WOLF CREEK
NUCLEAR OPERATING CORPORATION

Matthew W. Sunseri
Vice President Oversight

March 9, 2007

WM 07-0012

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

Subject: Docket No. 50-482: Revision 20 of the Wolf Creek Updated Safety Analysis Report

Gentlemen:

Pursuant to the updating requirements of 10 CFR 50.71(e), Wolf Creek Generating Station (WCGS) is providing its Updated Safety Analysis Report (USAR), Revision 20. This submittal satisfies the Final Safety Analysis Report (FSAR) updating requirements of the aforementioned regulation.

Attachment I to this letter provides information relative to changes in regulatory commitments. This information is provided in accordance with the guidance of Nuclear Energy Institute (NEI) 99-04, "Guidelines for Managing NRC Commitments," Revision 0, July 1999.

Attachment II to this letter describes specific technical changes that have been processed since issuance of the USAR, Revision 19. In addition to these technical changes, several editorial changes have been made and are included in Revision 20.

Attachment III to this letter provides a discussion of changes made in Revisions 26 through 29 of the Technical Requirements Manual (TRM).

Enclosure I to this letter provides the CD-ROM submittal of the Wolf Creek USAR, Revision 20. This submittal satisfies the FSAR updating requirement of 10 CFR 50.71(e)(4).

Enclosure II to this letter provides a CD-ROM containing the station-controlled drawings that are considered incorporated by reference into the USAR. Per the guidance of NEI 98-03, Revision 1, "Guidelines for Updating FSARs," the USAR figures that are identical to controlled drawings were relocated from the USAR in Revision 17. Enclosure II is considered sensitive unclassified information and therefore warrants withholding under 10 CFR 2.390.

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Enclosure III to this letter provides a CD-ROM containing Fire Hazards Analysis and supporting information that is incorporated by reference into the USAR. Per the guidance of NEI 98-03, Revision 1, "Guidelines for Updating FSARs", the Fire Hazards Analysis documents were relocated from the USAR in Revision 19.

Enclosure IV to this letter provides those changes made to the WCGS, Unit 1 Technical Requirements Manual (Revisions 26 through 29) and includes a List of Effective Pages. The WCGS TRM is incorporated by reference into the USAR.

WCNOC has historically submitted updates to the USAR on March 11 of each year to coincide with the date of issuance of the WCGS operating license and to comply with the requirements of 10 CFR 50.71(e)(4). WCNOC considers that submittals made prior to or on March 11 satisfy the requirements of 10 CFR 50.71(e)(4).

There are no commitments contained in this letter.

If you have any questions concerning this matter, please contact me at (620) 364-4008, or Mr. Kevin Moles, Manager Regulatory Affairs at (620) 364-4126.

Sincerely,

M.W. Sunseri

Matthew W. Sunseri

MWS/rlt

Attachment I – Commitment Changes
Attachment II – USAR Change Requests
Attachment III – Revisions to the Technical Requirements Manual (TRM)
Enclosure I – Updated Safety Analysis Report
Enclosure II – Updated Safety Analysis Report Controlled Drawings
Enclosure III- Updated Safety Analysis Report Fire Hazards Analysis
Enclosure IV – TRM Replacement Pages

cc: J. N. Donohew (NRC), w/a, w/e
V. G. Gaddy (NRC, w/a, w/e
B. S. Mallett (NRC), w/a, w/e
Senior Resident Inspector (NRC), w/a, w/e

STATE OF KANSAS)
) SS
COUNTY OF COFFEY)

Matthew W. Sunseri, of lawful age, being first duly sworn upon oath says that he is Vice President Oversight of Wolf Creek Nuclear Operating Corporation; that he has read the foregoing document and knows the contents thereof; that he has executed the same for and on behalf of said Corporation with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By M W Sunseri
Matthew W. Sunseri
Vice President Oversight

SUBSCRIBED and sworn to before me this 9th day of Mar., 2007.

Rhonda L. Tiemeyer
Notary Public

NOTARY PUBLIC OFFICIAL SEAL STATE OF KANSAS
RHONDA L. TIEMEYER
MY COMMISSION EXPIRES
January 11, 2010

Expiration Date January 11, 2010

Commitment Changes

Commitment No.: 1997-179

Commitment Description: The Plant Manager will establish a performance indicator on approved work hour deviations by August 30, 1997. This indicator will be a tool for management monitoring of authorization frequency and justification.

Change to Commitment: This commitment was changed in accordance with NEI 99-04, "Regulatory Commitment Management Guidance."

Reason for Change: At the time this commitment was made the Manager Human Resources provided a monthly report to the Plant Manager regarding issues with work hour extensions. Included with this report was a Performance Indicator in the "Paperless Environment" and a desktop instruction for preparing the report. Since this time the following changes have occurred that cause this commitment to no longer be performed in this manner.

The function of tracking work hour deviations has been moved down to the division level and the Plant Manager remains cognizant of any deviations through the review of the division level performance indicators and associated corrective action documents created to address any deviations. The requirements for an overall performance indicator, report, and the desktop for its preparation are no longer needed because the report is no longer prepared.

This commitment is included in this report because this was a commitment made to minimize the recurrence of a condition adverse to quality regarding work hour deviations. Occurrences of this problem have been successfully reduced and a more effective and specific process has been implemented to prevent recurrence. The monthly report from the Manager Human Resources, and its corresponding instructions are no longer required to monitor this area.

Commitment No.: 1997-181

Commitment Description: Procedure AP 13-001, Revision 2, "Guidelines for WCGS Staff Working Hours," will be enhanced to provide better guidance. This revision will be completed by August 22, 1997.

Change to Commitment: This commitment was archived in accordance with NEI 99-04, "Regulatory Commitment Management Guidance."

Reason for Change: This commitment is a sub-set of 1997-179 above. This commitment put the steps for creating the report described above into a procedure. The logic for archiving the commitment is the same as above but is repeated here for clarity. At the time this commitment was made the Manager Human Resources provided a monthly report to the Plant Manager regarding issues with work hour extensions. Along with this report was a Performance Indicator in the "Paperless Environment" and a desktop instruction for preparing the report. Since this time the following changes have occurred that cause this commitment to no longer be needed.

The function of tracking work hour deviations has been moved down to the division level and the Plant Manager remains cognizant of any deviations through the review of the division level performance indicators and associated corrective action documents created to address any deviations. The requirements for an overall performance indicator, report, and the desktop for its preparation are no longer needed because the report is no longer prepared.

This commitment is included in this report because this was a commitment made to minimize the recurrence of a condition adverse to quality regarding work hour deviations. Occurrences of this problem have been successfully reduced and a more effective and specific process has been implemented to prevent recurrence. The monthly report, and its corresponding instructions are no longer required to monitor this area.

USAR Change Request	Description
06-006	REVISES USAR CHAPTER 17 TO REFLECT UPDATES TO THE 1998 EDITION THROUGH 2000 ADDENDA OF ASME SECTION XI: UPDATE TO REVISION 1 OF ASME CODE CASE N-517; CHANGE THE BASIS OF USE OF ASME CODE CASES N-517-1 AND N-528-1 TO THE USE OF R.G. 1.147, REV13; ADD NDE QUALIFICATION STANDARD ANSI/ASNT CP-189

Page: 17.2-35 Page: 17.2-33 Page: 17.2-25 Page: 17.2-24

06-007	REVISES THE USAR TO ADD THE POSITION OF SUPERINTENDENT MAINTENANCE (PLANNING) TO FIGURE 13.1-2A.

Figure: 13.1-2A Sheet: 1

06-008	REVISES THE USAR TO REMOVE OR REPLACE ASME SECTION XI RELATED INSERVICE TESTING PROGRAM REFERENCES AS APPROPRIATE WITH REFERENCES TO 10 CFR 50.55A(F).

Page: 6.6-4 Page: 6.6-2 Page: 3.9(B)-21 Page: 18.2-3
Page: 6.6-1 Page: 5.2-25

Table: 7.4-2 Sheet: 4 Table: 3.9(B)-16 Sheet: 37

06-009	REVISES THE USAR TO DESCRIBE CHANGES INCORPORATED BY THE NEW PROCEDURE THAT WILL GOVERN CORRECTIVE ACTION ACTIVITIES FOR PIR CONDITIONS (NONCOMPLIANCES) IDENTIFIED WHEN THE NEW CORRECTIVE ACTION SOFTWARE, "PILOT" IS ACTIVATED.

Page: 17.2-47 Page: 17.2-46

06-010	REVISES THE USAR TO REFLECT INSERVICE INSPECTIONS IN ACCORDANCE WITH CODE CASE N-652, OR ASME CODE, SECTION XI. ULTRASONIC EXAMINATION OF CAST AUSTENITIC STAINLESS STEEL MAY BE PERFORMED IN ACCORDANCE WITH IWA-2240 AND FERRITIC, AUSTENITIC, AND DISSIMILAR METAL IN ACCORDANCE WITH IWA-2232.

Page: 6.6-5 Page: 6.6-4 Page: 6.6-2 Page: 6.6-1
Page: 5.2-32 Page: 5.2-26 Page: 5.2-25 Page: 3A-26

06-011	REVISES USAR TABLE 18.1-1 TO REFLECT PROCEDURE AP 20E-001 NAME CHANGE FROM INDUSTRY TECHNICAL INFORMATION PROGRAM TO OPERATING EXPERIENCE PROGRAM.

Table: 18.1-1 Sheet: 1

USAR Change Request **Description**

06-012 **REVISES THE USAR AS A RESULT OF AN ORGANIZATION CHANGE WHICH ROTATED THE INDIVIDUAL IN THE POSITION OF SUPERINTENDENT OPERATIONS SUPPORT (TRAINING) WITH THE INDIVIDUAL IN THE POSITION OF SHIFT MANAGER.**

Page: 13.1-17

06-013 **REVISES THE USAR TO REFLECT A PROMOTION OF TWO INDIVIDUALS TO THE POSITIONS OF SHIFT MANAGERS.**

Page: 13.1-18

06-014 **REVISES THE USAR TO UPDATE THE DECAY TIME REQUIRED BEFORE ANY FUEL MOVEMENT OF IRRADIATED FUEL IS COMMENCED FROM 100 HOURS TO 76 HOURS.**

Page: 15.7-9 Page: 15.7-16 Page: 9.1-26 Page: 15.7-13
Page: 9.1-48

Table: 15.7-8	Sheet: 1	Table: 15.7-7	Sheet: 2
Table: 15.7-7	Sheet: 1	Table: 15.7-2	Sheet: 1

06-015 **REVISES THE USAR TABLES AND FIGURES TO REFLECT RESULTS FROM THE SNUBBER REDUCTION PROGRAM, ELIMINATION OF ARBITRARY INTERMEDIATE BREAKS, AND THE CRITERIA OF MEB 3-1, REV2, CRITERIA FOR 2 AND 3 PIPING.**

Table: 3.6-3	Sheet: 6A	Table: 3.6-3	Sheet: 1A
Table: 3.6-3	Sheet: 2	Table: 3.6-3	Sheet: 2A
Table: 3.6-3	Sheet: 3	Table: 3.6-3	Sheet: 3A
Table: 3.6-3	Sheet: 4	Table: 3.6-3	Sheet: 4A
Table: 3.6-3	Sheet: 5	Table: 3.6-3	Sheet: 1
Table: 3.6-3	Sheet: 6	Table: 3.6-4	Sheet: 46
Table: 3.6-3	Sheet: 7	Table: 3.6-3	Sheet: 7A
Table: 3.6-3	Sheet: 8	Table: 3.6-3	Sheet: 8A
Table: 3.6-4	Sheet: 41	Table: 3.6-4	Sheet: 42
Table: 3.6-4	Sheet: 44	Table: 3.6-4	Sheet: 45
Table: 3.6-3	Sheet: 5A		
Figure: 3.6-1	Sheet: 3	Figure: 3.6-1	Sheet: 2
Figure: 3.6-1	Sheet: 1		

USAR Change Request	Description
06-016	REVISES THE USAR TO BRING THE SHIFT TECHNICAL ADVISOR (STA) EDUCATIONAL REQUIREMENTS IN LINE WITH TECHNICAL SPECIFICATION 5.2.2.F.

Page:	18.1-5	Page:	13.2-6	Page:	18.1-3	Page:	13.2-20
Page:	13.2-19	Page:	13.2-18	Page:	13.2-5	Page:	13.2-4
Page:	13.2-3						

06-017	REVISES THE USAR TO CHANGE THE FREQUENCY FROM 31 DAYS TO 182 DAYS FOR PERFORMING ANALOG CHANNEL OPERATIONAL TEST OF THE DIFFERENTIAL PRESSURE INSTRUMENTATION FOR AUTOMATIC ISOLATION OF ESW TO THE AIR COMPRESSORS.

Page: 9.2-12

06-018	REVISES THE USAR TO CHANGE THE AUDIT FREQUENCY TO ALIGN WITH ANSI N45.2.12 - 1977.

Page:	17.2-54	Page:	17.2-53	Page:	17.2-50

06-019	REVISES THE USAR TO REFLECT A CHANGE DUTY, DUE TO ADDITION OF HEAT LOSSES FROM UNINSULATED PIPING IN FUEL BUILDING ROOM 6105 AND 6105, SPENT FUEL POOL COOLING PUMP ROOM, CENTRIFUGAL CHARGING PUMP, AUXILIARY FEEDWATER PUMP, SAFETY INJECTION PUMP, CONTAINMENT SPRAY PUMP, AND FUEL POOL COOLING PUMP ROOM.

