

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

December 23, 2005

James J. Sheppard, President and Chief Executive Officer STP Nuclear Operating Company P.O. Box 289 Wadsworth, Texas 77483

SUBJECT: SOUTH TEXAS PROJECT - NRC SAFETY SYSTEM DESIGN AND PERFORMANCE CAPABILITY INSPECTION REPORT 05000498/2005008; 05000499/2005008

Dear Mr. Sheppard:

On December 2, 2005, the US Nuclear Regulatory Commission (NRC) completed an inspection at your South Texas Project, Units 1 and 2, facility. The enclosed integrated report documents the inspection findings which were discussed on December 2, 2005, with you and members of your staff.

The inspection examined activities conducted under your licenses as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your licenses. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made 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 J. Paulk, Chief Engineering Branch 1 Division of Reactor Safety

Dockets: 50-498; 50-499 Licenses: NPF-76; NPF-80 -2-

Enclosure: NRC Inspection Report 05000498/2005008; 05000499/2005008 w/Attachment: Supplemental Information

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION REGION IV

Dockets:	50-498, 50-499
Licenses:	NPF-76, NPF-80
Report No:	05000498/2005008;05000499/2005008
Licensee:	STP Nuclear Operating Company
Facility:	South Texas Project Electric Generating Station, Units 1 and 2
Location:	FM 521 - 8 miles west of Wadsworth Wadsworth, Texas 77483
Dates:	November 14 through December 2, 2005
Team Leader:	J. I. Tapia, P.E., Senior Reactor Inspector, Engineering Branch 1
Inspectors:	G. George, Reactor Inspector, Engineering Branch 1 B. Henderson, Reactor Inspector, Engineering Branch 1 D. Proulx, Senior Reactor Inspector, Engineering Branch 1
Accompanied by:	B. Smith, Nuclear Safety Professional Development Program J. Leivo, P.E., Contractor, Beckman & Assoc., Inc.
Approved By:	C. Paulk, Chief Engineering Branch 1 Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000498/2005-08, 05000499/2005-08; 11/14 -12/2/2005; South Texas Project, Units 1 and 2; Safety System Design and Performance Capability; Evaluations of Changes, Tests, or Experiments.

The report covered a 2-week period of inspection on site by a team of three region-based engineering inspectors and one consultant. No findings of significance were identified. 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.

A. <u>NRC-Identified and Self-Revealing Findings</u>

No findings of significance were identified.

B. Licensee-Identified Violations

No findings of significance were identified.

REPORT DETAILS

1. **REACTOR SAFETY**

Introduction

The NRC conducted an inspection to verify that licensee personnel adequately preserved the facility safety system design and performance capability and that licensee personnel preserved the initial design in subsequent modifications of the systems 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.

Licensee personnel based the probabilistic risk assessment model for the South Texas Project on the capability of the as-built safety systems to perform their intended safety functions successfully. The team 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 team established this according to their ranking and potential contribution to dominant accident sequences and/or initiators. The team 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 assessed the adequacy of calculations, analyses, engineering processes, and engineering and operating practices that licensee personnel used for the selected safety system and the necessary support systems during normal, abnormal, and accident conditions. Acceptance criteria used by the team included NRC regulations, the technical specifications, applicable sections of the Updated Final 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 inspected the effectiveness of the licensee's implementation of changes to facility structures, systems, and components, risk-significant normal and emergency operating procedures; test programs; and the updated final safety analysis reports in accordance with 10 CFR 50.59, "Changes, Tests, and Experiments." The team utilized Inspection Procedure 71111.02 for this inspection.

The minimum sample size for this procedure is 6 evaluations and 12 screenings. The team reviewed 9 licensee-performed 10 CFR 50.59 evaluations to verify that licensee personnel 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 team reviewed 13 licensee-performed 10 CFR 50.59 screenings, in

which the licensee personnel determined that evaluations were not required, to ensure that the exclusion of a full evaluation was consistent with the requirements of 10 CFR 50.59. The team selected evaluations and screenings in the cornerstones of initiating events, mitigating systems, and barrier integrity, with the majority of evaluations and screenings encompassing the mitigating systems cornerstone.

