# ENCLOSURE 1

# BROWNS FERRY NUCLEAR PLANT, UNIT 1
# FUKUSHIMA NEAR-TERM TASK FORCE
# RECOMMENDATION 2: SEISMIC RESPONSE REPORT

# BROWNS FERRY NUCLEAR PLANT – UNIT 1 FUKUSHIMA NEAR-TERM TASK FORCE RECOMMENDATION 2.3: SEISMIC RESPONSE REPORT

26-November-2012

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| REV | DESCRIPTION | ORIG | REVIEW | WORLEY-PARSONS APPROVAL | DATE | CLIENT APPROVAL | DATE |
|---|---|---|---|---|---|---|---|
| 0 | BFN Unit 1 Seismic Walkdown Report | J. Black | N. Pressler VIA TELECON | J. Edga | 26-Nov-12 | STEPHEN SAMARAS | 11/26/2012 |
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## 1) Executive Summary

As a result of the Fukushima Daiichi Nuclear Power Plant accident, the U.S. Nuclear Regulatory Commission required all US nuclear power plants to perform seismic walkdowns to identify and address degraded, non-conforming or unanalyzed conditions and to verify the current plant configuration with the current seismic licensing basis. The NRC Near-Term Task Force (NTTF) issued a report (Reference 1) that made a series of recommendations. Subsequently, the NRC issued a 50.54(f) Letter (Reference 2) that requests information to assure that these recommendations are addressed by all U.S. nuclear power plants. This report provides guidance for conducting a seismic walkdown as required in the 50.54(f) Letter, Enclosure 3, Recommendation 2.3: Seismic.

In support of conducting the NTTF-2.3 Seismic Walkdowns, the Electrical Power Research Institute (EPRI) issued a report entitled *Seismic Walkdown Guidance* (Reference 3) to provide instruction for uniform seismic walkdowns of all U.S. nuclear power plants. This document also includes guidance for reporting the findings of the required walkdowns.

At Unit 1 of the Browns Ferry Nuclear Plant, a total of 120 items, general Seismic Category 1, were selected from the original IPEEE Safe Shutdown Equipment List (SSEL) to fulfill the requirements of the NTTF-2.3 Seismic Walkdowns. The selected equipment was located in various environments and included many different types of equipment from multiple safety systems. A total of 42 areas were included for area walk-bys. The equipment walkdowns and area walk-bys were performed by three teams each consisting of two seismic walkdown engineers and operations personnel, between July 9, 2012 and October 18, 2012.

Of the 120 equipment items in the Seismic Walkdown Equipment List (SWEL), 120 were completed during the walkdown phase. Two potential adverse seismic conditions were found and addressed through the TVA Corrective Action Program.

# 2) Seismic Licensing Basis

The seismic licensing basis for the Browns Ferry Nuclear Power Plant is derived from Reference 4 – *BFN FSAR.*

## 2.1 General Plant Description

The Browns Ferry site is located on the north shore of Wheeler Lake at river mile 294 in Limestone County in north Alabama. The site is approximately 10 miles southwest of Athens, Alabama, and 10 miles northwest of the center of Decatur, Alabama. The plant consists of three General Electric (GE) boiling water reactors with Mark I containments, each with an electrical output of about 1,100 megawatts. Commercial operation of each unit began on the following dates: Unit 1 on August 1, 1974, Unit 2 on March 1, 1975, and Unit 3 on March 1, 1977.

## 2.2 Ground Response Spectra

The BFN licensing-basis Operating Basis Earthquake (OBE) and Design Basis Earthquake (DBE) ground motion acceleration response spectra are defined in Sections 2.5.4 and 12.2 of the BFN Final Safety Analysis Report (FSAR). The site design ground spectrum is that of a Housner shaped spectrum with horizontal peak ground acceleration (PGA) corresponding to the OBE is 0.10g and the DBE is 0.20g, defined at the top of the sound rock. Vertical ground motion is two-thirds of the horizontal ground motion as specified in the FSAR. Figure 1 shows the Operating Basis Earthquake and Figure 2 shows the Design Basis Earthquake input spectra with various damping.

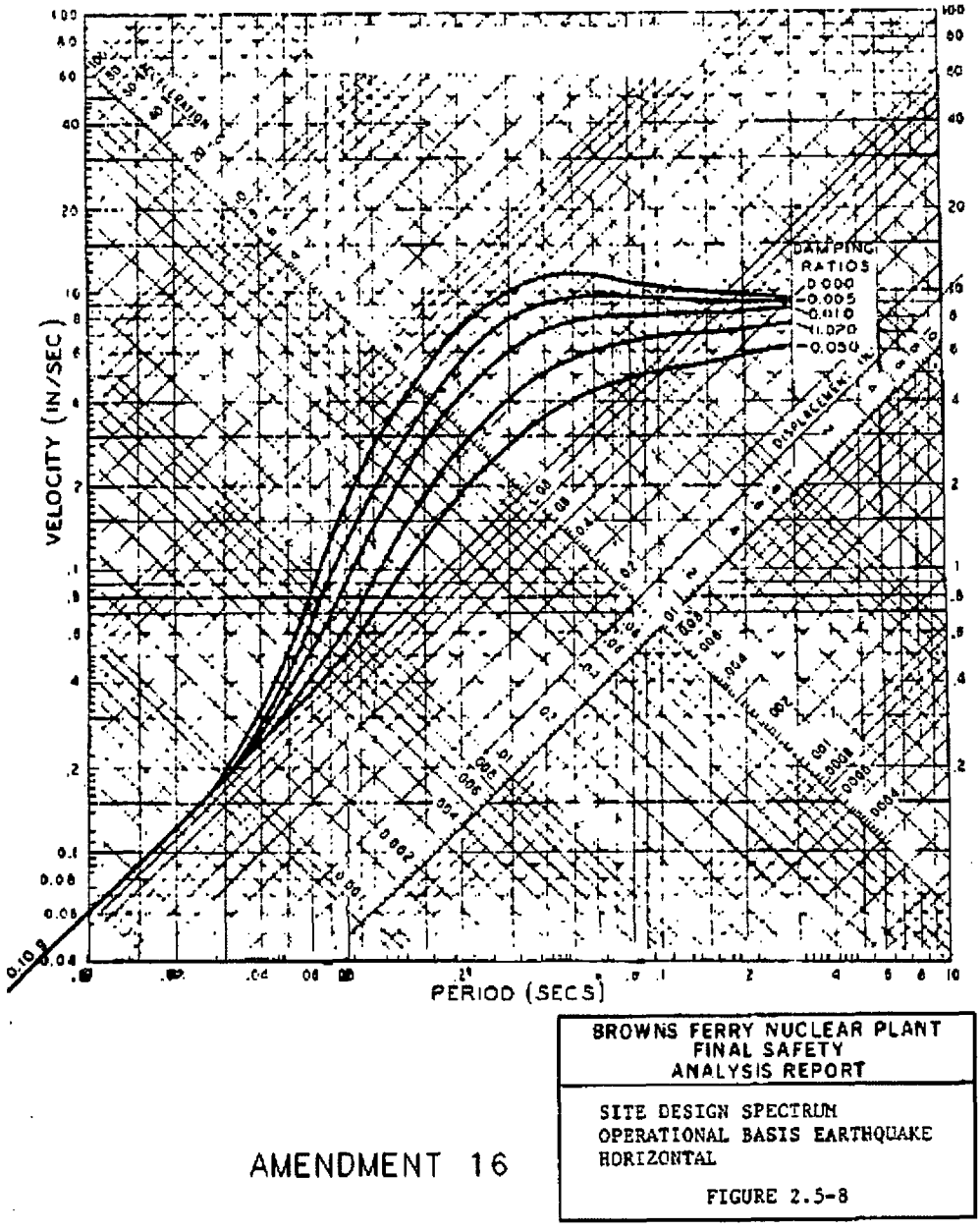


Figure 1 – Site Design Spectrum Operating Basis Earthquake

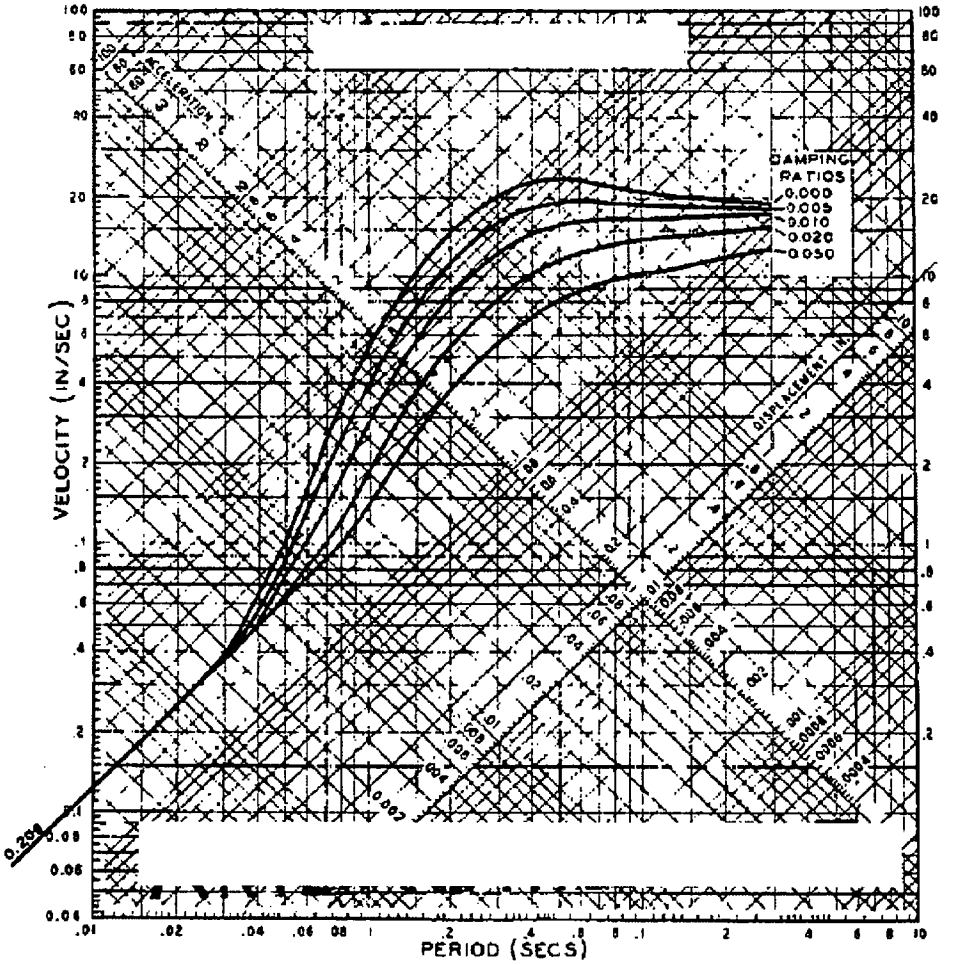


Figure 2 – Site Design Spectrum Design Basis Earthquake

## 2.3 Structures

The design of all structures and facilities (Class I & II) conformed to the applicable general codes or specifications such as Uniform Building Code (UBC); American Institute of Steel Construction (AISC); "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings"; American Concrete Institute (ACI) "Building Code Requirements for Reinforced Concrete" (ACI 318-71), "Requirements for Reinforced Concrete" (ACI 318-71), "Requirements for Reinforced Concrete Chimneys" (ACI 907); and American Welding Society (AWS) "Structural Welding Code – Steel" (AWS-D.1.1), among others.

Seismic requirements for Class I structures, features, and systems are contained in TVA General Design Criteria BFN-50-C-7102. The design of Class I structures was based on the following criteria:

- Operating basis earthquake (OBE) considered a horizontal ground acceleration of 0.10g.
- Design basis earthquake (DBE) considered a horizontal ground acceleration of 0.20g
- Vertical ground accelerations associated with the OBE and DBE were defined as 2/3 of the corresponding horizontal response spectra.

Class I structures, equipment and safety-related piping were designed such that stress and deformation behavior of structures, piping, and equipment were maintained within the allowable limits when subjected to loads such as dead, live, pressure, and thermal, under normal operating conditions combined with the seismic effects resulting from the response to the OBE. These allowable limits are defined in appropriate design standards such as the ASME Boiler and Pressure Vessel Code; American National Standards Institute (ANSI) Code for Pressure Piping ANSI B31.1.0, Power Piping; ACI 318 Building Code Requirements for Reinforced Concrete; the AISC Specification for the Design, Fabrication and Erection of Structural Steel for Buildings. In addition, the stresses that resulted from normal loads and design basis loss-of-coolant accident loads combined with the response to the DBE were limited so that no loss of function occurred and the capability of making a safe and orderly plant shutdown was maintained.

## 2.4 Equipment

General Electric (GE) designed, fabricated, and supplied the nuclear steam supply system (NSSS), turbine-generators, as well as the nuclear fuel for the plant. GE also provided technical supervision for the installation and startup services of this equipment. In general, the modules were designed to withstand and perform their functions during an OBE and a DBE. This qualification was ascertained by either analytical techniques,

vibration testing techniques, or a combination of the two. A seismic specification covering the following procedure was made a part of the purchase order.

All the Class I instrumentation and electrical equipment were designed and tested or analyzed to ensure their capability to perform their required functions during and after the Design Basis Earthquake (DBE). This includes equipment made by General Electric (GE) as well as that purchased by GE. Suppliers of Class I equipment were required to verify the adequacy of their equipment by submitting test, analytical, or operating experience data. Typically, equipment supplied as part of the original design is in compliance with IEEE-344-71 requirements.

In addition, Browns Ferry Nuclear Plant was identified as one of the operating plants to be reviewed for the NRC Unresolved Safety Issue (USI) A-46 requirements. As such, plant-specific verification of the seismic adequacy of selected safe shutdown equipment items (SSEL – Safe Shutdown Equipment List) has been performed as part of the USI A-46 resolution (Ref. 5).

Furthermore, the use of A-46 criteria and methods in accordance with the implementation guidelines provided in References 7 and 8 has been included as an alternate approach for the seismic qualification of new equipment and replacements for existing equipment (Appendix C, Ref. 9).

## 2.5 Seismic Spatial System Interactions

Browns Ferry has a seismic categorization similar to Regulatory Guide 1.29, using the terminology of Class I and Class II. The term II/I is used to describe physical conditions where Class II components are located above or in proximity to Class I components. Seismic-induced spray refers to the possible breach of a fluid pressure boundary due to its own seismic response or its seismic interaction with other plant features. Seismic induced spray is a hazard when there are target Class I components, vulnerable to fluid spray, in the vicinity of the source.

A comprehensive "II/I" seismic interaction verification program was implemented as part of the BFN-1 Restart Project. Seismic spatial interactions (failure, falling, and impact) were evaluated for all Safe Shutdown Equipment List (SSEL) items during the USI A-46 resolution program. Impact-related seismic interactions are further addressed by the TVA BFN Potential Clearance Discrepancy (PCD) evaluation program for piping clearance discrepancies of 3" and under. Seismic-induced spray evaluations were addressed by detailed walkdowns and bounding evaluations in accordance with TVA Design Criteria BFN-50-C-7306.

# 3) Personnel Qualifications

The personnel qualification for all individuals involved in the execution of the Fukushima Near-Term Task Force Recommendation 2.3: Seismic can be found in this section. Full resumes for the listed individuals can be found in Appendix A of this document.

## 3.1 Equipment Selection Personnel

The personnel who performed equipment selection and review are:

- Steve Gray, Retired SRO from Browns Ferry with extensive experience providing engineering support through all phases of the operating site.
- Nicholas Pressler, Senior Structural Engineer with 7 years of experience, including 2 years of experience in the nuclear industry.
- Jason Black – Associate Structural Engineer with 1.5 years of engineering experience, including 1.5 years in the nuclear power industry.

