UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 E. LAMAR BLVD
ARLINGTON TX 76011-4511

April 22, 2016

Mr. Dennis L. Koehl
President and CEO
STP Nuclear Operating Company
P.O. Box 289
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT, UNITS 1 AND 2 – DESIGN BASES INSPECTION (PROGRAMS) REPORT 05000498/2016008 and 05000499/2016008

Dear Mr. Koehl:

On March 24, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the South Texas Project, Units 1 and 2. The NRC inspectors discussed the results of this inspection with Mr. G.T. Powell and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

The NRC inspectors did not identify any findings or violations of more than minor significance.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice and Procedure," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management 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/

Thomas R. Farnholtz, Chief
Engineering Branch 1
Division of Reactor Safety

Docket Nos. 05000498, 05000499
License Nos. NPF-76, NPF-80

Enclosure: NRC Inspection Report
05000498/2016008 and 05000499/2016008
w/Attachment: Supplemental Information

Electronic Distribution for South Texas Project

April 22, 2016

Mr. Dennis L. Koehl
President and CEO
STP Nuclear Operating Company
P.O. Box 289
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT, UNITS 1 AND 2 – DESIGN BASES INSPECTION (PROGRAMS) REPORT 05000498/2016008 and 05000499/2016008

Dear Mr. Koehl:

On March 24, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the South Texas Project, Units 1 and 2. The NRC inspectors discussed the results of this inspection with Mr. G.T. Powell and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

The NRC inspectors did not identify any findings or violations of more than minor significance.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice and Procedure," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management 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/

Thomas R. Farnholtz, Chief
Engineering Branch 1
Division of Reactor Safety

Docket Nos. 05000498, 05000499
License Nos. NPF-76, NPF-80

Enclosure: NRC Inspection Report
05000498/2016008 and 05000499/2016008
w/Attachment: Supplemental Information

Electronic Distribution for South Texas Project

Distribution:
See next page

ADAMS ACCESSION NUMBER: ML16113A269

☒ SUNSI Review By: GAG		ADAMS ☒ Yes ☐ No	☒ Publicly Available ☐ Non-Publicly Available		☒ Non-Sensitive ☐ Sensitive		Keyword: NRC-002
OFFICE	C:DRP-B	RI:EB1:RII	RI:EB1	SRI:EB1	C:EB1		
NAME	NTaylor	MRiley	MWilliams	GGeorge	TFarnholtz		
SIGNATURE	***/RA/***	***/RA/E-mail***	***/RA/E-mail***	***/RA/***	***/RA/***		
DATE	4/8/16	4/6/16	4/6/16	4/8/16	4/22/16		

OFFICIAL RECORD COPY

Letter to Dennis L. Koehl from Thomas R. Farnholtz dated April 22, 2016

SUBJECT: SOUTH TEXAS PROJECT, UNITS 1 AND 2 – DESIGN BASES INSPECTION (PROGRAMS) REPORT 05000498/2016008 and 05000499/2016008

Distribution w/enclosure:
Regional Administrator (Marc.Dapas@nrc.gov)
Deputy Regional Administrator (Kriss.Kennedy@nrc.gov)
DRP Director (Troy.Pruett@nrc.gov)
DRP Deputy Director (Ryan.Lantz@nrc.gov)
DRS Director (Anton.Vegel@nrc.gov)
DRS Deputy Director (Jeff.Clark@nrc.gov)
Senior Resident Inspector (Alfred.Sanchez@nrc.gov)
Resident Inspector (Nicholas.Hernandez@nrc.gov)
Branch Chief, DRP/B (Nick.Taylor@nrc.gov)
Senior Project Engineer, DRP/B (David.Proulx@nrc.gov)
Project Engineer, DRP/B (Shawn.Money@nrc.gov)
STP Administrative Assistant (Lynn.Wright@nrc.gov)
Public Affairs Officer (Victor.Dricks@nrc.gov)
Project Manager (Lisa.Regner@nrc.gov)
Team Leader, DRS/IPAT (Thomas.Hipschman@nrc.gov)
RITS Coordinator (Marisa.Herrera@nrc.gov)
ACES (R4Enforcement.Resource@nrc.gov)
Regional Counsel (Karla.Fuller@nrc.gov)
Technical Support Assistant (Loretta.Williams@nrc.gov)
Senior Congressional Affairs Officer (Jenny.Weil@nrc.gov)
RIV Congressional Affairs Officer (Angel.Moreno@nrc.gov)
RIV/ETA: OEDO (Jeremy.Bowen@nrc.gov)

