided for safety related areas and components should be included in the TS. Sufficient data is not available within Region II to verify that all of the required systems have been included in the TS. The licensee should review and verify that the required systems are included.

TS 3.7.10.2, Pre-Action Sprinkler Systems: Include a new paragraph to read as follows: "When a portion(s) of the above required spray and/or sprinkler system is (are) rendered inoperative due to the inoperability of a function B fire detection instrument as specified by Section 3.3.3.8, within one hour establish a

continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol."

This additional statement is required to assure that the appropriate fire watch is provided when the fire detection system which activates the sprinkler systems is not in service.

TS 3.7.10.3, Should be reviewed to verify that all Halon systems provided to protect safety related areas and components should be included in the TS. Sufficient information is not available within the Region II office to verify that all of these systems are included.

TS 3.7.10.3, Action Section should be revised to add a new Action "b" to require that when a portion of the above required Halon systems is rendered inoperative due to the inoperability of a function B fire detection instrument as specified by Specification 3.3.3.8, establish a continuous fire watch within one hour with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol.

This change is required to assure that the appropriate fire watch is provided when the fire detection systems which activates the Halon System are inoperative.

TS 3.7.10.4 and Table 3.7-5: All fire hose stations within safety related areas should be included in the TS. The licensee should review and verify that all required hose stations have been included in the TS, since data is not available for Region II to make this verification.

TS 3/4.7.12, should add a section to cover the yard fire hydrants and hydrant hose houses. This new section should comply with Section 3.7.11.6 of the Standard TS.

This section is required only if the exterior yard hydrants provide protection for safety related components. Otherwise, this section is not required.

TS 4.7.11.2, Fire Barrier Penetration should be revised to provide a new section 4.7.11.2 to read: At least once per 18 months, the above required fire dampers shall be verified OPERABLE by performing a visual inspection of each fire damper and associated hardware and conducting a functional operability test of at least 10% of the fire dampers assemblies. If fire damper malfunctions are found, then an inspection and functional testing of an additional 10% of the total number of fire damper assemblies shall be made. This inspection process shall continue until a 10% sample which performed without malfunctioning is found. Samples shall be selected such that each fire damper assembly will be functionally tested every 15 years.

Section 3/4.8 Electrical Power Systems

TS 3.8.1.1, Actions a and b; NRR Generic Letter (GL) 84-15 has modified the action statement to require test of the Diesel Generator (DG) to require test of the DG only once in first 24 hours.

Action c. should include a paragraph b. from GL 84-15 inplace of paragraph c. The GL also adds a footnote defining when a failed DG is made operative. There are footnotes maximum time an individual DG may be inoperable and the maximum cumulative time, a DG may be inoperable in a given year.

Action d. should require that the DG surveillance be performed in eight hours instead of one hour as stated in GL 84-15.

Action e. should be revised to agree with GL 84-15.

TS 4.8.1.1.1 does not incorporate the requirements of paragraph b. of the Standard TS and GL requiring an 18 month surveillance test of the transfer from normal to alternate sources of unit power supply.

TS 4.8.1.1.2.a.4 does not require testing the capability of the DG to start using four specific signals as in the Standard TS and GL 84-15. The Wolf Creek TS omitted the loss of off-site power and an ESF actuation.

TS 4.8.1.1.2.c Wolf Creek TS require monthly checks for water in the fuel oil storage tank and removal of water accumulations. This requirement is not in the Standard TS.

TS 4.8.1.1.2.d relates to testing of fuel oil. The following are significant differences from the Standard TS and GL 84-15:

- Standard TS and GL 84-15 require testing of stored fuel every 92 days and testing new fuel prior to addition to storage tank. Wolf Creek TS only tests new fuel.

- The standards referenced and the values do not agree with the Standard TS or GL 84-15.

TS 4.8.1.1.2.f.2 of Wolf Creek TS gives 60±5.4 hz. The Standard TS and GL 84-15 requires the frequency to be 60±1.2 hz.

