UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

July 28, 2003

Rick A. Muench, President and
Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
P.O. Box 411
Burlington, Kansas 66839

SUBJECT: WOLF CREEK GENERATING STATION - NRC INSPECTION REPORT 05000482/2003-007

Dear Mr. Muench:

On June 20, 2003, the NRC completed an inspection at your Wolf Creek Generating Station. The enclosed report documents the inspection findings, which were discussed on June 20 and 24, 2003, with Messrs. M. S. Larson, B. McKinney, respectively, and other members of your staff.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC has identified one finding of very low safety significance (Green). The finding did not present an immediate safety concern. Because of the very low significance and because you entered it into your corrective action program, the NRC is treating it as a noncited violation, consistent with Section VI.A of the Enforcement Policy. The noncited violation is described in the subject inspection report. If you contest the violation or significance of the noncited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Wolf Creek Generating Station facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Charles S. Marschall, Chief
Engineering and Maintenance Branch
Division of Reactor Safety

Docket: 50-482
License: NPF-42

Enclosure:
NRC Inspection Report
50-482/03-07

cc w/enclosure:
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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	50-482
License No.:	NPF-42
Report No:	05000482/2003007
Licensee:	Wolf Creek Nuclear Operating Corporation
	Wolf Creek Generating Station
Location:	1550 Oxen Lane NE Burlington, Kansas
Dates:	June 2-24, 2003
Lead Inspector:	L. E. Ellershaw, Senior Reactor Inspector, Engineering and Maintenance Branch
Inspectors:	P. A. Goldberg, Senior Reactor Inspector, Engineering and Maintenance Branch W. M. McNeill, Senior Reactor Inspector, Engineering and Maintenance Branch G. Miller, Reactor Inspector, Engineering and Maintenance Branch R. L. Nease, Senior Reactor Inspector, Engineering and Maintenance Branch C. J. Paulk, Senior Reactor Inspector, Engineering and Maintenance Branch
Accompanying Personnel:	D. R. Reinert, Engineering Associate J. Leivo, Contractor, Beckman and Associates
Approved By:	Charles S. Marschall, Chief Engineering and Maintenance Branch Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000482/2003007; 06/02-24/2003; Wolf Creek Generating Station; Evaluation of Changes, Tests, or Experiments, Heat Sink Performance, and Safety System Design and Performance Capability

The NRC conducted an inspection with six regional inspectors and one contractor. The inspection identified one green noncited violation. The significance of most findings is indicated by their color (green, white, yellow, red) using IMC 0609, "Significance Determination Process." Findings for which the significance determination process does not apply may be "green" or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

Cornerstone: Mitigating Systems

- Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," regarding internal flooding calculation FL-08, Revision 0. The calculation improperly credited 0.25 inch gaps under four doors for drainage of Room 3302, which contains vital Train B switchgear equipment. A walkdown of the room confirmed that the gaps were significantly less than the 0.25 inch assumed. Upon a postulated pipe break and subsequent flood in Room 3302, the water level in the room could increase to levels greater than analyzed, potentially affecting the vital equipment.

  The finding is greater than minor because it affects the mitigating systems cornerstone objective to ensure reliability and capability of systems that respond to flood hazards. Additionally, this finding is similar to Inspection Manual Chapter 0612, Appendix E, Example 3i. The licensee's engineering staff had to recalculate the maximum flood level in Room 3302 because Calculation FL-08, Revision 0, improperly credited drainage under doors. The team considered this finding to be of very low safety significance because it did not represent an actual loss of safety function since the new analysis demonstrated that the maximum flood level in Room 3302 (approximately 5 inches) would not damage the vital electrical equipment located in that room. Thus, the capability to safely shut down the plant would not be compromised. (Section 1R21.5)

Report Details

1. REACTOR SAFETY

Introduction

The NRC conducted an inspection to verify that the licensee adequately preserved the facility safety system design and performance capability and that the licensee preserved the initial design in subsequent modifications of the system selected for review. The scope of the review also included any necessary nonsafety-related structures, systems, and components that provided functions to support safety functions. This inspection also reviewed the licensee's programs and methods for monitoring the capability of the selected systems to perform the current design basis functions. This inspection verified aspects of the initiating events, mitigating systems, and barrier cornerstones.

