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Ref: 10CFR50.90

CPSES-200500155
Log # TXX-05005
File # 00236

March 24, 2005

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

**SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
LICENSE AMENDMENT REQUEST (LAR) 04-015
REVISION TO TECHNICAL SPECIFICATION (TS) 3.3.1 REACTOR
TRIP SYSTEM INSTRUMENTATION (RTS) AND 3.3.2
ENGINEERED SAFETY FEATURE ACTUATION SYSTEM
INSTRUMENTATION (ESFAS)**

Dear Sir or Madam:

Pursuant to 10CFR50.90, TXU Generation Company LP (TXU Power) hereby requests an amendment to the CPSES Unit 1 Operating License (NPF-87) and CPSES Unit 2 Operating License (NPF-89) by incorporating the attached changes into the CPSES Unit 1 and 2 Technical Specifications (TS). This change request applies to both units.

These proposed changes will revise TS 3.3.1 entitled "Reactor Trip System Instrumentation" (RTS) and TS 3.3.2 entitled "Engineered Safety Feature Actuation System Instrumentation" (ESFAS) Required Action Notes. The proposed changes will reflect the standard wording in Standard Technical Specifications (STS) for plants with bypass capability.

A member of the **STARS** (Strategic Teaming and Resource Sharing) Alliance

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ADD1

TXX-05005

Page 2 of 3

Attachment 1 provides a detailed description of the proposed changes, a technical analysis of the proposed changes, TXU Power's determination that the proposed changes do not involve a significant hazard consideration, a regulatory analysis of the proposed changes and an environmental evaluation. Attachment 2 provides the affected Technical Specification pages marked-up to reflect the proposed changes. Attachment 3 provides the affected Technical Specification Bases mark-up to reflect the proposed changes for information only. These changes will be processed per CPSES site procedures. Attachment 4 provides retyped Technical Specification pages which incorporate the requested changes. Attachment 5 provides, for information only, retyped Technical Specification Bases pages, which incorporate the proposed changes.

TXU Power requests approval of the proposed License Amendment by December 15, 2005 to be implemented within 90 days of the issuance of the license amendment. The approval date was administratively selected to allow for NRC review but the plant does not require this amendment to allow continued safe full power operations.

In accordance with 10CFR50.91(b), TXU Power is providing the State of Texas with a copy of this proposed amendment.

This communication contains no new or revised commitments.

Should you have any questions, please contact Ms. Tamera J. Ervin at (254) 897-6902.

I state under penalty of perjury that the foregoing is true and correct.

Executed on March 24, 2005.

TXX-05005
Page 3 of 3

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC
Its General Partner

Mike Blevins

By: 
Fred W. Madden
Director, Regulatory Affairs

TJE

- Attachments
1. Description and Assessment
 2. Markup of Technical Specifications pages
 3. Markup of Technical Specifications Bases pages (for information)
 4. Retyped Technical Specification Pages
 5. Retyped Technical Specification Bases Pages (for information)

c - B. S. Mallett, Region IV
M. C. Thadani, NRR
D. H. Jaffe, NRR
Resident Inspectors, CPSES

Ms. Alice Rogers
Bureau of Radiation Control
Texas Department of Public Health
1100 West 49th Street
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ATTACHMENT 1 to TXX-05005
DESCRIPTION AND ASSESSMENT

LICENSEE'S EVALUATION

- 1.0 DESCRIPTION
- 2.0 PROPOSED CHANGE
- 3.0 BACKGROUND
- 4.0 TECHNICAL ANALYSIS
- 5.0 REGULATORY ANALYSIS
 - 5.1 No Significant Hazards Consideration
 - 5.2 Applicable Regulatory Requirements/Criteria
- 6.0 ENVIRONMENTAL CONSIDERATION
- 7.0 REFERENCES

1.0 DESCRIPTION

By this letter, TXU Generation Company LP (TXU Power) requests an amendment to the CPSES Unit 1 Operating License (NPF-87) and CPSES Unit 2 Operating License (NPF-89) by incorporating the attached change into the CPSES Unit 1 and 2 Technical Specifications.

Proposed change LAR 04-015 is a request to revise Technical Specifications (TS) 3.3.1, "Reactor Trip System Instrumentation" (RTS) and TS 3.3.2, "Engineered Safety Feature Actuation System Instrumentation" (ESFAS) Required Action Notes for Comanche Peak Steam Electric Station (CPSES) Units 1 and 2 to reflect the standard wording incorporated in NUREG-1431, Revision 3, "Standard Technical Specifications, Westinghouse Plants," (STS) for plants with bypass capability.

No changes to the CPSES Final Safety Analysis Report are anticipated at this time as a result of this License Amendment Request.

2.0 PROPOSED CHANGE

The proposed changes would revise TS 3.3.1 Required Action Notes in Conditions D, E, M, and O and TS 3.3.2 Conditions D, E, I, and K to reflect STS wording for plants with installed bypass capability. Attachment 2 contains mark-ups of the affected TS pages for the above proposed changes. Attachment 3 contains proposed mark-ups of the affected TS Bases pages for information only.

3.0 BACKGROUND

In 1996, License Amendments 47/33 (Unit 1/Unit 2) revised the CPSES TS Notes in order to utilize the bypass capability of the protection system, to read: "The minimum Channels OPERABLE requirement is met; however, the inoperable channel or another channel may be bypassed for up to 4 hours for surveillance testing per Specification []," i.e. the change added the wording "or another channel" and removed the wording "of other channels."

In 1999, CPSES converted to the Improved Standard Technical Specifications (STS). At that time, the STS did not address provisions for plants that had installed bypass capability similar to the provisions CPSES adopted in 1996. STS Required Action Notes read similar to: "The inoperable channel may be bypassed for up to [] hours for surveillance testing of other channels." CPSES modified the STS in recognition of the bypass test capability, by adding "or another channel" to the inoperable channel to read: "The inoperable channel or another channel may be bypassed for up to 4 hours for surveillance testing of other channels." Observe that the STS included the words "of other channels" into the Note. Apparently, it was not recognized at the time of the conversion that the wording "of other channels" would prohibit the start of Completion Time after the time in the Required Action Note expired for routine surveillance testing.

The TS Bases LCO 3.0.2 states, "Individual Specifications may specify a time limit for performing a SR when equipment is removed from service or bypassed for testing. In this case, the Completion Times of the Required Actions are applicable when this time limit expires, if the equipment remains removed from service or bypassed." This Specification Bases explicitly states that the Completion Times start after the time in the Required Action Note expires.

Technical Specification Task Force (TSTF) Standard TS Change Traveler 418 (TSTF-418) proposed provisions for plants with bypass capability to revise the Improved STS to permit relaxation of allowed bypass test times and Completion Times for Specifications 3.3.1, "RTS Instrumentation" and 3.3.2, "ESFAS Instrumentation." In 2003, TSTF-418 was approved and then incorporated into STS Revision 3 in 2004. STS Revision 3 provides new Required Action Notes with provisions for plants with installed bypass capability.

Consequently, this proposed License Amendment Request will reflect the standard wording in Standard Technical Specifications (STS) Required Action Notes for plants with bypass capability and thereby provide the same intended use of these Notes as the previous TS Notes before conversion to the STS.