The team selectively reviewed the licensee's design modifications and supporting documents associated with replacement of underground cables serving the 480 Vac loads in the essential cooling water (ECW) intake structure, replacement of Class 1E 480 Vac motor control center buckets, and Class 1E 120 Vac inverters. The review focused on the potential impact of the changes on the design and licensing basis, and post-modification testing of the cable and inverters. The specific documents the team inspected are identified in the list of documents reviewed.

The team also reviewed and evaluated the most recent licensee 10 CFR 50.59 program self assessment to determine whether licensee personnel conducted sufficient in-depth analyses of their program to allow for the identification and subsequent resolution of problems or deficiencies. In addition, the team reviewed the licensee's self assessment plan to verify the licensee's program in resolving issues associated with the application of the 50.59 process.

b. Findings

No findings of significance were identified.

1R21 Safety System Design and Performance Capability (71111.21)

The minimum sample size for this procedure is one risk-significant system for mitigating an accident or maintaining barrier integrity. The team completed the required sample size by reviewing the ECW and the emergency electrical systems. The primary review prompted parallel review and examination of support systems, such as, power, instrumentation and controls, cooling and related structures and components.

.1 <u>System Requirements</u>

a. Inspection Scope

The team inspected the following attributes of the selected systems: (1) process medium (water, steam, air, electrical signal), (2) energy sources, (3) control systems, and (4) equipment protection. The team examined the procedural instructions to verify that instructions were consistent with actions required to meet, prevent, and/or mitigate design basis accidents. The team also considered requirements and commitments identified in the Updated Final Safety Analysis Report, technical specifications, design basis documents, and plant drawings. In conjunction with the primary review, a parallel review and examination of support systems and related structures and components were also conducted.

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 selected systems to verify that the capabilities of the systems were periodically verified. The team also reviewed system health reports, as well as a sample of the governing procedures and documentation for the control of calculations that were translated into values used in plant procedures. In addition, the team performed walkdowns of the selected systems to ascertain the material condition of the systems.

To assess the licensee's monitoring of the condition of underground cables, the team reviewed a sample of insulation resistance test procedures, test results, and trending for the power cable serving the 4160 Vac ECW pump motors and the power cable serving the 480 Vac motor control centers in the ECW intake structure. The team also reviewed a sample of surveillances of the 13.8/4.16 kV engineered safety features transformers. The specific documents the team inspected are identified in the list of documents reviewed.

The team also reviewed the operation of the systems by reviewing normal, abnormal, and emergency operating procedures. The review included the Updated Final Safety Analysis Reports, technical specifications, design calculations and drawings.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The team reviewed a sample of problems associated with the selected systems that were identified by licensee personnel in the corrective action program to evaluate the effectiveness of corrective actions related to design issues and aging hardware. The sample included open and closed condition reports and their disposition via maintenance work orders, or apparent cause evaluations, as documented in the licensee's corrective action program. The sample covered the past 3 years and the documents reviewed 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.

The team reviewed a sample of licensee condition reports involving electrical components and cable. The sample included conditions whereby cables in the underground duct bank to the ECW intake structure had become flooded, or had potential for flooding, and where the licensee had reported adverse trends of insulation

resistance for underground cable serving 480 Vac ECW loads. The specific condition reports the team inspected are identified in the list of documents reviewed.

b. Findings

No findings of significance were identified.

- .4 <u>System Walkdowns</u>
- a. <u>Inspection Scope</u>

The team performed walkdowns of the accessible portions of the selected systems. The team focused on the installation, configuration, and visible material condition of equipment and components. 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 operator action,

The material condition and preservation of systems and equipment, and

The conformance of the currently-installed system configuration to the design and licensing bases.

b. Findings

No findings of significance were identified.