The licensee based the probabilistic risk assessment model for the Wolf Creek Generating Station on the capability of the as-built safety systems to perform their intended safety functions successfully. The inspectors determined the area and scope of the inspection by reviewing the licensee's probabilistic risk analysis models to identify the most risk significant systems, structures, and components. The inspectors established this according to their ranking and potential contribution to dominant accident sequences and/or initiators. The inspectors also used a deterministic approach in the selection process by considering recent inspection history, recent problem area history, and all modifications developed and implemented.

The team reviewed in detail the component cooling water system. The primary review prompted parallel review and examination of support systems, such as, electrical power, instrumentation, and related structures and components.

The team assessed the adequacy of calculations, analyses, engineering processes, and engineering and operating practices that the licensee used for the selected safety system and the necessary support systems during normal, abnormal, and accident conditions. Acceptance criteria used by the NRC inspectors included NRC regulations, the technical specifications, applicable sections of the Updated Safety Analysis Report, applicable industry codes and standards, and industry initiatives implemented by the licensee's programs.

1R02 Evaluations of Changes, Tests, or Experiments (71111.02)

a. Inspection Scope

The team reviewed four licensee-performed 10 CFR 50.59 evaluations to verify that the licensee had appropriately considered the conditions under which the licensee may make changes to the facility or procedures or conduct tests or experiments without prior NRC approval. The licensee had performed only four evaluations since the last NRC inspection of 10 CFR 50.59 activities.

The team reviewed an additional 13 licensee-performed 10 CFR 50.59 screenings in which the licensee determined that evaluations were not required, to ensure that the licensee's exclusion of a full evaluation was consistent with the requirements of 10 CFR 50.59. The team also reviewed five licensee-performed 10 CFR 50.59 applicability determinations in which the licensee determined that screenings, as allowed by the regulations, were not required.

The team reviewed and evaluated the most recent licensee 10 CFR 50.59 program self assessment and 5 of the 28 corrective action documents written since the last NRC 10 CFR 59 inspection to determine whether the licensee conducted sufficient in-depth analyses of their program to allow for the identification and subsequent resolution of problems or deficiencies.

b. Findings

No findings of significance were identified.

1R07 Biennial Heat Sink Performance (71111.07B)

.1 Performance of Testing, Maintenance, and Inspection Activities

a. Inspection Scope

The team reviewed the licensee's test and cleaning methodology for the residual heat removal heat exchanger, the component cooling water heat exchanger, the positive displacement pump room coolers, and the safety injection pump room coolers. In addition, the team reviewed test data for the heat exchangers and design and vendor-supplied information to ensure that the heat exchangers were performing within their design bases. The team also reviewed the heat exchanger inspection and test results. Specifically, the team verified proper extrapolation of test conditions to design conditions, appropriate use of test instrumentation, and appropriate accounting for instrument inaccuracies. Further, the team verified that the licensee appropriately trended these inspection and test results, assessed the causes of the trends, and took necessary actions for any step changes in these trends. The team reviewed the methods and results of heat exchanger inspection and cleaning, and verified that the methods used to inspect and clean were consistent with industry standards and as-found results were appropriately dispositioned such that the final condition was acceptable.

b. Findings

No findings of significance were identified.

.2 Verification of Conditions and Operations Consistent with Design Bases

a. Inspection Scope

For the selected heat exchangers, the team verified that the licensee established heat sink and heat exchanger condition, operation, and test criteria were consistent with the

design assumptions. Specifically, the team reviewed the applicable calculations to ensure that the thermal performance test acceptance criteria for the heat exchangers were being applied consistently throughout the calculations. The team also verified that the appropriate acceptance values for fouling and tube plugging for the component cooling water heat exchangers remained consistent with the values used in the design-basis calculations. Finally, the team verified that the parameters measured during the thermal performance tests for the component cooling water heat exchangers were consistent with those assumed in the design bases.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The team verified that the licensee had entered significant heat exchanger/heat sink performance problems into the corrective action program.

b. Findings

No findings of significance were identified.

1R21 Safety System Design and Performance Capability (71111.21)

.1 System Requirements

a. Inspection Scope

The team inspected the following attributes of the component cooling water system: (1) process medium (water, steam, and air), (2) energy sources, (3) control systems, and (4) equipment protection. The team examined the procedural instructions to verify instructions as consistent with actions required to meet, prevent, and/or mitigate design basis accidents. The team also considered requirements and commitments identified in the Updated Safety Analysis Report, technical specifications, design basis documents, and plant drawings.

b. Findings

No findings of significance were identified.