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000498, 05000499
License:	NPF-76, NPF-80
Report Nos.:	05000498/2016008, 05000499/2016008
Licensee:	STP Nuclear Operating Company
Facility:	South Texas Project
Location:	FM 521 - 8 miles west of Wadsworth
Dates:	March 21 through March 24, 2016
Team Leader:	G. George, Senior Reactor Inspector, Division of Reactor Safety, Engineering Branch 1, Region IV
Inspectors:	M. Riley, Reactor Inspector, Division of Reactor Safety, Engineering Branch 1, Region II M. Williams, Reactor Inspector, Division of Reactor Safety, Engineering Branch 1, Region IV
Accompanying Personnel:	J. Isom, Senior Reactor Operations Engineer, Division of Inspection and Regional Support, Reactor Inspection Branch, Office of Nuclear Reactor Regulation
Approved By:	Thomas R. Farnholtz, Branch Chief, Division of Reactor Safety, Engineering Branch 1, Region IV

SUMMARY

IR 05000498/2016008, 0500499/2016008; 03/21/2016 – 03/24/2016; South Texas Project, Units 1 and 2; baseline inspection, NRC Inspection Procedure 71111.21N, “Design Bases Inspection (Programs).”

The inspection activities described in this report were performed between March 21, 2016, and March 24, 2016, by three inspectors from the NRC’s Region II and Region IV offices. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, “Reactor Oversight Process.”

No findings were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones:Initiating Events, Mitigating Systems, and Barrier Integrity

1R21 Component Design Basis Inspection (71111.21)

a. Inspection Scope

The inspection team performed a pilot inspection conducted as outlined in NRC Inspection Procedure (IP) 71111.21N, Attachment 1, "Environmental Qualification under 10 CFR 50.49 Programs, Processes, and Procedures." The team assessed South Texas Project's implementation of the environmental qualification program as required by 10 CFR 50.49, "Environmental qualification of electric equipment important to safety for nuclear power plants." The team evaluated whether South Texas Project staff properly maintained the environmental qualification of electrical equipment important to safety throughout plant life, established and maintained required environmental qualification documentation records, and implemented an effective corrective action program to identify and correct environmental qualification related deficiencies.

The inspection included review of environmental qualification program procedures, component environmental qualification files, environmental qualification test records, equipment maintenance and operating history, maintenance and operating procedures, vendor documents, design documents, and calculations. The team interviewed program owners, engineers, maintenance staff, and warehouse staff. The team performed in-plant walkdowns (where accessible) to verify equipment was installed as described in South Texas Project's environmental qualification component documentation files; and that the components were installed in their tested configuration. Additionally, the team performed in-plant walkdowns to determine whether equipment surrounding the components could fail in a manner that could prevent the safety functions of the components, and to verify that components located in areas susceptible to a high energy line break were properly evaluated for operation in a harsh environment. The team reviewed and inspected the storage of replacement parts and associated procurement records to verify environmental qualification parts approved for installation in the plant were properly identified and controlled, and that storage and environmental conditions did not adversely affect the components' qualified lives. Documents reviewed for this inspection are listed in the Attachment.