## 3.2 Seismic Walkdown Engineers

The personnel who performed the seismic walkdowns are:

- Nicholas Pressler
- Patrick McCarraher, Senior Supervising Structural Engineer with over 38 years of engineering experience, including 15 years in the nuclear power industry.
- Jeffry Lawrence, Mechanical Engineer II, E.I.T. with five years of engineering experience, including two in the nuclear power industry.
- Avinash Chunduri, Structural Engineer II with 6 years of engineering experience, including 1.5 years' experience in nuclear power industry.
- George Bongart, Associate Civil Engineer with 9 months engineering experience.
- Jason Black
- James Edgar, Professional Engineer in the state of Tennessee with 11 years of engineering experience including 2 years in the nuclear power industry.

## 3.3 Licensing Basis Reviewer

The personnel who performed the licensing basis reviews:

- Steve Samaras, Site Engineer at Browns Ferry with extensive experience providing engineering support for the operating site.

## 3.4 IPEEE Reviewers

The personnel who performed the review of IPEEE vulnerabilities are:

- Josh Best - Project Mechanical Engineer with 5 years engineering experience, including 4 years in the nuclear power industry.
- Jason Black

## 3.5 Peer Review Team

The personnel involved in the peer review process are:

- John Dizon, Over 30 years of experience in the field of civil and structural engineering, earthquake engineering, risk assessment and project management.
- Steve Eder, Over 30 years of experience in the field of civil and structural engineering, project management, seismic engineering, and risk management.

John Dizon is the Peer Review Team Leader.

# 4) Selection of Structures, Systems, and Components (SSCs)

The selection of SSCs for the Recommendation 2.3 Seismic walkdowns followed the guideline provided in Reference 3 – *The Electrical Power Research Institute's (EPRI) Seismic Walkdown Guidance*. The SWELs and list of corresponding Area Walk-Bys for Browns Ferry Unit 1 can be found in Appendix D of this document.

## 4.1 SWEL Selection

The development of SWEL 1 began with the integrated Safe Shutdown Equipment List (SSEL) that was developed for the resolution of USI A-46 program and the implementation of Individual Plant Examination for External Events (IPEEE) program for Browns Ferry Unit 1 (Refs. 5 and 6, respectively). This list was divided by unit, location, system, and equipment class. After separating the data into these categories, equipment was selected to represent the multiple equipment classes. Many of the suggested equipment classes that were listed in the EPRI guidance were not included in the original SSEL. In order to include all of the recommended classes of equipment, the scope of the selection was expanded to cover all Seismic Category 1 Safety Related equipment.

After a wide variety of environments and equipment classes were satisfied, each entry in the list was assigned to one of the five safety functions that support safe shutdown of the plant. Safety Function "0 - Support Function" was added in addition to the EPRI guidance to include equipment that does not perform one particular safety function but does support all five primary safety functions. These six safety functions are:

0. Support function
1. Reactor reactivity control
2. Reactor coolant pressure control
3. Reactor coolant inventory control
4. Decay heat removal
5. Containment function

The SSEL developed during the USI A-46 program included one path to satisfy the five safety functions listed above. The seismic IPEEE required both a preferred path and an alternate path, so the USI A-46 SSEL was expanded accordingly. In some cases there are multiple systems involved in these safety functions. In these cases SSC's from the redundant systems that were not part of USI A-46 were added to the SWEL 1. For instance, the Standby Liquid Control (SLC) system was not inspected during the USI A-46 program, and was added to the SWEL for that reason.

This categorized list is presented in Appendix B as Base List 1. After separating the data into the previously mentioned categories, a sample was selected from Base List 1 to represent all Special Considerations that were required by the EPRI Walkdown

Guidance. Once safety functions were assigned, the equipment was reviewed and compared to plant documentation to locate any new or modified equipment. To account for high risk equipment in the walkdown process, the SWEL was compared to the Core Damage Frequency (CDF) and Large Early Release Frequency (LERF) Rankings and any shared equipment was noted.

Some of the equipment classes that were listed in the EPRI walkdown guidance were not covered in the original SSEL, and therefore are not present in Base List 1. However, in order to include all of the classes of equipment, the scope of the selection was expanded for these seismic walkdowns to include other Seismic Category 1 Safety Related equipment for the classes that were not previously covered.

SWEL 1 represents the full list of equipment that was selected from Base List 1 and from the Category 1 equipment list. SWEL 1 can be found in Appendix D.

Base List 2, presented in Appendix C, is a list of all spent fuel pool systems and equipment. SWEL 2 consists solely of equipment related to the Spent Fuel Pool at the site, including any equipment or system failure that could cause rapid drain-down of the pool and accidental exposures of fuel assemblies. The Spent Fuel Pool system was reviewed with the system engineers and it was determined that there is no path for rapid drain-down to occur. The full list of seismic category 1 SSC's was reviewed and it was determined that there were 5 pieces of equipment related to the spent fuel pool that were seismic category 1 and fit into one of the equipment categories. These pieces of equipment make up SWEL 2.

## 4.2 SWEL Analysis

The combined SWEL for Browns Ferry Unit 1 consists of 120 items of equipment. The SWEL for Browns Ferry Unit 1 adequately addresses all criteria that were required for the selection of SSCs in the EPRI Seismic Walkdown Guidance. These criteria include a distribution of environments, systems, safety functions, and classes of equipment.

The following items were selected in order to address the new and improved equipment criteria for Browns Ferry Unit 1:

| UNID | DESCRIPTION |
|---|---|
| BFN-1-XFA-231-TS1A | BFN-1-XFA-231-TS1A, 4KV/480V XFMR TS1A |
| BFN-1-XFA-231-TS1B | BFN-1-XFA-231-TS1B, 4KV/480V XFMR TS1B |
| BFN-1-CLR-064-0068 | EECW/RHR PUMP 1A ROOM COOLER |
| BFN-1-CLR-067-0918 | EECW/RHR PUMP 1B ROOM COOLER |
| BFN-1-CLR-064-0072 | EECW/CS PUMP 1A ROOM COOLER |
| BFN-1-CLR-067-0920 | EECW/CS PUMP 1B ROOM COOLER |
| BFN-1-CLR-064-0070 | EECW/RHR PUMP 1C ROOM COOLER |
| BFN-1-CLR-067-0922 | EECW/RHR PUMP 1D ROOM COOLER |
| BFN-1-CHGD-283-00A1-1 | 24V NEUTRON BATTERY CHARGERS A1-1 |
| BFN-1-INVT-256-0001 | BFN-1-INVT-256-0001, ECCS ATU INVERTER |
| BFN-1-INVT-256-0002 | BFN-1-INVT-256-0002, ECCS ATU INVERTER DIV II |
| BFN-1-LPNL-925-0005A | BFN-1-LPNL-925-0005A, REACTOR PROTECTION & NSS PNL |
| BFN-1-LPNL-925-0005B | BFN-1-LPNL-925-0005B, REACTOR PROTECTION & NSS PNL |
| BFN-1-LPNL-925-0006A | BFN-1-LPNL-925-0006A, REACTOR PROTECTION & NSS PNL |
| BFN-1-LPNL-925-0006B | BFN-1-LPNL-925-0006B, REACTOR PROTECTION & NSS PNL |
| BFN-1-LT-064-0159A | TORUS LEVEL TRANSMITTER |
| BFN-1-LT-064-0159B | TORUS LEVEL TRANSMITTER |

Table 1. New/Improved Equipment

## 5) Seismic Walkdowns and Area Walk-Bys

Guidance for performing the walkdowns and walk-bys required for Fukushima NTTF Recommendation 2.3 can be found in Reference 3 – *The Electrical Power Research Institute's Seismic Walkdown Guidance.*

The walkdowns and walk-bys were conducted in accordance with these guidelines and each was given a final status. If no issues were noted or housekeeping and minor maintenance issues were noted during a walkdown or walk-by, a YES status was given to the selected piece of equipment or area. If a potentially adverse seismic condition was noted, a NO status was given and the equipment was entered into the Corrective Action Program (CAP) to begin a functional evaluation. If equipment was inaccessible, or if a portion of an item of equipment was unobservable, an UNKNOWN status was given. It is noted that there were no inaccessible SWEL items at Browns Ferry Unit 1.

### 5.1 Seismic Walkdown Checklists

One hundred twenty (120) out of one hundred twenty (120) Seismic Walkdown Checklists (SWCs) were completed at Browns Ferry Unit 1. The SWCs completed at Browns Ferry Unit 1 can be found in Appendix E of this document. The types of potentially adverse seismic conditions that were addressed during these walkdowns include:

- Bent, broken, missing, or loose hardware
- Corrosion that is more than mild
- Visible cracks in surrounding concrete
- Impact of soft targets
- Collapsing equipment
- Line flexibility

Forty-two (42) Area Walk-By Checklists (AWCs) were completed at Browns Ferry Unit 1. These AWCs can be found in Appendix F of this document. The types of potentially adverse seismic conditions that were addressed during these walk-bys include:

- Anchorage of equipment
- Degraded conditions of anchorage
- Cable/conduit raceways and HVAC ducts
- Spatial interactions between equipment
- Flooding/spray hazards
- Fire hazards
- Housekeeping and temporary equipment

Anchorage configuration for 50 items of equipment in Browns Ferry Unit 1 was verified by drawings, calculations, and/or the A-46 Screening Evaluation Worksheets (SEWs).

For cabinets and panels that were selected for walkdown, NRC guidance was followed to determine which could and could not be opened for internal inspection. Undue safety hazards, operational hazards, or cabinets that required extensive disassembly were documented and only observable anchorage was included in those walkdowns.

### 5.2 SWC Summary & AWC Summary

The results documented by the SWCs and AWCs for Browns Ferry Unit 1 are summarized below:

- 119 SWCs resulted in a YES status
- 1 SWCs resulted in a NO status
    - Potentially Adverse Seismic Condition 1
        - BFN-1-PNLA-009-0036A – PANEL 1-9-36A
- 41 AWCs resulted in a YES status
- 1 resulted in a NO status
    - Potentially Adverse Seismic Condition 2 – 072 Area Above Clean Room

# 6) Licensing Basis Evaluations

## 6.1 Licensing Basis Calculations

When a potentially adverse seismic condition was identified at BFN, the condition was entered into the corrective action program. No licensing basis evaluations were performed by the walkdown team per TVA expectations to communicate any potential operability concerns as soon as they were identified. Due to the nature of this process, no calculations were performed by the walkdown team for licensing basis evaluations before the CAP entry was submitted. All licensing basis determinations were performed by BFN engineering on each CAP entry.

Multiple CAP entries were generated during the seismic walkdown process at Browns Ferry Unit 1. There were a total of two CAP entries that were considered potential seismically adverse conditions. No degraded or non-conforming conditions were found during the course of this walkdown process.

## 6.2 Potential Seismically Adverse Conditions

The potentially adverse seismic conditions summarized above are described in more detail below.

### 6.2.1Potentially Adverse Seismic Condition 1

During the walkdown of the Auxiliary Instrument Room Panel 009-0036A (BFN-1-PNLA-009-0036A), it was found that a light inside the cabinet was missing its protective cage. During a seismic event, there would be a possibility that the light bulb could dislodge and potentially impact soft targets inside the panel. This was entered into the Corrective Action Program and is scheduled to be replaced.

### 6.2.2 Potentially Adverse Seismic Condition 2

During the walkdown of the area 072 above the clean room in the Unit 1 Reactor Building, it was noted that a fire protection sprinkler head was in close proximity to an electrical conduit. This was entered into the Corrective Action Program, and analysis of the sprinkler head has concluded that no further action is required.

# 7) IPEEE Vulnerabilities Resolution Report

## 7.1 IPEEE Description

In Generic Letter 88-20, Supplement 4, the US Nuclear Regulatory Commission (NRC) requested that the utilities for all active nuclear power plants in the United States perform an evaluation of their nuclear power generating facilities to identify any vulnerabilities associated with the occurrence of several plant-specific external events, and to access the impact of these vulnerabilities on the potential for plant core damage or radioactive material release. This program, designated the Individual Plant Examination of External Events (IPEEE), is a corollary program to the Individual Plant Examination (IPE) which focused on the vulnerabilities associated with the occurrence of external events. Browns Ferry was designated as a 0.3g focused scope plant for the seismic IPEEE.

## 7.2 IPEEE Findings and Vulnerabilities

The IPEEE Report for the Browns Ferry Nuclear Plant Unit 1 had no vulnerabilities. Browns Ferry performed their IPEEE walkdowns along with the Unresolved Safety Issue A-46 walkdowns. Any adverse condition that was identified during the walkdowns was fixed during the A-46 plant inspections.

Note that common systems to Browns Ferry Units 1, 2, and 3 were not addressed in the Browns Ferry Unit 1 seismic IPEEE because those were fully covered by the earlier Browns Ferry Units 2 and 3 seismic IPEEE programs. As such, IPEEE findings and vulnerabilities to common systems are not discussed herein.

# 8) Peer Review

A peer review was performed in accordance with References 2 and 3. The peer review process involved considerable interaction with the review teams, and was performed throughout all phases of the effort including the following:

- Selection of the SSCs included on the SWEL
- In-plant walkdown observations and completed checklists for the Seismic Walkdowns and Area Walk-Bys
- Identified potentially adverse seismic conditions, utilization of the CAP process, and associated licensing basis review considerations
- Submittal report

In summary, the peer review results are confirmatory and fully supportive of the evaluations and findings as described in this report. The completed peer review report is included as Appendix G to this report.

# 9) References

| Reference No. | Document Title | Document Number | Preparer |
|---|---|---|---|
| 1 | Recommendations for Enhancing Reactor Safety in the 21st Century | N/A | United States Nuclear Regulatory Commission |
| 2 | Letter: Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54 (f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Daiichi Accident | N/A | United States Nuclear Regulatory Commission |
| 3 | Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic | EPRI 1025286 | Electric Power Research Institute |
| 4 | BFN FSAR, Revision 4 | BFN-16 | Tennessee Valley Authority |
| 5 | BFN 1 USI A-46 Report | 01-R-004 | Tennessee Valley Authority |
| 6 | BFN 1 IPEEE Report | 01-R-005 | Tennessee Valley Authority |
| 7 | Generic Implementation Procedure (GIP) for Seismic Verification of Nuclear Plant Equipment - Revision 3A, December 2001 | N/A | Seismic Qualification Utilities Group |
| 8 | Implementation Guidelines for Seismic Qualification of New and Replacement Equipment/Parts (NARE) Using the Generic Implementation Procedure (GIP) - Revision 5 October 2002 | N/A | Seismic Qualification Utilities Group |
| 9 | BFN FSAR | BFN-24.4 | Tennessee Valley Authority |

# 10) Appendices

Appendix A: Resumes

Appendix B: Base List 1

Appendix C: Base List 2

Appendix D: SWELs and Areas

Appendix E: SWCs

Appendix F: AWCs

Appendix G: Peer Review Report

# Appendix A: Resumes

Resumes included in this Appendix are alphabetized by last name.

- Josh Best – TVA
- Jason Black – Walkdown Engineer
- George Bongart – Walkdown Engineer
- Avinash Chunduri – Walkdown Engineer
- John Dizon – Facility Risk Consultants
- Steve Eder – Facility Risk Consultants
- James Edgar – Lead Technical Engineer
- Steve Gray – Retired SRO
- Jeffry Lawrence – Walkdown Engineer
- Patrick McCarraher – Walkdown Engineer
- Nicholas Pressler – Lead Engineer
- Steve Samaras – Site Engineering

# Joshua H. Best

jhbest@tva.gov or Joshua.H.Best@sargentlundy.com


**TVA Fukushima Response Team Project Engineer – Civil Design**

## Experience

**S&L, LLC** TVA Fukushima Response Team Project Engineer – Civil Design Dec. 2011 – Present

- Primary technical lead for NRC's request for information under 10 CFR 50.54(f) Recommendations 2.1 – Seismic and Flooding Re-evaluations and 2.3 – Seismic and Flooding walk downs including developing project strategy, project scoping, developing and maintaining project schedules and budgets, participating in industry meetings and teleconferences, and contractor oversight.
- Responsible for supporting all civil design functions associated with response to NRC "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond Design Basis External Events" as required under EA-12-049.