.2 System Condition and Capability

a. Inspection Scope

The team reviewed the periodic testing procedures for the component cooling water system to verify that the licensee periodically verified the capability of the system. The

team also reviewed the system's operations by conducting system walkdowns; reviewing normal, abnormal, and emergency operating procedures; and reviewing the Final Safety Analysis Report, technical specifications, design calculations, drawings, and procedures.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The team reviewed a sample of component cooling water system problems identified by the licensee in the corrective action program to evaluate the effectiveness of corrective actions related to design issues. The sample included open and closed condition reports for the past three years and are listed in the attachment to this report. Inspection Procedure 71152, "Identification and Resolution of Problems," was used as guidance to perform this part of the inspection. Older condition reports that were identified while performing other areas of the inspection were also reviewed.

b. Issues and Findings

No findings of significance were identified.

.4 System Walkdowns

a. Inspection Scope

The team performed walkdowns of the accessible portions of the component cooling water system and required support systems. Inspectors focused on the installation and configuration of switchgear, motor control centers, manual transfer switches, field cabling, raceways, piping, components, and instruments. During the walkdowns, the team assessed:

- The placement of protective barriers and systems;
- The susceptibility to flooding, fire, or environmental conditions;
- The physical separation of trains and the provisions for seismic concerns;
- Accessibility and lighting for any required local operator action;
- The material condition and preservation of systems and equipment; and
- The conformance of the currently-installed system configurations to the design and licensing bases.

b. Findings

No findings of significance were identified.

.5 Design Review

a. Inspection Scope

The team reviewed the current as-built instrument and control, electrical, and mechanical design of the component cooling water system. These reviews included an examination of design assumptions, calculations, required system thermal-hydraulic performance, electrical power system performance, protective relaying, control logic, and instrument setpoints and uncertainties. The team also performed selected single-failure evaluations of individual components and circuits to determine the effects of such failures on the capability of the system to perform its design safety functions. The team also reviewed the licensee's calculations and methodology for ensuring the component cooling water system was protected against seismic, flooding, fire, and high energy line break events.

The team reviewed calculations, drawings, specifications, vendor documents, Final Safety Analysis Report, technical specifications, emergency operating procedures, and temporary and permanent modifications.

b. Findings

Introduction

The team identified a finding of very low safety significance involving a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the team identified that the assumptions used in Calculation FL-08, Revision 0 for the drainage of Room 3302 did not agree with the as-built condition of the plant.

Description

The team noted in Section 3.6.1.1 of the Wolf Creek Final Safety Analysis Report, that typically no credit is taken for drainage under doors. However, Calculation FL-08, Revision 0, stated that flow out under doors will be treated like flow out of a drain by assuming a 0.25 inch gap between the floor and the door. Although flooding calculations for most of the rooms analyzed in the calculation chose to ignore flow from under doors, the calculation for Room 3302 (Train "B", engineered safety features switchgear room) credited drainage under four doors each having 0.25 inch gaps between the bottom of the door and the floor of the room.

The team observed the engineered safety features switchgear rooms and verified that there were no gaps under doors 33011, 33023, and 32012. Additionally, the calculation took credit for drainage under door 33051. This door, however, sits on a 10-inch high curb, essentially permitting no drainage. The team determined that no credit from drainage out under doors could be assumed. During an internal flooding event, drainage of Room 3302 through the floor drains alone might not have removed enough water to prevent flooding of the safety-related electrical equipment.

In response to the team's concerns regarding the lack of gaps beneath the doors of the engineered safety features switchgear room, the licensee initiated Problem Identification Report (PIR) 2003-1868 on June 20, 2003.

Analysis

The team determined that this condition affected the mitigating systems cornerstone objective to limit the likelihood of a flooding event. The finding was greater than minor because the licensee's engineering staff had to re-perform the calculation to ensure that enough flood water would drain from the room to prevent flooding of the safety-related electrical equipment. Additionally, the team considered this finding more than minor since the finding was similar to Example 3.i of Appendix E of Manual Chapter 0612. The team also considered this finding to be of very low safety significance because it did not represent an actual loss of safety function since the new analysis demonstrated that the maximum flood level in Room 3302 (approximately 5 inches) would not damage the vital electrical equipment located in that room; thus, the capability to safely shut down the plant would not be compromised.

The team assessed this finding as green because it does not represent an actual loss of a safety function due to flooding. The licensee implemented corrective actions to address this issue.