4.0 TECHNICAL ANALYSIS

TSTF-418 Revision 2 and the previous CPSES License Amendment established that bypass testing was an acceptable method of testing. TSTF-418 was incorporated into NUREG-1431, Revision 3, "Standard Technical Specifications, Westinghouse Plants" addressing plants that have installed bypass capability. Currently, the Required Action Notes in TS 3.3.1 Condition D, E, M, and O and TS 3.3.2 Conditions D and I are not consistent with the discussion in TS Bases LCO 3.0.2 and do not reflect STS wording. As explained in the section above, by changing the Required Action Notes to reflect STS wording this proposed LAR would clarify the STS intended flexibility thereby preventing unnecessary TS Action entry.

The proposed changes to the existing Required Action Notes in TS 3.3.2 Conditions E and K will match the similar Notes in the STS by removing the word "additional" from the Notes leaving the intent of the Note unchanged.

Additionally, the changes to the current TS Bases, shown in Attachment 3, correspond to and support the proposed changes to the Required Action Notes in the TS Conditions mentioned above and will also reflect the standard wording in STS for plants with bypass capabilities except where modified to account for CPSES plant-specific differences. Specifically, the STS Note in TS Bases 3.3.2 Condition E for Containment Pressure will be modified to add the sentence, "The channel to be tested can be tested in bypass with the inoperable channel also in bypass." This statement is already included in TS Bases 3.3.2 for Condition K for Refueling Water Storage Tank (RWST) Level-Low Low function.

Furthermore, TS 3.3.2 Conditions E and K currently allow two channels in bypass concurrently, one inoperable channel in bypass and one channel in bypass for surveillance testing. The proposed addition of the sentence to the TS Bases discussion for Condition E will provide consistency between similar Conditions E and K for the similar functions for Containment Pressure and RWST Level Low-Low.

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration

TXU Power has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10CFR50.92, "Issuance of amendment," as discussed below:

1. Do the proposed changes involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

WCAP-14333 provided the technical justification for relaxing various RTS and ESFAS Instrumentation bypass test times, Completion Times, and Surveillance Frequencies located in TS 3.3.1 and 3.3.2. As such, the proposed changes do not represent a significant hazards consideration or present a reduction in the margin of safety.

The protection system performance will remain within the bounds of the previously performed accident analyses since no hardware changes are proposed. The same Reactor Trip System (RTS) Instrumentation and Engineered Safety Feature Actuation (ESFAS) Instrumentation will continue to be used and remain unchanged. The protection systems will continue to function in a manner consistent with the plant design basis. These changes to the TS do not result in a condition where the design, material, and construction standards, which were applicable prior to these changes, are altered.

The proposed changes will not modify any system interface. The proposed changes will not affect the probability of any event initiators. There will be no degradation in the performance of or an increase in the number of challenges imposed on safety-related equipment assumed to function during an accident situation. There will be no change to normal plant operating parameters or accident mitigation performance. The proposed changes will not alter any assumptions or change any mitigation actions in the radiological consequence evaluations in the FSAR.

The proposed changes do not adversely affect accident initiators or precursors nor alter the design assumptions, conditions, or configurations of the facility or change the manner in which the plant is operated and maintained. The proposed changes do not alter or prevent the ability of structures, systems, and components (SSCs) from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits. The proposed changes will not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. The proposed changes are consistent with safety analysis assumptions and resultant consequences.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Do the proposed changes create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

There are no hardware changes nor is there any change in the method by which any safety-related plant system performs its safety function. The proposed changes will not affect the normal method of plant operation. No performance requirements will be affected or eliminated. The proposed changes will not result in physical alteration to any plant system nor will there be any change in the method by which any safety-related plant system performs its safety function.

There will be no setpoint changes or changes to accident analysis assumptions. No new accident scenarios, transient precursors, failure mechanisms, or limiting single failures are introduced as a result of these changes. There will be no adverse effect or challenges imposed on any safety-related system as a result of these changes.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

3. Do the proposed changes involve a significant reduction in a margin of safety?

Response: No.

The proposed changes do not affect the acceptance criteria for any analyzed event nor is there a change to any Safety Analysis Limit (SAL). There will be no effect on the manner in which safety limits, limiting safety system settings, or limiting conditions for operation are determined nor will there

be any effect on those plant systems necessary to assure the accomplishment of protection functions. The radiological dose consequence acceptance criteria listed in the Standard Review Plan will continue to be met.

Redundant RTS and ESFAS trains are maintained and diversity, with regard to the signals that provide reactor trip and engineered safety features actuation, is also maintained. All signals are credited as primary or secondary and all operator actions credited in the accident analyses will remain the same. The proposed changes will not result in plant operation in a configuration outside the design basis.

Therefore, the proposed changes do not involve a reduction in the margin of safety.

Based on the above evaluations, TXU Power concludes that the proposed amendment presents no significant hazards under the standards set forth in 10CFR50.92(c) and, accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements/Criteria

The regulatory bases and guidance documents associated with the systems discussed in this amendment application include:

GDC 2 requires that structures, systems, and components important to safety be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunamis, and seiches without the loss of the capability to perform their safety functions.

GDC 4 requires that structures, systems, and components important to safety be designed to accommodate the effects of, and to be compatible with, the environmental conditions associated with the normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents. These structures, systems, and components shall be appropriately protected against dynamic effects, including the effects of missiles, pipe whipping, discharging fluids that may result from equipment failures, and from events and conditions outside the nuclear power unit. However, dynamic effects associated with postulated pipe ruptures in nuclear power units may be excluded from the design basis when analyses reviewed and approved by the Commission demonstrate that the probability of fluid system piping rupture is extremely low under conditions consistent with the design basis for the piping.

GDC 13 requires that instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety, including those variables and systems that can affect the fission

process, the integrity of the reactor core, the reactor coolant pressure boundary, and the containment and its associated systems.

GDC 20 requires that the protection system(s) shall be designed (1) to initiate automatically the operation of appropriate systems including the reactivity control systems, to assure that specified acceptable fuel design limits are not exceeded as a result of anticipated operational occurrences and (2) to sense accident conditions and to initiate the operation of systems and components important to safety.

GDC 21 requires that the protection system(s) shall be designed for high functional reliability and testability.

GDC 22 through GDC 25 and GDC 29 require various design attributes for the protection system(s), including independence, safe failure modes, separation from control systems, requirements for reactivity control malfunctions, and protection against anticipated operational occurrences.

Regulatory Guide 1.22 discusses an acceptable method of satisfying GDC 20 and GDC 21 regarding the periodic testing of protection system actuation functions. These periodic tests should duplicate, as closely as practicable, the performance that is required of the actuation devices in the event of an accident.

10CFR50.55a(h) requires that the protection systems meet IEEE 279-1971. Section 4.2 of IEEE 279-1971 discusses the general functional requirement for protection systems to assure they satisfy the single failure criterion.

There will be no changes to the RTS or ESFAS Instrumentation design such that compliance with any of the regulatory requirements and guidance documents above would come into question. The above evaluations confirm that the plant will continue to comply with all applicable regulatory requirements.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

TXU Power has determined that the proposed amendment would change requirements with respect to the installation or use of a facility component located within the restricted area, as defined in 10CFR20, or would change an inspection or surveillance requirement. TXU Power has evaluated the proposed changes and has determined that the changes do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amount of effluent that may be released offsite, or (iii) a significant increase in the individual or cumulative occupational radiation exposure. Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion

set forth in 10CFR51.22(c)(9). Therefore, pursuant to 10CFR51.22(b), an environmental assessment of the proposed change is not required.