**S&L, LLC.** Mechanical Senior Associate - Pipe Stress Analyst June 2008 to Nov. 2011

- ASME Class 2 and 3 and B31.1 piping and component qualification using TVA TPIPE piping analysis software and hand calculations
- Knowledge of AMSE B31.1 and ASME Section III and VIII code requirements
- Responsible for Minimum Wall Calculations (FAC Evaluations), Component Qualifications (valves and nozzles), Commodity Clearance Evaluations, Temporary Shielding Requests (pipe stress qualification), and Functional Evaluations for Plant Operability
- Task Manager for numerous design change packages at Browns Ferry, Watts Bar and Sequoyah nuclear plants including responsibility for scoping and maintaining project schedule, budget, and interdisciplinary work flow

**Tennessee Valley Authority**, Fossil Power Group, Intern June 2007 – May 2008
Technical Support Services (Metallurgy and Welding)

## Memberships

•Licensed Engineering Intern in Tennessee (Passed Fundamentals of Engineering Exam (October 2007))
•Member of American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)
•Member of American Society of Mechanical Engineers (ASME)

## Education

**BSME,** Mechanical Engineering: May 2008
**University of Tennessee at Chattanooga**, Chattanooga, TN
**Focus**: Energy Systems
**Related Course Work:** Thermodynamics, Thermal Component Design, Advanced Fluids, Energy Conversion

**Bachelor of Arts,** Natural Science: May 2008
**Covenant College,** Lookout Mountain, GA
**Related course work:** Physics, Chemistry, and Mathematics

**WorleyParsons**
resources & energy

**Jason Black**
**Structural Engineering Associate**

**Resume**

## SUMMARY

Structural Engineering Associate experience includes cable routing and pipe support analysis. Experienced in RISA, AutoCAD, and SolidWorks programs.

## EXPERIENCE

**2011 - Present** **Structural Engineering Associate, WorleyParsons, Chattanooga, Tennessee**

**Tennessee Valley Authority (TVA) – Brown's Ferry Nuclear Plant Units 1 and 2.** Responsibilities include:

- Designate routes for cables
- Modify drawings using AutoCAD 2008
- Prepare and check spreadsheets to submit to TVA
- Prepare paperwork for EDC to close project.

**2010** **Structural Engineering Intern, WorleyParsons, Chattanooga, Tennessee**

**TVA – Watts Bar Nuclear Plant Pipe Support Project.** Trained as an originator to analyze pipe supports and complete calculation packages using Matlab, Excel, AutoCAD, and other programs. Retrieved information from TVA's database business support library (BSL). Assembled and filed folders to assist drafters. Used Microsoft Access to organize and track work completed on project.

**2005 - 2010** **Mathematics Tutor, UTC Math Lab, Chattanooga, Tennessee**

Tutored students in mathematics ranging from pre-Algebra to Calculus II. Responsible for:

- Cataloging math grades using Microsoft Access
- Inputting data entry for student testing
- Filing math tests
- Responding to phone inquiries.

## EDUCATION

B.S., Civil Engineering, University of Tennessee at Chattanooga, 2010

## SPECIFIC TECHNICAL EXPERTISE/SPECIALIST COURSES

Proficient in Microsoft Office, SolidWorks CAD Program, and Risa 2D Structural Software

Familiar with AutoCAD® 2009 and Matlab

**WorleyParsons**
resources & energy

**George Bongart, E.I.T.**
**Civil Engineer-in-Training**

**Resume**

## SUMMARY

Civil Engineer-in-Training with experience with WorleyParsons on large and small projects, with a particular emphasis in material takeoffs and preparation of technical documents. Previous experience includes construction observation, drawing review, and specification preparation.

## EXPERIENCE

**2012 - Present** **Civil Engineer-in-Training, WorleyParsons, Reading, Pennsylvania**

**American Electric Power, Rockport, Indiana.** Responsible for entering drainage data and modeling the existing stormwater system for the area around the plant in StormCAD. Support the preparation of the stormwater pollution and prevention plan for the trailer park relocation portion of the project, and update the associated attachments binder with the relevant information to this portion of the project.

**American Electric Power, Louisa, Kentucky – Big Sandy Unit 2 Retrofit Project.** Responsible for a portion of the material takeoffs in the flue gas desulfurization (FGD) byproduct handling and the barge unloading areas. Also responsible for the review of the estimate in regards to the quantities to ensure accuracy.

**FirstEnergy, Cleveland, Ohio.** Responsible for quantity takeoffs for the site development portion of the project; also responsible for checking and revising the estimate for accuracy in regards to the quantities entered. Supported the preparation of the design basis document, by researching local conditions and filling in the required information, where needed.

**GenOn, Bangor, Pennsylvania.** Supported the updating of the bonding worksheets for the Pennsylvania Department of Environmental Protection for the current year.

**PPL Corporation, Lancaster, Pennsylvania.** Responsible for the quantity takeoffs of the preliminary design work.

**2009** **Engineering Intern, SEPTA, Philadelphia, Pennsylvania**

Construction Observation. Performed multiple site visits to ensure contractors abided by the specifications. Also observed several grade crossing renewal projects, also an active member in the field engineering team.

Drawing Review. Reviewed design drawings for external contacts including the water and gas departments for the City of Philadelphia to ensure that their proposed construction would not interfere with SEPTA facilities and systems.

Specification Writing. Wrote a specification for line striping on future SEPTA projects. Work included contacting the City of Philadelphia for their requirements and consulting PennDOT publications for state requirements

## EDUCATION

B.S., Civil Engineering, University of Hartford, 2010

Currently attending Villanova University, Pennsylvania to obtain M.S., Civil Engineering - Expected graduation 2012.

## REGISTRATIONS/AFFILIATIONS

Engineer-In-Training, Connecticut, 2010

## SPECIFIC TECHNICAL EXPERTISE/SPECIALIST COURSES

| | | |
|---|---|---|
| Microsoft Office Suite | AutoCAD | AutoTurn |
| HEC-RAS | HCS 2000 | Sidra Intersection |

**WorleyParsons**
resources & energy

# Avinash C. Chunduri
**Structural Engineering Specialist**

**Resume**

## SUMMARY

Four years of professional work experience, including three years with WorleyParsons, in the civil engineering field including design of structural steel members, connections, and reinforced concrete foundations and pump stations for power and petrochemical facilities. Worleyparsons' experience includes design of new structures and rehabilitating existing structures for petrochemical and fossil power facilities. Technical experience also includes dynamic qualification of equipment foundations, structural analysis and design, structural field support activities, and expertise in computer programs used for analysis and design. Familiarity with AISC-ASD, AISC-LRFD, ACI, ASCE, and IBC code design requirements.

## EXPERIENCE

### 2007 - Present Structural Engineering Specialist – WorleyParsons, Reading, Pennsylvania

**Tennessee Valley Authority (TVA), Watts Bar Nuclear Plant, Unit 2** – Originate pipe support calculations including the design of rigid struts, mechanical snubbers, spring cans, gang supports, and several other rigid restraints. Design includes originating new supports and updating existing supports for new loading.

**Southern Company Services, Georgia Power Plant Scherer, Juliette, Georgia, Air Quality Control Project** – Project consists of four nominal 923 MW (gross), coal-fired units for retrofit of selective catalytic reactors (SCR) systems for each unit. Responsibilities include:

- Evaluate Units 1, 2, 3, and 4 boiler house and duct work for changes in pressures and existing steel structure system for SCR units.
- Create STAAD model of boiler house building for the analysis of structural elements, and determine the demo sequences.
- Design structural steel supports for segments of ductwork for Units 3 and 4 to facilitate future construction schedule, and support contract erection requirements.

### 2006 - 2007 Project Engineer – Formosa Plastics, Texas

Reviewed local building code requirements and made recommendations to the appropriate personnel. Maintained regular communication with all departments and vendors throughout each project. Ensured adherence to the timelines and budget. Coordinated all aspects of the pre-building phase of each project by identifying critical deadlines, scheduling appropriate meetings, and raising potential problems to be solved practically. Monitored and proactively addressed issues to ensure project progress to timeline and budget. Developed structural engineering analysis models and design calculations. Conducted post-budget analysis and proposed solutions to previous problems.

### 2005 - 2006 Graduate Research Assistant – TXDOT, Texas

Conducted/implemented experimental work on cost benefit analysis of landscaping projects for TXDOT. This project involved cultivating own methods for calculating and estimating the costs and benefits by creating cost benefit evaluation matrix which would work out for any desired specimen. Provided technical and market analysis to evaluate proposed products. Under the direct supervision of head of the department, carried out research on assigned research problems, contributing to the attainment of research objective. Coordinated development and review of TXDOT landscape projects, and prepared calculations, technical reports, studies, and specifications.

**Resume**

**2003** **Design Engineer – BHEL, Hyderabad, India**

Worked with designers and project engineers to develop design packages for new capital projects. Developed timely, completed and detailed designs for capital projects. Designed analyzer room, overhead transmission and distribution line structures, foundations, and their related facilities. Provided design calculations and drawings for foundations to new equipment, pipe support and structures. Compared values from manual calculations with STAAD Pro results. Prepared requisitions of materials/equipments, design sewers, and construction services.

**2002** **Student Intern – IJMI, Hyderabad, India**

Worked on project controls, prolog/project management and spreadsheet software. Monitored, controlled, and updated project schedules. Prepared change order request status, contract documents, plans, spreadsheets, owner contracts, and construction contracts. Built and maintained effective and professional working relationships with project managers, owners, architects, engineers, and subcontractors. Wrote an internship report detailing arguments and how learning objectives are achieved. Field and lab non-destructive testing and analysis; technical report writing.

## EDUCATION

M.S., Civil Engineering, Texas A&M University, Texas, 2006

Graduate Research Assistantship, Texas A&M University, 2005 - 2006

B.E., Civil Engineering, JNT University, Hyderabad, India, 2005

Project Management Certification, Lehigh University, Pennsylvania, 2010.

## REGISTRATIONS/AFFILIATIONS

Registered Engineer-in-Training – Pennsylvania, 2008

## SPECIFIC TECHNICAL EXPERTISE/SPECIALIST COURSES

| | |
|---|---|
| Microsoft Office | FRAMEWORKS |
| MathCAD | MicroStation |
| STAAD | Smart Plant 3D Structural Applications |
| AutoCAD | Encompass® |
| Risa 3D | Microsoft Project |
| HEC-RAS | HEC-HMS |

# JOHN O. DIZON, P.E.

## PROFESSIONAL HISTORY

*Facility Risk Consultants, Inc.*, Huntsville, Alabama, President, 2002-present
*ABS Consulting (formerly EQE International)*, Oakland, California, Director and Vice President of Facility Risk Division, 2000-2002
*EQE International*, Oakland, California, Vice President, 1998-2000; Associate, 1991-1998; Senior Engineer, 1986-1991
*Engineering Decision Analysis Company*, Cupertino, California, Senior Engineer, 1984-1986
*General Electric Company*, San Jose, California, Senior Engineer, 1984
*URS/John A. Blume & Associates*, San Francisco, California, Senior Engineer, 1982-1984; Associate Engineer, 1977-1980
*Structural Systems Engineering, Inc.*, Lafayette, California, Senior Engineer, 1980-1982
*Stanford University*, John A. Blume Earthquake Engineering Center, Palo Alto, California, Teaching and Research Assistant, 1975-1977

## PROFESSIONAL EXPERIENCE

Mr. Dizon has over 30 years of experience in the field of civil and structural engineering, earthquake engineering, risk assessment and project management. He has extensive knowledge in the areas of seismic analyses and design assessments of primary structures and piping systems, seismic upgrade and retrofit design, seismic qualification of mechanical and electrical systems and components, and technical development of seismic evaluation criteria and programs for various industries, including power, oil and gas, petrochemical, and high tech process and manufacturing facilities. Mr. Dizon has undertaken and managed a wide variety of seismic projects, ranging from traditional structural engineering design and seismic retrofits to complex nuclear power plant and DOE facilities' seismic verification projects. He is also a guest instructor for the ASME Continuing Education Institute on seismic design and retrofit of piping systems and mechanical equipment.

At present, Mr. Dizon is primarily involved with Tennessee Valley Authority (TVA), under a subcontract with Bechtel Power Corporation, in providing engineering consulting services for various structural and seismic-related civil issues in support of Watts Bar Nuclear Power Plant Unit 2 Completion Project. He also provides seismic consulting services to other industries, including defense contractors and commercial equipment manufacturers, among others.

As President of Facility Risk Consultants, Mr. Dizon is responsible for business development and project management activities, including managing all associated tasks under a subcontract with Bechtel Power Corporation for seismic-related civil issues associated with the recently completed Browns Ferry Unit 1 Restart Project for Tennessee Valley Authority. The seismic works included USI A-46/IPEEE implementation programs, seismic II/I spray hazard evaluations, new cable routing utilizing the SQUG/GIP methodology, MSIV seismic ruggedness verification, among others. Furthermore, he was also actively involved in the development of seismic II/I design criteria for distribution systems and equipment for

DOE's PDCF project, under a subcontract with the Washington Group, Inc.; and in the seismic qualification of various essential equipment for DoD's GMD project, under a subcontract with Bechtel National, Inc. and its vendors. In addition, Mr. Dizon has participated as a subject matter expert witness in a litigation project for a large foreign company in the area of seismic performance of structures, piping systems and associated equipment associated with earthquake damges in a coal-fired power plant located in South America.

As EQE Project Manager for various seismic programs associated with the restart of Browns Ferry Units 2 and 3, Mr. Dizon was responsible for all engineering activities associated with USI A-46 resolution and seismic IPEEE implementation; seismic proximity and II/I spray interaction evaluations; MSIV seismic ruggedness verification; cable tray and conduit raceway and supports; and HVAC support evaluation programs. These activities consisted of seismic criteria development, seismic walkdown assessments and mitigation of findings, including retrofit designs and plant upgrades. He was also responsible for the A-46 seismic evaluation program for major equipment items at Davis-Besse, Duane Arnold and H.B. Robinson power plants. Mr. Dizon also served as Project Manager for the HVAC seismic verification program at Salem Nuclear Plant, MSIV seismic projects at Hope Creek and Brunswick plants, and participated in a number of related seismic evaluation projects at Sequoyah, Watts Bar, Bellefonte, Pickering A, Bruce A, Forsmark, Liebstadt, among others.

As Managing Director of EQE's Hsinchu, Taiwan project office following the 1999 Chi-Chi earthquake, he was in charge of the region's business development and project management. Mr. Dizon managed a number of seismic risk assessment and structural upgrade projects for the high tech industry, including seismic consultation on a number of projects for Taiwan Semiconductor Manufacturing Co., seismic strengthening projects for United Microelectronics, Applied Materials, Winbond Electronics and Macronix International in Taiwan. In addition, he also managed the seismic upgrades for the Cypress Semiconductor and Amkor facilities and seismic design review project for IBM in the Philippines, seismic risk assessment for AMP facilities in Japan, and seismic assessment of structural and non-structural components of clean room facilities at several Intel fab plants in the Northwest region in U.S., among others.

As Group Manager for EQE at the US Department of Energy Savannah River Site, Mr. Dizon was responsible for the seismic verification program of safety-related mechanical and electrical systems and components. His tasks included developing seismic evaluation criteria and procedures for restart and long-term seismic programs; managing the seismic walkdown and evaluation efforts; providing technical support in resolving seismic issues; and serving as an interface with the client. Mr. Dizon was also responsible for the seismic walkdown and evaluation of various distribution systems and critical equipment at the Pantex Facilities, including developing the walkdown screening criteria and evaluation acceptance criteria. Mr. Dizon has participated in the seismic evaluation of the High Flux Isotope Reactor at Oak Ridge National Laboratory. This project involved performing seismic analyses and upgrades for the primary coolant piping system and related equipment, and the reactor and control buildings. Other DOE facilities he has involvement with included Los Alamos, Livermore and Hanford sites. Mr. Dizon has also been involved in a number of risk assessment programs for petrochemical plants and refineries, including seismic walkdowns at the

Imperial West Chemical plants in Pittsburg and Antioch, CA; Tosco Refinery in Avon, CA; and Dupont Chemical plant in Antioch, CA, among others.

At EDAC, Mr. Dizon was responsible for the development and verification of a pipe support optimization program (OPTPIPE) and was involved in a number of snubber reduction pilot projects. Other areas of his involvement consisted of finite element analyses of the MX-missile launch tube components and systems for thermal and pressure loads, equipment qualification of major mechanical and electrical components, and seismic evaluation of cooling towers.

