



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

March 01, 2022

Mr. G T Powell, President and CEO
STP Nuclear Operating Company
P.O. Box 289
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT – DESIGN BASIS ASSURANCE INSPECTION
(PROGRAMS) INSPECTION REPORT 05000498/2022011 AND
05000499/2022011

Dear Mr. Powell:

On February 10, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at South Texas Project and discussed the results of this inspection with Ms. K. Harshaw, Executive Vice President and CNO and other members of your staff. The results of this inspection are documented in the enclosed report.

No findings or violations of more than minor significance were identified during this inspection.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

Vincent G. Gaddy, Chief
Engineering Branch 1
Division of Reactor Safety

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

Enclosure:
As stated

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SOUTH TEXAS PROJECT – DESIGN BASIS ASSURANCE INSPECTION (PROGRAMS)
 INSPECTION REPORT 05000498/2022011 AND 05000499/2022011- DATED March 01, 2022

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By: WCS ☒ Yes ☐ No ☒ Publicly Available ☐ Sensitive Keyword: NRC-002

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers: 05000498 and 05000499

License Numbers: NPF-76 and NPF-80

Report Numbers: 05000498/2022011 and 05000499/2022011

Enterprise Identifier: I-2022-011-0007

Licensee: STP Nuclear Operating Company

Facility: South Texas Project

Location: Wadsworth, TX

Inspection Dates: January 24, 2022 to February 10, 2022

Inspectors: J. Braisted, Reactor Inspector
D. Reinert, Reactor Inspector
W. Sifre, Senior Reactor Inspector

Approved By: Vincent G. Gaddy, Chief
Engineering Branch 1
Division of Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a design basis assurance inspection (programs) inspection at South Texas Project, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

List of Findings and Violations

No findings or violations of more than minor significance were identified.

Additional Tracking Items

None.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.21N.02 - Design-Basis Capability of Power-Operated Valves Under 10 CFR 50.55a Requirements

POV Review (IP Section 03) (10 Samples)

The inspectors:

- a. Determined whether the sampled POVs are being tested and maintained in accordance with NRC regulations along with the licensee's commitments and/or licensing bases.
- b. Determined whether the sampled POVs are capable of performing their design-basis functions.
- c. Determined whether testing of the sampled POVs is adequate to demonstrate the capability of the POVs to perform their safety functions under design-basis conditions.
- d. Evaluate maintenance activities including a walkdown of the sampled POVs (if accessible).

- (1) Unit 1 Safety Injection Accumulator 1C Outlet Motor-Operated Valve 2N121XSI0039C
- (2) Unit 1 Main Steam to Terry Turbine Throttle Motor-Operated Valve 3S141XMS0514
- (3) Unit 2 Steam Generator 2D Blowdown Outside Reactor Containment Isolation Air-Operated Valve A2SBFV4150
- (4) Unit 1 Steam Generator 1A Main Steam Outlet Hydraulically Operated Power Operated Relief Valve A1MSPV7411
- (5) Unit 2 Essential Cooling Water Pump 2C Discharge Motor-Operated Valve 3R282TEW0151
- (6) Unit 2 Steam Generator 2A Main Steam Outside Reactor Containment Air-Operated Isolation Valve A2MSFSV7414
- (7) Unit 1 RHR Pump 1C Suction Motor-Operated Valve 1R161XRH0061C
- (8) Unit 1 Reactor Containment Building Supplementary Purge Supply Isolation Air-Operated Valve A1HCFV9776
- (9) Unit 2 Safety Injection Pump 2B Discharge Motor-Operated Valve 2N122XSI0018B
- (10) Unit 2 Pressurizer Solenoid-Operated Power-Operated Relief Valve A2RCPCV0655A

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On February 10, 2022, the inspectors presented the design basis assurance inspection (programs) inspection results to Ms. K. Harshaw, Executive Vice President and CNO and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.21N.02	Calculations	2195C	KVAP Results Tag No. A1HCFV9776 18" Valtek Butterfly	1
		E-4344_8344_2	Qualified Life for Paul Munroe Actuators & Components	1
		MC-6441	Pressure Locking / Thermal Binding Evaluation	4
		MC-6462	DVAC Calculation for DC Motor MOVs	0
		MC-6472	DVAC Calculation AC Motor MOVs	3
		ST400088-00011WN	MOV Evaluation GNL 89-10 for 12GM88SEB	C
		ST401865-00001M2	Evaluation of South Texas Project MOVs using the EPRI MOV Methodology	A
		STI-94-009561-15	GL 89-10 Program Design Basis Review 2BSIMOV0018B	04/08/1994
	Corrective Action Documents	Condition Record (CR)	19-6236, 06-16339, 21-7397, 09-9344, 14-5571, 20-3576, 21-10795, 03-6411, 07-6159, 20-8152, 13-13856, 13-1770, 16-12727, 17-11550, 19-11601, 19-12655, 19-12716, 20-8220, 21-8767, 19-12777, 21-1946, 21-2058, 18-6358	
		Station Problem Report (SPR)	93-0603	
	Corrective Action Documents Resulting from Inspection	Condition Record (CR)	22-894, 22-889, 22-897, 19-291-235, 22-1237, 22-1258, 22-1289, 12-27343, 16-13993, 22-1234	
	Drawings	00009E0S1144#1	ACCUMULATOR DISCHARGE ISOLATION MOV'S 0039A, 0039B & 0039C	21
		5S201740203	STEAM GENERATOR BLOWDOWN CONTAINMENT ISOLATION VALVES LOGIC DIAGRAM	8
		A-34752-5	BODY SUBASSEMBLY MARK I, 4 INCH, CLASS 900, CV 172, SCH 120 B/W	2
		A-34752-75	ACTUATOR SUBASSEMBLY 200 SQUARE INCH W/ DUAL SPRINGS	2
	Engineering Changes	07-11727-4	Unit 2 Main Steam Isolation Valves (MSIVs) Stem to Pilot Poppet Valve Replacement	03/19/2009
		17-91-2	Main Steam Isolation Valve Drawing 0223-01(2)00015WN	05/02/2017