Page: 9.4-28

Table:	9.2-19	Sheet:	1	Table:	9.2-3	Sheet:	2
Table:	9.2-3	Sheet:	1	Table:	9.2-2	Sheet:	2
Table:	3.11(B)-1	Sheet:	6	Table:	3.11(B)-1	Sheet:	5

USAR Change Request **Description**

06-020 **REVISES THE USAR TO UPDATE CHAPTERS 12, 13 AND 17 TO REFLECT THE MERGER OF THE PERFORMANCE IMPROVEMENT DIVISION WITH THE QUALITY AND REGULATORY AFFAIRS DIVISIONS. AS A RESULT OF THIS MERGER, THE PERFORMANCE IMPROVEMENT PROGRAMS AND PERFORMANCE IMPROVEMENT ADVOCATES ARE NOW PART OF THE QUALITY DIVISION, AND THE ROOT CAUSE/CORRECTIVE ACTION GROUP IS NOW PART OF THE REGULATORY AFFAIRS DIVISION.**

Page: 17.2-30	Page: 13.1-13	Page: 13.1-14	Page: 13.1-16
Page: 13.4-1	Page: 17.2-2	Page: 17.2-3	Page: 17.2-9
Page: 12.1-9	Page: 17.2-12	Page: 17.2-55	Page: 17.2-35
Page: 17.2-42	Page: 17.2-47	Page: 17.2-51	Page: 17.2-52
Page: 17.2-53	Page: 17.2-54	Page: 17.2-10	

Table: 13.1-1	Sheet: 4		
Figure: 13.1-3	Sheet:	Figure: 13.1-1	Sheet:

06-21 **REVISES THE USAR TO REFLECT MODIFICATIONS MADE TO CONTAINMENT SUMPS MODS TO ADDRESS GENERIC LETTER 2004-002.**

Page: 6.2-53	Page: 6.2-45	Page: 6.2-52	Page: 6.2-55
Page: 6.2-46	Page: 6.1-5	Page: 6.2-54	

Table: 6.2.2-9	Sheet: 1	Table: 6.2.2-7	Sheet: 1
Table: 6.0-xviii	Sheet:	Table: 6.2.2-1	Sheet: 4
Table: 6.2.2-1	Sheet: 3	Table: 6.2.2-1	Sheet: 2
Table: 6.2.2-1	Sheet: 1	Table: 6.1-1	Sheet: 3
Figure: 6.2.2.3	Sheet: 2-10	Figure: 6.2.2-3	Sheet: 1

06-022 **REVISES THE USAR TO DELETE COMPONENT NUMBER DPFC04 FROM USAR TABLES 3.11(B)-3 AND 7.4.6**

Table: 7.4-6	Sheet: 17	Table: 3.11 (B)-3	Sheet: 27

06-023 **REVISES THE USAR TO REPLACE RUPTURE DISCS FOR OVERPRESSURE PROTECTION FOR THE HIGH PRESSURE OXYGEN AND NITROGEN STORAGE TUBES WITH SAFETY RELIEF VALVES.**

Page: 2.2-7

USAR Change Request **Description**

06-024 **REVISES THE USAR TO REFLECT THE REPLACEMENT OF THE GAS ANALYZER RACK A TRAIN WITH A HAUCH ULTRA ANALYTICS UNIT.**

Page: 11.3-10

Figure: 11.3-4 Sheet:

06-025 **REVISES THE USAR TO REFLECT THE REPLACEMENT OF THE COUNTING ROOM AIR HANDLING UNIT.**

Page: 9.4-12 Page: 9.4-5

Table: 9.4-4 Sheet: 6 Table: 9.4-4 Sheet: 5

06-027 **REVISES THE USAR TO REFLECT THE ABANDONMENT OF THE POST ACCIDENT SAMPLING SYSTEM (PASS) DUE TO LICENSE AMENDMENT 137 WHICH DELETED TS SECTION 5.5.3 AND REVISED TS SECTION 5.5.2**

Page: 18.2-19 Page: 18.2-13 Page: 12.2-4 Page: 18.3-12
Page: 18.3-11 Page: 18.2-24 Page: 18.2-23 Page: 18.2-18
Page: 12.2-3

Table: 7A-3 Sheet: 13.3 Table: 7A-3 Sheet: 13.2
Table: 7A-3 Sheet: 13.1 (1) Table: 7A-3 Sheet: 11.1
Table: 9.2-11 Sheet: 2 Table: 9.2-10 Sheet: 2
Table: 9.2-9 Sheet: 2 Table: 7A-3 Sheet: 6.4
Table: 7A-2 Sheet: 4 Table: 1.7-2 Sheet: 7
Table: 7A-3 Sheet: 13.1 (2)

06-028 **USAR SECTION 5.2 AND TABLE 5.2-6 ARE BEING REVISED BASED ON LICENSE AMENDMENT 166 WHICH REVISED TS 3.4.15 TO REMOVE THE CONTAINMENT ATMOSPHERIC GASEOUS RADIATION MONITOR.**

Page: 5.2-36 Page: 5.2-45 Page: 5.2-41 Page: 5.2-40
Page: 5.2-35 Page: 5.2-33

Table: 5.2-6 Sheet: 3 Table: 5.2-6 Sheet: 2

USAR Change Request	Description
06-029	**REVISES THE USAR TO REFLECT THE ADDITION OF A SURGE TANK AND VACUUM BREAKERS TO THE FIRE PROTECTION SYSTEM TO MINIMIZE PRESSURE SPIKES AND THE RESULTANT WATER HAMMER.**

Page: 9.5-12 Page: 9.5-7

06-030	**ADDS TABLE 3.6-3, SHEET 61B DUE TO APPROVAL OF NEW VALVE ACTUATOR WEIGHTS FOR BGLCV0459 AND 0460, RCS LETDOWN TO REGENERATIVE HEAT EXCHANGER VALVES, TO REFLECT CALCULATION CN-PAFM-06-151, REV. 1**

Table: 3.6-3 Sheet: 61B

06-031	**REVISES USAR SECTION 3.8.2.1.1 TO REFLECT THE PROCEDURE CHANGES REGARDING THE CONTAINMENT MOVEABLE MISSILE SHIELD.**

Page: 3.8-28

06-032	**REVISES TABLE 3.10 (B)-1 TO ADD SPECIFICATION M-261. USAR BEING UPDATED IN RESPONSE TO CR 2006-003067 THAT DOCUMENTED THAT THE USAR WAS NOT COMPLETELY UPDATED FOR CHANGE PACKAGE 07416.**

Table: 3.10 (B) -1 Sheet: 2

07-001	**CORRECTS PAGE NUMBERING, CORRECTS THE NUMBER OF FUEL ASSEMBLIES THAT CAN BE STORED IN THE SPENT FUEL POOL AND CORRECTS THE HI-HI ALARM FOR GTRE-33, CONTAINMENT PURGE SYSTEM MONITOR.**

Page: 6.2-19	Page: 6.2-47	Page: 6.2-50	Page: 6.2-48
Page: 6.2-71	Page: 6.2-78	Page: 6.2-87	Page: 6.2-90
Page: 9.1-13	Page: 6.2-49	Page 6.2-51	Page: 6.2-56
Page: 6.2-91			

Table: 9.1-2 Sheet: Table: 11.5-3 Sheet:

07-002	**CORRECTS FIGURE 5.1-2. FIGURE 5.1-2 CURRENTLY SHOWS THE PRESSURIZER PENETRATING THE RCS ON LOOP 2. THE PRESSURIZER PENETRATES THE RCS ON LOOP 4.**

Figure: 5.1-2 Sheet:

USAR Change Request	Description
07-004	MODIFIES TABLE 13.1-1 AND ADDS A PARAGRAPH TO USAR APPENDIX 3A FOR REGULATORY GUIDE 1.8 TO DOCUMENT THAT THE EDUCATION REQUIREMENTS FOR A JOURNEYMAN LEVEL CHEMISTRY TECHNICIAN CAN BE IMPLEMENTED BY SATISFYING THE REQUIREMENTS OF EITHER PARAGRAPH 4.5.2 TO 4.4.3 OF ANSI/ANS-3.1-1978.

Page: 3A-4

REVISIONS TO THE TECHNICAL REQUIREMENTS MANUAL (TRM)

1. Technical Requirement (TR) 3.7.17, "Crane Travel – Spent Fuel Storage Facility," TR B 3.7.17 and TR B 3.7.13, "EES for Crane Operation – Fuel Building," were revised to indicate that the spent fuel transfer gates may be moved over fuel assemblies not containing rod cluster control assemblies in the spent fuel pool. Design Change Package (DCP) 07484, allows fuel assemblies to be stored below the travel path of the spent fuel transfer gates during gate movement. Holtec Report # HI-971754 (C-175A-00053) has addressed the heavy loads as they pertain to the spent fuel transfer gates. The change is made to increase the available number of storage locations during gate movement. The gate drop accident analysis concluded that no damage to fuel would occur. Deformation of the upper portion of the rack provides sufficient energy dissipation to preclude penetration to the depth of the top of the fuel assembly.

2. TR B 3.6.1, "Containment Vessel Structural Integrity," was revised to correct the Background discussion regarding the number hoop tendons in the dome portion of containment. The Background section did not discuss the 30 hoop tendons in the dome and was potentially misleading on the number of hoop tendons. Additionally, the Reference USAR Section 6.2 is changed to add 3.8.1.1 as this section provides the description of the Post-tensioning System.

3. TR 3.8.11, "Containment Penetration Conductor Overcurrent Protective Devices," was revised to extend the Frequency from 60 months to 72 months for inspecting and performing preventative maintenance on the Siemens vacuum circuit breakers. The 13.8 kV GE magne-blast circuit breakers have been replaced with Siemens vacuum circuit breakers. The Siemens vendor technical manual, E-009B-00009 (Rev W03) provides vendor recommended service times. General requirements are to lubricate the breaker at 10,000 operations and overhaul the breaker at or before 30,000 operations. The vendor manual further recommends that the circuit breakers, including operating mechanism, should be oiled and lubricated at least every 10 years or 10,000 make-break operations under usual operating conditions as defined by ANSI. It is not expected that 10,000 make-break operations would occur on these breakers in a 10 year period. The associated Bases, TR B 3.8.11, "Containment Penetration Conductor Overcurrent Protective Devices," were revised to reflect the changes to the TR.

4. TR 3.3.18, "Primary to Secondary LEAKAGE Detection Instrumentation," was revised to address two issues: 1) increasing the frequency of grab sampling during startup in MODES 1 and 2 for consistency with the Electric Power Research Institute (EPRI) primary to secondary leak guidelines, and 2) revise the Completion Time of Required Action A.1 (restoring GE RE-92) to provide for removing GE RE-92 from service filter changeouts, performance of the CHANNEL CALIBRATION, and taking the fans out of service. The EPRI guidelines indicate that with no continuous radiation monitor, the monitor should be returned to an available status as rapidly as practical. Providing a Completion Time of 48 hours allows for sufficient time to perform necessary maintenance activities when the unit is at power and provides for restoring the monitor within a reasonable period of time. Requiring grab samples on an increased frequency during plant startup in MODE 1

or 2 takes into account that when the plant begins to increase power after a long duration outage, isotopes normally used for primary to secondary leak rate monitoring during power operation begin increasing and any correlation performed prior to the power increase may provide conservative but inaccurate results. The associated Bases TR B 3.3.18, "Primary to Secondary LEAKAGE Detection Instrumentation," were revised to reflect the changes to the TR.

5. TR 3.4.17, "Structural Integrity," and associated TR Bases were revised based on Performance Improvement Request (PIR) 2005-2315, Action No. 11, and Regulatory Issue Summary (RIS) 2005-20: Revision to Guidance Formerly Contained in NRC Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability." PIR 2005-2315, Action No. 11 states, "The ASME Program Engineer will revise TRM Bases TR B 3.4.17 and AP 28-001 to: a) update use of Code Case N-513 to N-513-1, b) change authorization for use of N-513 or N-513-1 from 50.55a(b)(2)(xiii) to RG 1.147 Rev. 14, c) remove use of Case N-523-1 because the 2000 Addenda of Section XI used in the 3rd interval incorporates N-523-1 into IWA-4133 and Appendix IX, d) and update terminology to match 2000 Addenda of Section XI." RIS 2005-020 was issued to inform licensees that it has revised the guidance in NRC Inspection Manual, Part 9900, Technical Guidance – this guidance supercedes the guidance previously provided in Generic Letter 91-18 and Revision 1 to Generic Letter 91-18. Appendix C, Section C.11 (Flaw Evaluation) and Section C.12 (Operational Leakage From Code Class 1, 2, and 3 Components) of Part 9900 primarily impact TR 3.4.17. TR 3.4.17 and the associated TR Bases are revised to reflect the revised guidance provided in Part 9900.

6. TR B 3.8.11, "Containment Penetration Conductor Overcurrent Protective Devices," were revised to clarify that the locking open an inoperable circuit breaker or protective device can only be accomplished with the use of a physical restraining lockout device. Use of a clearance order will not suffice for locking open the inoperable circuit breaker or protective device.

7. TR B 3.3.3, "PAM Instrumentation," Required Action D.1 and D.2 is revised to specify the alternate method for monitoring. Required Action D.1 requires the initiation of an alternate method for monitoring the appropriate parameters when the unit vent-high range noble gas monitor required channel is inoperable. The pre-planned alternate methods include grab samples of the unit vent activity and data from field monitoring. The TR Bases did not specify the alternate method of monitoring.

