



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BLVD.
KING OF PRUSSIA, PA 19406-2713

September 15, 2017

Mr. Bryan C. Hanson
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: R.E. GINNA NUCLEAR POWER PLANT, LLC – DESIGN BASES ASSURANCE
(ENVIRONMENTAL QUALIFICATION PROGRAM) INSPECTION REPORT
05000244/2017007

Dear Mr. Hanson:

On August 24, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at R.E. Ginna Nuclear Power Plant, LLC (Ginna). The enclosed inspection report documents the inspection results, which were discussed with Mr. William Carsky, Site Vice President, and other members of the Ginna staff.

NRC inspectors 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. In conducting the inspection, the team examined Exelon's implementation of the electrical equipment environmental qualification program required by Title 10, *Code of Federal Regulations* (10 CFR) 50.49 for maintaining the qualified status of equipment during the life of the plant. The inspection involved field walkdowns, examination of selected procedures, calculations and records, and interviews with station personnel.

No NRC-identified or self-revealing findings were identified during this inspection.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Docket Room or from the Publicly Available Records component of NRC's document system, 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/

Glenn Dentel, Chief
Engineering Branch 2
Division of Reactor Safety

B. Hanson

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Docket No. 50-244
License No. DPR-18

Enclosure:
Inspection Report 05000244/2017007
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

SUBJECT: R.E. GINNA NUCLEAR POWER PLANT, LLC – DESIGN BASES ASSURANCE
(ENVIRONMENTAL QUALIFICATION PROGRAM) INSPECTION REPORT
05000244/2017007 DATED SEPTEMBER 15, 2017

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No. 50-244

License No. DPR-18

Report No. 05000244/2017007

Licensee: Exelon Generation Company, LLC (Exelon)

Facility: R.E. Ginna Nuclear Power Plant, LLC (Ginna)

Location: Ontario, New York

Inspection Period: August 7 through August 24, 2017

Inspectors: D. Kern, Senior Reactor Inspector, Division of Reactor Safety (DRS),
Team Leader
J. Schoppy, Senior Reactor Inspector, DRS
J. Rady, Reactor Inspector, DRS

Approved By: Glenn Dentel, Chief
Engineering Branch 2
Division of Reactor Safety

SUMMARY

IR 05000244/2017007; 8/7/2017 – 8/24//2017; Ginna; Design Bases Assurance Inspection (Programs).

The report covers the Design Bases Assurance Inspection - Programs conducted by a team of three NRC region-based reactor inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6, dated July 2016.

No findings were identified.

REPORT DETAILS

1. REACTOR SAFETY**Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**1R21 Design Bases Assurance Inspection (Programs) (IP 71111.21N – 10 samples).1 Inspection Sample Selection Process

The inspection team assessed the implementation of Exelon's Environmental Qualification (EQ) program, established to meet the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.49, *Environmental Qualification of Electrical Equipment Important to Safety for Nuclear Power Plants*. The inspection team performed an inspection as outlined in NRC Inspection Procedure (IP) 71111.21N, Attachment 1, "*Environmental Qualification under 10 CFR 50.49 Programs, Processes, and Procedures*." The team reviewed components that were either safety-related equipment relied upon to remain functional during and following design basis events, non-safety-related components whose failure could prevent safety-related equipment from performing design functions, and certain post-accident monitoring equipment. The team then determined which component's environment would be adversely affected by postulated post-accident environmental conditions (temperature, pressure, humidity, chemical spray, radiation level, or flood level) and reviewed information contained in the Ginna Probabilistic Risk Assessment (PRA) and the U.S. NRC's Standardized Plant Analysis Risk (SPAR) model for Ginna to determine risk significant components that were also required to meet EQ requirements. Additionally, the team interviewed plant staff, reviewed design records, and discussed the EQ program with the resident inspectors to assist in the selection of components. Finally, the team ensured that different types of components were selected included pump motors, motor-operated valves, solenoid valves, electrical breakers, containment penetrations, and flow/pressure transmitters located both inside and outside of primary containment. Based on these reviews, the team selected ten EQ components and associated sub-components (seals, cables, connectors, and lubricants) for inspection.