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Update to Show Regulator & Filter Arrangement	
		18-12169-2	Alternate Material Replacement for Steam Generator Main Steam Power Operated Relief Valve Bonnet	10/21/2018
		19-217-10	Replacement Part for Pressure Reducing Regulator	09/03/2019
		DCP 03-12393-10	Update QMDB for Pressurizer PORV Gaskets to reflect Qualified Life	12/20/2005
		DCP 06-16339-72	Update MEDP and Minimum Required Thrust for RH0060, 0061 MOVs	10/11/2012
		DCP 07-11515-3	MOV B2SIMOV0018B Maximum Expected Differential Pressure (MEDP), Valve Weak Link, and Minimum Required Thrust.	03/14/2011
		EC-16-14959-17	Allowance for 3/8" Nominal Wall Thickness Pipe for Spool EW-2301-B	0
		MD-2655	GNL 89-10 MOV EVAL	10/19/1992
	Engineering Evaluations	CREE 19-10712-2	STP Appendix J Program Type C Local Leak Rate Testing (LLRT) Scope for a Reduction	10/03/2019
		MC-6441	Pressure Locking / Thermal Binding Evaluation	4
		ST400088-00053-AWN	Motor Operated Valve (MOV) Evaluation 89-10	0
	Miscellaneous		Air Operated Valve Component Health Report	09/20/2021
			AOV Datasheet for A1HCFV9776	01/24/2022
		2V149VB00114	Design Basis Document RCB HVAC System	4
		5N129MB01045	Design Basis Document Safety Injection System	6
		5R149MD01027	Design Basis Document Reactor Coolant System	9
		5R169MB1021	Design Basis Document Residual Heat Removal System	5
		PRA Rev 9 to PRA Rev 10 Risk Change Summary	Expert Panel Meeting 12/16/21 Attachment 3	0
		PRA-22-003	TS 4.0.3 Risk Evaluation – Missed Surveillance for Pressurizer Power Operated Relief Valve Close Stroke Time Test	0
		ST-W2-NOC-99-0037	RSG Cold Overpressure Mitigation System Setpoints	06/29/1999
		SwRI Project No.	Evaluation of Thermal Embrittlement of 17-4 PH MSIVs	November

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		18.24454		2019
		VTD-L200-0009	SMB Instruction and Maintenance Manual	5
		VTD-V037-0001	INSTALLATION, OPERATION, MAINTENANCE INSTRUCTIONS FOR MARK ONE AND TWO CONTROL VALVES	8
		VTD-W120-0652	Motor Operated Gate Valves, Manually Operated Gate Valves, Swing Check Valves Instruction Book	3
	Procedures	0PEP06-ZE-0001	MOV Diagnostic Testing Error Analysis and Acceptance Criteria	14
		0PEP07-ZE-0010	LLRT Type B and Type C Failure/Troubleshooting	1
		0PGP03-ZE-0037	Motor Operated Valve Program	9
		0PGP03-ZE-0074	Air Operated Valve Program	6
		0PGP03-ZM-0002	Preventive Maintenance Program	41
		0PMP05-ZE-0417	MOV Performance and Degradation Trending	3
		0POP01-ZO-0011	Operability, Functionality, and Reportability Guidance	16
		0POP03-ZG-0001	Plant Heatup	81
		0PSP03-HC-0003	Reactor Containment Building Supplementary Purge System Valve Operability Test	12
		0PSP03-MS-0001	Main Steam System Valve Operability Test	52
		0PSP03-RC-0010	Pressurizer Power Operated Relief Valve Operability Test	16
		0PSP03-RH-0010	RHR System Valve Leak Tests	10
		ENG-0006	Component Health Reports	5
		WCG-0005	Preventive Maintenance Administration Guide	9
	Self-Assessments	21-8612-1	2021 Power Operated Valve (POV) Design Basis Assurance Inspection (DBAI) Self-Assessment	11/16/2021
	Work Orders	Preventive Maintenance - Work orders	01000776, 03001202, 04000249,	
		Work Authorization Number (WAN)	557588, 440177, 588903, 522670, 382379, 533069, 604821, 469133, 382379, 655533, 575278, 586167, 591420, 351427, 409328, 519907, 483049, 503614, 630986, 480263, 661027, 525909, 561613, 598596, 523701, 560477, 508975, 425931, 353014, 436093, 544976, 636949, 416247, 599598, 478331, 597819,	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			586025, 607534, 639631, 580591, 100435, 615020, 587625, 609823, 534622, 597819	