7.0 REFERENCES

- 7.1 CPSES License Amendments 47/33 (Unit 1/Unit 2), March 1996.
- 7.2 NUREG-1431, Revision 3.0, "Standard Technical Specifications, Westinghouse Plant," March 2004.
- 7.3 CPSES License Amendment 64, "Technical Specifications Conversion Application," dated February 26, 1999.
- 7.4 Industry/TSTF Standard Technical Specification Change Traveler TSTF-418, Revision 2, "RPS and ESFAS Test Times and Completion Times (WCAP-14333)."

ATTACHMENT 2 to TXX-05005

PROPOSED TECHNICAL SPECIFICATION CHANGES (MARK-UP)

**Pages 3.3-3
3.3-4
3.3-6
3.3-22
3.3-23
3.3-25
INSERTS**

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. One Power Range Neutron Flux - High channel inoperable.</p> <div data-bbox="249 534 498 710" style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 20px;"> <p>INSERT 1</p> </div> 	<p style="text-align: center;"><u>NOTE</u></p> <div data-bbox="690 400 1153 591" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>The inoperable channel or another channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment of other channels.</p> </div> <p>D.1.1 <u>NOTE</u> Only required to be performed when the Power Range Neutron Flux input to QPTR is inoperable.</p> <p style="text-align: center;">Perform SR 3.2.4.2.</p> <p style="text-align: center;"><u>AND</u></p> <p>D.1.2 Place channel in trip.</p> <p><u>OR</u></p> <p>D.2 Be in MODE 3</p>	 <p>12 hours from discovery of THERMAL POWER > 75% RTP</p> <p>AND</p> <p>Once per 12 hours thereafter</p> <p>72 hours</p> <p>78 hours</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. One channel inoperable.</p> <div data-bbox="267 506 508 636" style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px 0;"> INSERT 2 </div>	<p style="text-align: center;"><u>NOTE</u></p> <p style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 5px 0;">The inoperable channel or another channel may be bypassed for up to 12 hours for surveillance testing of other channels.</p> <p>E.1 Place channel in trip.</p> <p><u>OR</u></p> <p>E.2 Be in MODE 3.</p>	<p>72 hours</p> <p>78 hours</p>
<p>F. One Intermediate Range Neutron Flux channel inoperable.</p>	<p>F.1 Reduce THERMAL POWER to < P-6.</p> <p><u>OR</u></p> <p>F.2 Increase THERMAL POWER to > P-10.</p>	<p>24 hours</p> <p>24 hours</p>
<p>G. Two Intermediate Range Neutron Flux channels inoperable.</p>	<p>G.1 <u>NOTE</u> Limited boron concentration changes associated with RCS inventory control or limited plant temperature changes are allowed.</p> <p>Suspend operations involving positive reactivity additions.</p> <p><u>AND</u></p> <p>G.2 Reduce THERMAL POWER to < P-6.</p>	<p>Immediately</p> <p>2 hours</p>
<p>H. Not used.</p>		

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>M. One channel inoperable.</p> <div data-bbox="257 534 502 693" style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 20px;"> INSERT 2 </div>	<p style="text-align: center;">NOTE</p> <div data-bbox="687 406 1149 566" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> The inoperable channel or another channel may be bypassed for up to 12 hours for surveillance testing of other channels. </div> <p>M.1 Place channel in trip. 72 hours</p> <p style="text-align: center;"><u>OR</u></p> <p>M.2 Reduce THERMAL POWER to < P-7. 78 hours</p>	
<p>N. Not used.</p>		
<p>O. One Low Fluid Oil pressure Turbine Trip channel inoperable.</p> <div data-bbox="287 1178 531 1327" style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 20px;"> INSERT 2 </div>	<p style="text-align: center;">NOTE</p> <div data-bbox="687 1044 1149 1204" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> The inoperable channel or another channel may be bypassed for up to 12 hours for surveillance testing of other channels. </div> <p>O.1 Place channel in trip. 72 hours</p> <p style="text-align: center;"><u>OR</u></p> <p>O.2 Reduce THERMAL POWER to < P-9. 76 hours</p>	

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. One Containment Pressure channel inoperable.</p>	<p style="text-align: center;">NOTE</p> <p style="border: 1px solid black; padding: 5px;">One additional channel may be bypassed for up to 12 hours for surveillance testing.</p> <p>E.1 Place channel in bypass.</p> <p><u>OR</u></p> <p>E.2.1 Be in MODE 3.</p> <p style="text-align: center;"><u>AND</u></p> <p>E.2.2 Be in MODE 4.</p>	<p style="text-align: right;"> </p> <p style="text-align: right;">72 hours </p> <p style="text-align: right;">78 hours </p> <p style="text-align: right;">84 hours </p>
<p>F. One channel or train inoperable.</p>	<p>F.1 Restore channel or train to OPERABLE status.</p> <p><u>OR</u></p> <p>F.2.1 Be in MODE 3.</p> <p style="text-align: center;"><u>AND</u></p> <p>F.2.2 Be in MODE 4.</p>	<p style="text-align: right;">48 hours</p> <p style="text-align: right;">54 hours</p> <p style="text-align: right;">60 hours</p>

INSERT 2

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>I. One channel inoperable.</p> <div data-bbox="277 544 513 704" style="border: 1px solid black; width: 143px; height: 75px; display: flex; align-items: center; justify-content: center; margin-top: 10px;"> INSERT 2 </div>	<p style="text-align: center;">-----NOTE-----</p> <div data-bbox="690 406 1149 566" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> The inoperable channel or another channel may be bypassed for up to 12 hours for surveillance testing of other channels. </div> <p>I.1 Place channel in trip. 72 hours</p> <p style="text-align: center;"><u>OR</u></p> <p>I.2 Be in MODE 3. 78 hours</p>	<p style="text-align: right;"> </p> <p style="text-align: right;"> </p> <p style="text-align: right;"> </p>
<p>J. One Main Feedwater Pump trip channel inoperable.</p>	<p>J.1 Place channel in trip. 6 hour</p> <p style="text-align: center;"><u>OR</u></p> <p>J.2 Be in MODE 3. 12 hours</p>	<p style="text-align: right;"> </p> <p style="text-align: right;"> </p>
<p>K. One channel inoperable.</p> <div data-bbox="244 1208 480 1389" style="border: 1px solid black; width: 143px; height: 85px; display: flex; align-items: center; justify-content: center; margin-top: 10px;"> INSERT 2 </div>	<p style="text-align: center;">-----NOTE-----</p> <div data-bbox="690 1151 1149 1268" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> One additional channel may be bypassed for up to 12 hours for surveillance testing. </div> <p>K.1 Place channel in bypass. 72 hours</p> <p style="text-align: center;"><u>OR</u></p> <p>K.2.1 Be in MODE 3. 78 hours</p> <p style="text-align: center;"><u>AND</u></p> <p>K.2.2 Be in MODE 5. 108 hours</p>	<p style="text-align: right;"> </p> <p style="text-align: right;"> </p> <p style="text-align: right;"> </p> <p style="text-align: right;"> </p>

(continued)

INSERTS

INSERT 1

One channel may be bypassed for up to 12 hours for surveillance testing and set point adjustment.

INSERT 2

One channel may be bypassed for up to 12 hours for surveillance testing.

ATTACHMENT 3 to TXX-05005

**PROPOSED TECHNICAL SPECIFICATION BASES CHANGES
(Mark-up For Information Only)**

**Pages B 3.3-41
B 3.3-43
B 3.3-47
B 3.3-48
B 3.3-63
B 3.3-107
B 3.3-108
B 3.3-111
B 3.3-112
INSERTS**

BASES

ACTIONS
(continued)

D.1.1, D.1.2, and D.2 (continued)

due to the inoperable NIS power range channel and allows continued plant operation at power levels > 75% RTP. At power levels \leq 75% RTP, operation of the core with radial power distributions beyond the design limits, at a power level where DNB conditions may exist, is prevented. The 12 hour Completion Time is consistent with the SR 3.2.4.2 Frequency in LCO 3.2.4, "QUADRANT POWER TILT RATIO (QPTR)."