8. TSR 3.7.7.1 Frequency was revised from 31 days to 184 days. The associated TSR 3.7.7.1 Bases were also revised. This surveillance requirement requires testing the Component Cooling Water (CCW) surge tank level and CCW to Radwaste flow instrumentation circuitry. This circuitry provides automatic isolation of the non-essential portions of the CCW system upon initiation of a simulated or actual actuation signal. This surveillance test frequency change from a 31 days to184 days is based on the satisfactory performance trend of the 31 day test, STS IC-915 and STS IC-915A/B, since plant start up in 1985. A review of the surveillance records over the past several years revealed that the instrumentation

was always within its tolerance range. Instrument drift has not been observed on the current Frequency of 31 days as past records show little to no adjustments being made to bring the circuitry within its tolerance range.

9. TSR 3.1.9.3 Bases were revised to indicate that this Surveillance Requirement verifies the boron concentration by sampling, calculation, or administrative means. TSR 3.1.9.3 and SR 3.5.4.3 require verification of the boron concentration in the RWST. TSR 3.1.9.3 and associated Bases and TS SR 3.5.4.3 and associated TS Bases require verification of the RWST boron concentration every 7 days. There are no specific sampling requirements associated with changes in volume of the RWST. TS SR 3.0.1 and associated TS Bases require SR to be met in the MODES or other specified conditions in the Applicability and assume the systems and components are OPERABLE when the associated SRs are met. However, a system or component may be inoperable even if the SRs are met when it is known that the system or component is inoperable or the Surveillance requirements are known not to be met between required Surveillance performances. For filling the RWST from other sources during a refueling outage, the other sources may be used if they have not been diluted since they have been verified to meet the TSR 3.1.9.3 and SR 3.5.4.3 boron concentration limits or the boron concentrations from the other sources are know and do not result in exceeding the TS/TR limit.

10. The TR Bases for 3.7.20, "Snubbers," were revised to include guidance concerning NRC authorization of changes to the snubber visual inspection and functional testing requirements. WCNOC submitted a 10 CFR 50.55a request (I3R-03) in letter ET 06-0017 on April 13, 2006, which proposed an alternative to the requirements of the ASME Code, Section XI, with regard to visual examination and functional testing of snubbers. The request proposed to use the snubber surveillance program requirements defined in Section 3.7.20 of the TRM in lieu of the ASME Code requirement specified in Section XI, Article IWF-5000 for the third 10-year inservice inspection interval. The NRC approval of the 50.55a request specified that changes to the snubber visual inspection and functional testing requirements shall be submitted to the NRC for authorization pursuant to 10 CFR 50.55a(a)(3) or as an exemption pursuant to 10 CFR 50.12.

Subject
Enclosed is the CD-ROM submittal of the Wolf Creek Updated Safety Analysis Report (USAR), Revision 20.

Contact

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Document Components:
The CD-ROM labeled "Wolf Creek Updated Safety Analysis Report" contains the following files:

001_USAR.pdf	2,595 KB, publicly available
002_USAR LOEP.pdf	333 KB, publicly available
003_USARC01.pdf	617 KB, publicly available
004_USARC02.pdf	98,878 KB, publicly available
005_USARC03.pdf	23,099 KB, publicly available
006_USARC04.pdf	4,315 KB, publicly available
007_USARC05.pdf	1,823 KB, publicly available
008_USARC06.pdf	17,316 KB, publicly available
009_USARC07.pdf	1,941 KB, publicly available
010_USARC08.pdf	939 KB, publicly available
011_USARC09.pdf	13,772 KB, publicly available
012_USARC10.pdf	817 KB, publicly available
013_USARC11.pdf	1,874 KB, publicly available
014_USARC12.pdf	887 KB, publicly available
015_USARC13.pdf	369 KB, publicly available
016_USARC14.pdf	443 KB, publicly available
017_USARC15.pdf	9,899 KB, publicly available
018_USARC16.pdf	11 KB, publicly available
019_USARC17.pdf	310 KB, publicly available
020_USARC18.pdf	1,045 KB, publicly available
021_USARNRCQ.pdf	320 KB, publicly available

Subject
Enclosed is the CD-ROM submittal of the station-controlled drawings that are considered incorporated by reference into the Wolf Creek Updated Safety Analysis Report (USAR). In accordance with 10 CFR 2.390, this enclosure is considered sensitive unclassified information and therefore warrants withholding.

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Document Components:
The CD-ROM labeled "Updated Safety Analysis Report Controlled Figure Drawings Only" contains the following files:

001-Chapter 1.pdf	15,169 KB, sensitive unclassified information
002-Chapter 2.pdf	2,391 KB, sensitive unclassified information
003-Chapter 5.pdf	2,837 KB, sensitive unclassified information
004-Chapter 6.pdf	2,774 KB, sensitive unclassified information
005-Chapter 7.pdf	1,727 KB, sensitive unclassified information
006-Chapter 8.pdf	1,961 KB, sensitive unclassified information
007-Chapter 9.pdf	36,294 KB, sensitive unclassified information
008-Chapter 10.pdf	15,673 KB, sensitive unclassified information
009-Chapter 11.pdf	2,187 KB, sensitive unclassified information
010-Chapter 12.pdf	2,097 KB, sensitive unclassified information
011-Chapter 18.pdf	208 KB, sensitive unclassified information
012-Index Removed Figure List.pdf	91 KB, sensitive unclassified information

Subject
Enclosed is the CD-ROM submittal of the station Fire Hazards Analysis that is considered incorporated by reference into the Wolf Creek Updated Safety Analysis Report (USAR).

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Document Components:
The CD-ROM labeled "Updated Safety Analysis Report Fire Hazards Analysis" contains the following files:

001_E-19905.pdf	984 KB, publicly available
002_E-19900.pdf	2,171 KB, publicly available
003_E-19910.pdf	1,933 KB, publicly available
004_XX-E-013.pdf	7,115 KB, publicly available
005_XX-E-013-001-CN001.pdf	166 KB, publicly available
006_M-663-00017A.pdf	43,662 KB, publicly available

Enclosure IV to WM 07-0012

TRM Replacement Pages

3.3 INSTRUMENTATION

3.3.18 Primary to Secondary LEAKAGE Detection Instrumentation

TR 3.3.18 The Primary to Secondary LEAKAGE Detection Instrumentation for each Function in Table TR 3.3.18-1 shall be OPERABLE.

APPLICABILITY: According to Table TR 3.3.18-1.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required Condenser Air Discharge channel inoperable in MODE 1 or 2 with primary to secondary LEAKAGE < 5 gpd.	A.1 --------------NOTE------------- Not required until 5 days of MODE 1 or 2 operation following a shutdown. ---------------------------------- Restore required channel to OPERABLE status.	 48 hours
	AND	
	A.2.1 Analyze grab samples.	---------NOTE-------- In MODE 1 or 2 during startup, a Completion Time of Once per 12 hours applies ------------------------- Once per 24 hours
	OR	
	A.2.2 Monitor for primary to secondary LEAKAGE with a temporary radiation monitor.	---------NOTE-------- In MODE 1 or 2 during startup, a Completion Time of Once per 12 hours applies -------------------------- Once per 24 hours

(continued)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.17 Structural Integrity

TR 3.4.17 The structural integrity of ASME Code Class 1, 2, and 3 components shall be maintained.

APPLICABILITY: MODES 1, 2, 3, 4, 5, and 6.

ACTIONS

------------------------------------NOTE------------------------------------
Separate Condition entry is allowed for each component.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more ASME Code Class 1, 2, or 3 component(s) contain(s) through-wall flaw. <u>OR</u> One or more ASME Code Class 1, 2, or 3 component(s) not within limits established by the ASME Code.	A.1 Declare the affected component(s) inoperable. <u>OR</u> A.2 Enter applicable Conditions and Required Actions of Technical Specification or Technical Requirement for the affected component(s).	Immediately Immediately

TECHNICAL SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
TSR 3.7.7.1	Perform COT.	184 days
TSR 3.7.7.2	Perform CHANNEL CALIBRATION up to and including valve actuation.	18 months

3.7 PLANT SYSTEMS

3.7.17 Crane Travel - Spent Fuel Storage Facility

TR 3.7.17 Crane and auxiliary hoist loads > 2250 pounds shall be prohibited from travel over fuel assemblies in the spent fuel storage facility.

---------------------------------------NOTE---------------------------------------
The spent fuel transfer gates may be moved over fuel assemblies not containing rod cluster control assemblies in the spent fuel. Controls shall be in place to limit the height of the gate above the top of the storage racks.

APPLICABILITY: During crane or auxiliary hoist operation whenever fuel assemblies are in the spent fuel storage facility.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Requirements of the TR not met.	A.1 Suspend crane and auxiliary hoist operations.	Immediately

TECHNICAL SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
TSR 3.7.17.1	Verify, for each crane or auxiliary hoist in use, that the crane/hoist cannot travel over fuel assemblies in the spent fuel storage facility when loaded > 2250 pounds.	7 days

TECHNICAL SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
TSR 3.8.11.2	----------------------------NOTE------------------------------ For each circuit breaker found inoperable, an additional representative sample of ≥ 10% of all the circuit breakers of the inoperable type shall be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested. -- Perform an integrated system functional test on ≥ 10% of the 13.8 kV circuit breakers which includes simulated automatic actuation of the system and verifying each relay and associated circuit breakers and control circuits function as designed.	18 months
TSR 3.8.11.3	----------------------------NOTE------------------------------ For each circuit breaker found inoperable, an additional representative sample of ≥ 10% of all the circuit breakers of the inoperable type shall be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested. -- Perform a functional test on a representative sample of ≥ 10% of each type of lower voltage circuit breakers.	18 months
TSR 3.8.11.4	----------------------------NOTE------------------------------ Not applicable to Siemens vacuum circuit breakers. -- Inspect each circuit breaker and perform preventative maintenance in accordance with procedures prepared in conjunction with the manufacturer's recommendation.	60 months

(continued)

TECHNICAL SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
TSR 3.8.11.5	-----------------------------NOTE-------------------------------- Only applicable to Siemens vacuum circuit breakers. --- Inspect each circuit breaker and perform preventative maintenance in accordance with procedures prepared in conjunction with the manufacturer's recommendation.	72 months

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – Title Page TRM			
Title Page			
TAB – Table of Contents			
i	14	DRR 02-1459	2/12/03
ii	25	DRR 05-1996	9/28/05
iii	25	DRR 05-1996	9/28/05
TAB – 1.0 USE AND APPLICATION			
1.0-1	21	DRR 04-1535	12/1/04
TAB – 3.0 APPLICABILTY			
3.0-1	20	DRR 04-1410	10/7/04
3.0-2	20	DRR 04-1410	10/7/04
3.0-3	12	DRR 02-0515	5/2/02
3.0-4	20	DRR 04-1410	10/7/04
TAB – 3.1 REACTIVITY CONTROL SYSTEMS			
3.1-1	3	DRR 99-1581	12/18/99
3.1-2	3	DRR 99-1581	12/18/99
3.1-3	11	DRR 02-0412	4/5/02
3.1-4	11	DRR 02-0412	4/5/02
3.1-5	11	DRR 02-0412	4/5/02
3.1-6	11	DRR 02-0412	4/5/02
3.1-7	11	DRR 02-0412	4/5/02
3.1-8	13	DRR 02-1063	9/26/02
3.1-9	11	DRR 02-0412	4/5/02
3.1.10	11	DRR 02-0412	4/5/02
TAB – 3.3 INSTRUMENTATION			
3.3-1	23	DRR 05-0708	4/20/05
3.3-2	23	DRR 05-0708	4/20/05
3.3-3	23	DRR 05-0708	4/20/05
3.3-4	23	DRR 05-0708	4/20/05
3.3-5	23	DRR 05-0708	4/20/05
3.3-6	23	DRR 05-0708	4/20/05
3.3-7	23	DRR 05-0708	4/20/05
3.3-8	23	DRR 05-0708	4/20/05
3.3-9	23	DRR 05-0708	4/20/05
3.3-10	23	DRR 05-0708	4/20/05
3.3-11	23	DRR 05-0708	4/20/05
3.3-12	23	DRR 05-0708	4/20/05
3.3-13	23	DRR 05-0708	4/20/05
3.3-14	23	DRR 05-0708	4/20/05
3.3-15	23	DRR 05-0708	4/20/05
3.3-16	23	DRR 05-0708	4/20/05
3.3-17	23	DRR 05-0708	4/20/05
3.3-18	23	DRR 05-0708	4/20/05
3.3-19	23	DRR 05-0708	4/20/05
3.3-20	23	DRR 05-0708	4/20/05
3.3-21	23	DRR 05-0708	4/20/05
3.3-22	23	DRR 05-0708	4/20/05