- .5 <u>Design Review</u>
- a. Inspection Scope

The team reviewed the current as-built instrument and control, electrical, and mechanical design of the selected systems and support systems. These reviews included an examination of design assumptions, calculations, environmental qualifications, required system thermal-hydraulic performance, electrical power system performance, control logic, and instrument setpoints and uncertainties. The team assessed the adequacy of calculations, analyses, test procedures, and operating procedures that licensee personnel used during normal and accident conditions.

The team also reviewed the adequacy of the original system design to perform the design basis functions during normal, accident and post-accident conditions. The review included: design basis documents; specifications; reliability calculations; instrument uncertainty/setpoint calculations; uncertainty calculations related to

emergency operating instruction action levels; and schematic diagrams. The adequacy of the design and maintenance of selected support systems was also reviewed.

In the electrical design portion of the inspection, the team selectively reviewed:

- The calculations demonstrating that adequate voltage would be provided to the ECW pumps and motor-operated valves from the preferred (offsite) ac sources, and from the standby (onsite) diesel generator sources, under design basis conditions
- The calculations demonstrating that the ampacities of the underground feeder cables to the ECW pump motors and ECW motor control centers were adequate
- The calculations demonstrating that the electrical protection for the ECW pump motors and feeder cables, and screenwash booster pump motor thermal overload protection, were adequate, and would preclude premature trip.
- The calculation for sizing the Class 1E batteries and instrument bus inverters for both design basis and station blackout conditions.

The review was focused on the acceptability of design inputs, assumptions, and methodology used in the calculations, translation of values to and from dependent documents, and the degree of design margin demonstrated by the results and conclusions. The specific calculations the team inspected are identified in the list of documents reviewed.

b. Findings

No findings of significance were identified.

- 6. <u>Safety System Inspection and Testing</u>
- a. Inspection Scope

The team reviewed the program and procedures for testing and inspecting selected components for the selected systems and support systems. The review included the results of surveillance tests required by the technical specifications and a selective review of inservice tests.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

Exit Meeting Summary

The inspection findings were presented by the team leader during an exit meeting on December 2, 2005, to Mr. James J. Sheppard and other members of licensee management staff. The team leader confirmed that proprietary information, while reviewed, had not been retained by the team.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

- R. Aguilera, Radiological Manager, Radiological Engineering
- T. Bowman, Manager, Operations
- D. Dayton, Electrical System Engineer
- G. Jones, Instrumentation and Control Design Engineer
- E. Halpin, Vice President, Oversight
- E. Heacock, Electrical Design Engineer
- S. Head, Manager, Licensing
- J. Jump, Manager, Process Improvement Leadership Team
- Q. Lee, HVAC Design Engineer
- J. Loya, Licensing Engineer, 10 CFR 50.59
- M. McBurnett, Manager, Quality and Licensing
- M. Meier, General Manager, Station Support
- L. Merritt, HVAC System Engineer
- W. Mookhoek, Senior Engineer, Quality and Licensing
- G. Parkey, Vice President, Generation
- M. Prinz, Electrical System Engineer
- D. Rencurrel, Manager, Plant Engineering
- K. Regis, Essential Cooling Water System Engineer
- R. Savage, Senior Staff Specialist
- P. Schimpf, Motor Test Engineer
- W. Schultz, Mechanical Design Engineer
- J. Sheppard, President and CEO
- K. Taplett, Licensing Engineer
- D. Towler, Manager, Quality
- B. Weigand, Electrical Design Engineer
- D. Weigand, Fire Protection Engineer
- J. Winters, Maintenance Rule Coordinator
- D. Zink, Electrical Design Engineer

DOCUMENTS REVIEWED

Calculations

EC-5000, Voltage Regulation Study, Revision 12, 11/04/05

EC-5003-2, Cable Ampacity in Underground Ducts - Problems No. 5 through 10, Revision 8, 07/03/98

EC-5008, Class 1E Battery, Battery Charger and Inverter Sizing, Revision 13, 02/02/05.