Required Action D.1.1 has been modified by a Note which only requires SR 3.2.4.2 to be performed if the Power Range Neutron Flux input to QPTR becomes inoperable. Failure of a component in the Power Range Neutron Flux Channel which renders the High Flux Trip Function inoperable may not affect the capability to monitor QPTR. As such, determining QPTR using the movable incore detectors once per 12 hours may not be necessary.

The NIS power range detectors provide input to the CRD System and, therefore, have a two-out-of-four trip logic. A known inoperable channel must be placed in the tripped condition. This results in a partial trip condition requiring only one-out-of-three logic for actuation. The 72 hours allowed to place the inoperable channel in the tripped condition is justified in WCAP-14333-P-A (Ref. 11).

As an alternative to the above Actions, the plant must be placed in a MODE where this Function is no longer required OPERABLE. Seventy-eight (78) hours are allowed to place the plant in MODE 3. The 78-hour Completion Time includes 72 hours for channel corrective maintenance, and an additional 6 hours for the MODE reduction as required by Required Action D.2. This is a reasonable time, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging plant systems. If Required Actions cannot be completed within their allowed Completion Times, LCO 3.0.3 must be entered.

INSERT 1

The Required Actions have been modified by a Note that allows placing the inoperable channel or another channel in the bypass condition for up to 12 hours while performing routine surveillance testing. The Note also allows placing the inoperable channel in the bypass condition to allow setpoint adjustments of other channels when required to reduce the setpoint in accordance with other Technical Specifications. The 12 hour time limit is justified in Reference 11.

(continued)

BASES

ACTIONS
(continued)

E.1 and E.2 (continued)

allowed to place the unit in MODE 3. Six hours is a reasonable time, based on operating experience, to place the unit in MODE 3 from full power in an orderly manner and without challenging unit systems.

INSERT 2

The Required Actions have been modified by a Note that allows placing the inoperable channel in the bypassed condition for up to 12 hours while performing routine surveillance testing of the other channels. The 12 hour time limit is justified in Reference 11.

F.1 and F.2

Condition F applies to the Intermediate Range Neutron Flux trip when THERMAL POWER is above the P-6 setpoint and below the P-10 setpoint and one channel is inoperable. Above the P-6 setpoint and below the P-10 setpoint, the NIS intermediate range detector performs the monitoring Functions. If THERMAL POWER is greater than the P-6 setpoint but less than the P-10 setpoint, 24 hours is allowed to reduce THERMAL POWER below the P-6 setpoint or increase to THERMAL POWER above the P-10 setpoint. The NIS Intermediate Range Neutron Flux channels must be OPERABLE when the power level is above the capability of the source range, P-6, and below the capability of the power range, P-10. If THERMAL POWER is greater than the P-10 setpoint, the NIS power range detectors perform the monitoring and protection functions and the intermediate range is not required. The Completion Times allow for a slow and controlled power adjustment above P-10 or below P-6 and take into account the redundant capability afforded by the redundant OPERABLE channel, the overlap of the Power Range detectors, and the low probability of its failure during this period. This action does not require the inoperable channel to be tripped because the Function uses one-out-of-two logic. Tripping one channel would trip the reactor. Thus, the Required Actions specified in this Condition are only applicable when channel failure does not result in reactor trip.

(continued)

BASES

**ACTIONS
(continued)**

M.1 and M.2 (continued)

production to generate DNB conditions below the P-7 setpoint. The 72 hours allowed to place the channel in the tripped condition is justified in Reference 11. An additional 6 hours is allowed to reduce THERMAL POWER to below P-7 if the inoperable channel cannot be restored to OPERABLE status or placed in trip within the specified Completion Time.

Allowance of this time interval takes into consideration the redundant capability provided by the remaining redundant OPERABLE channel, and the low probability of occurrence of an event during this period that may require the protection afforded by the Functions associated with Condition M.

The Required Actions have been modified by a Note that allows placing the inoperable channel or another channel in the bypassed condition for up to 12 hours while performing routine surveillance testing of the other channels. The 12 hour time limit is justified in Reference 11.

INSERT 2

N.1

Not Used.

O.1 and O.2

Condition O applies to Turbine Trip on Low Fluid Oil Pressure. With one channel inoperable, the inoperable channel must be placed in the trip condition within 72 hours. If placed in the tripped condition, this results in a partial trip condition requiring only one additional channel to initiate a reactor trip. If the channel cannot be restored to OPERABLE status or placed in the trip condition, then power must be reduced below the P-9 setpoint within the next 4 hours. The 72 hours allowed to place the inoperable channel in the tripped condition and the 4 hours allowed for reducing power are justified in Reference 11.

(continued)

BASES

ACTIONS
(continued)

O.1 and O.2 (continued)

The Required Actions have been modified by a Note that allows placing an inoperable channel or another channel in the bypassed condition for up to 12 hours while performing routine surveillance testing of the other channels. The 12 hour time limit is justified in Reference 11.

INSERT 3

P.1 and P.2

Condition P applies to Turbine Trip on Turbine Stop Valve Closure. With one or more channels inoperable, the inoperable channel(s) must be placed in the trip condition within 72 hours. If placed in the tripped condition, this results in a partial trip condition. For the Turbine Trip on Turbine Stop Valve Closure function, four of four channels are required to initiate a reactor trip; hence, more than one channel may be placed in trip. If the channels cannot be restored to OPERABLE status or placed in the trip condition, then power must be reduced below the P-9 setpoint within the next 4 hours. The 72 hours allowed to place the inoperable channels in the tripped condition and the 4 hours allowed for reducing power are justified in Reference 11.

Q.1 and Q.2

Condition Q applies to the SI Input from ESFAS reactor trip and the RTS Automatic Trip Logic in MODES 1 and 2. These actions address the train orientation of the RTS for these Functions. With one train inoperable, 24 hours are allowed to restore the train to OPERABLE status (Required Action Q.1) or the unit must be placed in MODE 3 within the next 6 hours. The Completion Time of 24 hours (Required Action Q.1) is reasonable considering that in this Condition, the remaining OPERABLE train is adequate to perform the safety function and given the low probability of an event during this interval. The 24 hours allowed to restore the inoperable train to OPERABLE status is justified in Reference 11. The Completion Time of 6 hours (Required Action Q.2) is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems.

(continued)

BASES

SURVEILLANCE
REQUIREMENTS
(continued)

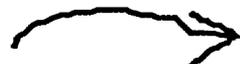
SR 3.3.1.16 (continued)

testing. Some portions of the response time testing cannot be performed during unit operation because equipment operation is required to measure response times. Experience has shown that these components usually pass this surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. Response time verification in lieu of actual testing may be performed on RTS components in accordance with reference 10.

SR 3.3.1.16 is modified by a Note stating that neutron and N-16 gamma detectors are excluded from RTS RESPONSE TIME testing. This Note is necessary because of the difficulty in generating an appropriate detector input signal. Excluding the detectors is acceptable because the principles of detector operation ensure a virtually instantaneous response. Response time of the neutron flux or N-16 signal portion of the channel shall be measured from detector output or input to the first electronic component in the channel.