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – 3.3 INSTRUMENTATION (continued)			
3.3-23	23	DRR 05-0708	4/20/05
3.3-24	23	DRR 05-0708	4/20/05
3.3-25	23	DRR 05-0708	4/20/05
3.3-26	23	DRR 05-0708	4/20/05
3.3-27	23	DRR 05-0708	4/20/05
3.3-28	23	DRR 05-0708	4/20/05
3.3-29	26	DRR –6-0050	2/28/06
3.3-30	23	DRR 05-0708	4/20/05
3.3-31	23	DRR 05-0708	4/20/05
3.3-32	23	DRR 05-0708	4/20/05
TAB – 3.4 REACTOR COOLANT SYSTEM (RCS)			
3.4-1	3	DRR 99-1581	12/18/99
3.4-2	3	DRR 99-1581	12/18/99
3.4-3	13	DRR 02-1063	9/26/02
3.4-4	6	DRR 00-1428	10/12/00
3.4-5	3	DRR 99-1581	12/18/99
3.4-6	3	DRR 99-1581	12/18/99
3.4-7	3	DRR 99-1581	12/18/99
3.4-8	27	DRR06-0799	5/18/06
3.4-9	3	DRR 99-1581	12/18/99
3.4-10	3	DRR 99-1581	12/18/99
3.4-11	3	DRR 99-1581	12/18/99
TAB – 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)			
3.5-1	3	DRR 99-1581	12/18/99
TAB – 3.6 CONTAINMENT SYSTEMS			
3.6-1	17	DRR 04-0452	5/26/04
3.6-2	3	DRR 99-1581	12/18/99
3.6-3	17	DRR 04-0452	5/26/04
TAB – 3.7 PLANT SYSTEMS			
3.7-1	3	DRR 99-1581	12/18/99
3.7-2	28	DRR 06-1349	7/24/06
3.7-3	25	DRR 05-1996	9/28/05
3.7-4	25	DRR 05-1996	9/28/05
3.7-5	25	DRR 05-1996	9/28/05
3.7-6	25	DRR 05-1996	9/28/05
3.7-7	26	DRR 06-0050	2/28/06
3.7-8	25	DRR 05-1996	9/28/05
3.7-9	25	DRR 05-1996	9/28/05
3.7-10	25	DRR 05-1996	9/28/05
3.7-11	25	DRR 05-1996	9/28/05
3.7-12	25	DRR 05-1996	9/28/05
3.7-13	25	DRR 05-1996	9/28/05
3.7-14	25	DRR 05-1996	9/28/05
3.7-15	25	DRR 05-1996	9/28/05
3.7-16	25	DRR 05-1996	9/28/05
3.7-17	25	DRR 05-1996	9/28/05

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – 3.7 PLANT SYSTEMS (continued)			
3.7-18	25	DRR 05-1996	9/28/05
3.7-20	25	DRR 05-1996	9/28/05
3.7-21	25	DRR 05-1996	9/28/05
3.7-22	25	DRR 05-1996	9/28/05
3.7-23	25	DRR 05-1996	9/28/05
3.7-24	25	DRR 05-1996	9/28/05
3.7-25	25	DRR 05-1996	9/28/05
3.7-26	25	DRR 05-1996	9/28/05
3.7-27	25	DRR 05-1996	9/28/05
3.7-28	25	DRR 05-1996	9/28/05
3.7-29	25	DRR 05-1996	9/28/05
TAB – 3.8 ELECTRICAL POWER SYSTEMS			
3.8-1	22	DRR 05-0167	2/16/05
3.8-2	22	DRR 05-0167	2/16/05
3.8-3	26	DRR 06-0050	2/28/06
3.8-4	26	DRR 06-0050	2/28/06
TAB – 3.9 REFUELING OPERATIONS			
3.9-1	3	DRR 99-1581	12/18/99
3.9-2	3	DRR 99-1581	12/18/99
3.9-3	3	DRR 99-1581	12/18/99
TAB – 3.10 EXPLOSIVE GAS AND STORAGE TANK RADIOACTIVITY MONITORING			
3.10-1	3	DRR 99-1581	12/18/99
3.10-2	3	DRR 99-1581	12/18/99
3.10-3	3	DRR 99-1581	12/18/99
3.10-4	3	DRR 99-1581	12/18/99
3.10-5	3	DRR 99-1581	12/18/99
3.10-6	3	DRR 99-1581	12/18/99
TAB – 5.0 ADMINISTRATIVE CONTROLS			
5.0-1	3	DRR 99-1581	12/18/99
5.0-2	11	DRR 02-0412	4/5/02
5.0-3	24	DRR 05-1376	6/28/05
5.0-4	24	DRR 05-1376	6/28/05
5.0-5	17	DRR 04-0452	9/28/05
5.0-6	25	DRR 05-1996	2/16/05
5.0-7	16	DRR 03-1498	11/4/03

Note 1 The page number is listed on the center of the bottom of each page.

Note 2 The revision number is listed in the lower right hand corner of each page. The Revision number will be page specific.

Note 3 The change document will be the document requesting the change. Therefore, the change document should be a DRR number in accordance with AP 26A-002.

Note 4 The date effective or implemented is the date the Technical Requirement pages are to be issued by Document Control.

BASES

TECHNICAL SURVEILLANCE REQUIREMENTS

TSR 3.1.9.2 (continued)

unusable volume. All of the boron solution volume of the BATs is considered to be usable. The combined BAT boron solution volume may be contained in one or both of the BATs. If one BAT meets the minimum boron solution volume requirement, that BAT is the only boron solution source required for the associated boration injection subsystem to be considered OPERABLE. If both BATs are necessary to meet the minimum boron solution volume requirement, both BATs are required to be OPERABLE for the associated boration injection subsystem to be considered OPERABLE.

The 7 day Frequency to verify boron solution volume is appropriate since the RWST and BAT volumes are normally stable and has been shown to be acceptable through operating experience. In addition, the Frequency is consistent with the Technical Specification surveillance Frequency for verifying the RWST boron solution volume.

TSR 3.1.9.3

This TSR requires a verification of the boron solution concentration of the RWST and the required BAT(s) every 7 days. This TSR verifies the boron concentration by sampling, calculation, or administrative means. The minimum boron solution concentration requirements of the RWST and the required BAT(s), along with the boron solution volume requirements, ensure cold shutdown boron weight is available for injection (i.e., SDM equivalent to 1.3% $\Delta k/k$ at 200°F). The maximum boron solution concentration requirement of the required BAT(s) ensure that the concentration of boric acid in each required BAT is not allowed to precipitate.

The Frequency to verify boron concentration is appropriate since the RWST and BAT boron solution concentration is normally stable and has been shown to be acceptable through operating experience. In addition, the Frequency is consistent with the Technical Specification surveillance Frequency for verifying the RWST boron solution concentration.

TSR 3.1.9.4

Verifying the correct_alignment for each boration injection subsystem manual, power operated, and automatic valve provides assurance that the proper flow paths exist for boration injection subsystem operation. This TSR does not apply to valves that are locked, sealed, or otherwise

BASES

TECHNICAL SURVEILLANCE REQUIREMENTS

TSR 3.1.9.4 (continued)

secured in position, since they are verified to be in the correct position prior to being locked, sealed, or secured. A valve may be in the non-boration injection position provided the valve is capable of being manually repositioned to the boration injection position. This TSR does not require any testing or valve manipulation; rather, it involves verification that thosevalves capable of being mispositioned are in the correct position. This TSR does not apply to valves that cannot be inadvertently misaligned, such as check valves.

The 31 day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve position.

TSR 3.1.9.5

Periodic surveillance testing of CCPs to detect gross degradation caused by impeller structural damage or other hydraulic component problems is performed in accordance with Section XI of the American Society of Mechanical Engineers (ASME) Code. This type of testing may be accomplished by measuring the pump developed head at only one point of the pump characteristic curve. This verifies both that the measured performance is within an acceptable tolerance of the original pump baseline performance and that the performance at the test flow is greater than or equal to the performance assumed in the plant safety analysis.

This TSR encompasses Section XI of the ASME Code. Section XI of the ASME Code provides the activities and Frequencies necessary to satisfy the requirements.

This TSR assures that each CCP develops a differential pressure of $\geq$ 2400 psid when tested on recirculation flow in accordance with the Inservice Testing Program (Technical Specification 5.5.8).

TSR 3.1.9.6

Verification that the flow path from the BATs delivers at least 30 gpm to the RCS demonstrates that gross degradation of the boric acid transfer pumps, CCPs, crystallization of boric acid in the boration injection subsystems, and other hydraulic component problems have not occurred.

The 18 month Frequency was developed considering it is prudent that this Surveillance be performed during a plant outage. This is due to the plant conditions needed to perform the TSR and the potential for unplanned plant transients if the TSR is performed with the reactor at power.

BASES

ACTIONS (continued)

D.1 and D.2

Condition D applies when the Unit Vent - High Range Noble Gas Monitor channel is inoperable. Required Action D.1 requires the initiation of an alternate method of monitoring be initiated within 72 hours of the unit vent – high range noble gas monitor (GTRE0021B) becoming inoperable. This monitor consists of three separate monitoring channels; the low range channel (#214), the mid range channel (#215), and the high range channel (#216). These three channels are designed with overlapping ranges and collectively meet the regulatory requirements for this monitor. There are two preplanned alternate methods; 1) grab samples of the unit vent activity, and 2) data from field monitoring. Channel #214 can be used to monitor the unit vent if one or both channel(s), #215 and #216, become inoperable when the activity is in the low range. If channel #214 becomes inoperable, manual grab samples from the unit vent or field monitoring can be used as the alternate method (Ref. 6). The 72 hour Completion Time is reasonable based on operating experience. Required Action D.2 requires the restoration of the channel to OPERABLE within 7 days. The Completion Time of 7 days is based on the relatively low probability of an event requiring PAM instrument operation and the availability of alternate means to obtain the required information.

E.1

Condition E applies when two hydrogen analyzer channels are inoperable. Required Action E.1 requires restoring one hydrogen analyzer channel to OPERABLE status within 72 hours. The 72 hour Completion Time is reasonable based on the unlikely event that a LOCA (which would cause core damage) would occur during this time.

F.1

In the event that the Required Actions and associated Completion Times are not met, Required Action F.1 requires initiation of a Performance Improvement Request (PIR) immediately to address why the accident monitoring instrumentation was not restored to OPERABLE status within the Completion Time. As part of the initiation of the PIR, action shall be implemented in a timely manner to place the unit in a safe condition as determined by plant management. The PIR should provide an accurate description of the problem, the Required Action and associated completion time not complied with. The intent of this Required Action is to utilize the corrective action program to assure prompt attention and adequate management oversight to minimize the additional time the instrumentation is inoperable.

BASES

TECHNICAL SURVEILLANCE REQUIREMENTS

A Note is added to the TSR Table to clarify that TSR 3.3.3.1 and TSR 3.3.3.2 apply to each PAM instrumentation Function identified in Table TR 3.3.3-1.

TSR 3.3.3.1

Performance of the CHANNEL CHECK once every 31 days ensures that a gross instrumentation failure has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumpti approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION. The high radiation instrumentation should be compared to similar unit instruments located throughout the unit.

Agreement criteria are determined by the unit staff, based on a combination of the channel instrument uncertainties, including isolation, indication, and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit. If the channels are within the criteria, it is an indication that the channels are OPERABLE.

The Frequency of 31 days is based on operating experience that demonstrates that channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the TR required channels.

TSR 3.3.3.2

A CHANNEL CALIBRATION is performed every 18 months, which corresponds to a typical refueling cycle. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to measure parameters with the necessary range and accuracy. The Frequency is based on operating experience and consistency with the typical industry refueling cycle.

BASES

REFERENCES

1. USAR, Appendix 7A.

2. Regulatory Guide 1.97, Rev. 2, December 1980.

3. Letter NA 94-0089, "Revision to Technical Specifications Based on NRC Final Policy Statement on Technical Specifications Improvements," dated May 24, 1994.

4. USAR, Sections 18.2.12.2 and 18.2.12.3.

5. Federal Register Notice: Notice of Availability of Model Application Concerning Technical Specification Improvement to Eliminate Hydrogen Recombiner Requirement, and Relax the Hydrogen and Oxygen Monitor Requirements for Light Water Reactors Using the Consolidated Line Item Improvement Process, September 25, 2003 (68 FR 55416).

6. PIR 2006-0748.

BASES

APPLICABILITY

Primary to secondary LEAKAGE is measured by performance of an RCS water inventory balance as required by Technical Specification 3.4.13, "RCS Operational LEAKAGE," in conjunction with effluent monitoring within the secondary steam and feedwater systems.

TR 3.3.18 requires that the instrumentation listed in Table TR 3.3.18-1 is OPERABLE in order to provide for continuous on-line monitoring of primary to secondary LEAKAGE. In MODES 1 and 2 (after steady state operation is achieved following a shutdown) with primary to secondary LEAKAGE < 5 gpd, the Condenser Air Discharge Monitor (GE RE-92) is required to be OPERABLE. In MODES 1 and 2 with LEAKAGE < 5 gpd, GE RE-92 is the only required monitor which can be correlated to gpd. In MODES 3, 4, 5, and 6, GE RE-92 is not required to be OPERABLE since most of the gases which indicate primary to secondary LEAKAGE will decay away in 10 to 12 hours after shutdown. The remaining gasses will be in the process of decaying, therefore an accurate primary to secondary LEAKAGE measurement from GE RE-92 is not possible.

In MODES 1, 2, and 3 with primary to secondary LEAKAGE present, GE RE-92, Steam Generator Blowdown Process Radiation Monitor (BM RE-25) and Steam Generator Liquid Radiation Monitor (SJ RE-02) are required to be OPERABLE. With primary to secondary LEAKAGE ≥ 5 gpd, all three primary to secondary radiation monitors can be correlated to gpd and therefore should be capable of being declared OPERABLE.

Additionally, under certain plant operating condition (e.g., startup, shutdown, etc.) the detection capability of the Radiation Monitoring System may not be sufficient to provide indications of leak rates or changes in leak rates at the established levels. Under these conditions, it may be necessary to implement frequent grab sampling in order to attain the required sensitivities.