TS 4.8.1.1.2.f.6c) the Standard TS and GL specify that all automatic DG trips except engine overspeed and generator differential be automatically bypassed upon loss of voltage on the emergency bus concurrent with safety injection.

The Wolf Creek TS has four additional types which are not bypassed. They are high jacket coolant temperature, low lube oil pressure, high crankcase pressure and start failure relay. These additional trips should be reviewed to determine if automatic bypass is required.

TS 4.8.1.1.2.f.7) the Standard TS and GL specify that the frequency after start sequence shall be 60±1.2 hz. Wolf Creek TS allows 60+1.2-3 hz.

Additionally, a footnoted statement is added in the Wolf Creek TS relating to the 5 min rerun in 4.8.1.1.2.f.6)b) is not in Standard TS or GL 84-15.

These discrepancies should be reviewed for resolution.

TS 4.8.1.1.2.f.8) the Standard TS and GL 84-15 calls for the Auto-Connected loads to each DG to not exceed its 2000 hr rating. The Wolf Creek 2000 hr rating is 6201 kw. However, the Wolf Creek TS requires verification of not in excess of 6635 kw or 107% of the 2000 hr rating. This discrepancy should be resolved.

TS 4.8.1.1.2.f of the Wolf Creek TS does not call for a verification that the DG lockout features prevent DG starting as required in Standard TS 4.8.1.1.2.f.14.

Table 4.8-1 has not been updated to the recommendations of GL 84-15.

TS 4.8.2 does not include Table 4.8-2 and attachment 1 and 2 added by GL 84-15. This discrepancy should be resolved.

TS 4.8.2.1.c.4 of the Standard TS requires an eight hour charger test. The Wolf Creek TS only require a one hour charge test.

TS 4.8.2.1.f requires an 18 month test. The Standard TS requires a yearly test. This discrepancy should be resolved.

TS 3.8.2.2, action b of the Standard TS has been omitted from the Wolf Creek TS. This discrepancy should be resolved.

TS 3.8.3.1 does not allow for equalizing charges on the battery as indicated by the asterisk note in the Standard TS.

TS Table 3.8-1 does not include information on trip setpoints and response times as indicated in Standard TS Table 3.8-1. This difference should be resolved.

Section 3/4.11 Radioactive Effluents

*Table 4.11-2, items 1 and 2 should indicate 1×10^{-4} instead of 2×10^{-4} for Lower Limit of Detection.

Table 4.11-2 does not contain a spent fuel building exhaust requirement as shown in Callaway Table 4.11-2, Item 4. This difference should be resolved.

TS 3.11.2.5: Should oxygen concentration be limited to 2% instead of 3%?

TS 3.11.2.6 should precisely define Xe-133 equivalent.

TS 4.11.3 should require that a last specimen be collected and solidification verified prior to the initial shipment of any type of wet waste.

Section 3/4.12 Radiological Environmental Monitoring

Table 3.12-1, Item 4b does not indicate the type of invertebrates to be sampled. This TS is too vague, in that the number of and/or name of the species are not specified.

Table 3.12-1; Notation section should be revised as follows:

- Eliminate salt water and estuary comments from Notation (6)

- "compsite" should be "composite" in Notation (7)

- Substitute "critical organ" for "maximum organ" in Notation (9)

Table 4.12-1, Notation (4) is confusing as to what LLD for I-131 is required if no drinking water pathway exists. It would be better to put normal LLD requirements for surface water and footnote H-3 and I-131 LLDs if there is a drinking water pathway.

Section 6.0 Administrative Controls

TS 6.3 Endorses ANSI/ANS 3.1-1978 for staff qualifications. We recommend that they endorse ANIS/ANS 3.1-1981 and Regulatory Guide 1.8.

TS 6.5.2.8 should specify that an audit be done to determine compliance with Regulatory Guide 4.15.

TS 6.8.1.g should reference Regulatory Guide 4.15.

TS 6.8.1 should be revised to add a new Section 6.8.1.h implementing the Fire Protection Program. Implementations of this program should be clearly required by Technical Specifications.