REFERENCES

1. FSAR, Chapter 7.
 2. FSAR, Chapter 15.
 3. IEEE-279-1971.
 4. 10 CFR 50.49.
 5. WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990.
 6. Technical Requirements Manual.
 7. Not Used.
 8. Not used.
 9. "Westinghouse Setpoint Methodology for Protection Systems Comanche Peak Unit 1, Revision 1," WCAP-12123, Revision 2, April, 1989.
 10. "Elimination of Periodic Protection Channel Response Time Tests", WCAP-14036-P-A, Revision 1, October 6, 1998.
 11. "Probabilistic Risk Analysis of the RPS and ESFAS Test Times and Completion Times," WCAP-14333-P-A, Revision 1, October 1998.
 12. "Risk-Informed Assessment of the RTS and ESFAS Surveillance Test Intervals and Reactor Trip Breaker Test and Completion Times," WCAP-15376-P-A, Revision 1, March 2003.
-



INSERT 4

BASES

ACTIONS
(continued)

D.1, D.2.1, and D.2.2 (continued)

allowed to restore the channel to OPERABLE status or to place it in the tripped condition is justified in Reference 12.

Failure to restore the inoperable channel to OPERABLE status or place it in the tripped condition within 72 hours requires the unit be placed in MODE 3 within the following 6 hours and MODE 4 within the next 6 hours.

The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. In MODE 4, these Functions are no longer required OPERABLE.

The Required Actions are modified by a Note that allows the inoperable channel or another channel to be bypassed for up to 12 hours for surveillance testing of other channels. The 12 hours allowed for testing are justified in Reference 12.

E.1, E.2.1, and E.2.2

Condition E applies to:

- Containment Spray Containment Pressure—High 3; and
- Containment Phase B Isolation Containment Pressure—High 3.

None of these signals has input to a control function. Thus, two-out-of-three logic is necessary to meet acceptable protective requirements. However, a two-out-of-three design would require tripping a failed channel. This is undesirable because a single failure would then cause spurious containment spray initiation. Spurious spray actuation is undesirable because of the cleanup problems presented. Therefore, these channels are designed with two-out-of-four logic so that a failed channel may be bypassed rather than tripped. Note that one channel may be bypassed and still satisfy the single failure criterion. Furthermore, with one channel bypassed, a single instrumentation channel failure will not spuriously initiate containment spray.

To avoid the inadvertent actuation of containment spray and Phase B containment isolation, the inoperable channel should not be placed in the tripped condition. Instead it is bypassed. Restoring the channel to OPERABLE status, or placing the inoperable channel in the bypass condition within 72 hours, is sufficient to assure that the Function remains OPERABLE and minimizes the time that the Function may be in a partial trip condition (assuming the inoperable channel has failed high). The completion Time is further justified based on the low probability of an event occurring during this interval. Failure to restore the inoperable channel to OPERABLE status, or place it in the

(continued)

INSERT 5

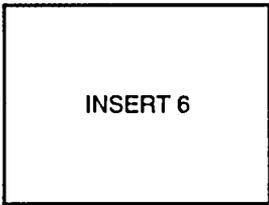
BASES

ACTIONS
(continued)

E.1, E.2.1, and E.2.2 (continued)

bypassed condition within 72 hours, requires the unit be placed in MODE 3 within the following 6 hours and MODE 4 within the next 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. In MODE 4, these Functions are no longer required OPERABLE.

The Required Actions are modified by a Note that allows one additional channel to be bypassed for up to 12 hours for surveillance testing. Placing a second channel in the bypass condition for up to 12 hours for testing purposes is acceptable based on the results of Reference 12.



F.1, F.2.1, and F.2.2

Condition F applies to:

- Manual Initiation of Steam Line Isolation;
- Loss of Offsite Power; and
- P-4 Interlock.

For the Manual Initiation and the P-4 Interlock Functions, this action addresses the train orientation of the SSPS. For the Loss of Offsite Power Function, this action recognizes the lack of manual trip provision for a failed channel. If a train or channel is inoperable, 48 hours is allowed to return it to OPERABLE status. The specified Completion Time is reasonable considering the nature of these Functions, the available redundancy, and the low probability of an event occurring during this interval. If the Function cannot be returned to OPERABLE status, the unit must be placed in MODE 3 within the next 6 hours and MODE 4 within the following 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power in an orderly manner and without challenging unit systems. In MODE 4, the unit does not have any analyzed transients or conditions that require the explicit use of the protection functions noted above.

G.1, G.2.1 and G.2.2

Condition G applies to the automatic actuation logic and actuation relays for the Steam Line Isolation and AFW actuation Functions.

The action addresses the train orientation of the SSPS and the master and slave relays for these functions. If one train is inoperable, 24 hours are allowed to restore the train to OPERABLE status. The 24 hours allowed for restoring the inoperable train to OPERABLE status

(continued)

BASES

ACTIONS
(continued)

I.1 and I.2 (continued)

If placed in the tripped condition, the Function is then in a partial trip condition where one-out-of-two or one-out-of-three logic will result in actuation. The 72 hour Completion Time is justified in Reference 12. Failure to restore the inoperable channel to OPERABLE status or place it in the tripped condition within 72 hours requires the unit to be placed in MODE 3 within the following 6 hours. The allowed Completion Time of Required Action I.2 is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging unit systems. In MODE 3, these Functions are no longer required OPERABLE.

The Required Actions are modified by a Note that allows the inoperable channel or another channel to be bypassed for up to 12 hours for surveillance testing of other channels. The 72 hours allowed to place the inoperable channel in the tripped condition, and the 12 hours allowed for a second channel to be in the bypassed condition for testing, are justified in Reference 12.

INSERT 7

J.1 and J.2

Condition J applies to the AFW pump start on trip of all MFW pumps.

This action addresses the train orientation of the SSFS for the auto start function of the AFW System on loss of all MFW pumps. The OPERABILITY of the AFW System must be assured by allowing automatic start of the AFW System pumps. If a channel is inoperable, 6 hours are allowed to place it in the tripped condition. If the channel cannot be tripped in 6 hours, 6 additional hours are allowed to place the unit in MODE 3. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging unit systems. In MODE 3, the unit does not have any analyzed transients or conditions that require the explicit use of the protection function noted above.

K.1, K.2.1 and K.2.2

Condition K applies to:

- RWST Level—Low Low Coincident with Safety Injection.

RWST Level - Low Low Coincident With SI provides semi-automatic actuation of switchover to the containment recirculation sumps. Note that this Function requires the bistables to energize to perform their required action. The failure of up to two channels will not prevent the operation of this Function. However, placing a failed channel in the tripped condition could result in a premature switchover to the sump, prior to the injection of the minimum volume from the RWST. Placing

(continued)

BASES

ACTIONS
(continued)

K.1, K.2.1 and K.2.2 (continued)

the inoperable channel in bypass results in a two-out-of-three logic configuration, which satisfies the requirement to allow another failure without disabling actuation of the switchover when required. Restoring the channel to OPERABLE status or placing the inoperable channel in the bypass condition within 72 hours is sufficient to ensure that the Function remains OPERABLE, and minimizes the time that the Function may be in a partial trip condition (assuming the inoperable channel has failed high). The 72 hour and 78 hour Completion Times are justified in References 8 and 12. If the channel cannot be returned to OPERABLE status or placed in the bypass condition within 72 hours, the unit must be brought to MODE 3 within the following 6 hours and MODE 5 within the next 30 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. In MODE 5, the unit does not have any analyzed transients or conditions that require the explicit use of the protection functions noted above.