.2 Results of Detailed Reviewsa. Inspection Scope

The inspection was conducted as outlined in NRC IP 71111.21N. The team assessed Exelon's implementation of the EQ program required by 10 CFR 50.49. The team reviewed EQ program-related procedures, component EQ files, EQ test records, equipment maintenance and operating history, maintenance and operating procedures, vendor documents, design documents, previously identified deficiencies, and design calculations. The team also interviewed plant staff knowledgeable of the design, maintenance, and operation of the selected components. The review and associated interviews were performed to evaluate whether Exelon's staff properly maintained the equipment qualifications for electrical equipment important to

safety through plant life (repair, replacement, modification, and plant life extension); established and maintained required EQ documentation records; and implemented an effective corrective action program to identify and correct EQ-related deficiencies and evaluate EQ-related industry operating experience. The team also performed walkdowns (where accessible) of selected components to: (1) verify that equipment was installed as described in Ginna environmental qualification component documentation files; (2) ensure that the environmental conditions were consistent with those assumed in the evaluations; (3) determine whether equipment surrounding EQ component could fail in a manner that would prevent the component's safety function from being performed; and (4) to ensure that the components were installed in their tested configuration. The component and associated subcomponents inspected included:

- MO-515, Pressurizer Power Operated Relief Valve Block Valve Motor Operator
- MO-857C, Residual Heat Removal Heat Exchanger A&B Outlet Cross-Tie to Safety Injection and Containment Spray Pump Suction Valve Motor Operator
- MO/CF1C, 'C' Containment Recirculation Fan Motor and Damper Control Valve 5874 Solenoid Operated Valves (14113S, 14114S)
- 52/CHP1B, 'B' Charging Pump Breaker
- MO/SIP1A, Replacement Safety Injection Pump Motor
- CVPBE02, New Containment Penetration
- AOV-4269, 'A' Main Feed Water Flow Control Valve, associated SOVs (4269S1 and 4269S2)
- AOV-3516, 'B' Main Steam Isolation Valve and associated SOVs (air supply 3516S1, 3516S2 and vent 3516S3, 3516S4)
- PT-420, Reactor Coolant System Hot Leg Pressure Transmitter
- FT-689, Residual Heat Removal Injection Flow Transmitter

In addition to the inspection of the selected components, the team performed general plant walkdowns to determine whether components located in areas susceptible to a high-energy line break were properly evaluated for operation in a harsh environment. The team also reviewed procurement records and inspected a sample of replacement parts stored in the warehouse to verify EQ parts approved for installation in the plant were properly identified and controlled; and that storage time and environmental conditions did not adversely affect the components' qualified life or service life. Finally, the team reviewed a sample of components that had been removed from the EQ program to determine if Exelon had correctly determined that the components no longer were required to meet 10 CFR 50.49. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems (IP 71152)

a. Inspection Scope

The team reviewed a sample of problems that Exelon had previously identified and entered into the corrective action program. The team reviewed a sample of these issues to verify an appropriate threshold for identifying issues and to evaluate the effectiveness of corrective actions. Additionally, the team evaluated whether deficiencies identified during the inspection were properly documented and evaluated in the corrective action program.

b. Findings

No findings were identified.

4OA6 Meetings, including Exit

On August 24, 2017, the team presented the inspection results to Mr. William Carsky, Site Vice President, and other members of the Ginna staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Exelon Personnel

W. Carsky, Site Vice President
P. Swift, Plant Manager
J. Bement, Manager, Radiation Engineering
D. Blankenship, Director, Operations
J. Brown, Director, Site Training
D. Dettman, Senior Reactor Operator
T. Edwards, Manager, Site Chemistry, Environmental and RadWaste
W. Foigherait, Chemist
K. Garnish, Manager, Regulatory Assurance
R. Hellems, Systems Engineer
M. Kubisa, System Engineer
C. Johnson, Electrical Design Engineer
G. Jones, Chemist
J. Knowles, Senior Reactor Operator
J. List, Manager, On-Line Work Management
D. Markowski, Senior Manager, Design Engineering
D. Pascuzzi, Branch Manager, Systems Engineering
B. Raczkiewicz, Environmental Qualification Program Owner
S. Rafaniello, System Engineer
C. Siverd, Senior Regulatory Assurance Engineer
A. Smith, Nine Mile Point Environmental Qualification Program Owner
J. Sperr, Manager, Electrical Systems Engineering
J. Stanger, System Engineer
G. Verdin, Operations Shift Supervisor
C. Walsh, Civil Engineer
R. Westerbeck, Chemistry Technician
D. Wilson, Director, Engineering
M. Zweigle, Senior Staff Engineer, Design Engineering