Enforcement

10 CFR Part 50, Appendix B, Criterion III states that the design basis must be correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, the licensee did not correctly translate the design basis into the internal flooding calculations for engineered safety features Switchgear Room 3302. Gaps beneath doors 33023, 33011, 33051, and 32012 were not of adequate size. Consequently, the actual flood height in the room could have exceeded the value found in Calculation FL-08, Rev. 0. This could have resulted in a failure of electrical components in Room 3302.

Because of the very low safety significance of the finding and because the licensee entered this issue into their corrective action program as PIR 2003-1868, on June 20, 2003, the team considered this to be a noncited violation, consistent with Section VI.A.1 of the NRC Enforcement Policy. (NCV 05000482/2003007-01)

.6 Safety System Inspection and Testing

a. Inspection Scope

The team reviewed the program and procedures for testing and inspecting selected components in the component cooling water system. The review included the results of surveillance tests required by the technical specifications and selective review of Class 1E control circuits for capability to test system functions.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA2 Problem Identification and Resolution

During review of corrective actions, a minor violation for failure to identify and correct a condition adverse to quality was identified during the review of PIR 2001-2804. This PIR was initiated in response to a previous NRC inspection observation that the operating bands marked on the component cooling water control board temperature indicator did not correspond with the design documents. In response to that observation, licensee personnel initiated a PIR to correct the operating bands on the indicator. They failed, however, to identify that the condition adverse to quality was a human performance error in which directions for changing the indicator operating bands were omitted from the setpoint change request (EG 01 031). This caused the incorrect operating bands to be marked on the indicator. As a result of the failure to identify the condition adverse to quality, the licensee did not take actions to correct the human performance error.

Licensee personnel initiated PIR 2003-1802 to address the failure to identify and correct a condition adverse to quality.

4OA6 Management Meetings

Exit Meeting Summary

The team leader presented the inspection results in the areas of evaluations of changes, tests, or experiments, and safety system design and performance capability to Mr. M. S. Larson, Acting Plant Manager, and other members of licensee management and staff at the conclusion of the onsite inspection on June 20, 2003. Additionally, the biennial heat sink performance inspection results were telephonically presented to Mr. B. McKinney, Site Vice President, and other members of licensee management and staff on June 24, 2003. Licensee management acknowledged the inspection findings.

At the conclusion of each inspection results presentation, the team asked licensee management whether any materials examined during the inspection should be considered proprietary. Proprietary information was reviewed by the team and left with the licensee at the end of the inspection. The licensee identified that the team had no proprietary information.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee:

T. Anselmi, Manager, Design Engineering
S. Fellers, Licensing Engineer
B. McKinney, Site Vice President
K. Scherich, Director, Engineering
B. Smith, Supervisor, System Engineering
J. Stamm, Assistant to Director Engineering
S. Comstock - Inservice Test Engineer
S. Hedges - Integrated Plant Scheduling Manager
J. Gilmore - Scheduling Superintendent
B. Kopecky - Outage Superintendent
L. Brosch, Senior Operations Specialist
S. Chaudhuri, Senior Engineer
S. Collins, Floor and Equipment Drains System Engineer
M. Ferrel, Maintenance Rule Coordinator
D. Mosebey, Supervisor System Engineering
V. Quach, Senior Engineer
W. Selby, Acting Mechanical/Civil Engineering Supervisor
R. Traudt, Technical Staff Engineer
D. Womelsdorf, Component Cooling Water System Engineer

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000482/2003007-01	NCV	Failure to correctly translate a design basis into the internal flooding calculations for engineered safety feature Switchgear Room 3302; thus the assumptions used in Calculation FL-08 did not agree with the as-built condition of the plant.

DOCUMENTS REVIEWED

Procedures

AI 28A-011, “PIR Initiation,” Revision 3

AI 28A-012, “PIR Screening,” Revision 4

AI 28A-013, “PIR Evaluation, Action Plans, and Follow Up,” Revision 6

AP 28A-001, “Performance Improvement Request,” Revision 23

INC L-1000, “Calibration of Miscellaneous Loops,” Revision 9

INC C-1003, “Calibration of Transmitters,” Revision 7

STN IC-251, “Calibration of CCW to the Reactor Coolant Pump Flow Loop,” Revision 3

STS IC-508B, “Calibration of Refueling Water Storage Tank Level Instrumentation,” Revision 7

AP 25C-001, “WCGS Leak Reduction of Primary Coolant Sources Outside of Containment,” Revision 6