With General Electric Company, Mr. Dizon was responsible for stress analysis and code conformation of main steam and recirculation piping systems for generic BWR plants. He was also involved in the developmental phase of an in-house pipe support optimization program.

At URS/Blume & Associates, Mr. Dizon was responsible for the development and maintenance of in-house computer programs for both linear and nonlinear analyses of structural and piping systems. He was also involved in the linear and nonlinear dynamic analyses, finite element modeling, and generation of floor response spectra for several nuclear power plants. He helped develop a soil-structure interaction computer program using a three-dimensional finite element technique to evaluate the dynamic response of structures due to arbitrary plane body and surface wave excitations. He performed a research study involving soil-structure interaction analysis using the finite element FLUSH program to investigate the dynamic response of typical containment structures due to underground blast excitations.

Mr. Dizon worked as a consultant to Bechtel Power Corporation with Structural Systems Engineering, Inc. He performed structural analyses and design assessments of the primary containment structure and the reactor/control buildings of several BWR plants for the various types of hydrodynamic loads. He was involved in a BWR in-plant test procedures, data reduction and correlation study to determine the dynamic response, including soil-structure interaction of the reactor/control buildings during GE Mark II reactor hydrodynamic load actuation in the primary containment.

At Stanford University, Mr. Dizon performed statistical analyses of earthquake accelerograms and various response parameters, as part of his research work under Professor Haresh Shah. He also conducted seismic risk analyses and formulated seismic design criteria for Nicaragua. In addition, he was involved in the dynamic testing of structural models and equipment.

## EDUCATION

STANFORD UNIVERSITY, Palo Alto, California: Engineer Degree, 1977
STANFORD UNIVERSITY, Palo Alto, California: M.S. Structural Engineering, 1975
MAPUA INSTITUTE OF TECHNOLOGY, Manila, Philippines: B.S. Civil Engineering, 1973

## AFFILIATIONS AND AWARDS

Multidisciplinary Center for Earthquake Engineering Research (MCEER), Strategic Partner
Philippine Board Examination for Civil Engineers, Fifth Place, 1973
Philippine Association of Civil Engineers, Certificate of Merit, 1974

## REGISTRATION

California: Civil Engineer
Philippines: Civil Engineer

## SELECTED PUBLICATIONS

With S. J. Eder, 2007. "Seismic Qualification Case Study for a New Inverter." SMiRT-19 Conference, Toronto, Canada, August 12-17, 2007.

With S. J. Eder, 2006. "Use of Earthquake Experience Data for Seismic Qualification of Equipment." Prepared for Multidisciplinary Center for Earthquake Engineering Research (MCEER). June 22, 2006.

With S. J. Eder, 2005. "Seismic Qualification Case Study." Prepared for Electric Power Research Institute and Seismic Qualification Utility Group. December 2005.

With S. J. Eder, and R. D. Cutsinger. 2003. "Browns Ferry Cable Tray Evaluations." Presented to the SQUG/SEQUAL Annual Meeting, San Antonio, TX, December 10-12, 2003.

With S. J. Eder. 2003. "Technical Position Paper for Seismic II/I Design of Cable Tray Raceway Systems at PDCF." Presented to Washington Group, Inc., December 2003.

With S. J. Eder, W. H. Tong, and E. H. Wong, 1999. "Chichi, Taiwan Earthquake of September 21, 1999 (M7.6). An EQE Briefing. Oakland, CA. October, 1999.

With S. J. Eder. 1998. "Risk Management for Power and Industrial Facilities -- Focus on Business Interruption". Second Biennial Federation of Asian Pacific & African Risk Management Organization. Manila, Philippines. October, 1998.

With F. R. Beigi. 1995. "Application of Seismic Experience Based Criteria for Safety Related HVAC Duct System Evaluation." Fifth DOE Natural Phenomena Hazards Mitigation Symposium, Denver, Colorado, November 13-14, 1995.

With S. J. Eder, J. F. Glova, and R. L. Koch. 1994. "Seismic Adequacy Verification of HVAC Duct Systems and Supports for an USI A-46 Nuclear Power Plant." Fifth Symposium on Current Issues Related to Nuclear Power Plant Structures, Equipment and Piping, Orlando, Florida, December 14-16, 1994.

With E. J. Frevold and P. D. Osborne. 1993. "Seismic Qualification of Safety-related HVAC Duct Systems and Supports." ASME Pressure Vessel and Piping Division Conference, Denver, Colorado, July 1993.

With S. J. Eder. 1991. "Advancement in Design Standards for Raceway Supports and Its Applicability to Piping Systems." ASME Pressure Vessel and Piping Division Conference, San Diego, California, June 1991.

With R. D. Campbell and L. W. Tiong. 1990. "Response Predictions for Piping Systems Which Have Experienced Strong Motion Earthquakes." ASME Pressure Vessel and Piping Conference, Nashville, Tennessee, June 17-21, 1990.

With S. P. Harris, R. S. Hashimoto, and R. L. Stover. 1989. "Seismic, High Wind, and Probabilistic Risk Assessments of the High Flux Isotope Reactor." Second DOE Natural Phenomena Hazards Mitigation Conference.

With D. Ray and A. Kabir. 1979. "A 3-D Seismic Analysis for Arbitrary Plane Body and Surface Wave Excitations." American Society of Civil Engineers Nuclear Specialty Conference, Boston, Massachusetts.

With D. Ray and A. Zebarjadian. 1978. "Dynamic Response of Surface and Embedded Disk Foundations for SH, SV, P and Rayleigh Wave Excitations." Sixth Indian Symposium on Earthquake Engineering, Roorkee, India.

"A Statistical Analysis of Earthquake Acclerograms and Response Parameters." 1977. Thesis, Stanford University, Palo Alto, California,

With H. Shah, T. Zsutty, H. Krawinkler, and L. Padilla. 1977. "A Seismic Design Procedure for Nicaragua." Paper presented at the Sixth World Conference on Earthquake Engineering, New Delhi, India.

With H. Shah, T. Zsutty, H. Krawinkler, C. P. Mortgat, and A. Kiremidjian. 1976. "A Study of Seismic Risk for Nicaragua, Part II, Summary and Commentary." John A. Blume Earthquake Engineering Center, Report No. 12A and 12B. Stanford University, Palo Alto, California.

## STEPHEN J. EDER

## PROFESSIONAL HISTORY

*Facility Risk Consultants,* Huntsville, Alabama, Chief Executive Officer, 2003-present

*ABS Consulting,* Houston, Texas, Vice President, North Asia Pacific Region, 2001-2003

*EQE International,* San Francisco, California, Senior Vice President, 1985-2001 (ABS Purchased EQE in 2000).

*URS/John A. Blume & Associates, Engineers,* San Francisco, California, 1982-1985

*J. G. Bouwkamp, Inc., Structural Engineers,* Berkeley, California, 1981-1982

## PROFESSIONAL EXPERIENCE

Mr. Stephen J. Eder provides senior engineering and management consultant services, licensing support, and expert testimony in the fields of natural hazards risk assessment, seismic analysis, structural performance evaluation, and retrofit design. His background includes project management, engineering, risk management, and planning for domestic and multinational corporations, insurance and financial institutions, construction companies, utilities, and the government. Mr. Eder is based in Madison, Alabama.

Prior to Facility Risk Consultants, Mr. Eder was stationed in Tokyo, Japan for 8 years and led all operations for ABS Consulting Inc. (formerly EQE International, Inc.) in Japan, China, Korea and Taiwan -- including risk consulting, structural engineering and design, probabilistic financial loss estimation, and the development and maintenance of management systems.

Mr. Eder has performed many post-earthquake reconnaissance studies -- most notably he led investigations of the M8.4 earthquake in Arequipa, Peru of June 2001; the M7.6 earthquake in Chichi, Taiwan of September 1999; and he was lead investigator of the M8.1 earthquake in Mexico of September 1985, for the US Electrical Power Research Institute (EPRI).

Prior to his assignment in Japan, Mr. Eder focused primarily in the seismic risk evaluation and seismic retrofit design of critical equipment and systems. Mr. Eder pioneered the development of many seismic risk evaluation procedures and criteria for the US and European nuclear power industry, the Seismic Qualification Utilities Group (SQUG), and the US Department of Energy (DOE). This included conducting a series of week-long seismic evaluation training courses for a total of about 500 engineers, and serving as subject matter expert and technical liason for industry groups.

Mr. Eder served as project manager or project consultant for the seismic risk surveys of critical equipment and systems at about 60 nuclear power plants in the US and Europe, and many DOE facilities. He performed research for and supported many U.S. industry and professional groups, to advance the state-of-the-art of seismic risk assessment techniques and seismic design guidelines.

## EDUCATION

UNIVERSITY OF CALIFORNIA, Berkeley: M.Eng., Structural Engineering and Structural Mechanics, 1982

CLARKSON COLLEGE OF TECHNOLOGY, Potsdam, New York: B.S., Magna Cum Laude, Civil and Environmental Engineering, 1980

## REGISTRATION

California: Civil Engineer, 1985

Alabama: Civil Engineer, 2003

## PROFESSIONAL AND BUSINESS AFFILIATIONS

American Society of Civil Engineers

Earthquake Engineering Research Institute

Structural Engineers Association of Northern California

Applied Technology Council

Tau Beta Pi National Engineering Honor Society

Phi Kappa Phi National Honor Society

American and British Chambers of Commerce in Japan

## COMMITTEES -- PAST EXPERIENCE

- *Electric Power Research Institute* - Post Earthquake Investigation Team - Leader
- *U.S. Department of Energy* – Tiger Team Member – Natural Hazards Risk Analysis
- *U.S. Department of Energy* - Steering Committee on Natural Hazards – Technical Liason – Mechanical and Eletrical Equipment Evaluation and Design
- *Seismic Qualification Utility Group* – Equipment Seismic Evaluation Training – Lead Instructor and Subject Matter Expert
- Joint *American Society of Mechanical Engineers* and *Institute of Electrical and Electronics Engineers* - Special Seismic Qualification Working Group - CoChairman
- *National Center for Earthquake Engineering Research* – Critical Equipment Seismic Risk Analysis – Chief Researcher
- *National Fire Protection Association* (NFPA) – Seismic Technical Committee Member, NFPA-13.
- *Building Seismic Safety Council* - Seismic Rehabilitation Advisory Panel Member – Mechanical Equipment. NEHRP, FEMA 273.
- *American Society of Civil Engineers* – Electrical Raceway and HVAC Duct Seismic Design - Working Groups
- *Structural Engineers Association of California* - Seismology Subcommittee - Non-Building Structures and Equipment

## SELECTED PUBLICATIONS & PRESENTATIONS

With J. O. Dizon, 2007. "Seismic Qualification Case Study for a New Inverter." SMiRT-19 Conference, Toronto, Canada, August 12-17, 2007.

With J. O. Dizon, 2006. "Use of Earthquake Experience Data for Seismic Qualification of Equipment." Prepared for Multidisciplinary Center for Earthquake Engineering Research (MCEER). June 22, 2006.

With J. O. Dizon, 2005. "Seismic Qualification Case Study." Prepared for Electric Power Research Institute and Seismic Qualification Utility Group. December 2005.

With J. O. Dizon, and R. D. Cutsinger. 2003. " Browns Ferry Cable Tray Evaluations." Presented to the SQUG/SEQUAL Annual Meeting, San Antonio, TX, December 10-12, 2003.

With J. O. Dizon. 2003. " Technical Position Paper for Seismic II/I Design of Cable Tray Raceway Systems at PDCF." Presented to Washington Group, Inc., December 2003.

"Analysis of Ilo2 Plant Components Affected by the June 23, 2001 Mw 8.4 Arequipa, Peru Earthquake". Prepared for Hitachi Corporation. December 2002. Presented in London, U.K.

"The Use of Modeling and Natural Risk Analysis for Power Plants". Presented at Second International Conference on Mitigating Your Risks in Energy. February 2002. Singapore.

"Using Risk Based Inspection Techniques to Assess Maintenance of Power Plants". 2002. Presented at Second International Conference on Mitigating Your Risks in Energy. February 2002. Singapore.

"Preparing Your Properties for Major Earthquakes". 2001. Prepared for Architecture, Construction, and Engineering Subcomittee, American Chamber of Commerce in Japan. December 2001. Tokyo.

"Earthquake Hazards and Earthquake Risks in Tokyo". 2001. TELS-Setagaya, Earthquake Disaster Information and Preparedness Seminar. October 2001. Tokyo.

"Geographic Information Systems". 2000. Prepared for Non-Life Insurance Institute, ISJ Advanced Course 2000 Program, Natural Hazards and Underwriting Capacity. November 2000. Tokyo.

With J. O. Dizon, W. H. Tong, and E. R. Wong, 1999. "Chichi, Taiwan Earthquake of September 21, 1999 (M7.6). An EQE Briefing. Oakland, CA. October, 1999.

With G.S. Johnson, R.E. Sheppard, M.D. Quilici, and C.R. Scawthorn, 1999. "Seismic Reliability Assessment of Critical Facilities: A Handbook, Supporting Documentation, and Model Code Provisions." Technical Report MCEER-99-0008. Multidisciplinary Center for Earthquake Engineering Research, Buffalo, NY.

"Earthquake Risk of Independent Power Producer Stations", 1999. Prepared for Lloyd's Japan Power Seminar. June 1999. Tokyo.

With J. O. Dizon. "Risk Management for Power and Industrial Facilities -- Focus on Business Interruption". Second Biennial Federation of Asian Pacific & African Risk Management Organization. Manilla, Philippines. October, 1998.

"3 Years After the Hanshin-Kobe Earthquake, Earthquake Risk Management, Damage Assessment and Mitigation". 1998. High Pressure Gase Safety Association of Japan. Vol. 35, No. 2 (1998). Tokyo.

With G. S. Johnson, R.E. Sheppard, and S.P. Harris. 1998. "A Method to Assess and Improve the Operational Reliability of Critical Systems Following Earthquakes." Presented at the 6th U.S. National Conference on Earthquake Engineering, Seattle, WA, June 1998.

With G. S. Johnson, R.E. Sheppard, and S.P. Harris. 1998. "The Development of Model Code Provisions to Address System Reliability Following Earthquakes." Presented at the ATC-29-1 Seminar on Seismic Design, Retrofit, and Performance of Nonstructural Components, San Francisco, CA, January 1998.

With D. W. Jones, M. K. Ravindra, C. R. Scawthorn, and K. Iida. 1996. "Earthquake Risk Management for Process Industries". High Pressure Gas Safety Institute of Japan. Vol. 35, No. 5 (1996). Tokyo.

With G. A. Antaki. 1994. "Recommended Provisions for Equipment Seismic Qualification Consistent with IEEE and ASME Criteria for Use of Experience." ASME 1994, PVP-Vol. 275-2, Seismic Engineering, Volume 2.

With P. J. Butler and R. P. Kassawara. 1994. "Application of the Generic Implementation Procedure Methodology to Demonstrate Seismic Adequacy of New and Replacement Equipment and Parts in USI A-46 Plants." ASME 1994, PVP-Vol. 275-2, Seismic Engineering - Volume 2. Proceedings American Power Conference, Illinois Institute of Technology, April 1994, Chicago, Illinois.

With N. P. Smith and R. P. Kassawara. 1994. "Future Direction for the Use of Earthquake Experience Data." Proceedings American Power Conference, Illinois Institute of Technology, April 1994, Chicago, Illinois.

With M. W. Eli and M. W. Salmon. November 1993. "Walkthrough Screening Evaluation Field Guide, Natural Phenomena Hazards at Department of Energy Facilities." UCRL-ID-115714, Revision 2. Lawrence Livermore National Laboratory.

"Seismic Design of Important Systems and Components--Functionality Considerations." 1993. Structural Engineers Association of Northern California, 1993 Fall Seminar, Nonstructural Components: Design and Detailing. San Francisco, California.