NRC Personnel

N. Perry, Senior Resident Inspector
J. Schussler, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Opened/Closed

None

LIST OF DOCUMENTS REVIEWED

Calculations and Engineering Evaluations

CN-CRA-04-55, R.E. Ginna Unit 1 (RGE) Reanalysis to Address NSAL-11-05 Issues and Containment Temperature Increase, Revision 3
 CNG-CM-101-2003, Owners Acceptance Review (OAR) of CN-CRA-04-55, dated 4/21/14
 DA-EE-08-027, EQ Analysis of Raychem Splice Kits, Revision 0
 DA-EE-08-032, EQ Analysis of Raychem WCSF-N Nuclear Low Voltage Tubing, Revision 0
 DA-EE-08-046, EQ Analysis for Limitorque MOVs 515 and 516, Revision 0
 DA-EE-15-007, Environmental Qualification Analysis of Spare Safety Injection Pump Motor, Westinghouse Serial Number 1KXV60054-T1, Revision 0
 DA-EE-93-010-16, EQ Analysis of Main Feed Water Isolation SOVs, Revision 2
 DA-EE-2000-023, Qualified Life Determination for Foxboro N-E10 Series Transmitters, Revision 0
 DBCOR 2001-0005, Kerite 600 Volt HTK Insulated, FR Jacketed Power Cable Qualified Life Extension, Revision 0
 DBCOR 2001-0012, Anaconda FR-EP and FR-EP/CPE (CPE Jacket) Cable Qualified Life Extension, Revision 0
 DBCOR 2001-0013, General PVC Insulated and Jacketed Control Cable, dated 10/31/01
 DBCOR 2001-0021, PVC Insulated and Jacketed Instrument Cable Qualified Life Extension, Revision 0
 DBCOR 2002-0003, Valcor Solenoid Operated Valve Qualified Life Extension, Revision 0
 DBCOR 2002-0045, Brand-Rex XLPE Insulated and CSPE Jacketed Cable Qualified Life Extension, Revision 0
 DBCOR 2002-0079, MSIV SOV Terminal Blocks Qualified Life Extension, Revision 0
 DBCOR 2006-0004, EPU Revisions for Auxiliary Building Environments, Revision 0
 DBCOR 2006-0012, EPU Revisions for Intermediate Building Environments, Revision 0
 DBCOR 2006-0024, EPU Revisions for Turbine Building Environments, dated 7/18/06
 DBCOR 2006-0028, EPU Revisions for Reactor Containment Building Environments Inside Recirculation Fan Cooler Cubicles, Revision 0
 DBCOR 2006-0029, EPU Revisions for Reactor Containment Building Environments near Recirculation Fan Cooler HEPA Filters, Revision 0
 DBCOR 2006-0036, EPU Revisions for Reactor Containment Building Environments, Revision 0
 PT-947 and PT-948 Seismic Screening Evaluation Worksheet (SEWS), dated 1/5/95

Drawings

03023-0028, Environmental Qualification of Class 1E Equipment 590, Revision 6
 03023-0029, Environmental Qualification of Class 1E Equipment 591, Revision 5
 03023-0030, Environmental Qualification of Class 1E Equipment 592, Revision 6
 03023-0031, Environmental Qualification of Class 1E Equipment 593, Revision 4
 03023-0063, Environmental Qualification of Class 1E Equipment AOV 3516, Revision 3
 03023-0065, EQ of Class 1E Equipment Valve AOV-4269, Revision 4
 03023-0069, EQ of Class 1E Equipment OP/515 and OP/516 Control Cables, Revision 6
 03023-0070, EQ of Class 1E Equipment MO/515 and MO/516 Power Cables, Revision 7