ACTIONS

A.1, A.2.1, and A.2.2

Condition A addresses the situation where GE RE-92 is inoperable in MODE 1 or 2 with primary to secondary LEAKAGE < 5 gallons per day. A Note is added to Required Action A.1 stating that the action is not required until 5 days of MODE 1 or 2 operation following a shutdown. During plant startup, the monitor may not be capable of detecting a 30 gallon per day leak based on current plant conditions. The Note provides sufficient time for the isotopes normally used for primary to secondary leak rate monitoring to increase where the monitor can be used as the

BASES

ACTIONS

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

primary detection means. With GE RE-92 having been determined to be inoperable, the monitor must be restored to OPERABLE status in 48 hours. The Completion Time allows for sufficient time to perform maintenance activities on the monitor and restoring the monitor to OPERABLE status as rapidly as practical (Ref. 1).

With GE RE-92 inoperable, grab samples are analyzed to monitor for primary to secondary LEAKAGE. In lieu of grab samples, a temporary radiation monitor may be installed on the condenser air discharge or other location that is known to provide a reliable indication of primary to secondary LEAKAGE. The temporary radiation monitor can be used as an OPERABLE primary to secondary LEAKAGE detection monitor. A temporary radiation monitor is OPERABLE if it is directly correlated to gpd leakage , can be monitored, and can detect leak rates > 30 gpd at existing RCS activity. Monitoring for primary to secondary LEAKAGE by grab samples or a temporary radiation monitor is performed once per 24 hours. The 24 hour Completion Time is adequate based on the guidance in Reference 1.

A Note is added to the Completion Times for Required Action A.2.1 and A.2.2 stating that during plant startup in MODE 1 or 2, either Required Action A.2.1 or Required Action A.2.2 must be completed on a more frequent basis. When the plant begins to increase power after a long duration outage, isotopes normally used for primary to secondary leak rate monitoring during power operation begin increasing and any correlation performed prior to the power increase may provide conservative but inaccurate results. During this time period, the plant will have to rely on grab samples or a temporary radiation monitor capable of detecting a 30 gpd leak. Isotopes will eventually reach a concentration where the radiation monitors can be used as the primary detection means and grab samples can accurately measure low level leakage. (Reference 1)

Temporary radiation monitors may be installed on the condenser air discharge, steam generator blowdown, or other location that is known to provide a reliable indication of primary to secondary LEAKAGE.

B.1

Condition B applies when one or more required Functions listed in Table TR 3.3.18-1 is inoperable in MODES 1, 2, or 3 with primary to secondary LEAKAGE ≥ 5 gpd and < 75 gpd. With one or more of the required

BASES

ACTIONS

B.1 (continued)

Functions having been determined to be inoperable, the plant must immediately initiate action to restore the monitor(s) to OPERABLE status. The immediate Completion Time is consistent with the required times for actions to be performed without delay and in a controlled manner.

C.1 and C.2

Condition C applies when two or more required Functions listed in Table TR 3.3.18-1 is inoperable in MODES 1, 2, or 3 with primary to secondary LEAKAGE ≥ 5 gpd and < 30 gpd. With two or more of the required Functions inoperable, grab samples must also be analyzed to monitor for primary to secondary LEAKAGE. In lieu of grab samples, a temporary radiation monitor may be installed on the condenser air discharge or other location that is known to provide a reliable indication of primary to secondary LEAKAGE. The temporary radiation monitor can be used as an OPERABLE primary to secondary LEAKAGE detection monitor. A temporary radiation monitor is OPERABLE if it is directly correlated to gpd leakage , can be monitored, and can detect leak rates > 30 gpd at existing RCS activity. Monitoring for primary to secondary LEAKAGE by grab samples or a temporary radiation monitor is performed once per 12 hours. The 12 hour Completion Time is adequate based on the guidance in Reference 1.

Once a leak is detected, it is important to have at least two of the primary to secondary leak detection monitors OPERABLE. Continuous monitoring of the level and rate of change of radioactivity in the secondary plant is extremely important. Having at least two monitors available will provide at least two indications for comparison and provide a backup in case one monitor should become inoperable for any reason. The Steam Generator Blowdown Process Radiation Monitor (BM RE-025) is the preferred monitor to maintain OPERABLE since the Steam Generator Liquid Radiation Monitor (SJ RE-02) indication is delayed by approximately 30 minutes due to transport time.

D.1 and D.2

Condition D applies when two or more required Functions listed in Table TR 3.3.18-1 is inoperable in MODES 1, 2, or 3 with primary to secondary LEAKAGE ≥ 30 gpd and < 75 gpd. With two or more of the required Functions inoperable, grab samples must also be analyzed to monitor for primary to secondary LEAKAGE. In lieu of grab samples, a temporary

BASES

ACTIONS

D.1 (continued)

radiation monitor may be installed on the condenser air discharge or other location that is known to provide a reliable indication of primary to secondary LEAKAGE. The temporary radiation monitor can be used as an OPERABLE primary to secondary LEAKAGE detection monitor. A temporary radiation monitor is OPERABLE if it is directly correlated to gpd leakage, can be monitored, and can detect leak rates > 30 gpd at existing RCS activity. Monitoring for primary to secondary LEAKAGE by grab samples or a temporary radiation monitor is performed once per 4 hours. The 4 hour Completion Time is adequate based on the guidance in Reference 1.

Once a leak is detected, it is important to have at least two of the primary to secondary leak detection monitors OPERABLE. Continuous monitoring of the level and rate of change of radioactivity in the secondary

plant is extremely important. Having at least two monitors available will provide at least two indications for comparison and provide a backup in case one monitor should become inoperable for any reason. The Steam Generator Blowdown Process Radiation Monitor (BM RE-025) is the preferred monitor to maintain OPERABLE since the Steam Generator Liquid Radiation Monitor (SJ RE-02) indication is delayed by approximately 30 minutes due to transport time.

E.1

In the event that the Required Action and associated Completion Time of Condition A, B, C, or D are not met, Required Action B.1 requires initiation of a Performance Improvement Request (PIR) immediately to address why the actions were not completed within the specified Completion Time.

As part of the initiation of the PIR, action shall be implemented in a timely manner to place the unit in a safe condition as determined by plant management. The PIR should provide an accurate description of the problem, the Required Action and associated Completion Time not complied with. The intent of this Required Action is to utilize the corrective action program to assure prompt attention and adequate management oversight to minimize the additional time that the LEAKAGE detection instrumentation is inoperable.

BASES

ACTIONS (continued)

F.1

With the required Functions inoperable in MODE 1, 2, or 3 with primary to secondary LEAKAGE greater than 75 gpd, the plant must be brought to a MODE in which the TR does not apply. To achieve this status, the plant must be brought to MODE 3 within 6 hours and MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

TECHNICAL SURVEILLANCE REQUIREMENTS

TSR 3.3.18.1

A CHANNEL CALIBRATION is performed every 18 months, which corresponds to a typical refueling cycle. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to measure parameters with the necessary range and accuracy. The Frequency is based on operating experience and consistency with the typical industry refueling cycle.

A source check is performed every 100 hours by the microprocessor based Radiation Monitoring System. Each time the check source is performed the system calculates the counts per minute generated by the check source and compares it to a check source reference limit. The check source reference limit is 80% of the check source value that was calculated during the last 18 month calculation. If the check source value is below the reference limit a channel failure alarm will be received in the control room.

REFERENCES

1. EPRI "PWR Primary-to-Secondary Leak Guidelines," Revision 3, December 2004.
2. USAR, Section 11.5.2.3.2.1.
3. USAR, Section 11.5.2.2.2.3.
4. USAR, Section 11.5.2.2.2.2.

BASES

ACTIONS

A Note has been added to the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Requirement may be entered independently for each component. The Completion Time(s) for the inoperable component will be tracked separately for each component starting from the time the Condition was entered for that component.

A.1 and A.2

Condition A applies to one or more ASME Code Class 1, 2, and 3 component(s) containing a through-wall flaw or the component(s) are not within the limits established by the ASME Code. With one or more ASME Code Class 1, 2, or 3 component(s) containing a through-wall flaw or not within the limits established by the ASME Code, Required Actions A.1 and A.2 require the affected component(s) to be declared inoperable and the applicable Conditions and Required Actions of the Technical Specifications or Technical Requirement be entered for the affected component. The immediate Completion Time is consistent with the required times for actions to be performed without delay and in a controlled manner.

In accordance with 10 CFR 50.55a(g), structural integrity must be maintained in conformance with ASME Code Section XI for those parts of a system that are subject to Code requirements. If a flaw is discovered by any means (including surveillance, maintenance activity, or inservice inspection) in a system subject to Code requirements (whether during normal plant operation, plant transition, or shutdown operation), the flaw must be promptly evaluated using Code rules. If the flaw is through-wall or does not meet the limits established by the Code, the component and part of the system containing the flaw is inoperable. If the flaw is within the limits established by the Code, the component and part of the system is OPERABLE. However, a determination should be made as to how long the flawed component will remain OPERABLE before the flaw grows to exceed Code limits.

Depending on the type of degraded or nonconforming condition, structural integrity is determined in accordance with either ASME Section III design rules, Section XI acceptance standards or Section XI IWB-3600 analytical evaluation procedures. In addition, NRC Inspection Manual, Part 9900, Technical Guidance (Ref. 7), Appendix C, Section C.10 (Piping and Pipe Support Requirements), C.11 (Flaw Evaluation), and C.12 (Operational Leakage From Code Class 1, 2, and 3 Components contain specific NRC guidance and acceptable evaluation procedures to be used in determining structural integrity and OPERABILITY for ASME Code Class 1, 2, and 3 components.

BASES

ACTIONS

A.1 and A.2 (continued)

The NRC provided guidance in NRC Inspection Manual, Part 9900, Technical Guidance, (Regulatory Issue Summary 2005-020 (Ref. 2)) for addressing degraded and nonconforming conditions consisting of through-wall pressure boundary leaks. In NRC Inspection Manual, Part 9900, Technical Guidance, Appendix C, Section C.12, the NRC stated that "Upon discovery of leakage from a Class 1, 2, or 3 pressure boundary component (pipe wall, valve body, pump casing, etc.) the licensee must declare the component inoperable." Evidence of leakage from the pressure boundary indicates the presence of a through-wall flaw. For these reasons, the component is declared Inoperable while methods such as ultrasonic examination are performed to characterize the actual geometry of the through-wall flaw. However, after declaring inoperability for Class 3 moderate-energy piping, the structural integrity of the piping may be evaluated by fully characterizing the extent of the flaw using volumetric methods and evaluating the flaw using the criteria of paragraph C.3.a of Enclosure 1 to Generic Letter (GL) 90-05 (Ref. 4). If the flaw meets the criteria, the piping can subsequently be deemed OPERABLE but degraded until relief from the applicable Code requirement or requirements is obtained from the NRC. Following the declaration of inoperability, the structural integrity of leaking Class 2 or 3 moderate-energy piping may also be evaluated using criteria of Code Case N-513-1. The NRC has approved Code Case N-513-1 (Ref. 5) in Regulatory Guide 1.147, Rev. 14, with limitations that must be implemented along with Code Case N-513-1. If the piping meets the criteria of ASME Code Case N-513-1, with NRC limitations, the piping may be deemed OPERABLE and continued temporary service of the degraded piping is permitted.

Similar provisions on use of GL 90-05 were included in NRC Inspection Manual, Part 9900, Technical Guidance, Appendix C, Section C.11 addressing flaws in Class 3 piping not resulting in through-wall leaks. GL 90-05 addressed temporary non-Code repairs. It also provided NRC approved guidance in accessing structural integrity in moderate energy Class 3 piping as part of the licensee relief request when a Code repair was deferred. 10 CFR 50.55a(b)(2)(xiii) (Ref. 3) modified the GL 90-05 guidance in 1999 by approving ASME Section XI Code Case N-513 and Case N-523-1 (Ref. 6). The Federal Register issuing this amendment noted "These Code Cases were developed to address criteria for temporary acceptance of flaws (including through-wall leaking) of moderate energy Class 3 piping where a Section XI Code repair may be impractical for a flaw detected during plant operation (i.e., a plant

BASES

ACTIONS

A.1 and A.2 (continued)

shutdown would be required to perform the Code repair). In the past, licensees had to request NRC staff approval to defer Section XI Code repair for these Class 3 moderate energy (200 deg. F, 275 psig) piping systems.......The use of Code Case N-513, with the limitations, and Code Case N-523-1 will obviate the need for licensees to request approval for deferring repairs; thus saving NRC and licensee resources."

The NRC has approved ASME Code Case N-513-1 in Regulatory Guide 1.147, Rev. 14, with limitations that must be implemented with the Case. Code Case N-513-1 has been adopted for use at WCGS. Code Case N-523-1 has been incorporated into Appendix IX of the ASME Section XI edition and addenda used at WCGS. As a result, Code Case N-523-1 is no longer used.

Therefore, when Code Case N-513-1is applicable (i.e., the scope of Code Case N-513-1 and the NRC limitations applied to the use of the Case allow the Case to be used), Case N-513-1 should be used in lieu of GL 90-05 to temporarily accept degraded and nonconforming conditions in Class 2 and 3 moderate energy piping. GL 90-05 guidance on temporary non-Code repairs remains applicable. In addition, if Code Case N-513-1 is not applicable to a degraded or nonconforming condition in moderate energy Class 3 piping, GL 90-05 should be used, including the need to request relief from the NRC.

Alternative evaluation procedures and/or acceptance criteria may also be used for degraded or nonconforming conditions exceeding ASME Section XI IWB-3600, Code Case N-513-1, or NRC Inspection Manual, Part 9900, Technical Guidance. When alternative evaluation procedures and/or acceptance criteria are used as a basis for acceptable continued service, the system containing the degraded or nonconforming condition is considered inoperable until NRC approval of procedures and criteria is obtained (Ref. 7).