The Required Actions are modified by a Note that allows placing a second channel in the bypass condition for up to 12 hours for surveillance testing. The total of 78 hours to reach MODE 3 and 12 hours for a second channel to be bypassed is acceptable based on the results of References 8 and 12.



INSERT 8

L.1, L.2.1 and L.2.2

Condition L applies to the P-11 interlock.

With one or more required channel(s) inoperable, the operator must verify that the interlock is in the required state for the existing unit condition by observation of the permissive annunciator windows. This action manually accomplishes the function of the interlock. Determination must be made within 1 hour. The 1 hour Completion Time is equal to the time allowed by LCO 3.0.3 to initiate shutdown actions in the event of a complete loss of ESFAS function. If the interlock is not in the required state (or placed in the required state) for the existing unit condition, the unit must be placed in MODE 3 within the next 6 hours and MODE 4 within the following 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. Placing the unit in MODE 4 removes all requirements for OPERABILITY of these interlocks.

(continued)

INSERTS

INSERT 1

The Required Actions are modified by a Note that allows placing one channel in bypass for 12 hours while performing routine surveillance testing, and setpoint adjustments when a setpoint reduction is required by other Technical Specifications. The 12 hour time limit is justified in Reference 11.

INSERT 2

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The 12 hour time limit is justified in References 8 and 11.

INSERT 3

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The 12 hour time limit is justified in Reference 11.

INSERT 4

WCAP-10271-P-A, Supplement 3, September 1990.

INSERT 5

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The 12 hour time limit is justified in Reference 12.

INSERT 6

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The channel to be tested can be tested in bypass with the inoperable channel also in bypass. The 12 hour time limit is justified in Reference 12.

INSERTS

INSERT 7

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The 72 hours allowed to place the inoperable channel in the tripped condition, and the 12 hours allowed for a second channel to be in the bypassed condition for testing, are justified in Reference 12.

INSERT 8

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The channel to be tested can be tested in bypass with the inoperable channel also in bypass. The total of 78 hours to reach MODE 3 and 12 hours for a second channel to be bypassed is acceptable based on the results of References 8 and 12.

ATTACHMENT 4 to TXX-05005

RETYPE TECHNICAL SPECIFICATION PAGES

Pages 3.3-3
3.3-4
3.3-6
3.3-22
3.3-23
3.3-25

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. One Power Range Neutron Flux - High channel inoperable.</p>	<p>-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing and set point adjustment.</p>	
	<p>D.1.1 -----NOTE----- Only required to be performed when the Power Range Neutron Flux input to QPTR is inoperable.</p> <p>Perform SR 3.2.4.2.</p>	<p>12 hours from discovery of THERMAL POWER > 75% RTP</p> <p>AND</p> <p>Once per 12 hours thereafter</p>
	<p><u>AND</u></p> <p>D.1.2 Place channel in trip.</p>	
	<p><u>OR</u></p> <p>D.2 Be in MODE 3</p>	<p>72 hours</p> <p>78 hours</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One channel inoperable.	<p style="text-align: center;">-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing.</p> <hr/> <p>E.1 Place channel in trip. <u>OR</u> E.2 Be in MODE 3.</p>	<p>72 hours</p> <p>78 hours</p>
F. One Intermediate Range Neutron Flux channel inoperable.	<p>F.1 Reduce THERMAL POWER to < P-6. <u>OR</u> F.2 Increase THERMAL POWER to > P-10.</p>	<p>24 hours</p> <p>24 hours</p>
G. Two Intermediate Range Neutron Flux channels inoperable.	<p>G.1 -----NOTE----- Limited boron concentration changes associated with RCS inventory control or limited plant temperature changes are allowed.</p> <hr/> <p>Suspend operations involving positive reactivity additions.</p> <p><u>AND</u></p> <p>G.2 Reduce THERMAL POWER to < P-6.</p>	<p>Immediately</p> <p>2 hours</p>
H. Not used.		

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>M. One channel inoperable.</p>	<p>-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing.</p> <hr/> <p>M.1 Place channel in trip.</p> <p><u>OR</u></p> <p>M.2 Reduce THERMAL POWER to < P-7.</p>	<p>72 hours</p> <p>78 hours</p>
<p>N. Not used.</p>		
<p>O. One Low Fluid Oil pressure Turbine Trip channel inoperable.</p>	<p>-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing.</p> <hr/> <p>O.1 Place channel in trip.</p> <p><u>OR</u></p> <p>O.2 Reduce THERMAL POWER to < P-9.</p>	<p>72 hours</p> <p>76 hours</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. One train inoperable.</p>	<p style="text-align: center;">-----NOTE-----</p> <p>One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE.</p> <hr/> <p>C.1 Restore train to OPERABLE status.</p> <p><u>OR</u></p> <p>C.2.1 Be in MODE 3.</p> <p style="text-align: center;"><u>AND</u></p> <p>C.2.2 Be in MODE 5.</p>	<p>24 hours</p> <p>30 hours</p> <p>60 hours</p>
<p>D. One channel inoperable.</p>	<p style="text-align: center;">-----NOTE-----</p> <p>One channel may be bypassed for up to 12 hours for surveillance testing.</p> <hr/> <p>D.1 Place channel in trip.</p> <p><u>OR</u></p> <p>D.2.1 Be in MODE 3.</p> <p style="text-align: center;"><u>AND</u></p> <p>D.2.2 Be in MODE 4.</p>	<p>72 hours</p> <p>78 hours</p> <p>84 hours</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. One Containment Pressure channel inoperable.</p>	<p style="text-align: center;"><u>NOTE</u></p> <p>One channel may be bypassed for up to 12 hours for surveillance testing.</p>	
	<p>E.1 Place channel in bypass.</p>	72 hours
	<p><u>OR</u></p>	
	<p>E.2.1 Be in MODE 3.</p>	78 hours
<p>F. One channel or train inoperable.</p>	<p style="text-align: center;"><u>AND</u></p>	
	<p>E.2.2 Be in MODE 4.</p>	84 hours
	<p>F.1 Restore channel or train to OPERABLE status.</p>	48 hours
	<p><u>OR</u></p>	
<p>F.2.1 Be in MODE 3.</p>	54 hours	
<p style="text-align: center;"><u>AND</u></p>		
<p>F.2.2 Be in MODE 4.</p>	60 hours	

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
I. One channel inoperable.	<p style="text-align: center;">-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing.</p> <hr/> <p>I.1 Place channel in trip.</p> <p><u>OR</u></p> <p>I.2 Be in MODE 3.</p>	<p style="text-align: right;">72 hours</p> <p style="text-align: right;">78 hours</p>
J. One Main Feedwater Pump trip channel inoperable.	<p>J.1 Place channel in trip.</p> <p><u>OR</u></p> <p>J.2 Be in MODE 3.</p>	<p style="text-align: right;">6 hour</p> <p style="text-align: right;">12 hours</p>
K. One channel inoperable.	<p style="text-align: center;">-----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing.</p> <hr/> <p>K.1 Place channel in bypass.</p> <p><u>OR</u></p> <p>K.2.1 Be in MODE 3.</p> <p style="text-align: center;"><u>AND</u></p> <p>K.2.2 Be in MODE 5.</p>	<p style="text-align: right;">72 hours</p> <p style="text-align: right;">78 hours</p> <p style="text-align: right;">108 hours</p>

(continued)

ATTACHMENT 5 to TXX-05005

**RETYPE TECHNICAL SPECIFICATION BASES PAGES
(For Information Only)**

**Pages B 3.3-41
B 3.3-43
B 3.3-47
B 3.3-48
B 3.3-63
B 3.3-107
B 3.3-108
B 3.3-111
B 3.3-112**

BASES

**ACTIONS
(continued)**

D.1.1, D.1.2, and D.2 (continued)

due to the inoperable NIS power range channel and allows continued plant operation at power levels > 75% RTP. At power levels \leq 75% RTP, operation of the core with radial power distributions beyond the design limits, at a power level where DNB conditions may exist, is prevented. The 12 hour Completion Time is consistent with the SR 3.2.4.2 Frequency in LCO 3.2.4, "QUADRANT POWER TILT RATIO (QPTR)."