10904-0342, Sht. 1, EQ In-Line Cable Splices, Revision 10
 10905-0511, Distribution Panel A (Channel 1 Red) Elementary Wiring Diagram, Revision 10
 10905-0580, Pressurizer PORV Block Valve MOV-515 Elementary Wiring Diagram, Revision 6
 10905-0733, AOV-4269 Main Feed Water Control AOV to Steam Generator 'A' Elementary Wiring Diagram, Revision 4
 11310-0113, MOV-515 Pressurizer PORV Block Valve Connection Diagram, Revision 5
 21946-0027B, Sht. 2, 4160V Bus 12B Station Service Transformer 16 Control Schematic, Revision 3
 21946-0580, Pressurizer PORV Block Valve MOV-515 Control Schematic, Revision 8
 21946-0614 Sh. 2, RHR Pump Discharge to SI Pump Suction MOV-857C Control Schematic, Revision 4
 21946-0733, AOV-4269 Main Feed Water Control AOV to Steam Generator 'A' Control Schematic, Revision 5
 33013-1236, Sht. 2, Feed Water P&ID, Revision 23
 33013-1247, Auxiliary Coolant Residual Heat Removal (AC) P & ID, Revision 47
 33013-1250 Sh.3, Station Service Cooling Water Safety Related (SW) P & ID, Revision 66
 33013-1258, Reactor Coolant Pressurizer P&ID, Revision 25
 33013-1261, Containment Spray (SI) P & ID, Revision 46
 33013-1265, Sht. 2, Auxiliary Building Chemical Volume and Control System Charging P&ID, Revision 27
 33013-1893, Instrument Air Intermediate BLDG P & ID, Revision 29
 33013-2514, Main and Bypass Feed Water Control Valves Wiring Diagram, Revision 2
 33013-2672, Containment Structure Pressurizer Deck EI 288'4" – Pressurizer Blocks Tie Down, Revision 1
 CD-7 Sh. 3, Interconnection Wiring Diagram B2 Rack Reactor Protection System, Revision 12

Environmental Qualification Binders

EEQ-1-01D, EQ Binder for Main Feed Water Isolation Solenoid Valves 14901S1 and 14901S2, Revision 8
 EEQ-1-02, Environmental Qualification Data Summary, Revision 3
 EEQ-1-04, Environmental Qualification Data Summary, Revision 2
 EEQ-1-05, Environmental Qualification Data Summary, Revision 7
 EEQ-1-06, Environmental Qualification Data Summary, Revision 9
 EEQ-1-7A, EQ Binder for PORV Block Valve MO/515 and OP/515, Revision 3
 EEQ-1-08, EQ Binder for Containment Electrical Penetrations CVPAE03 and CVPAE07, Revision 3
 EEQ-1-12C, Environmental Qualification Data Summary, Revision 7
 EEQ-1-16, Environmental Qualification Data Summary, Revision 2
 EEQ-1-17, Environmental Qualification Data Summary, Revision 2
 EEQ-1-20, Environmental Qualification Data Summary, Revision 7
 EEQ-1-21, Environmental Qualification Data Summary, Revision 6
 EEQ-1-22, Environmental Qualification Data Summary, Revision 8
 EEQ-1-22B, Environmental Qualification Data Summary, Revision 0
 EEQ-1-39, Environmental Qualification Data Summary, Revision 2
 EEQ-1-41, Environmental Qualification Data Summary, Revision 7
 EEQ-1-46, Environmental Qualification Data Summary, Revision 1
 EEQ-1-49, EQ Binder for Bus 16 Supply and Charging Pump Breakers, Revision 0

EEQ-1-55, Environmental Qualification Data Summary, Revision 4
 EEQ-1-12A, EQ Binder for Raychem Nuclear Splice Kits, Revision 4
 EEQ-1-12C, EQ Binder for Raychem WCSF-N Splice Sleeves, Revision 7
 EEQ-1-15, EQ Binder for General Cable Corp PVC Insulation and Jacket, Revision 2
 EEQ-1-17, EQ Binder for Kerite/HTK Insulation Power Cables, Revision 2
 EEQ-3-14, EQ Master List Deletion Form for Hydrogen Recombiner Blower Motors,
 Revision 0

Issue Reports

01701535	02481682	04029203	04040883*
01932511	02572040	04039121*	04041335*
01958679	02703057	04040081*	04042816*
01961000	02714940	04040440*	04045380*
02445049	03973817	04040588*	04045383*
02474740	04021032	04040592*	04045701*

*Written as a result of this inspection

Licensing Documents

Ginna Updated Final Safety Analysis Report, Revision 26
 Guidelines for Evaluating Qualification of Class 1E Electrical Equipment in Operating Reactors, dated 11/13/79
 IEEE Std. 323-1974, IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations, dated 12/13/73
 RG 1.89, EQ of Certain Electrical Equipment Important to Safety for Nuclear Power Plants, Revision 1
 Ginna Safety Evaluation Report for EQ of Safety Related Equipment, dated 12/13/82