The inspection procedure requires the team to select 6 to 10 components to assess the adequacy of the environmental qualification program. The team selected 7 components for this inspection. Component samples selected for this inspection are listed below:

- A1SIMOV0016A, containment emergency sump 1A to safety injection train A pump suction isolation motor operated valve operator

- 3V141VFN003, isolation valve cubicle train C auxiliary feedwater pump cubicle ventilation supply fan 11C

- B1SILT0932, refueling water storage tank level transmitter
- A1RHMOV0061C, residual heat removal pump 1C suction motor operated valve operator
- D1AFSY7537, Terry© turbine trip solenoid valve
- C2HCPT9760, reactor containment building pressure transmitter
- 2N121NPA101A, high head safety injection pump 1A

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

4OA2 Problem Identification and Resolution

a. Inspection Scope

The team reviewed a sample of issues which were previously identified and entered into the corrective action program. The team reviewed these issues to verify an appropriate threshold for identifying issues and to evaluate the effectiveness of corrective actions. In addition, condition reports written on issues identified during the inspection were reviewed to verify adequate problem identification and incorporation of the problem into the corrective action program. The specific condition reports that were sampled and reviewed by the team are listed in the Attachment.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On March 24, 2016, the inspectors presented the final inspection results to G.T. Powell, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

J. Atkins, Manager, Systems Engineering
M. Berg, Manager, Design Engineering/Test Programs
D. Chamberlain, Supervisor, Design Engineering
F. Comeaux, Engineer, Design Engineering
J. Connolly, General Manager, Engineering
J.B. Cook, Design Coordinator
S. Flaherty, Manager, Staff Support & Owner Liason
C. Georgeson, Supervisor, Design Engineering
M. Foster, Supervisor, Operations Support – Procedures
K. Frazier, Supervisor, System Engineering
R. Kersey, Engineer, Design Engineering
J. Konchak, Engineer, Design Engineering
G. Jonro Jr., Engineer, Design Engineering
B. Lane, Manager, Operations, Integrated Work Management & Outage
H. Leon, Engineer, Design Engineering
G. Lewis, Manager, Administration and Technical Support
T. Maxey, Engineer, Design Engineering
M. Murray, Manager, Regulatory Affairs/Licensing
G.T. Powell, Site Vice President
P. Reis, Supervisor, Material Handling
J. Rocha, Supervisor, Design Engineering
S. Rodgers, Risk Management
D. Rohan, Operations Support – Procedures
T. Russell, Engineer, Design Engineering
R.D. Savage, Engineer Specialist/Licensing Consultant, Licensing
G.E. Schinzel, Supervisor, Design Engineering
W. Schulz, Engineer, Design Engineering
L. Sterling, Supervisor, Licensing
D. Tran, Engineer, Design Engineering

NRC Personnel

A. Sanchez, Senior Resident Inspector
N. Hernandez, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Open and Closed

None

LIST OF DOCUMENTS REVIEWED

Calculations

Number	Title	Revision/Date
NC9004-1	Post LOCA RAD ZONES	August 5, 1991
ZC-7024	LOOP Uncertainty Calculation for RWST Level Monitoring Instrumentation	4
E43321	Qualified Life of Selected Rosemount Transmitters	5
DCN EQ 159	Incorporate Results of Calc E-4332-1	3
EQ-AE2-1	Qualified Life of Westinghouse (NSSS) Large Pump Motors [4000/8000 (AE-2)]	April 27, 1987

Design Change Packages

Number	Title	Revision/Date
15-5857-7	Remove the vibration monitoring equipment from LHSI pump 1A and HHSI pump 1A	February 3, 2016
11-8385-1	Determine which Abnormal Temperature is applicable to room 008 and room 104	28
05-3606-2	Room 104 and Room 008 are being Grouped Together for Equipment Qualification	28

Procedures

Number	Title	Revision
0PDP01-ZE-0002	Environmental Equipment Qualification Program	4
0PGP03-ZM-0002	Preventive Maintenance Program	39
0PGP04-ZA-0002	Condition Report Engineering Evaluation	23
0PNP01-ZP-0010	Shelf Life	5

Procedures

Number	Title	Revision
0PNP01-ZP-0033	Marking, Handling, Storing, Maintenance of Materials and Access Control	9
4E019NQ1009	Environmental Qualification Program	13

Drawings

Number	Title	Revision
5S149Z40139 #1	AFWP Turbine Trip Solenoid Logic Diagram System	7
9E0AF02 #1	Elementary Diagram Aux Feedwater Pump 14 Turbine Trip Solenoid SY-7537	7
9E0AF09 #1	Elementary Diagram Aux Feedwater Pump 14 Turbine Trip & Throttle Valve MOV-0514	16
9E0RH02 #1	Elementary Diagram RHR Inlet Isolation MOV's 0061A, 0061B, & 0061C	21