With C. Scawthorn, M. Zadeh, and G. Johnson. 1993. "Economic Impacts of Earthquake Damage to Nonstructural Components." 40th North American Meetings of the Regional Sciences Association International, Houston, Texas.

With M. W. Barlow, R. J. Budnitz, and M. W. Eli. 1993. "Use of Experience Data for DOE Seismic Evaluations." 4th DOE Natural Phenomena Hazards Mitigation Conference, Atlanta, Georgia.

With K. Porter, G. S. Johnson, M. M. Zadeh, and C. Scawthorn. 1993. "Seismic Vulnerability of Equipment in Critical Facilities: Life-safety and Operational Consequences." Technical; Report NCEER-93-0022. National Center for Earthquake Engineering Research.

With J. K. Arros. 1993. "Applications of Experience-based Methods for Seismic Qualification of Distribution Systems." Prepared for Advanced Reactor Corporation FOAKE ALWR Seismic Qualification Project.

With MPR Associates and Winston and Strawn. 1993. "Verifying the Seismic Adequacy of New and Replacement Equipment and Parts." Prepared for the SQUG Management Guidelines Document.

With Lawrence Livermore National Laboratory. 1992. "Program Plan for the Evaluation of Systems and Components in Existing DOE Facilities Subject to Nataral Phenonema Hazards." Prepared for the U.S. Department of Energy.

With J. O. Dizon, P. D. Baughman, and G. S. Johnson. 1992. "Peer Review of the Watts Bar Nuclear Plant Integrated Interaction Program Suspended Systems Proximity Task." Prepared for Tennessee Valley Authority.

With G. S. Hardy, G. S. Johnson, and R. W. Cushing of EQE; MPR; S&A; and URS. 1992. "Walkdown Screening and Seismic Evaluation Training Course." Prepared for Seismic Qualification Utility Group.

With M. W. Salmon. 1992. "Technical Safety Appraisal of the Idaho Chemical Processing Plant, NPH Discipline." Prepared for the U.S. Department of Energy.

With M. W. Eli. 1992. "NPH Walkdown Evaluation Summary Report - Paducah Gaseous Diffusion Plant." Prepared for the U.S. Department of Energy.

With G. S. Johnson, R. H. Kincaid, and G. S. Hardy. 1992. "High-rise Building Critical Equipment Study." Prepared for National Center for Earthquake Engineering Research.

With K. E. Smith. 1992. "Seismic Performance of Standby and Emergency Power Engine Generator Systems." Prepared for National Center for Earthquake Engineering Research.

With M. W. Eli. 1991. "Use of Earthquake Experience Data." Prepared for the Third DOE Natural Phenomena Hazards Mitigation Conference, St. Louis, Missouri.

With J. O. Dizon. 1991. "Advancement in Design Standards for Raceway Supports and Its Applicability to Piping systems." PVP-Volume 210-1, Codes and Standards and Applications for Design and Analysis of Pressure Vessel and Piping Components. ASME 1991.

"Cable Tray and Conduit System Seismic Evaluation Guidelines." March 1991. EPRI Report NP-7151. Prepared for the Electric Power Research Institute. San Francisco, CA: EQE International.

With G. S. Johnson. March 1991. "The Performance of Raceway Systems in Strong-motion Earthquakes." EPRI Report NP-7150. Prepared for the Electric Power Research Institute. San Francisco, CA: EQE International.

With G. S. Johnson. March 1991. "Longitudinal Load Resistance in Seismic Experience Data Base Raceway Systems." EPRI Report NP-7153. Prepared for the Electric Power Research Institute. San Francisco, CA: EQE International.

With J. P. Conoscente and B. N. Sumodobila. March 1991. "Seismic Evaluation of Rod Hanger Supports for Electrical Raceway Systems." EPRI Report NP-7152. Prepared for the Electric Power Research Institute. San Francisco, CA: EQE International.

With Winston & Strawn, MPR Associates, Inc., etal. June 1991. "Generic Implementation Procedure (GIP) for Seismic Verification of Nuclear Plant Equipment." Revision 2. Prepared for the Seismic Qualification Utility Group.

With M. W. Eli and L. J. Bragagnolo. 1991. "Walkthrough Screening Evaluation Field Guide, Natural Phenomena Hazards at Department of Energy Facilities." Special Release for 3rd DOE Natural Phenomena Hazard Mitigation Conference, October 1991, St. Louis, Missouri.

With L. J. Bragagnolo and J. P. Conoscente. 1990. "A Proposed Methodology for the Seismic Design of Rectangular Duct Systems." Applied Technology Center (ATC) Seminar on Seismic Design and Performance of Equipment and Nonstructural Elements in Building and Industrial Structures, Irvine, California. ATC-29.

With J. J. Johnson and N. P. Smith. 1990. "Developments of the Seismic Qualification Utility Group." Applied Technology Center (ATC) Seminar on Seismic Design and Performance of Equipment and Nonstructural Elements in Building and Industrial Structures, Irvine, California. ATC-29.

With W. Djordjevic, J. Eidinger, and F. Hettinger. 1990. "American Society of Civil Engineers Activities on Seismic Design of Electrical Raceways." Current Issues Related of Nuclear Power Plant Structures, Equipment, and Piping. Proceedings of the Third Symposium, Orlando, Florida, December 1990.

With H. L. Williams. 1990. "Qualification of Cable Tray Supports by Earthquake Experience Data: Application at H. B. Robinson Plant" Current Issues Related of Nuclear Power Plant Structures, Equipment, and Piping. Proceedings of the Third Symposium, Orlando, Florida, December 1990.

With R. P. Kennedy, J. D. Stevenson, J. J. Johnson, W. R. Schmidt, and K. Collins. June 1990. "Watts Bar Civil Program Review." Prepared for Tennessee Valley Authority.

With J. P. Conoscente, B. N. Sumodobila, and S. P. Harris. 1989. "Seismic Fatigue Evaluation of Rod Hung Systems." Prepared for the *Tenth Conference on Structural Mechanics in Reactor Technology*, (SMiRT).

With P. D. Smith and J. P. Conoscente. December 1988. "SQUG Cable Tray and Conduit Evaluation Procedure." Paper presented at the Second Symposium on Current Issues Related to Nuclear Power Plant Structures, Equipment and Piping, Orlando, FL.

With P. I. Yanev. 1988. "Evaluation of Cable Tray and Conduit Systems Using the Seismic Experience Data Base." *Nuclear Engineering and Design* (North-Holland, Amsterdam) 107: 149-153.

With S. P. Harris, P. D. Smith, and J. E. Hoekendijk. October 1988. "Performance of Condensers and Main Steam Piping in Past Earthquakes." Report prepared for General Electric Nuclear Energy Boiling Water Reactor Owners Group. San Francisco: EQE Engineering.

With J. J. Johnson, G. S. Hardy, N. G. Horstman, G. Rigamonti, M. R. Reyne, and D. R. Ketcham. August 1988. "Technical Basis, Procedures and Guidelines for Seismic Characterization of Savannah River Plant Reactors." E. I. Dupont De Nemours & Co, Aiken, South Carolina.

With S. P. Harris, P. S. Hashimoto, J. O. Dizon, B. Sumodobila, G. M. Zaharoff, and L. J. Bragagnolo. March 1988. "Seismic Evaluation of the High Flux Isotope Reactor Primary Containment System." Report prepared for Martin Marietta Energy Systems, Inc. San Francisco: EQE Engineering.

With S. W. Swan, "Summary of the Effects of the 1985 Mexico Earthquake to Power and Industrial Facilities." Proceedings of the American Society of Civil Engineers International Conference on the 1985 Mexico Earthquake, Factors Involved and Lessons Learned, Mexico City, Mexico, September 1986.

With A. F. Kabir and S. Bolourchi, "Seismic Response of Pipes Supported on Complex Framing Systems." Proceedings of the American Society of Civil Engineers Structures Congress, New Orleans, Louisiana, September 1986.

With S. W. Swan, "The Mexico Earthquake of September 19, 1985; Performance of Power and Industrial Facilities," Proceedings of the Third U. S. National Conference on Earthquake Engineering, Charleston, South Carolina, August 1986.

"Performance of Industrial Facilities in the Mexican Earthquake of September 19, 1985," Electric Power Research Institute Report No. NP-4605, Project 1707-30 Final Report, Palo Alto, California, June 1986, also presented at the IEEE Power Engineering Society Summer Meeting, Mexico City, Mexico, July 1986.

"Earthquake Response Analysis of a Braced Offshore Platform," University of California, Berkeley (June 1982), also American Petroleum Institute, October 1982, San Francisco, California.

**WorleyParsons**
resources & energy

**James P. Edgar, P.E**
**Chief Civil/Structural Engineer**

**Resume**

## SUMMARY

Project Manager with over 10 years of project retrofit, design, and management experience with WorleyParsons. Primary responsibilities included the project management, project engineering, and the overall structural engineering and design, coordination, and estimating for all types of retrofit and design projects. Tasks included structural steel design and inspection, engineering man-hour and material cost estimating, scheduling, and fabrication/erection technical support and construction field support. Responsibilities include performing as the engineering task lead for structural steel for multi-million dollar/large scale structural retrofit projects. In addition, tasks include managing the structural condition assessment services performed by the WorleyParsons' Chattanooga office.

## EXPERIENCE

**2009 - Present** **Project Manager, WorleyParsons, Chattanooga, Tennessee**

**Tennessee Valley Authority (TVA).** Oversee multi-discipline projects. Responsibilities include development, management, and execution of the project scope, schedule and budget. Typical project responsibilities include management of several concurrent projects from proposal development, to the conceptual study phase, through design implementation, and construction support.

**2006 – 2009** **Principal Structural Engineer, WorleyParsons, Chattanooga, Tennessee**

**Alstom ECS/ Kansas City Power & Light (KCPL) – Iatan Generating Station Selective Catalytic Reduction (SCR) Project, Alstom Project Partnership.** Task lead overseeing engineering and design of ductwork, new support structures and the reinforcement of the existing support structure to accommodate the SCR retrofit project. Responsibilities include originating and reviewing calculations for structural steel, ductwork, foundations and other miscellaneous structural projects associated with the SCR project. Responsible for overseeing other structural engineers and structural designers in order to facilitate the design drawings with respect to the budgeted man hours and schedule. Review and approval shop fabrication and detailed drawings for structural steel and ductwork. Facilitate all communications between the Chattanooga and Knoxville offices as well as provide estimating and scheduling for all current and future projects, optional design arrangements, and engineering studies. Conduct several site visits to determine the construction feasibility of present and future projects as well as to investigate and propose alternative arrangement options for the support of the SCR system.

**Alstom Performance Projects – Miscellaneous Projects.** Task lead overseeing engineering and design of several miscellaneous structural steel, ductwork, and fossil projects. Responsibilities include originating and reviewing calculations for structural steel, ductwork, and other structural projects associated with fossil sites. Responsible for overseeing other structural engineers and structural designers in order to facilitate the design drawings with respect to the budgeted manhours and schedule. Projects include:

- Lamma Low NOx Ductwork Installation and Structural Steel Modifications
- Desota Low NOx Ductwork Installation
- Dominion Generation Chesterfield Station Furnace Buckstay Upgrade Study

**2007 - Present** **Condition Assessment Services Team Leader, WorleyParsons, Chattanooga, Tennessee**

In addition to senior structural engineering activities, additional responsibilities include coordinating and leading condition assessment inspections at fossil power plants. The Chattanooga inspection

Coordinating responsibilities include estimating and scheduling manpower, developing a detailed inspection criteria, also evaluating and documenting the existing conditions of the respective component during the inspection. Post-inspection responsibilities include formalizing inspection findings, formulating necessary modifications and reinforcements, outlining future recommendations and inspection plans, reviewing the findings of team members, and executing any subsequent structural engineering tasks or engineering studies.

Typical inspections include:

- Air and flue gas ductwork (internal and external)
- Circulating cooling water tunnels
- Coal handling bins,
- Chimneys and stacks, complete interior and exterior inspection
- Boiler internals and pressure vessels
- Furnace stiffening systems
- Miscellaneous structural systems at a typical fossil site

### Responsible Engineer, TVA Project Partnership

**Tennessee Valley Authority (TVA) – Project Partnership.** Project lead overseeing multi-discipline projects. Responsibilities include role as the technical lead for the multi-discipline effort as well as the point of contact between all engineers, designers, vendors, suppliers, and TVA management. Tasks include technical review of engineering and design, perform documentation of modifications, monitor allocation and utilization of estimated budget, and presentation of design proposals, progress, and construction planning to plant and construction management. Projects include:

- Cumberland Fossil SCR Hopper and LPA Screen Installation and Existing Steel Modifications
- Multi-site TVA Chimney Structural Review and Reinforcement Project
- TVA Fossil Power Plants Condition Assessment Inspections

**CPS Energy – Braunig Peaker Project (Combustion Turbine).** Responsibilities include the design of several new and retrofitted structures and new equipment foundations. Duties focus on designing the structural integrity, support measures, and serviceability of the new structures and foundations associated with the new combustion turbine project.

**2005 - 2006** **Structural Engineer, WorleyParsons, Chattanooga, Tennessee**

**Progress Energy Carolinas (PGNC) – Roxboro Flue Gas Desulfurization (FGD).** Responsibilities include the design of large ductwork and their support structures. Duties focus on designing the structural integrity, support measures, and thermal expansion characteristics for large ductwork associated with the new FGD system. In addition, responsibilities include designing the support steel and foundations for the FGD ductwork support structures.

**Progress Energy Carolinas (PGNC) – Mayo Flue Gas Desulfurization (FGD).** In anticipation of future FGD project, conducted internal duct inspection for the Unit 1 ductwork at PGNC's Mayo plant site and provided report evaluating the condition of the ductwork and its structural components and recommending repairs.

**Alstom (Chattanooga) – TXU Oak Grove Hot Air Duct to Mills (New Boiler).** Structural engineer for the design of the Hot Air Duct to the Mills for a new boiler construction project. Performed structural analysis of ductwork and support measures in addition to specifying metal expansion joints. Provided subcontracted consulting engineering firm with ductwork-applied loading drawings to facilitate the structural steel and foundation design effort.

**TVA.** Responsible for several miscellaneous structural engineering projects involving structural steel design, duct design and analysis and design of retaining wall structures for both fossil and hydro power plants. Other responsibilities included providing technical support and temporary structure design to help facilitate construction efforts during plant modification projects. In addition, responsibilities include internal structural inspections for circulating cooling water tunnel systems.

**2001 - 2005 Structural Engineer, Alstom Power, Chattanooga, Tennessee**

**East Kentucky Power – Spurlock No. 1, SCR Project.** Responsibilities included the structural design of SCR ductwork, specification of fabric expansion joints, and slide gate and louver dampers. Provided subcontracted consulting engineering firm with ductwork-applied loading drawings to facilitate the structural steel and foundation design effort.

**Tucson Electric – Springerville Units 1 and 2 LowNOx Retrofit Project.** Responsible for overall layout and design of ductwork, structural steel, SOFA, air registers, access platforms, and modifications to the existing ductwork. In addition, preformed structural analysis of existing support steel and provided details to reinforce the structure. Performed same responsiblities for projects with customers including Platte River, Lower River Colorado Authorities, TXU, PacificCorp, and Kentucky Utilities.

**Mobile Energy Service Corporation – Power Boiler No. 9, Furnace Explosion Rehabilitation Project.** Structural engineer for the inspection of damaged boiler structural steel, access platforms, and furnace stiffeners. Produced inspection reports, design sketches, condition assessments, and material estimates to customer for required modifications/reinforcement and/or replacement of damaged steel.

**Dominion Generation – Chesterfield Unit 5, Secondary Air Duct Modifications.** Structural engineer for the design of modifications to the secondary air duct stiffener framing, supports, and guides to accommodate the installation of new duct openings and new expansion joint placement. Specified new fabric expansion joints and provided detailed sketches for construction. Provided OEM with ductwork applied loading drawings to facilitate the structural steel and foundation design effort.

**Dominion Generation – Chesterfield No. 6, Ductwork and Furnace Upgrade Study.** Conducted structural analysis of existing boiler framing and flue gas ductwork systems for FD/ID fan pressure upgrades. Additional responsibilities included secondary site inspections to determine the construction sequencing and identify potential design changes of new ductwork/boiler framing modifications. Performed same responsiblities for projects with customers including TXU, Exelon, and Indianapolis Power and Light.