Structural integrity and OPERABLITY may be restored by repair/ replacement activity on the item containing the degraded or nonconforming condition in accordance with ASME Section XI. As noted above, ASME Section XI, Appendix IX (Ref. 6) approves the use of structural mechanical clamping devices for OPERABILITY and temporary acceptance of degraded and nonconforming conditions in moderate energy Class 2 and 3 piping.

BASES

TECHNICAL SURVEILLANCE REQUIREMENTS

TSR 3.4.17.1 requires performing inservice inspections of ASME Section XI Code Class 1, 2, and 3 components in accordance with the Inservice Inspection Program described in TR 5.5.6, "Inservice Inspection Program."

Inservice inspection of ASME Code Class 1, 2, and 3 components are performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code (Ref. 1) and applicable Addenda, as required by 10 CFR 50.55a(g) (Ref.2), to ensure that the structural integrity of these components will be maintained at an acceptable level throughout the life of the plant. Exception to these requirements apply where relief has been granted by the Commission pursuant to 10 CFR 50.55a(a)(3) and (g)(6)(i). The surveillance intervals specified in Section XI of the ASME Code apply.

During design and construction, components of the Reactor Coolant System were designed to provide access to permit inservice inspection in accordance with Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition and Addenda through Summer 1975.

REFERENCES

1. USAR, Section 3.2.2

2. Nuclear Regulatory Issue Summary 2005-020.

3. 10 CFR 50.55a(b)(2)(xiii), "Flaws in Class 3 Piping," Federal Register (Vol. 64, No. 183), September 22, 1999.

4. Generic Letter 90-05, "Guidance for Performing Temporary Non-Code Repair of ASME Code Class 1, 2, and 3 Piping," June 15, 1990; and August 16, 1990, NRR letter by J. E. Richardson, "Follow-up on Generic Letter 90-05 Regarding Guidance for Performing Temporary Non-Code Repair of ASME Code Class 1, 2, and 3 Piping," (letter 90-02380).

5. Code Case N-513-1, "Evaluation Criteria for Temporary Acceptance of Flaws in Class 2 and 3 Piping."

6. ASME Section XI, Appendix IX, "Mechanical Clamping Devices for Class 2 and 3 Piping Pressure Boundary" (previously contained in Code Case N-523-1).

7. NRC Inspection Manual, Part 9900, Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety."

B 3.6 CONTAINMENT SYSTEMS

TR B 3.6.1 Containment Vessel Structural Integrity

BASES

BACKGROUND

The containment consists of a prestressed, reinforced concrete, cylindrical structure with a hemispherical dome. The Post-tensioning System used for the shell and dome of the containment employs tendons. Each tendon consists of 170 one quarter-inch high strength steel wires and anchoring components. The prestressing load is transferred, by cold formed button heads on the ends of the individual wires through stressing washers, to steel bearing plates embedded in the structure. The ultimate strength of each tendon is approximately 1000 tons. The unbonded tendons are installed in tendon ducts and tensioned in a predetermined sequence. The tendon ducts consist of galvanized, spiral wrapped, semi-rigid corrugated steel tubing. After tensioning, a petroleum based corrosion inhibitor is pumped into the duct.

The Post-tensioning System is divided into two tendon groups. One group consists of 86 inverted U-shaped tendons which extend through the full height of the cylindrical wall over the dome. They are anchored at the bottom of the base slab through the ceiling of the tendon access gallery. The other tendon group consists of 135 tendons forming the circumferential (hoop) tendons. Three buttresses located 120 degrees apart extend the full vertical height of the containment. The hoop tendons are anchored to one buttress, extend through the next, and are anchored to the third buttress. Thus, each hoop tendon extends around 240 degrees of the containment building (Ref. 1).

The containment OPERABILITY requirements are provided in Technical Specifications 3.6.1, "Containment," 5.5.6, "Containment Tendon Surveillance Program," and 5.5.16, "Containment Leakage Rate Testing Program," (Refs. 2 and 3). Reference 4 describes further details on the performance of containment tendon surveillances.

Technical Specification 5.5.6 requires the Containment Tendon Surveillance Program, and its inspection frequencies and acceptance criteria, to be in accordance with Section XI, Subsection IWL (Ref. 5) of the ASME Boiler and Pressure Vessel Code and applicable addenda as required by 10 CFR 50.55a, except where an exemption or relief has been authorized by the NRC. Section XI requires the preparation of a Containment Inservice Inspection Program Plan (Ref. 7) that identifies the applicable Edition and Addenda of Section XI and integrates Section XI requirements, regulatory requirements, commitments, and relief or exemption requests, if any.

BASES

REFERENCES

1. USAR, Section 6.2.
2. Technical Specification 3.6.1 and associated Bases.
3. Technical Specifications 5.5.6 and 5.5.16.
4. Specification 16577-C-158(Q), “Technical Specification for Containment Tendon Surveillance.”
5. ASME Boiler and Pressure Vessel Code Section XI, Subsection IWL.
6. Code Case N-532, “Alternative Requirements to Repair and Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission as Required by IWA-4000 and IWA-6000,” December 12, 1994, as approved for use at WCGS by NRC letter dated February 9, 1996.
7. WCRE-11, “Containment Inservice Inspection Program Plan.”

BASES

ACTIONS (continued)

B.1

If the Required Action cannot be performed within the associated Completion Time, Required Action B.1 requires initiation of a Performance Improvement Request (PIR) immediately. As part of the initiation of the PIR, action shall be implemented in a timely manner to place the unit in a safe condition as determined by plant management. The PIR should provide an accurate description of the problem, the Required Action and associated Completion Time not complied with. The intent of this Required Action is to utilize the corrective action program to assure prompt attention and adequate management oversight to minimize the additional time the channel is inoperable.

TECHNICAL SURVEILLANCE REQUIRMENTS

TSR 3.7.7.1

A CHANNEL OPERATIONAL TEST (COT) of the surge tank level and flow instrumentation circuits that provide automatic isolation of the non-safety-related portions of the system assures that the channel components are capable of performing their design functions upon the initiation of a simulated or actual actuation signal. The Frequency of 184 days is reasonable, based on plant-specific operating experience, instrument reliability, and satisfactory performance trend.

TSR 3.7.7.2

A CHANNEL CALIBRATION of surge tank level and flow instrumentation circuits, which provide automatic isolation of the non-safety-related portion of the system, assures that the channels will respond, within the required range and accuracy necessary for the continued OPERABILITY of the circuit. The CHANNEL CALIBRATION must include all devices up to and including the associated automatic valves to provide complete testing of the required function. The 18 month Frequency is based upon the need to perform this TSR during shutdown conditions which minimizes the possibility of creating a plant transient during operation.

B 3.7 PLANT SYSTEMS

TR B 3.7.13 Emergency Exhaust System (EES) for Crane Operation – Fuel Building

BASES

BACKGROUND

A description of the EES is provided in the Bases for Technical Specification 3.7.13, "Emergency Exhaust System," (Ref. 1).

APPLICABLE SAFETY ANALYSES

The EES has a design function to filter radioactive particles which have been released as a result of a fuel handling accident. The OPERABILITY of the EES with respect to a fuel handling accident is addressed by Technical Specification 3.7.13 (Ref. 1). The dose consequences of dropping of a light load (i.e, load ≤ 2250 pounds) into the spent fuel pool storage area, which may result in partial damage to one or more irradiated fuel assembly(s) is less than the dose consequences of a fuel handling accident. Therefore, since the potential for damage exists which would result in the release of radioactive material, it is necessary for operational requirements to be in place to protect against the inadvertent release of radioactive materials to the environment. Heavy loads (i.e., loads in excess of 2250 pounds), with the exception of the spent fuel transfer gates, are prevented from being moved over fuel assemblies in the spent fuel storage facility by crane travel interlocks and physical stops. OPERABILITY requirements for crane travel interlocks and physical stops are specified in TR 3.7.17, "Crane Travel - Spent Fuel Storage Facility," (Ref. 2).

TR

Two independent and redundant trains of the EES are required to be OPERABLE to ensure that at least one train is available, assuming a single failure that disables the other train, coincident with the loss of offsite power. Total system failure could result in the atmospheric release from the fuel building. Such a release is not expected to exceed the guideline limits of 10 CFR 100 for the situation addressed by this TR.

The EES is considered OPERABLE when the individual components necessary to control releases from the fuel building are OPERABLE in both trains. An EES train is considered OPERABLE when its associated:

a. Fan is OPERABLE;

b. HEPA filter and charcoal adsorber are not excessively restricting flow, and are capable of performing their filtration function; and

B 3.7 PLANT SYSTEMS

TR B 3.7.17 Crane Travel - Spent Fuel Storage Facility

BASES

BACKGROUND

The fuel storage pool is a reinforced concrete structure with a stainless steel liner for leak tightness. Design of these storage racks is in accordance with Reference 1. The racks are designed to withstand the impact resulting from a falling fuel assembly under normal loading and unloading conditions. However, heavy loads (i.e., loads in excess of 2250 pounds) were not assumed to drop on fuel assemblies stored in the fuel storage racks. Therefore, crane travel over the fuel storage pool facility is limited through electrical and mechanical stops to prevent the movement of heavy objects, including shipping casks, over the fuel storage pool. The movement of casks and other heavy objects are restricted to the cask loading pool and areas away from the spent fuel pool. Requirements and restrictions associated with heavy load are provided in References 2 and 3. This TR applies to the spent fuel pool crane, the cask handling crane, and the auxiliary hoist, which are capable of moving loads in excess of 2250 pounds.

APPLICABLE SAFETY ANALYSES

The release of radioactive material from fuel may occur as a result of fuel-cladding damage caused by the dropping of a fuel assembly or the dropping of other objects onto fuel assemblies stored in the fuel storage pool. The restriction on the movement of loads in excess of the nominal weight of a fuel, control rod assembly, and the associated handling tool over other fuel assemblies in the fuel storage pool areas ensures that, in the event a load is dropped, the activity release will be limited to that contained in a single fuel assembly, and that any possible distortion of fuel in the storage racks will not result in a critical array (Ref. 4).

TR

This TR requires that loads greater than 2250 pounds be prohibited from travel over fuel assemblies within the fuel storage pool. This ensures that objects traversing the fuel storage pool are within the design basis and will minimize the potential of dropping of a heavy load onto the fuel. The fuel storage pool consists of the spent fuel pool and cask loading pool (with racks installed).

The TR is modified by a Note that allows the spent fuel transfer gates to be moved over fuel assemblies not containing rod cluster control assemblies (RCCAs) in the spent fuel pool. With a limited gate lift height of 12 inches above the top of the spent fuel storage racks, the racks will absorb the impact of a dropped transfer gate without damage to fuel assemblies. Redundant safety cables are used when moving the transfer

BASES

TR (continued)	gates to preclude dropping a gate on the spent fuel storage racks. The time and distance the transfer gates are moved over fuel assemblies is minimized as much as practical. The spent fuel transfer gates are typically moved for refueling activities, Fuel Handling System maintenance, and for replacement of transfer gate seals. (Ref. 5)
APPLICABILITY	This TR is applicable during crane or auxiliary hoist operation when fuel assemblies are in the fuel storage pool. If the spent fuel pool crane, cask handling crane, and auxiliary hoist are not in use, heavy loads cannot be moved over the fuel assemblies in the fuel storage pool.
ACTIONS	<u>A.1</u> If a load in excess of 2250 pounds is not prevented to traverse over fuel assemblies in the fuel storage pool when the crane or auxiliary hoist is in use, crane/hoist operation must immediately be suspended to ensure the assumptions of applicable safety analyses are maintained. Suspension of crane/auxiliary hoist movement shall not preclude completion of movement of a component to a safe position.
TECHNICAL SURVEILLANCE REQUIREMENTS	<u>TSR 3.7.17.1</u> This TSR demonstrates that the cranes and auxiliary hoists are prevented from travel over fuel assemblies in the fuel storage pool when loaded > 2250 pounds by use of interlocks and physical stops when installed or by Administrative controls when interlocks and/or physical stops are removed. This TSR demonstrates that the crane and auxiliary hoist interlocks and physical stops, when installed are OPERABLE for any crane in use and loaded > 2250 pounds to prevent movement of loads over fuel assemblies stored in the fuel storage pool. This TSR demonstrates that administrative controls are in place, when interlocks and/or physical stops are removed, to prevent movement of loads > 2250 pounds over fuel assemblies stored in the fuel storage pool. Administrative controls shall include: a. Crane and/or hoist operations are performed or monitored by personnel qualified to operate the crane and/or hoist who are aware of the restrictions of TR 3.7.17.

BASES

TECHNICAL SURVEILLANCE REQUIREMENTS	TSR 3.7.17.1 (continued) b. While the crane is unattended the crane is deenergized and not parked over the fuel storage pool. The surveillance must be performed on a 7 day Frequency during crane or auxiliary hoist operation. The Frequency of 7 days corresponds to ANSI B30.2, "Frequent Inspection for Heavy to Severe Service." This TSR includes interlocks and physical stops associated with the spent fuel pool crane, cask handling crane, and auxiliary hoist.
REFERENCES	1. Regulatory Guide 1.13. "Spent Fuel Storage Facility Design Basis," Revision 1, dated December 1975. 2. USAR, Sections 9.1.2 and 9.1.4. 3. NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants." 4. WCAP-1161, "MERITS Program-Phase II, Task 5, Criteria Application," including Addendum 1, dated April, 1989. 5. DCP 07484, "Spent Fuel Storage Expansion."