Required Action D.1.1 has been modified by a Note which only requires SR 3.2.4.2 to be performed if the Power Range Neutron Flux input to QPTR becomes inoperable. Failure of a component in the Power Range Neutron Flux Channel which renders the High Flux Trip Function inoperable may not affect the capability to monitor QPTR. As such, determining QPTR using the movable incore detectors once per 12 hours may not be necessary.

The NIS power range detectors provide input to the CRD System and, therefore, have a two-out-of-four trip logic. A known inoperable channel must be placed in the tripped condition. This results in a partial trip condition requiring only one-out-of-three logic for actuation. The 72 hours allowed to place the inoperable channel in the tripped condition is justified in WCAP-14333-P-A (Ref. 11).

As an alternative to the above Actions, the plant must be placed in a MODE where this Function is no longer required OPERABLE. Seventy-eight (78) hours are allowed to place the plant in MODE 3. The 78-hour Completion Time includes 72 hours for channel corrective maintenance, and an additional 6 hours for the MODE reduction as required by Required Action D.2. This is a reasonable time, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging plant systems. If Required Actions cannot be completed within their allowed Completion Times, LCO 3.0.3 must be entered.

The Required Actions are modified by a Note that allows placing one channel in bypass for 12 hours while performing routine surveillance testing, and setpoint adjustments when a setpoint reduction is required by other Technical Specifications. The 12 hour time limit is justified in Reference 11.

(continued)

BASES

**ACTIONS
(continued)**

E.1 and E.2 (continued)

allowed to place the unit in MODE 3. Six hours is a reasonable time, based on operating experience, to place the unit in MODE 3 from full power in an orderly manner and without challenging unit systems.

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The 12 hour time limit is justified in References 8 and 11.

F.1 and F.2

Condition F applies to the Intermediate Range Neutron Flux trip when THERMAL POWER is above the P-6 setpoint and below the P-10 setpoint and one channel is inoperable. Above the P-6 setpoint and below the P-10 setpoint, the NIS intermediate range detector performs the monitoring Functions. If THERMAL POWER is greater than the P-6 setpoint but less than the P-10 setpoint, 24 hours is allowed to reduce THERMAL POWER below the P-6 setpoint or increase to THERMAL POWER above the P-10 setpoint. The NIS Intermediate Range Neutron Flux channels must be OPERABLE when the power level is above the capability of the source range, P-6, and below the capability of the power range, P-10. If THERMAL POWER is greater than the P-10 setpoint, the NIS power range detectors perform the monitoring and protection functions and the intermediate range is not required. The Completion Times allow for a slow and controlled power adjustment above P-10 or below P-6 and take into account the redundant capability afforded by the redundant OPERABLE channel, the overlap of the Power Range detectors, and the low probability of its failure during this period. This action does not require the inoperable channel to be tripped because the Function uses one-out-of-two logic. Tripping one channel would trip the reactor. Thus, the Required Actions specified in this Condition are only applicable when channel failure does not result in reactor trip.

(continued)

BASES

ACTIONS
(continued)

M.1 and M.2 (continued)

production to generate DNB conditions below the P-7 setpoint. The 72 hours allowed to place the channel in the tripped condition is justified in Reference 11. An additional 6 hours is allowed to reduce THERMAL POWER to below P-7 if the inoperable channel cannot be restored to OPERABLE status or placed in trip within the specified Completion Time.

Allowance of this time interval takes into consideration the redundant capability provided by the remaining redundant OPERABLE channel, and the low probability of occurrence of an event during this period that may require the protection afforded by the Functions associated with Condition M.

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The 12 hour time limit is justified in References 8 and 11.

N.1

Not Used.

O.1 and O.2

Condition O applies to Turbine Trip on Low Fluid Oil Pressure. With one channel inoperable, the inoperable channel must be placed in the trip condition within 72 hours. If placed in the tripped condition, this results in a partial trip condition requiring only one additional channel to initiate a reactor trip. If the channel cannot be restored to OPERABLE status or placed in the trip condition, then power must be reduced below the P-9 setpoint within the next 4 hours. The 72 hours allowed to place the inoperable channel in the tripped condition and the 4 hours allowed for reducing power are justified in Reference 11.

(continued)

BASES

**ACTIONS
(continued)**

O.1 and O.2 (continued)

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The 12 hour time limit is justified in Reference 11.

P.1 and P.2

Condition P applies to Turbine Trip on Turbine Stop Valve Closure. With one or more channels inoperable, the inoperable channel(s) must be placed in the trip condition within 72 hours. If placed in the tripped condition, this results in a partial trip condition. For the Turbine Trip on Turbine Stop Valve Closure function, four of four channels are required to initiate a reactor trip; hence, more than one channel may be placed in trip. If the channels cannot be restored to OPERABLE status or placed in the trip condition, then power must be reduced below the P-9 setpoint within the next 4 hours. The 72 hours allowed to place the inoperable channels in the tripped condition and the 4 hours allowed for reducing power are justified in Reference 11.

Q.1 and Q.2

Condition Q applies to the SI Input from ESFAS reactor trip and the RTS Automatic Trip Logic in MODES 1 and 2. These actions address the train orientation of the RTS for these Functions. With one train inoperable, 24 hours are allowed to restore the train to OPERABLE status (Required Action Q.1) or the unit must be placed in MODE 3 within the next 6 hours. The Completion Time of 24 hours (Required Action Q.1) is reasonable considering that in this Condition, the remaining OPERABLE train is adequate to perform the safety function and given the low probability of an event during this interval. The 24 hours allowed to restore the inoperable train to OPERABLE status is justified in Reference 11. The Completion Time of 6 hours (Required Action Q.2) is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems.

(continued)

BASES

SURVEILLANCE
REQUIREMENTS
(continued)

SR 3.3.1.16 (continued)

testing. Some portions of the response time testing cannot be performed during unit operation because equipment operation is required to measure response times. Experience has shown that these components usually pass this surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. Response time verification in lieu of actual testing may be performed on RTS components in accordance with reference 10.

SR 3.3.1.16 is modified by a Note stating that neutron and N-16 gamma detectors are excluded from RTS RESPONSE TIME testing. This Note is necessary because of the difficulty in generating an appropriate detector input signal. Excluding the detectors is acceptable because the principles of detector operation ensure a virtually instantaneous response. Response time of the neutron flux or N-16 signal portion of the channel shall be measured from detector output or input to the first electronic component in the channel.