EC-5014, Maximum Length of Control Cables/Class 1E and non-Class 1E, Revision 4, 10/21/99

EC-5029, 4.16 kV Switchgear Relay Setting. Revision 5

EC-5052, Degraded and Undervoltage Protection, Revision 5, 06/08/04

EC-5067, PSB-1 Test Results Analysis - Unit 1, Revision 0, 08/24/88

EC-5100, Standby Diesel Generator Transient Response Model, Revision 1, 04/07/00

MC-6472, DVAC Calculation for AC Motor MOVs, Revision 0, 10/21/99

3R289MC5633, Essential Cooling Water Pump Submergence, Revision 2

MC-6476, Jacket Water and Lube Oil Cooler Performance, Revision 0

MC-6498, STP Pond Program, Revision 0

MC-6498, Essential Cooling Pond Thermal Performance Analysis, Revision 1

SP130(105), ECW Pump Trip Forcing Functions with 2" and 1/2" Vacuum Breakers, Revision 0

MC-6288, ECW Trip Forcing Functions with Vacuum Breakers, Revision 1

ZC-7028, Loop Uncertainty Calculation for Essential Cooling Water Pump Discharge Temperatures, Revision 1

Engineering Evaluations

05-07071-4	05-07667-2	05-10323-1	01-19410-0
05-07303-6	05-08601-22		

Condition Reports

05-8601-0	05-10323-1	03-13839	05-09878	05-15209
05-8601-5	05-15263	03-18389	05-11548	05-15242
99-12591-1	05-15679	05-01384	05-11757	05-15317
02-16395-1	96-04859-20	05-01437	05-11882	05-15453
03-10793	97-18613	05-07067	05-12142	05-15685
03-15730-3				

Preventative Maintenance Work Orders (PMWO)

31904316	31915035	31926532	31934141
31911121	31919088		

Procedures

0PGP03-ZA-0090, Work Process Program, Revision 30

0PGP03-ZM-0028, Erection and Use of Temporary Scaffolding, Revision 11

0POP01-ZA-001, Plant Operations Department Administrative Guidelines, Revision 24

0POP02-EW-00001, Essential Cooling Water Operations, Revision 36

0POP09-AN-02M3, Annunciator Lampbox 2M03 Response Instructions, Revision 17

0POP09-AN-02M4, Annunciator Lampbox 2M04 Response Instructions, Revision 18

0PSP11-ZE-0001, Check Valve Inspection, Revision 9

0PEP07-ZE-0008, Non-Intrusive Check Valve Testing, Revision 5

0POP02-0001, Essential Cooling Water Operations, Revision36

0PMP05-PK-1000, Auxiliary ESF Transformer Test, Revision 7

0PMP05-PM-4800, Motor Control Center Maintenance, ITE Gould, Revision10

0PMP05-ZE-0201, Insulation Resistance and Overpotential Testing of Cables and Buses, Revision 8

0PMP05-ZE-0203, Insulation Resistance Testing 4.16K and 13.8K Volt Motors, Revision11

0PMP05-ZE-0203, Insulation Resistance Testing 4.16K and 13.8K Volt Motors, Revision10

0PMP05-ZE-0203, Insulation Resistance Testing 4.16K and 13.8K Volt Motors, Revision 9

Design Change Packages

DCP 98-687-13, Replace Obsolete Class 1E MCC E2A2 and E2A4 ,Motor Controller and Circuit Breaker Units, Revision 0

DCP 98-687-85, Replace the Overload Heaters for MCC E2A3, Revision 0

DCP 02-17395-12, Replace the Overload Heaters for MCC E1B1 Cubicle L3 and E1B1 Cubicle Q4, Revision 0

DCP 03-11137-9, Alternate Basket Assembly for the ECW Traveling Screen, Revision 0

DCP 04-11533-7, Revise High Alarm Setpoint N2EWPDSH6859, Revision 0

DCP 97-6297-85, EW Calculations, Revision 0

Attachment

DCP 05-52-192, Special Treatment Requirement Exemption for Actuator Spring for EWFV6934 Valve, Revision 0

DCP 04-168-194, Alternate Replacement for 1/2" Aluminum Bronze Ball Valve, Revision 0