**Dominion Generation – Chesterfield No. 6, Ash Handling Tank Support Steel.** Designed new support structure for an ash handling tank and equipment for the Economizer hopper. Evaluated the existing structural steel and provided detailed modifications to reinforce the existing structure effected by the new steel and equipment.

## EDUCATION

B.S., Civil Engineering, University of Tennessee, Knoxville, Tennessee, 2001

Pursuing a Masters in Civil Engineering, University of Tennessee, Knoxville, Tennessee, 2003 - Present

Resume

## REGISTRATIONS/AFFILIATIONS

Registered Professional Engineer – Tennessee, No.112009, 2008

One Way Element Leader, Element 9 Management of Change

Member, AISC, ASCE

Confined Space and Fall Protection Trained

Member, STAAD User Group

Wood Design CED Certified

## PUBLICATIONS/PRESENTATIONS

ASCE Duct Design 2008 Structural Department Presentation

Duct Inspection Procedures 2008 Structural Department Presentation

Beam and Column Reinforcing Procedures 2008 Group Presentation

ASCE Wind Design Structures and Ducts 2007 Group Presentation

SCR Systems 2005 Structural Department Presentation

## SPECIFIC TECHNICAL EXPERTISE/SPECIALIST COURSES

Doer-Seller Account Planning, 2010

Frontline Leadership Program, 2009

Prestressing Concrete (UTK) – Properties of prestressing materials; methods of pre-tensioning and post-tensioning; and analysis and design of simple and continuous beams and slabs

Behavior of Steel Structures (UTK) – Focused on the design of beams, columns, beam-columns, connections, bracing, tension members, and the interpretation of the ASD and LRFD specifications.

Statically Indeterminate Structures (UTC) – Analysis of frames, trusses, columns, and continuous beams by force methods and slope deflection.

Analysis of Plates and Shells (UTC) – Bending and buckling of plates and shells and non-linear analysis of cables and cable roof structures.

Computer Skills:

| | |
|---|---|
| STAADPro 2004 | AutoCAD® 2000, 2004 |
| MicroStation | Frameworks |
| MathCAD | Microsoft Office |

## AWARDS

Nominee for Eastern Operations People Development Award 2010

Eastern Operations Civil/Structural Engineer of the Year, 2008

1882 County Rd 23, Florence, Al•256-766-1337•la.gray07@yahoo.com

# Steve R. Gray

## Objective

Obtain a position where I can maximize my working experience, program development skills, and my training abilities.

## Experience

12/2010 – 02/2011 Sun Technical Services, Inc. Reno, NV

**Ground Water Contamination Risk Assessment**

- Risk assessment of the probability of tritium getting into the ground water.

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01/2010 – 10/2010 Hyperspring Madison, AL

**Operation Staff Augmentation**

- Coordinate activities to safely remove from service 120 Volt molded case circuit breakers.
- Test 120 Volt molded case circuit breakers per NRC commitment.

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1987 - 2009 TVA Browns Ferry Nuclear Power Plant

**Unit Manager**

- Supervise Unit Operations
- SRO license
- Licensed to operate a nuclear power plant in accordance with all regulatins.
- Operating the mechanical, electrical and reactor systems from the plant control room in a safe and efficient manner to ensure maximum electrical generation in compliance with regulations.
- Knowledge of state and federal regulations, guidelines, controls and procedures to protect the public and plant workers.
- Implemented and maintained effective planning and operating practices to maximum efficient operation.
- Supervise plant operations and direct and implement emergency operation procedures and event reporting.
- Operations representative during outages.
- Planned and implemented outages.
- Responsible for daily operations, assisted with Unit 2 and Unit 1 plant recovery.
- Responsible for all personnel assigned to unit.
- Controlled the operations and maintenance activities in accordance with operating procedures and technical specification.
- Supervised operators and maintenance personnel in the plant and outage organization.
- Supervised placing in and out of service the control-rod drive system, recirculation pumps, and VFDs; tested the emergency cooling systems; HPCI, RCIC, RHR, core-spray, and diesel generator standby electrical supply systems; testing of logic associated with the auto-start of the systems.
- Placed in service condensate/feed water, turbine/generator EHC, heater drains and vents, CCW, all seal oil systems, hydrogen cooling systems, and stator cooling systems for the generator.
- Worked in FIN as group's SRO supervisor.
- Supervised plant activities inside and outside of control room.

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|---|---|---|
| 1981-1987 | TVA | Browns Ferry Nuclear Power Plant |

### Unit Operator

- Nuclear Power Plant Operator
- RO License
- Responsible for Unit Operations
- Monitored generators and turbine equipment in power reactors to ensure to good working conditions at all times.
- Maintained standard voltage regulation of electricity that flows from the nuclear plant to the households.
- Coordinated with distribution departments if the electricity supplied is enough to generate power accordingly.
- Updated records and data at all times for future reference in case a shutdown occurs.
- Operated all controls in the control room and coordinated the activities with fellow operators in order to have a regulated flow of electricity.
- Regulated the controls of the machines and followed the procedures indicated for a smooth flow of the operations.
- Monitored the functions and stability of the machine equipment and ensured the standard flow of power.
- Instructed the workers to respond to malfunctions and inspected the gauges and perform corrective actions.
- Implemented high quality of standard procedures to maintain normal operating conditions.
- Maintained daily recorded data of the operations and functions of the power plant and noted all malfunctions and shutdown activities of machines and equipment.
- Implemented operational procedures such as those controlling start-up and shut-down activities of machines and equipment.
- Implemented operational procedures such a those controlling start-up and shut-down activities.
- Recorded operating data and results of surveillance tests.
- Direct supervisor of AUOs

| | | |
|---|---|---|
| 1976-1981 | TVA | Browns Ferry Nuclear Plant |

### AUO Trainee/AUO

- Assistant Unit Operator
- Assist in plant activities including start-ups, shut-downs, and outage activities
- Assist in the clearing of plant equipment for maintenance and return to service.

## Military Service

| | | |
|---|---|---|
| 1974-1976 | U.S. Army | Germany |

## References

References are available on request.

**WorleyParsons**
resources & energy

**Jeff R. Lawrence, E.I.T.**
**Mechanical Engineering Associate**

**Resume**

## SUMMARY

Mechanical Engineering Associate with three years of experience with WorleyParsons. Experience includes the energy/power generation industry and the steel mill industry. Power experience includes creating detailed specifications for power plant equipment, creating piping line specifications, modeling hydraulic systems, and creating Piping and Instrumentation Diagrams (P&ID). Steel mill experience includes preparing Phase II project documents for the replacement of Non-destructive Testing (NDT) equipment.

## EXPERIENCE

**2007 - Present** **Mechanical Engineering Associate, WorleyParsons, Chattanooga, Tennessee**

**2010 - Present** **U.S. Steel, Fairfield, Alabama – Fairfield Tubular, NDT Equipment Upgrade.** Evaluate equipment options and cost analysis for replacement/upgrade of the NDT equipment at Fairfield Pipe Mill.

**2010** **Tennessee Valley Authority (TVA) – Watts Bar Unit 2 Pipe Supports, Spring City, Tennessee.** Facilitated the work flow process for nuclear calculation documentation, review. and issuance. Reviewed final pipe support calculation packages prior to issuance. Ensured each package is consistent with TVA and WorleyParsons nuclear quality procedures. Originated nuclear Category 1 pipe support calculations.

**2008 - 2009** **TVA – Kingston Dry Fly Ash Conversion Project, Kingston, Tennessee.** Created and analyzed hydraulic models for the existing fly-ash sluice water system and the new dry fly ash handling system. Tasks included walking down existing piping, updating piping drawings, and designing the new water piping system to deliver demands to the new dry system and the tie-ins to the high pressure fire water and raw water systems.

**Braunig Peaking Turbines Project – Austin Industrial, San Antonio, Texas** – Created and analyzed hydraulic models for demineralized water system and service water system for all users of peaker plant. Sized piping system and forwarding pumps for plant water systems. Developed P&IDs for potable water, service water, and demineralized water systems. Assisted in the creation of piping line specifications for all piping services. General support of engineering staff.

**2007 - 2008** **TVA.** Developed a water study to evaluate condenser options based on water availability for future Western Tennessee sites. Evaluated the performance of wet and dry cooling systems, as well as various hybrid systems. Performed an economic analysis to evaluate various cooling options based on capital cost, power loss due to condenser performance, and water storage. Performed heat balances to determine the reduction in overall power plant output for condenser cooling options.

## EDUCATION

B.S., Mechanical Engineering, University of Tennessee at Chattanooga, Chattanooga, Tennessee, 2007

## REGISTRATIONS/AFFILIATIONS

Registered Engineering Intern

**Patrick A. McCarraher, P.E.**
**Senior Supervising Engineer**

**Resume**

## SUMMARY

Senior Supervising Engineer with over 37 years of civil/structural design and construction experience, with an emphasis on power generation and distribution at major electric generating stations, including thirty years with WorleyParsons. Development and design of new fossil, nuclear, and renewable sources of power generation, as well as modifications and retrofits to existing facilities.

## EXPERIENCE

**2007 - Present** **Senior Supervising Engineer, WorleyParsons, Denver, Colorado**

**2011 - Present** **Pacific Gas & Electric (PG&E) – Diablo Canyon Power Plant.** Lead Discipline Engineer tasked with preparing modification packages at Diablo Canyon Power Plant.

**2010** **Tennesse Valley Authority (TVA) – Watts Bar Unit 2**. Performed a piping reassessment program of safety related piping systems. Requalified existing pipe supports in conjunction with the completion effort at Watts Bar Unit 2.

**2009** **Arizona Public Service (APS) – Palo Verde Nuclear Generating Station.** Performed field walkdowns, and prepared structural engineering input to the ADV Nitrogen Margin Recovery Conceptual Design Study Report. Designed structural modifications to Units 1, 2, and 3 hydrazine injection systems.

**GE-Hitachi Nuclear Energy, Inc.**. Prepared the civil/structural portion of a "balance of plant" cost estimate for a GE-ESBWR reactor. Areas considered were the Turbine Island (turbine building, electrical building and aux-boiler building), and the radwaste building.

**BP Alternative Energy.** Developed conceptual structural design and cost estimate for a 250 MW concentrated solar power project.

**Iberdrola.** Developed conceptual structural design and cost estimates for a 115 MW, a 250 MW, and a 300 MW concentrated solar power project.

**Tri State Electric – Craig Station Unit 3.** Provided structural support of high-pressure heater drain piping modifications.

**Black Hills Energy Wygen 2 Power Plant, Located near Gillette, Wyoming.** Designed selective catalytic reduction (SCR) inlet duct modifications to resolve ash pluggage issues.

**2008** **Électricité de France (EDF).** Prepared an investgative study entitled "U.S. Nuclear Plant Tornado Design Practices" for France's largest electric utility.

**FPL Energy – Termosol Units 1 and 2, Two 50 MW.** Prepared grading and site development plans for concentrated solar units located near Extremadora, Spain.

**Colorado Springs Utility – Martin Drake Station.** Designed flue gas ductwork support structures.

**Enyrgy, Mohave Generating Station Located near Laughlin, Nevada.** Performed a general condition assessment associated with repowering a decommissioned coal fired plant with natural gas.

**Dyno Nobel, Inc.**. Ammonia unloading and storage project. Performed the structural and civil design for the addition of new railcar unloading platforms and storage tanks. Tasks included design of tank foundations and miscellaneous steel structures.

**Skyfuel, Inc..** Developed conceptual structural design and cost estimate for a 5 MW concentrated solar power demonstration project located in Mexico.

**GE Energy.** Reviewed foundation design for 1.5 MW GE wind turbines located near Iowa Lakes, Iowa.

**2007** **BHP Billiton – Navajo Mine Expansion Project Located near Farmington, New Mexico.** Prepared bid evaluations.

**2006 - 2007** **Principal Structural Engineer, WorleyParsons, Reading, Pennsylvania**

**Southern Company, Plant Scherer.** Task lead for selective catalytic reduction upgrades to Units 1 and 2. Prepared scope document and cost estimate for upgrades. Supervised design of SCR support platforms, inlet and outlet ductwork, foundations, and boiler building modifications.

**2006** **Santee Cooper – Pee Dee Unit 1, One New 600 MW Fossil Power Plant Unit.** Responsible for assembling construction contract packages, engineering requisitions, and bid evaluations. Design steel structures and concrete foundations.

**2002 - 2006** **Santee Cooper – Cross Units 3 & 4, Two New 640 MW Fossil Power Plant Units.** Responsible for assembling construction contract packages, engineering requisitions, and bid evaluations. Design steel structures and concrete foundations. Resolve field questions.

**2000 - 2002** **Orion Power Midwest – Cheswick Station.** Lead structural design engineer for the Cheswick station selective catalytic reduction system upgrade. Babcock & Wilcox was prime contactor for the SCR reactor and associated ductwork with WorleyParsons responsible for structural steel support and balance of plant. Designed the structural components for the selective catalytic reduction system, including support platform, boiler house modifications, ID fan modifications and ammonia handling system.

**1999 - 2000** **Allegheny Energy Supply – Harrison Station.** Designed the structural components for an SCR system, including support platform, reactor, catalyst handing buildings, boiler house modifications, and inlet/outlet ducts.

**1995 - 1999** **Senior Structural Engineer, WorleyParsons, Reading, Pennsylvania**

**1998 - 1999** **Nuklearna Elektrana Krško – Krško Nuclear Power Plant (Slovenia).** Participant in a Siemens–Framatone consortium responsible for steam generator replacement activities. Prepared modification packages and licensing documents for regulatory approval. Performed 50.59 safety evaluations and resolved engineering issues regarding the rigging, handling and onsite storage of both the new and the old steam generators.

**1997** **Florida Power Corporation, Crystal River 3 – Part of the Restart Effort.** Prepared response to concerns associated with nuclear safety-related structures, systems, and components. Prepared structural modification packages, as required.

**1995 - 1996** **Pennsylvania Power & Light Company – Allentown, Pennsylvania, Utility's Headquarters.** Seconded employee – Performed structural engineering related activities at Susquehanna Steam Electric Station. Performed cooling tower inspections and wrote structural repair procedures. Developed an expansion anchor design criteria and installation specification. Issued an investigative report on problems associated with the plant's prestressed concrete river water intake pipeline. Participated in the replacement of the plant's RW intake pipeline. Prepared numerous modification packages at the Susquehanna nuclear power plant.

**Resume**

**1980 - 1995** **Structural Engineer, WorleyParsons, Reading, Pennsylvania**

**1994 - 1995** **Baltimore Gas & Electric Company – Calvert Cliffs Nuclear Power Plant.** Developed a life cycle management plan for Category I structures.

**1992 - 1993** **New York State Electric & Gas – Milliken Station.** Designed FGD ductwork including precipitator outlet ducts, ID fan ducts, absorber inlet and outlet ducts, by-pass duct, and cross over section. Designed duct supports and support steel. Assisted mechanical engineering in expansion joint evaluations and FGD flow modeling studies.

**1991 - 1992** **Martin Marietta Energy Systems – Advanced Neutron Source.** Conceptual design of a state-of-the-art research facility located at Oak Ridge National Laboratories. Developed safety analysis report and system design descriptions. Integrated NRC and DOE requirements into workable design criteria.

**1990** **South Carolina Electric & Gas Company – V.C. Summer Nuclear Station.** Provided structural engineering support of chilled water modifications. Designed foundations for chemical injection tanks and a supplemental cooling tower.

**1989** **Tennessee Valley Authority – Sequoyah Nuclear Power Plant.** Performed a time history analysis of the plant's primary steel containment vessel. Qualified safety-related conduit and cable tray systems. Served as task engineer for an embedded plate qualification program.

**1987 - 1988** **Texas Utilities – Comanche Peak Nuclear Power Station.** Implemented a Design Adequacy Program. Provided technical oversight of ongoing design activities, specifically in the area of civil/structural design. Successfully resolved outstanding safety concerns.