Miscellaneous

58442-1, Environmental Qualification Test Report of Raychem WCSF-N In-Line Bolted Splice Assemblies for Raychem Corporation, dated 5/15/80
 58722-2, Environmental Qualification Test Report of Raychem WCSF-N In-Line Bolted Splice Assemblies for Raychem Corporation, dated 11/18/82
 C3017, MOV 857C Circuit Schedule, Revision 2
 EEQ-3-11, EQ Master List Deletion Form (Support Equipment for Reactor Head Vent Solenoid Operated Valves (SOVs) 590, 591, 592, and 593), dated 12/16/03
 Exelon PM Program Template for Low Voltage Circuit Breakers, Revision 4
 Exelon PM Program Template for Low Voltage Electric Motors, Revision 4
 Exelon PM Program Template for Motor Operated Valves, Revision 6
 Exelon PM Program Template for Pressure Sensor and Transmitter, Revision 2
 Exelon PM Program Template for Solenoid Operated Valves, Revision 0
 F-C4969-1, Qualified Life Test Report for FR-EP Insulated Wire and Cable, Revision 1
 N-EG-08495, Transmitter Certificate of Conformance, dated 8/16/83
 Ginna Station Circuit Breaker Schedule for Circuit L0262, Revision 3
 Regulatory Guide 1.89, Environmental Qualification of Certain Electrical Equipment Important to Safety for Nuclear Power Plants, Rev. 1
 Regulatory Guide 1.97, Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident, Rev. 2
 RH-33000, Cable Bill of Materials, dated 2/21/68

Modification Packages

ECP-13-000048-CN-048, Update for Increase in Normal Operating Containment Air Temperature, Revision 0
 ECP-13-000048-CN-058, Update for Increase in Normal Operating Containment Air Temperature, Revision 0
 ECP-13-000048-CN-060, Update for Increase in Normal Operating Containment Air Temperature (EEQ-1-21), Revision 0
 ECP-13-000048-CN-061, Update for Increase in Normal Operating Containment Air Temperature (EEQ-1-41), Revision 0
 ECP-13-000048-CN-062, Update for Increase in Normal Operating Containment Air Temperature (EEQ-1-20), Revision 0
 ECP-13-000048-CN-067, Update for Increase in Normal Operating Containment Air Temperature (EEQ-1-17), Revision 0
 ECP-13-000048-CN-072, Update for Increase in Normal Operating Containment Air Temperature (EEQ-1-39), Revision 0
 ECP-13-000048-CN-074, Update for Increase in Normal Operating Containment Air Temperature (EEQ-1-04), Revision 0
 ECP-13-000048-CN-075, Update for Increase in Normal Operating Containment Air Temperature, Revision 0
 ECP-13-000048-CN-080, Update for Increase in Normal Operating Containment Air Temperature, Revision 0
 ECP-13-000048-CN-082, Update for Increase in Normal Operating Containment Air Temperature (EEQ-1-12C), Revision 0
 PCR No. 2001-0042, Reactor Vessel Closure Head Replacement, Revision 0

Preventive Maintenance

CMA-64-13-3516/3517, Atwood and Morrill, MSIV Air Operator Maintenance for OP/3516 and OP/3517, performed 11/4/15
 CPI-PT-947, Calibration of Containment Pressure Transmitter PT-947, performed 5/21/13 and 5/25/17
 GME-45-99-01, Electric Motor Testing of Motor, performed 3/27/15 and 9/13/16
 GMM-45-99-01, Electric Motor Inspection and Maintenance, performed 4/21/15
 In-Storage Maintenance Report, period 10/25/11 - 6/7/17
 IP-EQP-2 Attachment 3, EQ Equipment/Component Installation (3516S1), performed 10/27/12
 IP-EQP-2 Attachment 3, EQ Equipment/Component Installation (3516S2), performed 10/27/12
 IP-EQP-2 Attachment 3, EQ Equipment/Component Installation (3516S3), performed 10/27/12
 IP-EQP-2 Attachment 3, EQ Equipment/Component Installation (3516S4), performed 10/28/12
 IP-EQP-2 Attachment 3, EQ Equipment/Component Installation (PT-947), performed 5/21/13
 M-51.13EQ, Maintenance and/or Replacement of EQ Valcor Solenoid Valves, performed 10/31/12
 M-64.1.2, MOVATS Testing of Motor Operated Valves, performed 11/6/15
 P-GIN-035783-PT-456, Replace Amplifier for Transmitter PT-456, Revision 0
 P-GIN-035784-FT-683B, Replace Electronic Assembly for Transmitter FT-683B, Revision 0
 P-GIN-035785-LT-921, Replace Amplifier for Transmitter LT-921, Revision 0