BASES

ACTIONS

B.1 (continued)

The Completion Time of 6 months has been assigned based upon industry practice.

C.1

If Required Actions and associated Completion Times of Condition A or B are not met, the supported system or component is immediately declared inoperable.

TECHNICAL SURVEILLANCE REQUIREMENTS

Surveillance Testing is performed in accordance with the applicable requirements of ASME Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components" (Ref. 1).

NRC letter dated June 2, 2006 (Ref. 10), approved the proposed alternative to use TRM, Section 3.7.20, for snubber visual inspection and functional testing in lieu of the applicable ASME Code requirements specified in Section XI, Article IWF-5000 for the third 10-year inservice inspection interval. The NRC safety evaluation specifies that changes to the TRM snubber visual inspection and functional testing requirements shall be submitted to the NRC for authorization pursuant to 10 CFR 50.55a(a)(3) or as an exemption pursuant to 10 CFR 50.12.

Permanent or other exemptions from the surveillance program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life destructive testing was performed to qualify the snubber for the applicable design conditions at either the completion of their fabrication or at a subsequent date. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

In order to establish the inspection frequency for each type of snubber on a safety related system, it was assumed that the frequency of snubber failures and initiating events is constant with time and that the failure of any snubber could cause the system to be unprotected and to result in failure during an assumed initiating event. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule.

BASES

TECHNICAL SURVEILLANCE REQUIREMENTS

TSR 3.7.20.1

TSR 3.7.20.1 comprises a visual inspection of the snubbers. A pre-fuel load visual inspection and functional test has been performed on each snubber using the acceptance criteria listed in Table TR 3.7.20-2. The baseline takes into account that the snubbers have experienced thermal cycling and normal operating service as a result of previous hot functional testing. The initial inservice inspection has been performed on the snubbers prior to completion of the first refueling outage. The frequency of subsequent surveillances depends on the number of snubbers found inoperable from each previous inspection as provided in Table TR 3.7.20-3 and the Inservice Inspection Program as described in TR 5.5.6. The acceptance criteria and corrective actions are listed in Table TR 3.7.20-2.

The visual inspections are designed to detect obvious indications of inoperability of the snubbers. Removal of insulation or direct contact with the snubbers is not required initially. However, suspected causes of inoperability are to be investigated and all snubbers of the same type and all snubbers subjected to the same failure mode are to be inspected more frequently.

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient and the number of unacceptable snubbers found during the previous inspection. As a result, the required inspection intervals vary inversely with the number of inoperable snubbers found during an inspection. If a snubber fails the visual acceptance criteria, the snubber is declared unacceptable and cannot be declared OPERABLE via functional testing. However, if the cause of rejection is understood and remedied for that type of snubber and for any other type of snubbers that may be generically susceptible and OPERABILITY verified by testing, that snubber may be reclassified acceptable for the purpose of establishing the next surveillance interval.

Snubbers may be categorized according to accessibility as noted in the Notes to Table TR 3.7.20-3. The accessibility of each snubber is determined based on radiation level as well as other factors such as temperature, atmosphere, location, etc. The recommendations of Regulatory Guide 8.8, "Information Relevant to Maintaining Occupational Radiation Exposure as Low a Practicable," (Ref. 7) and Regulatory Guide 8.10, "Operation Philosophy for Maintaining Occupational Radiation Exposure as Low as Practicable," (Ref. 8) are considered in planning and implementing the visual inspection program.

BASES

TECHNICAL SURVEILLANCE REQUIREMENTS

TSR 3.7.20.1 (continued)

Since the visual inspections are augmented by a functional testing program, the visual inspection need not be a hands on inspection, but shall require visual scrutiny sufficient to assure that fasteners or mountings for connecting the snubbers to supports or foundations have no visible bolts, pins or fasteners missing, or other visible signs of physical damage such as cracking or loosening.

TSR 3.7.20.2

This TSR is modified by a Note which restricts the performance of thisTSR to during periods of plant shutdown.

TSR 3.7.20.2 comprises the functional testing of snubbers. The testing for these snubbers have been separated into two sample plans as described in Table TR 3.7.20-4. Sample Plan 1.a (10%) is typically used for the snubbers with small population. Sample plan 1.b. (Figure TR 3.7.20-1) is typically used for snubbers with large population. Figure TR 3.7.20-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

The sample plan shall be selected prior to the test period and cannot be changed during the test period.

Snubber functional testing is performed to the requirements of Table TR 3.7.20-4 and performed prior to the completion of each refueling outage. The 18 month Frequency, in conjunction with the Note, is based on the need to perform this surveillance under the conditions that apply during a unit outage.

TSR 3.7.20.3

This TSR addresses the monitoring of the service life of the snubbers in accordance with the Snubber Service Life Program described in TR 5.5.5. The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions.

BASES

REFERENCES

1. ASME Boiler and Pressure Vessel Code, Section III and XI.

2. Regulatory Guide 1.124, "Design Limits and Loading Combinations for Class 1 Linear-Type Component Supports," Revision 1, January 1978.

3. Regulatory Guide 1.130, "Design Limits and Loading Combinations for Class 1 Plate-and Shell-Type Component Supports," Revision 1, October 1978.

4. "Zion Probabilistic Safety Study", Commonwealth Edison Company, September 1981.

5. "Millstone Unit 3 Probabilistic Safety Study," North-East Utilities Company, August 1983.

6. NRC Staff Review of Nuclear Steam Supply System Vendor Owners Groups' Application of the Commission's Interim Policy Statement Criteria to Standard Technical Specifications. Attachment to letter dated May 1988 from T. E. Murley, NRC to W. S. Wilgus, Chairman the B&W Owners Group.

7. Regulatory Guide 8.8, "Information Relevant to Maintaining Occupational Radiation Exposure as Low as Practicable."

8. Regulatory Guide 8.10, "Operating Philosophy for Maintaining Occupational Radiation Exposure as Low as Practicable."

9. WCAP-11618, "MERITS Program-Phase II, Task 5, Criteria Application," including Addendum 1 dated April, 1989, Section 3.7.9.

10. NRC letter (D. Terao to R. Muench) dated June 2, 2006, "Wolf Creek Generating Station – Relief Request I3R-03 for the Third 10-Year Interval Inservice Inspection and Examination of Snubbers (TAC NO. MC8571)."

BASES

APPLICABLE SAFETY ANALYSES (continued)	protective devices provide additional fault protection of the penetrations and help ensure that the design limits of the penetrations are not challenged. However, these overcurrent protective devices are not a structure, system, or component that is part of the primary success path and which actuates to mitigate a DBA or transient that either assumes a failure of or presents a challenge to the integrity of a fission product barrier (Ref. 2). The circuit limiting fault currents do not exceed the current capability of the protective devices, therefore, containment OPERABILITY is not challenged with an inoperable protective device. Containment OPERABILITY can only be challenged if a failed protective device results in an increase of leak rate.
TR	TR 3.8.11 requires that all containment penetration conductor overcurrent protective devices are OPERABLE. This assures that the design limits of the containment electrical penetrations will not be challenged as a result of electrical faults on the penetration conductors.
APPLICABILITY	The OPERABILITY of the containment penetration conductor overcurrent protection devices is required when the containment is required in MODES 1, 2, 3, and 4, when a DBA could cause a release of radioactive material into containment. In MODES 5, and 6 the probability and consequences of these events are reduced because of the pressure and temperature limitations of the MODES.
ACTIONS	A Note has been added to the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Technical Requirement may be entered independently for each affected protective device. The Completion Time(s) of the inoperable containment penetration conductor overcurrent protective device will be tracked separately for each affected device starting from the time the Condition was entered for that device as a result of discovery of an inoperable device. <u>A.1.1.1, A.1.1.2, A.1.2.1, A.1.2.2, and A.2</u> With one or more containment penetration conductor overcurrent protection devices inoperable, the circuit(s) associated with the inoperable protection device(s) must be placed in a condition that would preclude the possibility of a fault that could overload the circuit(s). To accomplish this the circuit is deenergized by either tripping the circuit's backup circuit breaker or by racking out, locking open, or removing the inoperable circuit breaker or protective device. Locking open the inoperable circuit breaker or protective device can only be accomplished

BASES

ACTIONS

A.1.1.1, A.1.1.2, A.1.2.1, A.1.2.2, and A.2 (continued)

with the use of a physical restraining lockout device. Use of a clearance order alone will not suffice for locking open the inoperable circuit breaker or protective device. (Ref. 3)

Since systems or components supplied by the affected circuit will no longer have power, they must be declared inoperable.

The 72 hour Completion Time takes into account the design of the electrical penetration for maximum fault current, the availability of backup circuit protection on the distribution system and the low probability of a DBA occurring during this period. This Completion Time is also considered reasonable to perform the necessary repairs or circuit alterations to restore or otherwise deenergize the affected circuit.

In order to assure that any electrical penetration which is not protected by an overcurrent device remains deenergized, it is necessary to periodically verify that its backup circuit breaker is tripped or that the inoperable circuit breaker or protective device is racked out, locked open, or removed. A Completion Time of once per 7 days is considered sufficient due to the infrequency of plant operations that could result in reenergizing a circuit that has been deenergized in this manner.

B.1

In the event that the Required Action and associated Completion Time are not met, Required Action B.1 requires initiation of a Performance Improvement Request (PIR) immediately to address why the containment penetration over current protective devices was not restored to OPERABLE status within the Completion Time. As part of the initiation of the PIR, action shall be implemented in a timely manner to place the unit in a safe condition as determined by plant management. The PIR should provide an accurate description of the problem, the Required Action and associated Completion Time not complied with. The intent of this Required Action is to utilize the corrective action program to assure prompt attention and adequate management oversight to minimize the additional time the protective device is inoperable.

TECHNICAL SURVEILLANCE REQUIREMENTS

TSR 3.8.11.1

This Surveillance requires the performance of a CHANNEL CALIBRATION on a sample of at least 10% of all protective relays associated with high voltage (13.8 kV) containment penetration overcurrent devices. A CHANNEL CALIBRATION assures that the relays

BASES

TECHNICAL SURVEILLANCE REQUIREMENTS (continued)

TSR 3.8.11.2

will be able to detect overcurrent conditions on the penetration conductors. The Frequency of 18 months is consistent with the typical industry refueling cycle.

This Surveillance requires the performance of an integrated system functional test on a sample of at least 10% of the 13.8kV circuit breakers which includes simulated automatic actuation of the system and verifying each relay and associated circuit breakers and control circuits function as designed. An integrated test assures that the individual elements of the protection schemes, the relays, breakers and other control circuits, interact as designed.

The Surveillance has been modified by a Note stating that if a failure is discovered in the integrated functional test, an additional representative sample of at least 10% of all circuit breakers of the inoperable type shall be functionally tested until no more failures are found or all circuit breakers of that type have been tested. The expansion of the test population ensures that a failure discovered in the representative sample was not caused by a failure mechanism that could systematically affect other breakers in the overall population of breakers of the same type.

The Frequency of 18 months is consistent with the typical industry refueling cycle.

TSR 3.8.11.3

This Surveillance requires the performance of a functional test on a representative sample of ≥ 10% of each type of lower voltage (i.e. less than 13.8 kV) circuit breaker used as penetration protection. This sample size is sufficiently large to represent the actual failure distribution within the whole population of circuit breakers of a given type used in the plant. Circuit breakers selected for functional testing shall be selected on a rotating basis.

A representative sample is determined based upon manufacturer's brand of circuit breaker. Each manufacturer's molded case and metal case circuit breakers are grouped into representative samples which are then tested on a rotating basis to ensure that all breakers are tested. If a wide variety exists within any manufacturer's brand of circuit breakers, it is necessary to divide that manufacturer's breakers into groups and treat each group as a separate type of breaker for surveillance purposes.

BASES

TECHNICAL SURVEILLANCE REQUIREMENTS

TSR 3.8.11.3 (continued)

This Surveillance has been modified by a Note, stating that for each circuit breaker found inoperable during these functional test, an additional representative sample of at least 10% of all circuit breakers of the inoperable type shall be functionally tested until no more failures are found or all circuit breakers of that type have been tested. The expansion of the test population ensure that a failure discovered in the representative sample was not caused by a failure mechanism that could systematically affect other breakers in the overall population of breakers of the same type.

All circuit breaker(s) rated under 13.8 kV found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation.

The functional tests required by TSR 3.8.11.3 shall consist of injecting a current in excess of the breaker's nominal setpoint and measuring the response time. The measured response time will be compared to the manufacturer's data to ensure that it is less than or equal to a value specified by the manufacturer.

If there are any failure mechanisms that could affect the OPERABILITY of the circuit breaker(s) they are likely to have occurred in the sample tested. The 18 month Frequency takes into consideration the infrequent operation of the breakers and their correspondingly low failure rate.

TSR 3.8.11.4

This Surveillance requires the inspection of each circuit breaker and the performance of procedures prepared in conjunction with the manufacturer's recommendations. By performance of recommended maintenance, the likelihood for the circuit breakers to become inoperable can be minimized. The 60 month Frequency takes into consideration the low frequency of operation of the circuit breakers and the low likelihood that operation and maintenance activities at the plant could adversely affect the OPERABILITY of the circuit breakers. The TSR is modified by a Note that excludes Siemens vacuum circuit breakers which are included in testing required by TSR 3.8.11.5.