**1985 - 1986** **Eastman Kodak Corporation, Rochester, New York, Utility Division.** Seconded employee – Provided engineering calculations in support of building renovations. Designed switchyard structures. Designed foundations, containment structures, and fire barriers for oil-filled transformers. Prepared construction specifications and bid packages.

**1984** **Pennsylvania Electric Company – Keystone Station.** Designed switchyard structures, transformer foundations, and miscellaneous yard structures. Also, prepared the design of a leachate collection system around the plant's coal piles.

**1983 - 1984** **Cleveland Electric Illuminating Company – Perry Nuclear Power Plant.** Designed safety-related pipe supports and performed piping analysis of feedwater and mainstream systems. Qualified welded attachments to safety-related piping systems. Analyzed the effect of accident temperatures on the primary containment.

**1982** **General Public Utilities – Three Mile Island, Unit 1.** Performed walkdowns of component supports. Qualified safety-related pipe supports based on as-built configuration. Qualified concrete anchorages based on NRC mandated criteria. Implemented GPU's 79-02 and 79-14 program at TMI.

**1980 - 1981** **Rochester Gas & Electric Corporation – R.E. Ginna Nuclear Power Plant.** Assessed the ability of Category I structures to withstand the effects of extreme wind and tornado loads. Participated in a seismic upgrade program for Category I structures. Designed modifications, as required, to bring the plant into compliance with NRC regulations.

**1979 - 1980** **Project Engineer, Morrison-Knudsen Company, Inc.**

**Public Service Company of Indiana – Merom Station Power Plant.** Responsible for permanent material purchase orders, subcontracts and scope changes. Resolved installation problems

encountered during construction. Assured that all work was performed in accordance with project specifications. Supervised field engineering staff and survey crews.

**1977 - 1978** **Cost and Scheduling Engineer, Morrison-Knudsen Company, Inc.**

**Potomac Electric Power Company – Chalk Point Power Plant.** Prepared cost reports and construction schedules. Implemented a preventative maintenance program for permanent plant equipment. Supervised document control personnel.

**1974 - 1976** **Field Engineer, Morrison-Knudsen Company, Inc.**

**1976** **Columbia Gas Company – Cove Point Liquefied Natural Gas (LNG) Facility at Cove Point, Maryland.** Provided engineering support during construction of LNG facility located on the Chesapeake Bay.

**1974 - 1975** **Morrison-Knudsen Company, Inc. Eastern Regional Office.** Assisted senior estimators with the preparation of proposals. Performed material take-off from bid drawings. Obtained price quotations from suppliers and subcontractors.

## EDUCATION

B.S., Civil Engineering, Lehigh University, Bethlehem, Pennsylvania

## REGISTRATIONS/AFFILIATIONS

Registered Professional Engineer – Pennsylvania, Indiana, South Carolina, Georgia, Colorado and Wyoming.

Member, American Society of Civil Engineers (ASCE)

Member, American Institute of Steel Construction (AISC)

# Nicholas D. Pressler, P.E.
**Senior Structural Engineer**

**Resume**

## SUMMARY

Senior Structural Engineer with seven years of experience within WorleyParsons; experience includes performing structural engineering and design of fossil power plants and air quality projects, leading and performing nuclear pipe support analysis, and lead structural engineer and project engineer in the minerals and metal sector, coordinating and performing engineering and design of steel manufacturing facilities. Other experience includes structural inspections and modifications of existing structures.

## EXPERIENCE

### 2010 - Present Senior Structural Engineer, WorleyParsons, Chicago, Illinois

**Pro-Tec Coating Company – Continuous Annealing Line (CAL).** Project Engineer. Duties include coordinating and tracking all discipline scope, progress, and manhours; project reporting to management and client; assisting project manager with oversight of project schedule and budget; and tracking variances and invoices. Other duties include tracking and coordinating with vendors and vendor submittals; expediting vendors and coordinating between vendors and client.

**Pro-Tec Coating Company – Continuous Annealing Line (CAL).** Lead Structural Engineer. Duties include oversight of structural engineering work and coordination with client and other contracted engineering firms in a multi-faceted project. Work includes equipment foundations, steel utility racks, steel support structures for process control buildings, and other miscellaneous balance-of-plant equipment. Other duties include responding to field requests for information (RFI) and approval of fabrication drawings.

### 2007 - 2010 Structural Engineer I/II, WorleyParsons, Chattanooga, Tennessee

**Tennessee Valley Authority – Watts Barr Nuclear Unit 2.** Lead Structural Engineer. Coordinated the engineering of over 1,000 pipe supports between four offices and client technical representative, as well as provided technical leadership during design. Managed and trained more than 50 engineers in FAPPS software suite for qualification of existing pipe supports and design of new pipe supports.

**Consumers Energy, Karn Pulse Jet Fabric Filter (PJFF).** Task Lead responsible for the oversight and organization between multiple offices to perform the design of all ductwork and support structures. Other duties included responding to RFI from fabricator and adjustment of engineering to facilitate shipping and erection of ductwork.

Regional Inspection Team. Perform inspections to determine structural integrity and necessary modifications to existing structural systems, and preparation of inspection reports. Types of inspections performed include ductwork, condenser cooling water (CCW) tunnels, and exterior stack evaluation.

**Progress Energy Carolinas (PGNC) – Roxboro Flue Gas Desulfurization (FGD).** Two weeks as site engineer during Unit 3 tie-in outage. Primary responsibilities include resolving emergent questions from erector and coordination with home office. Other duties included routing and structural support of electrical raceways.

**Southern Company – Scherer Mercury Baghouse.** Primary responsibilities included overseeing and performing the design and analysis of very large ductwork and their support structures, as well as coordinating with the constructor and other disciplines. Other responsibilities included coordination with fabricator, answering requests for information, reviewing shop drawings, resolving field questions during construction and collaborating with erector in developing a lifting plan. Field support duties include design of quick turnaround solutions for interferences involving steel and ductwork as well as coordination with other disciplines to resolve issues.

**Resume**

**2005 - 2007 Associate Structural Engineer-in-Training, WorleyParsons, Chattanooga, Tennessee**

**Alstom Power – Soto De Ribera, Low NOx Ductwork Addition**. Primary responsibilities include designing small air ducts and analyzing and modifying the existing steel to accommodate the additional load of the new ductwork, and modifications to the existing boiler buck-stays. All modifications and design adhere to Spanish codes and require the use of Spanish steel and shapes.

**Progress Energy Carolinas (PGNC) – Roxboro FGD**. Primary responsibilities included creating and analyzing STAAD models for large duct work and their support structures, as well as providing engineering calculation packages. Responsibilities also included the design of reinforced concrete foundations including spread footings, piles, and pile caps. Work experience also included performing site walkdowns to determine the feasibility, constructability, layout, and arrangement of large flue gas duct work and their support structures in and around existing equipment, steel, and foundations. Duties also included assisting in resolution to RFIs and field support.

## EDUCATION

B.S., Civil Engineering, Purdue University, West Lafayette Indiana, May 2005

## Registrations/Affiliations

Registered Professional Engineer (2009) – Texas and Ohio

Member, American Institute of Steel Construction (AISC)

## Specific Technical Expertise/Specialist Courses

| | | |
|---|---|---|
| Confined Space | Half Face Respirator | |
| Full Face PAPR | Fall Protection | |
| Computer | | |
| STAADPro v8i | AutoCAD® | Microstation |
| Frameworks | MathCAD® | Microsoft Office |
| FAPPS | SmartPlant Review | |

**Stephen Samaras**
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(256) 837-4060

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## EXPERIENCE

### Tennessee Valley Authority, Browns Ferry Nuclear Plant, Decatur, Alabama
**Senior Civil Design Engineer, January 2006 – PRESENT**

The responsible engineer for several group initiatives: development of various design packages and corrective action plans; issuance of radiological shielding packages; approval of rigging plans; outage and maintenance support; issuance of programmatic procedures. Completed Task Qualifications required for a senior civil structural design engineer. In addition, assumed the position of the BFN Snubber Program Engineer.

**Acting Engineering Support Group Manager, November 2005 – December 2006**

Managed the long-term and day-to-day activities of the Engineering Support Group, which consisted of three units: the Configuration Group, the Drafting Group, and the Procurement Engineering Group. Aligned the Engineering Support Group's objectives and resources to support key Site Engineering initiatives: outage support; Unit 1 Restart; INPO and other third-party assessment activities; departmental indicators; day-to-day engineering discipline support; and management of the department's corrective action program.

**Site Engineering Task Manager PG-8/PG-7, November 1991 – November 2005**

Site Engineering representative at Daily Work Week and Advance Work Week review meetings. Focus engineering support for work week, unit downpower, and plant priority items. Lead multi-discipline team to review and validate the Final Safety Analysis Report. Conduct Site Engineering Self Assessment Program. Track and trend observations, self assessments, and department indices. Prepare and issue monthly Site Engineering Self Assessment Report. Also prepare and present Engineering Support Windows to STAC. Developed Site Engineering Fiscal Year and Unit outage radiation dose exposure plan. ALARA Review Committee member and also serve on two Central Safety subcommittees. Root Cause Analysis Coach.

Provide overall direct management and coordination of assigned engineering projects, which include: SPAE and SPOC for Unit 2 Cycle 5 outage, Unit 2 Secondary Backlog and ISI Support Drawing Upgrade, Reactor Building Roof Replacement, Reactor Building Overhead Crane Upgrade, Raw Water Chemical Treatment, and Essential Design Calculations. Coordinate and obtain funding for subject projects. Work with Engineering Manager and Lead Engineers to develop fiscal year budget and resource plan.

Acted as Duty Engineering Manager during U2C7, U2C8, U3C7, and U2C11 refuel outages, and also during Unit 3 Restart. Attended U2C7, U2C8, and U2C11 pre-outage meetings to focus Site Engineering (SE) activities to support outage. Acted as Assistant Duty Site Engineering Manager during U2C6 refuel outage.

Initiate new and/or changes to existing contracts. Review and document contractor performance.

**Civil Engineer SC-4 Technical Supervisor, August 1989 - November 1991**

As Technical Supervisor in Civil Field Support group, resolved various field design problems to support design closure and system return to service. Also was Civil Engineering representative to the Conditions Adverse to Quality (CAQ) group. Resolved and closed CAQs to help Civil Engineering achieve a net 34% reduction of backlog CAQs. Resolved seismic coupling issue of suspended systems supported on flexible platforms. Acted as lead for Civil Engineering SPAE Phase I effort.

Closed NRC OIE Bulletin 80-11, "Masonry Wall Design" at Browns Ferry Nuclear Plant (BFNP) Units 1, 2, and 3.

**Civil Engineer SC-3, September 1987 - July 1989**

Directed TVA and Architect/Engineering activities to complete design work associated with masonry block walls at BFNP. Acted as Task Engineer for several other miscellaneous efforts. Also was Nuclear Engineering (NE) representative in the BFNP "War Room."

### Impell Corporation, Norcross Georgia
**Principal Engineer, January 1987 - August 1987**

Civil engineer in TVA's civil structural section at BFNP. Wrote Site Directors Standard Practice (SDSP - 9.8) which set the requirements for DNE plant walkdown at BFNP. Developed TVA's program to close OIE Bulletin 80-11 "Masonry Wall Design." Wrote Project Instruction (BFEP PI 86-40) for the plant walkdown of the masonry block walls. Lead engineer for the walkdown team performing the inspection of the masonry walls.

### Teledyne Engineering Services, Waltham, Massachusetts
**Project Engineer, June 1982 - December 1986**

Civil engineer in TVA's civil structural section at BFNP. Control Bay Main Floor Steel Evaluation Program; conducted walkdown of worst loaded floor beam, and then performed structural qualification of as-built condition without requiring field modifications. Structural analyst for seismic class I miscellaneous structures/frames. Reviewed several electrical and mechanical Appendix R design criteria, calculations, and drawings for civil/structural interfaces.

Pipe stress analyst for ASME Class II nuclear piping at Bellefonte Nuclear Power Plant. Worked to close several mechanical piping work packages.

At the Teledyne office, acted as structural analyst for building steel, pipe supports, and multifunctional support frames of various commercial nuclear power plants. Analyzed pipe stress for a variety of in-house nuclear piping stress jobs, as well as for several fossil plant life extension projects.

Field engineer for the Calvert Cliffs Nuclear Plant Unit 2 mainstream pipe support modification project in Lusby, Maryland. As the sole representative of TES, responsible for guiding and assisting craft personnel during this around-the-clock effort.

Field engineer at Turkey Point Nuclear Plant Units 3 and 4 in Homestead, Florida, for the implementation of NRC OIE Bulletin 79-14 and the snubber testing/replacement program.

Proficient with STAAD, GSTRUDL, GTSTRUDL, TMRPIPE, TPIPE, BASEPLATE II, and GENERIC II. Have also used STARDYNE and STARPIPE.

## EDUCATION

**University of Alabama**, Tuscaloosa, Alabama, Master of Business Administration, 1991

**University of Lowell**, Lowell, Massachusetts, Bachelor of Science, Civil Engineering, 1982

## LICENSE/CERTIFICATION

**Registered Professional Engineer, Structural** -- Commonwealth of Massachusetts

**Management Senior Reactor Operator Certification** -- Completed 12/96 at BFNP

**CONTINUING EDUCATION**

Completed two seminars offered by the American Society of Civil Engineers, *How to Design and Construct Reinforced Masonry Structures*, and *How to Apply the New 1988 Seismic Code Provisions*

Additional Continuing Education includes:

- Completed ATI Course "Materials Science"
- Completed TTU Course "Materials Behavior in Reactor"
- Completed TTU Course "Fundamentals of Nuclear Engineering"
- Completed TTU Course "Advanced Reactor Physics"
- Completed PII Common Cause Analysis training

EPRI Training on Near Term Task Force Recommendation 2.3 - Plant Seismic Walkdowns

SQUG Walkdown Screening and Seismic Evaluation Training Course

INPO / NANTEL Training on Near Term Task Force Recommendation 2.3 - Flooding Walkdowns