DCP 04-5417-1, Class 1E Battery Charger Paralleling, Revision 0

DCP 04-5388-4, Install Diodes Across Battery Chargers E2D11-1 and E2D11-2 Alarm Relays, Revision 0

DCP 02-3305-6, Install New 480V Power Cables to Class 1E MCC E1A3 to Replace the Existing Deteriorating Power Cables, Revision 0

DCP 03-3600-03, Revise UFSAR Section 3.5.1.4 to Delete the Missle Barrier Function of the ECW Door and Add New 3.7.4 TRM Section for ECW System Intake Structure which Include Compensatory Measures to Restore the Door's Flooding Function, Revision13

DCP 04-1238-88, Replace the Class 1E NSSS Inverter Systems, Revision13

DCP 03-01705, Special Treatment Requirement Exemption for 1-1/2 inch X 2-1/2 inch ECW Relief Valves (ASME Class 3), Revision 1

DCP 03-15428, Alternate Repair Method for Backwash Arm of the ECW Self-Cleaning Strainer, Revision 2

DCP 04-02317, Open RTD in 'C' Phase of ECW Pump 1A Motor, Revision 2

DCP 05-07071, ECW Train 1B Piping Repair, Revision 3

Modification Packages,,

90075, Replace ECW Bellows to SBDG, Revision 0

<u>Drawings</u>

00000E0AAAA, Sheet 1, Revision 19, Single Line Diagram, Main One Line Diagram, Units 1 and 2

9-E-PKAA-01 #1, Revision 12, Single Line Diagram 4.16 kV Class 1E Switchgear E1A

9-E-PKAB-01 #1, Revision 13, Single Line Diagram 4.16 kV Class 1E Switchgear E1B

9-E-PKAC-01 #1, Revision 13, Single Line Diagram 4.16 kV Class 1E Switchgear E1C

9E0DJAA#1, Sheet 1, Revision 18, Single Line Diagram 125 Vdc Class 1E Distribution Switchboard E1A11 (Channel I)

9E0PLAA#1, Revision 16, Single Line Diagram 480V Class 1E Load Center E1A

9E0PLAB#1, Revision 14, Single Line Diagram 480V Class 1E Load Center E1B

9E0PLAC#1, Revision 16, Single Line Diagram 480V Class 1E Load Center E1C

9EPMAA-01 #1, Sheet 1, Revision 22, Single Line Diagram, 480V Class 1E Motor Control Center E1A1

9EPMAA-01 #1, Sheet 2, Revision 17, Single Line Diagram, 480V Class 1E Motor Control Center E1A1

9E0PMAB#1, Sheet 1, Revision 21, Single Line Diagram 480V Class 1E Motor Control Center E1A2

9E0PMAC#1, Sheet 1, Revision 13, Single Line Diagram 480V Class 1E Motor Control Center E1A3

9E0PMAD #1, Sheet 1, Revision 20, Single Line Diagram, 480V Class 1E Motor Control Center E1B1

9E0PMAD #1, Sheet 2, Revision 17, Single Line Diagram, 480V Class 1E Motor Control Center E1B1

9E0PMAE #1, Sheet 1, Revision 16, Single Line Diagram, 480V Class 1E Motor Control Center E1B2

9E0PMAF #1, Sheet 1, Revision 17, Single Line Diagram, 480V Class 1E Motor Control Center E1B3

Maintenance and Test Records

Startup Test Item 1PM01-117355, 480 Vac Motor Control Center, Power Cable PM LC-E1B1-4E to MC-E1B3-E1, performed 12/04/85

EM-1-97000386, Clean/Inspect/Test MCC E1B3, performed 05/18/05 [includes insulation resistance (Megger[™]) test of cables]

EM-1-98000559, PM Work Order, DC Step Voltage Test/Trend, ECW Pump 1C, performed 05/26/05

EM-2-EW-98000561, PM Work Order, DC Step Voltage Test/Trend, ECW Pump 2B, performed 05/26/05

EM-1-98000642, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 1A, performed 10/26/04

EM-1-EW-98000642, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 1A, performed 05/16/03

EM-1-EW- 98000642, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 1A, performed 04/16/02