STS EG-100A, “Component Cooling Water Pumps A/C Inservice Pump Test,” Revision 19

STS EG-100B, “Component Cooling Water Pumps B/D Inservice Pump Test,” Revision 16

INC L-1000, “Calibration of Miscellaneous Loops,” Revision 9

AP 29B-002, “ASME Code Testing of Pumps and Valves,” Revision 4

AP 29B-003, “Surveillance Testing,” Revision 5

STN EG-001A, “Train A Component Cooling Water System Flow Verification,” Revision 1

STN EG-001B, “Train B Component Cooling Water System Flow Verification,” Revision 1

AP 23D-001, “Motor Operated Valve Program,” Revision 2

AP 23L-002, "Heat Exchanger Program," Revision 0

WCRE-09-EG, “IST Design Basis Document, System: EG,” Revision 1

WCOP-02, “Inservice Testing Program for Pumps and Valves,” Revision 12

STS KJ-001A, “Integrated D/G and Safeguards Actuation Test - Train A,” Revision 26

OFN SG-003, “Natural Events,” Revision 9

<u>Surveillance Test and Verification Procedures</u>

STN-EG-001B, “Train B Component Cooling Water System Flow Verification,” dated December 16, 1997

STN-PE-033, “CCW Heat Exchanger Performance Test,” dated March 24, 2002

STN-PE-036, “Safety Related Room Cooler Heat Transfer Verification and Performance Trending,” October 11, 2002

STN-PE-033, “CCW Heat Exchanger Performance Test,” October 1, 2000

STN-EG-001A, Train A Component Cooling Water System Flow Verification,” dated February 27, 1998

TMP-EN-173, “ESW Train B Post-LOCA Flow Balance,” dated October 19, 1994

TMP-EN-171, “ESW Train A Post-LOCA Flow Balance,” dated October 21, 1994

SU3-EJ02, “Residual Heat Removal System Preoperational Test Procedure,” dated April 29, 1984

STS VT-001, “Verification of OMN-1, MOV Exercise Requirements,” Revision 2

STN-100A, “Train A Component Cooling Water System Flow Verification Test Results,” December 16, 1997

Calculations

CN-PRRA-90-165-R1, Concurrent Initiating Events for Flooding, Revision 1

FL-05,“Control Building Flooding, Revision 1

J-EG47,“Stress Analysis of Instrument Lines System: EG - Component Cooling Water, Revision 2

LE-M-002, Flood Level in Aux. Bldg Rooms 1206 & 1207 due to Pipe Break, Revision 0

AN-96-126, Wolf Creek Generating Station Probabilistic Safety Assessment Flooding Analysis, Revision 0

E-H-8, System NB Protective Relays, Revision 5

F-2, Cable Sizing, Revision 0

F-3, Cable Sizing, Revision 4

XX-E-004, AC Motor Operated Valve Minimum Terminal Voltage, Revision 13

XX-E-006, AC System Analysis, Revision 5

XX-E-012, Safety-Related MCC Control Circuit Allowable Wire Lengths, Revision 1

J-K-EG01, Instrument Uncertainty Estimate and Safety Related Setpoints: System EG, Loops 1 & 2, Revision 1

J-K-EG03, Instrument Uncertainty Estimate and Safety Related Setpoints: System EG, Loop 62, Revision 1

J-K-GEN, Methodology for determination of instrument loop uncertainty estimates and safety related setpoints, Revision 0

J2C01, Accuracy: Pressure Transmitters, Rosemount 1153 Series B, Revision 1

J2F01, Accuracy of Standard Orifice Plates, Revision 0

J-435, Orifice Type Flow Elements, Revision 1

BN-20, “RWST Volumes/Level Setpoints,” Revision 2

BN-J-002, “Total Loop Uncertainty Calculation System BN, Loops 0930, 0931, 0932, and 0933,” Revision 0

M-EG-5, “Component Cooling Water System,” Revision 1

GL-03-W, “Auxiliary Building HVAC,” Revision 1

GL-03-W-W1-CN001, "Auxiliary Building HVAC," Revision 1, Change Notice 1

EG-M-032, “Component Cooling Water Heat Exchanger Performance During Normal Operations, Shutdown, and Post-LOCA Recirculation,” Revision 0

GL-M-002, “Aux Building Electrical Penetration Room Heat Load and Cooler Evaluation,” Revision 0