Vendor Technical Document

Number	Title	Revision
VTD-G153-0001	Operating Instructions for Easy Flow Body Combined Gimpel Trip & Throttle Valve	1
VTD-I204-0031	Installation and Operational Manual Model 752 Differential Pressure Electronic Transmitter	0
VTD-J127-0002	Installation and Maintenance Manual Series 800/1000/2000/3000 Axivane Fans Adjustable Pitch Direct Connected Single and 2 Stage Axial Flow Fans	2
VTD-P025-0004	Pacific (Flowserve) 17-Stage 6x10 WYRF Pumps Vendor Manual for High Head Safety Injection Pumps	2
VTD-W120-0108	Large AC Motors - Life Line D Vertical Induction Motors, Frames 5000, 5800, 6800, Weather Protected Type I, Type II	5

Condition Reports

96-1875-2	10-18686-5	11-10925	10-18686	12-28613
15-20775	15-20776			

Condition Reports Generated During the Inspection

16-3983	16-4080	16-4084	16-4136	16-4145
16-4147	16-4225	16-4226	16-4275	16-4301
16-4303	16-4306	16-4343	16-4365	16-4419
16-4424	16-3983	16-4226	16-4225	

Work Orders

478019	547454	507211	547279	66846
66848				

Miscellaneous

Number	Title	Revision/Date
3S149MS0043	Equipment Specification/Auxiliary Feedwater Pumps	6
4E019NQ1009	Design Criteria for Equipment Qualification Program	December 31, 2015
Evaluation 501-47082	Lubricant, Oil, Circulating, ISO VG 68, Mobil DTE Heavy Medium	April 3, 1996
RIR 110999	PQ Receipt Inspection Report Purchase Order 142863	September 19, 2011

Environmental Qualification Test Reports

Number	Title	Revision/Date
022001-00274-AWN	Nuc. Pwr. Sta. Qual. Type Test Report. Limitorque Valve Actuators with type LR motor	July 10, 1991
14926-4053-00036-CBT	Equipment Qualification Equipment Qualification Report for Auxiliary Feed Water Pump Drive Turbine Control Panel & Accessories	3
14926-4053-0041-ABT	Equipment Qualification Report for Auxiliary Feed Water Pump Drive Turbine Control Panel & Accessories	3
14926-8053-00036-ABT	Equipment Qualification Report for GS-2N RCIC Turbine Electrical Accessories and Electronic Control System	January 20, 1987
14926-9999(1)00046-DWN	EQTR-A02A, Westinghouse LMD Motor Insulation	December 4, 1985
4129-00018MN	Type Test Report for Pressure Transmitter Model 1153 Series B & D	A
4332-00003RX	Pressure Transmitters Rosemount Model 1153 Series D	D
9999-0100011WN	Barton Differential Pressure Transmitters – Qualification Group B	December 12, 1985
WCAP-8687, SUPP 2-HOLA	Equipment Qualification Test Report for Limitorque Motor Operator	1

Environmental Qualification Data Packages

Number	Title	Revision/Date
EQDP-HE-1	Safety Related Limitorque Motor Operators	3
14926-9999(1)00045-DWN	EQDP-AE-2 Large Pump Motors	December 4, 1985
9999-0100010WN	Differential Pressure Transmitters: Qualification Group B	December 12, 1985

Environmental Qualification Checklist Packages

Number	Title	Revision
EQCPBARTONU2	Barton	2
EQCPLIMITORQUE	Limitorque Motor Operators	2
EQCPOKONITE	600 Volts Control and Power Cable	0
EQCPRAYCHEM	Cable Termination Material	4
EQCPRELIANCE	Electric Motors	0
EQCPROSEMOUNT	Rosemount Nuclear Transmitters	4
EQCPWECMOTOR	Westinghouse Motor	1
STI #113097	Trombetta trip solenoid	0