EM-1-EW- 98000642, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 1A, performed 06/17/99

EM-1-98000643, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 1B, performed 05/20/05

EM-1-98000643, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 1B, performed 10/09/03

EM-1-EW-98000643, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 1B, performed 01/02/01

EM-1-EW-98000643, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 1B, performed 06/23/99

EM-1-98000644, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 1C, performed 05/26/05

EM-1-98000644, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 1C, performed 11/11/03

EM-1-EW-98000644, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 1C, performed 04/30/01

EM-1-EW-98000644, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 1C, performed 07/27/99

EM-1-98000645, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 2A, performed 05/19/04

EM-2-EW-98000645, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 2A, performed 06/20/03

EM-2-EW-98000645, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 2A, performed 02/26/01

EM-2-EW-98000645, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 2A, performed 02/03/99

EM-2-98000646, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 2B, performed 12/09/04

EM-2-EW-98000646, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 2B, performed 12/15/01

EM-2-EW-98000646, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 2B, performed 07/24/00

EM-2-EW-98000646, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 2B, performed 01/13/99

EM-2-98000647, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 2C, performed 05/04/04

EM-2-EW-98000647, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 2C, performed 10/21/02

EM-2-EW-98000647, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 2C, performed 07/31/01

EM-2-EW-98000647, PM Work Order, Inspect/Insulation Resistance/Polarization Index/Trend, ECW Pump 2C, performed 02/18/00

EM-2-PK-97000382, PM Work Order, Inspect/Test 13.8kV to 4160 Vac ESF Transformer E2A, performed 10/19/02

Miscellaneous Documents

DCN CD-226, Add Note to the Drawing to Allow Up to an Additional 2" of Limestone Ground Cover in the Protective Area, Revision 0

CR 05-11558, Request Civil Engineering Evaluate the Observed Conditions to Determine if Rework is Required to Meet the Design Criteria to Prevent Surface Water from Entering the Manholes, Revision 0

PCF 101343 A, Remove Check Valve Internals, Revision 0

5R289MB1006, UFSAR Essential Cooling Water System, pages 4-139 to 4-143, Revision 5

IRAGs 50.59, Programs Self-Assessment Plan, Revision 0

SPR 910401, Corrective Action Group Closure Documentation Checklist, Revision 0

USQE 97-6297-7, Engineering Evaluation for Abandonment of 150 Ton Essential Chillers, Revision 0

01-9518-6, USFAR Change 01-9518-5 Increase in Pressurizer Water Level Above Program in Mode 3, Revision 0

USQE 99-66-64, Replace Model E SG UFSAR Section 6.2.1 Containment LOCA/MSLB Pressure/Temperature Analyses with Delta-94 SG Analyses, Revision 0

01-10770-2, Change UFSAR and Tech Spec to Reflect Rod Withdrawal Analysis Result, Revision 11

01-14284-6, Change UFSAR Chapter 15 for OPDT/OTDT 2-second Time Constant Modification, Revision13

02-19072-34, Unit 2 Main Turbine Generator Rotor Torsional Response Test, Revision 0

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NOC-AE-05001894, "Request for Relief from ASME Boiler and Pressure Vessel Code" NOC-AE-05001999, "Request for Relief from ASME Boiler and Pressure Vessel Code" NOC-AE-05001819, "Request for Relief from ASME Boiler and Pressure Vessel Code"

PM 05000352 Information Form, printed 11/15/2005 [preventive maintenance requirements for inverter 3E241EIV1201]

PM 05000358 Information Form, printed 11/15/2005 [preventive maintenance requirements for inverter 3E241EIV1201 electrolytic capacitor replacement]

4E510EQ1005, Revision 8, "Design Criteria for Class 1E AC Power Distribution," including DCN 0300042.

EMT917.03, Basic Test Equipment, Insulation Resistance and High Potential Testers [training package for EMTs].

Setpoint Index Record Print Out 11/30/05, for ECW MOVs 0121,0137, 015; and ECW screenwash booster Pumps 1A, 1B, 1C.

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