GL-04-W, "RHR Pump Rooms 1109 and 1111 Heat Loads." Revision 1

GG-MH-001, "Cooling Capacity of Spent Fuel Pool Pump Room Coolers at Low Flow Conditions," Revision 2

GF-01-W, "Cooling Load - Motor Driven Aux Feedwater Pump Rooms," Revision 0

GL-M-002, "Aux. Building Electrical Penetration room Heat Load and Cooler Evaluation," Revision 1

FL-01, “Flooding of the Auxiliary Building,” Revision 0

FL-02, “Flooding of the Aux Building Rms 1107-1114,” Revision 0

FL-06, “Auxiliary Building Flooding Due to Pipe Break,” Revision 0

FL-08, “Control Building Flooding,” Revision 0

FL-09, “Flooding of Individual Fuel Building Rooms,” Revision 0

FL-10, “Flooding of Diesel Building Rooms,” Revision 0

FL-11, “Auxiliary Building Penetration Rooms Flooding,” Revision 0

FL-12, “Control Building Flooding,” Revision 0

FL-13, “Auxiliary Building Area 5 Flooding,” Revision 0

FL-14, “Flooding of Control Building, Room 3501,” Revision 0

FL-16, “Flooding of Fuel Building Rooms,” Revision 0

Drawings

10466-J-04EG24(Q), Instrument Isometric Drawing CCW HX to RHR HX Flow, Revision 3

10466-J-110-0875-W05, Component Cooling Water System CCW Outlet to Reactor Coolant Pumps, Revision 0

D-76-81, Refueling Water Storage Tank, Revision 7

D-76-83, Details - Refueling Water Storage Tank, Revision 5

M-12EG02, Piping & Instrumentation Diagram Component Cooling Water System, Revision 16

WIP-J-12EG13A-00-A, Component Cooling Water System Containment Isolation Valves, Revision 0

M-15EG06, Hanger Location Drawing, Component Cooling Water System Auxiliary Building, Common Header, Revision 7

M-15EG07, Hanger Location Drawing, Component Cooling Water System Auxiliary Building, Common Header, Revision 12

M15EG03, Hanger Location Drawing, Component Cooling Water System, Auxiliary Building, “B” Train, Revision 11

CF-SP-43500-1, Residual Heat Removal Pump Seal Assembly, Revision H

500-VN49768, Pump Assembly, Revision 8

M-11EG01, System Flow Diagram, Component Cooling Water, Revision 1

M-11EG02, System Flow Diagram, Component Cooling Water, Revision 2

M-12EG01, Piping & Instrumentation Diagram, Component Cooling Water System, Revision 13

M-12EG02, Piping & Instrumentation Diagram, Component Cooling Water System, Revision 16

M-12EG03, Piping & Instrumentation Diagram, Component Cooling Water System, Revision 7
E-11005, List of Loads Supplied by Emergency Diesel Generator, Revision 24

E-11023, Relay Setting Tabulation and Coordination Curves, System NB, Sheet 1, Revision 4

E-11023, Relay Setting Tabulation and Coordination Curves, System NB, Sheet 2 Revision 4

E-11023, Relay Setting Tabulation and Coordination Curves, System NB, Sheet 11, Revision 0

E-11NB01, Lower Medium Voltage System Class 1E 4.16 kV Single Line Meter and Relay Diagram, Revision 1

E-11NB02, Lower Medium Voltage System Class 1E 4.16 kV Single Line Meter and Relay Diagram, Revision 1

E-11NG01, Low Voltage System Class 1E 480V Single Line Meter and Relay Diagram, Revision 8

E-11NG02, Low Voltage System Class 1E 480V Single Line Meter and Relay Diagram, Revision 7

E-12NF-1(Q), Load Shedding and Emergency Load Sequence Logic, Revision 2

E-13EG01A, Schematic Diagram, Component Cooling Water Pump A, Revision 3

E-13EG01B, Schematic Diagram, Component Cooling Water Pump C, Revision 2

E-13EG01C, Schematic Diagram, Component Cooling Water Pump B, Revision 0

E-13EG01D, Schematic Diagram, Component Cooling Water Pump D, Revision 1

E-13EG02, Schematic Diagram, EGLV0001, EGLV0002, Demineralized Water Makeup to CCW Surge Tank , Revision 2

E-13EG03, Schematic Diagram, EGRV0009, EGRV0010, Component Cooling Water Surge Tank Vent, Revision 1

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04857, Flow Transmitter EGFT0080 Over-ranged, Revision 0

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