REFERENCES

1. FSAR, Chapter 7.
 2. FSAR, Chapter 15.
 3. IEEE-279-1971.
 4. 10 CFR 50.49.
 5. WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990.
 6. Technical Requirements Manual.
 7. Not Used.
 8. WCAP-10271-P-A, Supplement 3, September 1990.
 9. "Westinghouse Setpoint Methodology for Protection Systems Comanche Peak Unit 1, Revision 1," WCAP-12123, Revision 2, April, 1989.
 10. "Elimination of Periodic Protection Channel Response Time Tests", WCAP-14036-P-A, Revision 1, October 6, 1998.
 11. "Probabilistic Risk Analysis of the RPS and ESFAS Test Times and Completion Times," WCAP-14333-P-A, Revision 1, October 1998.
 12. "Risk-Informed Assessment of the RTS and ESFAS Surveillance Test Intervals and Reactor Trip Breaker Test and Completion Times," WCAP-15376-P-A, Revision 1, March 2003.
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BASES

ACTIONS
(continued)

D.1, D.2.1, and D.2.2 (continued)

allowed to restore the channel to OPERABLE status or to place it in the tripped condition is justified in Reference 12.

Failure to restore the inoperable channel to OPERABLE status or place it in the tripped condition within 72 hours requires the unit be placed in MODE 3 within the following 6 hours and MODE 4 within the next 6 hours.

The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. In MODE 4, these Functions are no longer required OPERABLE.

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The 12 hour time limit is justified in Reference 12.

E.1, E.2.1, and E.2.2

Condition E applies to:

- Containment Spray Containment Pressure—High 3; and
- Containment Phase B Isolation Containment Pressure—High 3.

None of these signals has input to a control function. Thus, two-out-of-three logic is necessary to meet acceptable protective requirements. However, a two-out-of-three design would require tripping a failed channel. This is undesirable because a single failure would then cause spurious containment spray initiation. Spurious spray actuation is undesirable because of the cleanup problems presented. Therefore, these channels are designed with two-out-of-four logic so that a failed channel may be bypassed rather than tripped. Note that one channel may be bypassed and still satisfy the single failure criterion. Furthermore, with one channel bypassed, a single instrumentation channel failure will not spuriously initiate containment spray.

To avoid the inadvertent actuation of containment spray and Phase B containment isolation, the inoperable channel should not be placed in the tripped condition. Instead it is bypassed. Restoring the channel to OPERABLE status, or placing the inoperable channel in the bypass condition within 72 hours, is sufficient to assure that the Function remains OPERABLE and minimizes the time that the Function may be in a partial trip condition (assuming the inoperable channel has failed high). The completion Time is further justified based on the low probability of an event occurring during this interval. Failure to restore the inoperable channel to OPERABLE status, or place it in the

(continued)

BASES

ACTIONS
(continued)

E.1, E.2.1, and E.2.2 (continued)

bypassed condition within 72 hours, requires the unit be placed in MODE 3 within the following 6 hours and MODE 4 within the next 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. In MODE 4, these Functions are no longer required OPERABLE.

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The channel to be tested can be tested in bypass with the inoperable channel also in bypass. The 12 hour time limit is justified in Reference 12.

F.1, F.2.1, and F.2.2

Condition F applies to:

- Manual Initiation of Steam Line Isolation;
- Loss of Offsite Power; and
- P-4 Interlock.

For the Manual Initiation and the P-4 Interlock Functions, this action addresses the train orientation of the SSPS. For the Loss of Offsite Power Function, this action recognizes the lack of manual trip provision for a failed channel. If a train or channel is inoperable, 48 hours is allowed to return it to OPERABLE status. The specified Completion Time is reasonable considering the nature of these Functions, the available redundancy, and the low probability of an event occurring during this interval. If the Function cannot be returned to OPERABLE status, the unit must be placed in MODE 3 within the next 6 hours and MODE 4 within the following 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power in an orderly manner and without challenging unit systems. In MODE 4, the unit does not have any analyzed transients or conditions that require the explicit use of the protection functions noted above.

G.1, G.2.1 and G.2.2

Condition G applies to the automatic actuation logic and actuation relays for the Steam Line Isolation and AFW actuation Functions.

The action addresses the train orientation of the SSPS and the master and slave relays for these functions. If one train is inoperable, 24 hours are allowed to restore the train to OPERABLE status. The 24 hours allowed for restoring the inoperable train to OPERABLE status

(continued)

BASES

ACTIONS
(continued)

I.1 and I.2 (continued)

If placed in the tripped condition, the Function is then in a partial trip condition where one-out-of-two or one-out-of-three logic will result in actuation. The 72 hour Completion Time is justified in Reference 12. Failure to restore the inoperable channel to OPERABLE status or place it in the tripped condition within 72 hours requires the unit to be placed in MODE 3 within the following 6 hours. The allowed Completion Time of Required Action I.2 is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging unit systems. In MODE 3, these Functions are no longer required OPERABLE.

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The 72 hours allowed to place the inoperable channel in the tripped condition, and the 12 hours allowed for a second channel to be in the bypassed condition for testing, are justified in Reference 12.

J.1 and J.2

Condition J applies to the AFW pump start on trip of all MFW pumps.

This action addresses the train orientation of the SSPS for the auto start function of the AFW System on loss of all MFW pumps. The OPERABILITY of the AFW System must be assured by allowing automatic start of the AFW System pumps. If a channel is inoperable, 6 hours are allowed to place it in the tripped condition. If the channel cannot be tripped in 6 hours, 6 additional hours are allowed to place the unit in MODE 3. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging unit systems. In MODE 3, the unit does not have any analyzed transients or conditions that require the explicit use of the protection function noted above.

K.1, K.2.1 and K.2.2

Condition K applies to:

- RWST Level—Low Low Coincident with Safety Injection.

RWST Level - Low Low Coincident With SI provides semi-automatic actuation of switchover to the containment recirculation sumps. Note that this Function requires the bistables to energize to perform their required action. The failure of up to two channels will not prevent the operation of this Function. However, placing a failed channel in the tripped condition could result in a premature switchover to the sump, prior to the injection of the minimum volume from the RWST. Placing

(continued)

BASES

ACTIONS
(continued)

K.1, K.2.1 and K.2.2 (continued)

the inoperable channel in bypass results in a two-out-of-three logic configuration, which satisfies the requirement to allow another failure without disabling actuation of the switchover when required. Restoring the channel to OPERABLE status or placing the inoperable channel in the bypass condition within 72 hours is sufficient to ensure that the Function remains OPERABLE, and minimizes the time that the Function may be in a partial trip condition (assuming the inoperable channel has failed high). The 72 hour and 78 hour Completion Times are justified in References 8 and 12. If the channel cannot be returned to OPERABLE status or placed in the bypass condition within 72 hours, the unit must be brought to MODE 3 within the following 6 hours and MODE 5 within the next 30 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. In MODE 5, the unit does not have any analyzed transients or conditions that require the explicit use of the protection functions noted above.

The Required Actions are modified by a Note that allows placing one channel in bypass for up to 12 hours while performing routine surveillance testing. The channel to be tested can be tested in bypass with the inoperable channel also in bypass. The total of 78 hours to reach MODE 3 and 12 hours for a second channel to be bypassed is acceptable based on the results of References 8 and 12.

L.1, L.2.1 and L.2.2

Condition L applies to the P-11 interlock.

With one or more required channel(s) inoperable, the operator must verify that the interlock is in the required state for the existing unit condition by observation of the permissive annunciator windows. This action manually accomplishes the function of the interlock. Determination must be made within 1 hour. The 1 hour Completion Time is equal to the time allowed by LCO 3.0.3 to initiate shutdown actions in the event of a complete loss of ESFAS function. If the interlock is not in the required state (or placed in the required state) for the existing unit condition, the unit must be placed in MODE 3 within the next 6 hours and MODE 4 within the following 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. Placing the unit in MODE 4 removes all requirements for OPERABILITY of these interlocks.

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