BASES

TECHNICAL SURVEILLANCE REQUIREMENTS

TSR 3.8.11.5

This Surveillance requires the inspection of each circuit breaker and the performance of procedures prepared in conjunction with the manufacturer's recommendations. This TSR is modified by a Note indicating that the Surveillance is applicable only to Siemens vacuum circuit breakers. By performance of recommended maintenance, the likelihood for the circuit breakers to become inoperable can be minimized.

The 72 month Frequency is consistent with vendor recommended service times and takes into consideration the low frequency of operation of the circuit breakers and the low likelihood that operation and maintenance activities at the plant could adversely affect the OPERABILITY of the circuit breakers.

REFERENCES

1. Regulatory Guide 1.63, "Electric Penetration Assemblies in Containment Structures for Nuclear Power Plants," Revision 2.

2. WCAP-11618, "MERITS Program-Phase II, Task 5, Criteria Application," including Addendum 1 dated April, 1989.

3. Performance Improvement Request (PIR) 2005-3540.

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – Table of Contents			
i	14	DRR 02-1459	2/12/03
ii	25	DRR 05-1996	9/28/05
iii	21	DRR 04-1535	12/1/04
TAB – B 3.0 APPLICABILTY			
B 3.0-1	3	DRR 99-1581	12/18/99
B 3.0-2	3	DRR 99-1581	12/18/99
B 3.0-3	3	DRR 99-1581	12/18/99
B 3.0-4	20	DRR 04-1410	10/7/04
B 3.0-5	20	DRR 04-1410	10/7/04
B 3.0-6	20	DRR 04-1410	10/7/04
B 3.0-7	20	DRR 04-1410	10/7/04
B 3.0-8	20	DRR 04-1410	10/7/04
B 3.0-9	20	DRR 04-1410	10/7/04
B 3.0-10	20	DRR 04-1410	10/7/04
B 3.0-11	20	DRR 04-1410	10/7/04
B 3.0-12	20	DRR 04-1410	10/7/04
B 3.0-13	20	DRR 04-1410	10/7/04
B 3.0-14	20	DRR 04-1410	10/7/04
TAB – B 3.1 REACTIVITY CONTROL SYSTEMS			
B 3.1.7-1	3	DRR 99-1581	12/18/99
B 3.1.7-2	3	DRR 99-1581	12/18/99
B 3.1.7-3	3	DRR 99-1581	12/18/99
B 3.1.8-1	11	DRR 02-0412	4/5/02
B 3.1.8-2	11	DRR 02-0412	4/5/02
B 3.1.9-1	15	DRR 03-0861	7/10/03
B 3.1.9-2	8	DRR 01-0475	5/1/01
B 3.1.9-3	8	DRR 01-0475	5/1/01
B 3.1.9-4	8	DRR 01-0475	5/1/01
B 3.1.9-5	8	DRR 01-0475	5/1/01
B 3.1.9-6	28	DRR 06-1349	7/24/06
B 3.1.9-7	28	DRR 06-1349	7/24/06
B 3.1.9-8	3	DRR 99-1581	12/18/99
B 3.1.10-1	10	DRR 02-0122	2/28/02
B 3.1.10-2	10	DRR 02-0122	2/28/02
B 3.1.10-3	13	DRR 02-1063	9/26/02
B 3.1.10-4	17	DRR 04-0452	5/26/04
TAB – B 3.3 INSTRUMENTATION			
B 3.3.3-1	23	DRR 05-0708	4/20/05
B 3.3.3-2	25	DRR 05-1996	9/28/05
B 3.3.3-3	23	DRR 05-0708	4/20/05
B 3.3.3-4	28	DRR 06-1349	7/24/06
B 3.3.3-5	28	DRR 06-1349	7/24/06
B 3.3.3-6	28	DRR 06-1349	7/24/06
B 3.3.9-1	8	DRR 01-0475	5/1/01
B 3.3.9-2	3	DRR 99-1581	12/18/99
B 3.3.9-3	8	DRR 01-0475	5/1/01
B 3.3.9-4	8	DRR 01-0475	5/1/01
B 3.3.10-1	3	DRR 99-1581	12/18/99

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.3 INSTRUMENTATION (continued)			
B 3.3.10-2	3	DRR 99-1581	12/18/99
B 3.3.10-3	3	DRR 99-1581	12/18/99
B 3.3.11-1	3	DRR 99-1581	12/18/99
B 3.3.11-2	3	DRR 99-1581	12/18/99
B 3.3.11-3	3	DRR 99-1581	12/18/99
B 3.3.11-4	3	DRR 99-1581	12/18/99
B 3.3.11-5	3	DRR 99-1581	12/18/99
B 3.3.12-1	3	DRR 99-1581	12/18/99
B 3.3.12-2	19	DRR 04-1019	9/1/04
B 3.3.12-3	19	DRR 04-1019	9/1/04
B 3.3.13-1	23	DRR 05-0708	4/20/05
B 3.3.13-2	3	DRR 99-1581	12/18/99
B 3.3.13-3	3	DRR 99-1581	12/18/99
B 3.3.13-4	3	DRR 99-1581	12/18/99
B 3.3.14-1	3	DRR 99-1581	12/18/99
B 3.3.14-2	3	DRR 99-1581	12/18/99
B 3.3.14-3	17	DRR 04-0452	5/26/04
B 3.3.14-4	3	DRR 99-1581	12/18/99
B 3.3.15-1	3	DRR 99-1581	12/18/99
B 3.3.15-2	3	DRR 99-1581	12/18/99
B 3.3.15-3	3	DRR 99-1581	12/18/99
B 3.3.15-4	3	DRR 99-1581	12/18/99
B 3.3.16-1	3	DRR 99-1581	12/18/99
B 3.3.16-2	3	DRR 99-1581	12/18/99
B 3.3.16-3	3	DRR 99-1581	12/18/99
B 3.3.16-4	8	DRR 01-0475	5/1/01
B 3.3.16-5	13	DRR 02-1063	9/26/02
B 3.3.17-1	19	DRR 04-1019	9/1/04
B 3.3.17-2	3	DRR 99-1581	12/18/99
B 3.3.17-3	11	DRR 02-0412	4/5/02
B 3.3.17-4	11	DRR 02-0412	4/5/02
B 3.3.17-5	3	DRR 99-1581	12/18/99
B 3.3.18-1	14	DRR 02-1459	2/12/03
B 3.3.18-2	14	DRR 02-1459	2/12/03
B 3.3.18-3	26	DRR 06-0050	2/28/06
B 3.3.18-4	26	DRR 06-0050	2/28/06
B 3.3.18-5	26	DRR 06-0050	2/28/06
B 3.3.18-6	26	DRR 06-0050	2/28/06
B 3.3.18-7	26	DRR 06-0050	2/28/06
TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS)			
B 3.4.3-1	10	DRR 02-0122	2/28/02
B 3.4.3-2	10	DRR 02-0122	2/28/02
B 3.4.3-3	10	DRR 02-0122	2/28/02
B 3.4.3-4	10	DRR 02-0122	2/28/02
B 3.4.10-1	4	DRR 00-0148	4/24/00
B 3.4.10-2	13	DRR 02-1063	9/26/02
B 3.4.16-1	3	DRR 99-1581	12/18/99
B 3.4.16-2	3	DRR 99-1581	12/18/99
B 3.4.16-3	3	DRR 99-1581	12/18/99
B 3.4.17-1	3	DRR 99-1581	12/18/99

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.4 REACTOR COOLANT SYSTEM (RCS) (continued)			
B 3.4.17-2	27	DRR 06-0799	5/18/06
B 3.4.17-3	27	DRR 06-0799	5/18/06
B 3.4.17-4	27	DRR 06-0799	5/18/06
B 3.4.17-5	27	DRR 06-0799	5/18/06
B 3.4.18-1	3	DRR 99-1581	12/18/99
B 3.4.18-2	3	DRR 99-1581	12/18/99
B 3.4.18-3	3	DRR 99-1581	12/18/99
TAB – B 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)			
B 3.5.1-1	3	DRR 99-1581	12/18/99
B 3.5.1-2	3	DRR 99-1581	12/18/99
B 3.5.1-3	3	DRR 99-1581	12/18/99
TAB – B 3.6 CONTAINMENT SYSTEMS			
B 3.6.1-1	26	DRR 06-0050	2/28/06
B 3.6.1-2	17	DRR 04-0452	5/26/04
B 3.6.1-3	17	DRR 04-0452	5/26/04
B 3.6.1-4	17	DRR 04-0452	5/26/04
B 3.6.1-5	17	DRR 04-0452	5/26/04
B 3.6.1-6	17	DRR 04-0452	5/26/04
B 3.6.1-7	26	DRR 06-0050	2/28/06
TAB – B 3.7 PLANT SYSTEMS			
B 3.7.7-1	8	DRR 01-0475	5/1/01
B 3.7.7-2	8	DRR 01-0475	5/1/01
B 3.7.7-3	28	DRR 06-1349	7/24/06
B 3.7.7-4	8	DRR 01-0475	5/1/01
B 3.7.8-1	25	DRR 05-1996	9/28/05
B 3.7.8-2	25	DRR 05-1996	9/28/05
B 3.7.8-3	25	DRR 05-1996	9/28/05
B 3.7.13-1	26	DRR 06-0050	2/28/06
B 3.7.13-2	5	DRR 00-0958	8/17/00
B 3.7.13-3	3	DRR 99-1581	12/18/99
B 3.7.17-1	26	DRR 06-0050	2/28/06
B 3.7.17-2	26	DRR 06-0050	2/28/06
B 3.7.17-3	26	DRR 06-0050	2/28/06
B 3.7.19-1	5	DRR 00-0958	8/17/00
B 3.7.19-2	5	DRR 00-0958	8/17/00
B 3.7.19-3	5	DRR 00-0958	12/18/99
B 3.7.20-1	3	DRR 99-1581	12/18/99
B 3.7.20-2	3	DRR 99-1581	12/18/99
B 3.7.20-3	4	DRR 00-0148	4/24/00
B 3.7.20-4	29	DRR 06-1985	10/17/06
B 3.7.20-5	29	DRR 06-1985	10/17/06
B 3.7.20-6	29	DRR 06-1985	10/17/06
B 3.7.20-7	29	DRR 06-1985	10/17/06
B 3.7.21-1	3	DRR 99-1581	12/18/99
B 3.7.21-2	3	DRR 99-1581	12/18/99
B 3.7.21-3	3	DRR 99-1581	12/18/99
B 3.7.21-4	3	DRR 99-1581	12/18/99

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)
TAB – B 3.7 PLANT SYSTEMS (continued)			
B 3.7.22-1	3	DRR 99-1581	12/18/99
B 3.7.22-2	9	DRR 01-1236	9/19/01
B 3.7.22-3	3	DRR 99-1581	12/18/99
B 3.7.22-4	3	DRR 99-1581	12/18/99
B 3.7.23-1	21	DRR 04-1535	12/1/04
B 3.7.23-2	21	DRR 04-1535	12/1/04
B 3.7.23-3	21	DRR 04-1535	12/1/04
B 3.7.23-4	21	DRR 04-1535	12/1/04
B 3.7.23-5	21	DRR 04-1535	12/1/04
B 3.7.24-1	21	DRR 04-1535	12/1/04
B 3.7.24-2	21	DRR 04-1535	12/1/04
B 3.7.24-3	21	DRR 04-1535	12/1/04
B 3.7.24-4	21	DRR 04-1535	12/1/04
B 3.7.24.5	21	DRR 04-1535	12/1/04
B 3.7.24-6	21	DRR 04-1535	12/1/04
TAB – B 3.8 ELECTRICAL POWER SYSTEMS			
B 3.8.11-1	3	DRR 99-1581	12/18/99
B 3.8.11-2	27	DRR 06-0799	5/18/06
B 3.8.11-3	27	DRR 06-0799	5/18/06
B 3.8.11-4	27	DRR 06-0799	5/18/06
B 3.8.11-5	27	DRR 06-0799	5/18/06
B 3.8.11-6	27	DRR 06-0799	5/18/06
TAB – B 3.9 REFUELING OPERATIONS			
B 3.9.7-1	3	DRR 99-1581	12/18/99
B 3.9.7-2	3	DRR 99-1581	12/18/99
B 3.9.9-1	3	DRR 99-1581	12/18/99
B 3.9.9-2	3	DRR 99-1581	12/18/99
B 3.9.9-3	17	DRR 04-0452	5/26/04
TAB – B 3.10 EXPLOSIVE GAS AND STORAGE TANK RADIOACTIVITY MONITORING			
B 3.10.1-1	3	DRR 99-1581	12/18/99
B 3.10.1-2	3	DRR 99-1581	12/18/99
B 3.10.1-3	3	DRR 99-1581	12/18/99
B 3.10.2-1	3	DRR 99-1581	12/18/99
B 3.10.2-2	3	DRR 99-1581	12/18/99
B 3.10.2-3	3	DRR 99-1581	12/18/99
B 3.10.3-1	3	DRR 99-1581	12/18/99
B 3.10.3-2	3	DRR 99-1581	12/18/99
B 3.10.3-3	3	DRR 99-1581	12/18/99
B 3.10.3-4	3	DRR 99-1581	12/18/99

PAGE (1)	REVISION NO. (2)	CHANGE DOCUMENT (3)	DATE EFFECTIVE/ IMPLEMENTED (4)

Note 1 The page number is listed on the center of the bottom of each page.

Note 2 The revision number is listed in the lower right hand corner of each page. The Revision number will be page specific.

Note 3 The change document will be the document requesting the change. Therefore, the change document should be a DRR number in accordance with AP 26A-002.

Note 4 The date effective or implemented is the date the Technical Requirement Bases pages are issued by Document Control.