Procedures

CME-50-02-52/CHP1B, Westinghouse 480V Air Circuit Breaker Type DB-50 Charging Pump 'B' Maintenance for 52/CHP1B, Revision 3
CME-50-2-52/CHP1B, Westinghouse 480V Air Circuit Breaker Type DB-50 Charging Pump Maintenance, Revision 3
CPI-PRESS-947, Calibration of Containment Pressure Loop 947 Rack Instrumentation, Revision 8
CPI-PT-947, Calibration of Containment Pressure Transmitter PT-947, Revision 1
ER-ELEC.8, Restoration of Charging Pump Supply from Bus 16 Following HELB in the Auxiliary Building, Revision 1
GME-50-02-DB50, Westinghouse 480V Air Circuit Breaker Maintenance for Type DB-50 Breakers, Revision 27
GMI-90-99-SOLENOID, Solenoid Valve Replacement, Revision 3
IP-EQP-1, Control of Environmental Qualification (EQ) Master List, Revision 11
IP-EQP-2, EQ Program Requirements, Revision 18
M-32.1.50, DB-50 Circuit Breaker Maintenance, Revision 27
M-51.13EQ, Maintenance and/or Replacement of EQ Valcor Solenoid Valves, Revision 13
M-64.0EQ, Limitorque Actuator Removal and Installation SMB-000 through SMB-4, Revision 21
M-64.1.2, MOVATS Testing of MOVs, Revision 41
M-64.2EQ, Limitorque SMB-000 and SMB-00 Motor Actuator Maintenance Procedure, Revision 19
MA-AA-723-301, Periodic Inspection of Limitorque Model SMB/SB/SBD-000 through 5 MOVs, Revision 12
PES-S-002, Shelf Life, Revision 8
PES-S-003, In-Storage Maintenance of Nuclear Material, Revision 10
SM-AA-102, Warehouse Operations, Revision 23
STP-O-23.17B, Local Leak Rate Test of Containment Pressure Transmitters PT-947 & PT-948 PEN 203A, Revision 2

Self-assessments & Audits

DES-14-01-G, EQ Design and Engineering Audit Report, dated 4/16/14

Surveillance and Modifications Acceptance Tests

GMI-90-99-SOLENOID, Solenoid Valve Replacement, performed 4/25/08
M-64.0EQ, Limitorque Actuation Removal and Installation SMB-000 through SMB-4, performed 9/28/09
STP-O-2.1QA, Safety Injection Pump A Quarterly Test, performed 3/28/17 and 6/13/17

Vendor Manuals

VTD-A0610-4979, Vendor Manual for ASCO 3-Way Solenoid Operated Valves, Revision 0
VTD-C0773-4203, Installation Manual for Electric Conductor Seal Assemblies with Long Body for Pipe Thread Equipment Interface, Revision 0
VTD-F180-4008, N-E11 and N-E13 Series Transmitters, November 1988
VTD-F180-4011, Seismic Mounting Bracket for N-E11 and N-E13 Transmitters, March 1984
VTD-F180-4014, Extension of Qualified Life for N-E11 and N-E13 Series Transmitters for Nuclear Power Application, November 1988

- VTD-L200-4001, Limitorque SMB Series/SB Series Installation and Maintenance, Revision 4
- VTD-L200-4002, Limitorque Type SMB Valve Controls, Revision 0
- VTD-L0200-4001, Flowserve Limitorque Actuation Systems, Revision 4
- VTD-V030-4004, Operation and Maintenance Manual for Solenoid Valves, Revision D
- VTD-V030-4005, Operation and Maintenance Manual for Pilot Assisted, Latching, 2 Way Valve, Revision G
- VTD-V030-4007, Addendum IV to Basic Overhaul Manuals for Nuclear Valves - Lubricants, Revision A
- VTD-W0120-4133, Type A Squirrel-Cage Life-Line Motors Installation Operation and Maintenance Instructions, Revision 0
- VTD-W0120-4182, Vendor Manual for Low-Voltage Metal-Enclosed Switchgear, Revision 1
- VTD-W0120-4184, Vendor Manual for Type DB-50 Air Circuit Breakers, Revision 2

Work Orders

C20301196	C91898445	C92599038	C93156169
C20603763	C92360287	C92764909	C93300764
C20800445	C92373003	C92873686	C93398731
C20804485	C92541809	C93012168	C93596580
C91465051	C92592189	C93156161	

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
CFR	Code of Federal Regulations
DRS	Division of Reactor Safety
EQ	Environmental Qualification
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Issue Report
NRC	Nuclear Regulatory Commission
PRA	Probabilistic Risk Assessment
SPAR	Standardized Plant Analysis Report
TS	Technical Specification