# Appendix B: Base List 1

| UNID | Description | SAFETY FUNCTION |
|---|---|---|
| 0-BATA-248-0000A | 250V BATTERY SB-A | 0 |
| 0-BATA-248-0000A | 250V BATTERY SB-A | 0 |
| 0-BATA-248-0000B | 250V BATTERY SB-B | 0 |
| 0-BATA-248-0000B | 250V BATTERY SB-B | 0 |
| 0-BATA-248-0000C | 250V BATTERY SB-C | 0 |
| 0-BATA-248-0001 | 250V MAIN BATTERY 1 | 0 |
| 0-BATA-248-0001 | 250V MAIN BATTERY 1 | 0 |
| 0-BATA-248-0002 | 250V MAIN BATTERY 2 | 0 |
| 0-BATA-248-0003 | 250V MAIN BATTERY 3 | 0 |
| 0-BATA-24B-0000D | 250V BATTERY SB-D | 0 |
| 0-BATB-254-0000A | 125V DC DSL BATT A | 0 |
| 0-BATB-254-0000B | 125V DC DSL BATT B | 0 |
| 0-BATB-254-0000C | 125V DC DSL BATT C | 0 |
| 0-BATB-254-0000D | 125V DC DSL BATT D | 0 |
| 0-BDAA-211-0000A | 4KV SHDN BD A | 0 |
| 0-BDAA-211-0000A | 4KV SHDN BD A | 0 |
| 0-BDAA-211-0000B | 4KV SHDN BD B | 0 |
| 0-BDAA-211-0000B | 4KV SHDN BD B | 0 |
| 0-BDAA-211-0000C | 4KV SHDN BD C | 0 |
| 0-BDAA-211-0000D | 4KV SHDN BD D | 0 |
| 0-BDBB-219-0000A | 480V DSL AUX BD A | 0 |
| 0-BDBB-219-0000B | 480V DSL AUX BD B | 0 |
| 0-BDDD-280-0001 | 250V BATTERY BD 1 | 0 |
| 0-BDDD-280-0001 | 250V BATTERY BD 1 | 0 |
| 0-BDDD-280-0002 | 250V BATTERY BD 2 | 0 |
| 0-BDDD-280-0003 | 250V BATTERY BD 3 | 0 |
| 0-BDGG-254-0000A | 125V DC DSL BATT BD A | 0 |
| 0-BDGG-254-0000B | 125V DC DSL BATT BD B | 0 |
| 0-BDGG-254-0000C | 125V DC DSL BATT BD C | 0 |
| 0-BDGG-254-0000D | 125V DC DSL BATT BD D | 0 |
| 0-CHGA-248-0000A | 250V BATTERY CHARGER SB-A | 0 |

| | | |
|---|---|---|
| 0-CHGA-248-0000A | 250V BATERY CHARGER SB-A | 0 |
| 0-CHGA-248-0000B | 250V BATTERY CHARGER SB-B | 0 |
| 0-CHGA-248-0000B | 250 BATTERY CHARGER SB-B | 0 |
| 0-CHGA-248-0000C | 250V BATTERY CHARGER SB-C | 0 |
| 0-CHGA-248-0000D | 250V BATTERY CHARGER SB-D | 0 |
| 0-CHGA-248-0001 | 250V BATTERY CHARGER 1 | 0 |
| 0-CHGA-248-0001 | 250V BATERY CHARGER 1 | 0 |
| 0-CHGA-248-0002A | 250V BATERY CHARGER 2A | 0 |
| 0-CHGA-248-0003 | 250V BATERY CHARGER 3 | 0 |
| 0-CHGB-254-0000AA | 12V DSL GEN A BATT CHGR A | 0 |
| 0-CHGB-254-0000BA | 12V DSL GEN B BATT CHGR A | 0 |
| 0-CHGB-254-0000CB | 12V DSL GEN C BATT CHGR B | 0 |
| 0-CHGB-254-0000DB | 12V DSL GEN D BATT CHGR B | 0 |
| 0-CKV-23-506 | RHRSW PUMP A2 DISCHARGE CHECK VALVE | 4, 5 |
| 0-CKV-23-526 | RHRSW PMP B2 DISCHARGE CHECK VALVE | 4, 5 |
| 0-CKV-23-542 | RHRSW PMP C2 DISCHARGE CHECK VALVE | 4, 5 |
| 0-CKV-23-561 | RHRSW PUMP D2 DISCHARGE CHECK VALVE | 4, 5 |
| 0-CKV-23-588 | RHRSW PMP A3 DISCHARGE CHECK VALVE | 4, 5 |
| 0-CKV-23-591 | RHRSW PMP B3 DISCHARGE CHECK VALVE | 4, 5 |
| 0-CKV-23-594 | RHRSW PUMP C3 DISCHARGE CHECK VALVE | 4, 5 |
| 0-CKV-23-597 | RHRSW PMP D3 DISCHARGE CHECK VALVE | 4, 5 |
| 0-CKV-67-502 | EECW SYSTEM SOUTH HEADER CHECK VALVE | 4, 5 |
| 0-CKV-67-528 | EECW SOUTH HEADER SUPPLY CHECK VALVE TO THE A DG | 4, 5 |
| 0-CKV-67-619 | EECW SYSTEM SOUTH HEADER CHECK VALVE | 4, 5 |
| 0-CKV-67-622 | EECW SYSTEM HORTH HEADER CHECK VALVE | 4, 5 |
| 0-CKV-67-624 | EECW NORTH HEADER SUPPLY CHECK VALVE TO THE C DG | 4, 5 |
| 0-CKV-67-625 | EECW NORTH HEADER SUPPLY CHECK VALVE TO THE C DG | 4, 5 |
| 0-CKV-67-627 | EECW NORTH HEADER SUPPLY CHECK VALVE TO THE D DG | 4, 5 |
| 0-CKV-67-628 | EECW NORTH HEADER SUPPLY CHECK VALVE TO THE D DG | 4, 5 |
| 0-CKV-67-630 | EECW NORTH HEADER SUPPLY CHECK VALVE TO THE B DG | 4, 5 |
| 0-CKV-67-631 | EECW NORTH HEADER SUPPLY CHECK VALVE TO THE B DG | 4, 5 |
| 0-CKV-67-634 | EECW NORTH HEADER SUPPLY CHECK VALVE TO THE A DG | 4, 5 |
| 0-CKV-67-635 | EECW NORTH HEADER SUPPLY CHECK VALVE TO THE A DG | 4, 5 |

| | | |
|---|---|---|
| 0-CKV-67-671 | EECW SYSTEM HORTH HEADER CHECK VALVE | 4, 5 |
| 0-CKV-68-529 | EECW SOUTH HEADER SUPPLY CHECK VALVE TO THE A DG | 4, 5 |
| 0-CKV-69-514 | EECW SOUTH HEADER SUPPLY CHECK VALVE TO THE C DG | 4, 5 |
| 0-CKV-70-515 | EECW SOUTH HEADER SUPPLY CHECK VALVE TO THE C DG | 4, 5 |
| 0-CKV-71-521 | EECW SOUTH HEADER SUPPLY CHECK VALVE TO THE B DG | 4, 5 |
| 0-CKV-72-522 | EECW SOUTH HEADER SUPPLY CHECK VALVE TO THE B DG | 4, 5 |
| 0-CKV-73-507 | EECW SOUTH HEADER SUPPLY CHECK VALVE TO THE D DG | 4, 5 |
| 0-CKV-74-508 | EECW SOUTH HEADER SUPPLY CHECK VALVE TO THE D DG | 1, 3, 4, 5 |
| 0-ECAB-067-0925 | EECW PUMP DISCHARGE STRAINER A CONTROL PANEL | 0 |
| 0-ECAB-067-0926 | EECW PUMP DISCHARGE STRAINER B CONTROL PANEL | 0 |
| 0-ECAB-067-0927 | EECW PUMP DISCHARGE STRAINER C CONTROL PANEL | 0 |
| 0-ECAB-067-0928 | EECW PUMP DISCHARGE STRAINER D CONTROL PANEL | 0 |
| 0-EI-23-85/3 | EECW PUMP A3 AMPERAGE INDICATION | 0 |
| 0-EI-23-88/3 | EECW PUMP B3 AMPERAGE INDICATION | 0 |
| 0-EI-23-91/3 | EECW PUMP C3 AMPERAGE INDICATION | 0 |
| 0-EI-23-94/3 | EECW PUMP D3 AMPERAGE INDICATION | 0 |
| 0-FAN-30-64 | DG ROOM A EXHAUST FAN "A" | 5 |
| 0-FAN-30-65 | DG ROOM A EXHAUST FAN "B" | 5 |
| 0-FAN-30-66 | DG ROOM B EXHAUST FAN "A" | 5 |
| 0-FAN-30-67 | DG ROOM B EXHAUST FAN "B" | 5 |
| 0-FAN-30-68 | DG ROOM C EXHAUST FAN "A" | 5 |
| 0-FAN-30-69 | DG ROOM C EXHAUST FAN "B" | 5 |
| 0-FAN-30-70 | DG ROOM D EXHAUST FAN "A" | 5 |
| 0-FAN-30-71 | DG ROOM D EXHAUST FAN "B" | 5 |
| 0-FCO-30-64A | OUTLET DAMPER FOR FAN "A" IN DG ROOM "A" | 5 |
| 0-FCO-30-64B | INLET DAMPER FOR FAN "A" IN DG ROOM "A" | 5 |
| 0-FCO-30-64C | INLET DAMPER FOR FAN "A" IN DG ROOM "A" | 5 |
| 0-FCO-30-65A | OUTLET DAMPER FOR FAN "B" IN DG ROOM "A" | 5 |
| 0-FCO-30-65B | INLET DAMPER FOR FAN "B" IN DG ROOM "A" | 5 |
| 0-FCO-30-65C | INLET DAMPER FOR FAN "B" IN DG ROOM "A" | 5 |
| 0-FCO-30-66A | OUTLET DAMPER FOR FAN "A" IN DG ROOM "B" | 5 |
| 0-FCO-30-66B | INLET DAMPER FOR FAN "A" IN DG ROOM "B" | 5 |
| 0-FCO-30-66C | INLET DAMPER FOR FAN "A" IN DG ROOM "B" | 5 |

| | | |
|---|---|---|
| 0-FCO-30-67A | OUTLET DAMPER FOR FAN "B" IN DG ROOM "B" | 5 |
| 0-FCO-30-67B | INLET DAMPER FOR FAN "B" IN DG ROOM "B" | 5 |
| 0-FCO-30-67C | INLET DAMPER FOR FAN "B" IN DG ROOM "B" | 5 |
| 0-FCO-30-68A | OUTLET DAMPER FOR FAN "A" IN DG ROOM "C" | 5 |
| 0-FCO-30-68B | INLET DAMPER FOR FAN "A" IN DG ROOM "C" | 5 |
| 0-FCO-30-68C | INLET DAMPER FOR FAN "A" IN DG ROOM "C" | 5 |
| 0-FCO-30-69A | OUTLET DAMPER FOR FAN "B" IN DG ROOM "C" | 5 |
| 0-FCO-30-69B | INLET DAMPER FOR FAN "B" IN DG ROOM "C" | 5 |
| 0-FCO-30-69C | INLET DAMPER FOR FAN "B" IN DG ROOM "C" | 5 |
| 0-FCO-30-70A | OUTLET DAMPER FOR FAN "A" IN DG ROOM "D" | 5 |
| 0-FCO-30-70B | INLET DAMPER FOR FAN "A" IN DG ROOM "D" | 5 |
| 0-FCO-30-70C | INLET DAMPER FOR FAN "A" IN DG ROOM "D" | 5 |
| 0-FCO-30-71A | OUTLET DAMPER FOR FAN "B" IN DG ROOM "D" | 5 |
| 0-FCO-30-71B | INLET DAMPER FOR FAN "B" IN DG ROOM "D" | 5 |
| 0-FCO-30-71C | INLET DAMPER FOR FAN "B" IN DG ROOM "D" | 5 |
| 0-FCV-67-1 | A EECW PUMP DISCHARGE STRAINER DRAIN VALVE | 4, 5 |
| 0-FCV-67-11 | D EECW PUMP DISCHARGE STRAINER DRAIN VALVE | 4, 5 |
| 0-FCV-67-48 | RHRSW PUMP D1 TO EECW SYSTEM CROSS-CONNECT | 4, 5 |
| 0-FCV-67-49 | RHRSW PUMP C1 TO EECW SYSTEM CROSS-CONNECT | 4, 5 |
| 0-FCV-67-5 | B EECW PUMP DISCHARGE STRAINER DRAIN VALVE | 4, 5 |
| 0-FCV-67-53 | EECW NORTH HEADER BACKUP TO THE AIR COMPRESSORS | 4, 5 |
| 0-FCV-67-53 | EECW SYSTEM NORTH HEADER BACKUP TO THE AIR COMPRESSORS | 4, 5 |
| 0-FCV-67-8 | C EECW PUMP DISCHARGE STRAINER DRAIN VALVE | 4, 5 |
| 0-FCV-84-16 | CAD/N2 TANK "B" ISOLATION VALVE | 4, 5 |
| 0-FCV-84-5 | CAD/N2 TANK "A" ISOLATION VALVE | 4, 5 |
| 0-FSV-84-16 | CAD/N2 TANK "B" ISOLATION SOLENOID VALVE | 4, 5 |
| 0-FSV-84-5 | CAD/N2 TANK "A" ISOLATION SOLENOID VALVE | 4, 5 |
| 0-GEN-82-A | UNIT 1 & 2 DIESEL GENERATOR "A" | 0 |
| 0-GEN-82-B | UNIT 1 & 2 DIESEL GENERATOR "B" | 0 |
| 0-GEN-82-C | UNIT 1 & 2 DIESEL GENERATOR "C" | 0 |
| 0-GEN-82-D | UNIT 1 & 2 DIESEL GENERATOR "D" | 0 |
| 0-HS-23-12B | LOCAL HS STATION - RHRSW PUMP C2 | 0 |
| 0-HS-23-19B | LOCAL HS STATION - RHRSW PUMP B2 | 0 |

| | | |
|---|---|---|
| 0-HS-23-27B | LOCAL HS STATION - RHRSW PUMP D2 | 0 |
| 0-HS-23-5B | LOCAL HS STATION - RHRSW PUMP A2 | 0 |
| 0-HS-23-85B | LOCAL HS STATION - RHRSW PUMP A3 | 0 |
| 0-HS-23-88B | LOCAL HS STATION - RHRSW PUMP B3 | 0 |
| 0-HS-23-91B | LOCAL HS STATION - RHRSW PUMP C3 | 0 |
| 0-HS-23-94B | LOCAL HS STATION - RHRSW PUMP D3 | 0 |
| 0-HS-30-64 | LOCAL HS STATION - DG A EXH FAN A | 5 |
| 0-HS-30-65 | LOCAL HS STATION - DG A EXH FAN B | 5 |
| 0-HS-30-66 | LOCAL HS STATION - DG B EXH FAN A | 5 |
| 0-HS-30-67 | LOCAL HS STATION - DG B EXH FAN B | 5 |
| 0-HS-30-68 | LOCAL HS STATION - DG C EXH FAN B | 5 |
| 0-HS-30-69 | LOCAL HS STATION - DG C EXH FAN A | 5 |
| 0-HS-30-70 | LOCAL HS STATION - DG D EXH FAN B | 5 |
| 0-HS-30-71 | LOCAL HS STATION - DG D EXH FAN A | 5 |
| 0-HS-67-48B | HANDSWITCH FOR 0-FCV-67-748 (4058) | 0 |
| 0-HS-67-49B | HANDSWITCH FOR 0-FCV-67-49 (4015) | 0 |
| 0-HTR-84-16 | CAD/N2 TANK "B" ELECTRIC HEATER | 0 |
| 0-HTR-84-5 | CAD/N2 TANK "A" ELECTRIC HEATER | 0 |
| 0-JBOX-30-0640 | JUNCTION BOX (TERM BLOCK) | 5 |
| 0-JBOX-30-1817 | JUNCTION BOX (TERM BLOCK) | 5 |
| 0-JBOX-30-1825 | JUNCTION BOX (TERM BLOCK) | 5 |
| 0-JBOX-30-1826 | JUNCTION BOX (TERM BLOCK) | 5 |
| 0-JBOX-30-1827 | JUNCTION BOX (TERM BLOCK) | 5 |
| 0-JBOX-30-1828 | JUNCTION BOX (TERM BLOCK) | 5 |
| 0-JBOX-30-1829 | JUNCTION BOX (TERM BLOCK) | 5 |
| 0-JBOX-30-1830 | JUNCTION BOX (TERM BLOCK) | 5 |
| 0-LPNL-925-0041A | PANEL 25-41A | 0 |
| 0-LPNL-925-0041B | PANEL 25-41B | 0 |
| 0-LPNL-925-0041C | PANEL 25-41C | 0 |
| 0-LPNL-925-0041D | PANEL 25-41D | 0 |
| 0-LPNL-925-0042A1 | PANEL 25-42A1 | 0 |
| 0-LPNL-925-0042A2 | PANEL 25-42A2 | 0 |
| 0-LPNL-925-0042B1 | PANEL 25-42B1 | 0 |

| | | |
|---|---|---|
| 0-LPNL-925-0042B2 | PANEL 25-42B2 | 0 |
| 0-LPNL-925-0043A1 | PANEL 25-43A1 | 0 |
| 0-LPNL-925-0043A2 | PANEL 25-43A2 | 0 |
| 0-LPNL-925-0043B1 | PANEL 25-43B1 | 0 |
| 0-LPNL-925-0043B2 | PANEL 25-43B2 | 0 |
| 0-LPNL-925-0045A | PANEL 25-45A | 0 |
| 0-LPNL-925-0045A | PANEL 25-45A | 0 |
| 0-LPNL-925-0045A | PANEL 25-46A | 0 |
| 0-LPNL-925-0045B | PANEL 25-45B | 0 |
| 0-LPNL-925-0045B | PANEL 25-45B | 0 |
| 0-LPNL-925-0045B | PANEL 25-46B | 0 |
| 0-LPNL-925-0045C | PANEL 25-45C | 0 |
| 0-LPNL-925-0045C | PANEL 25-46C | 0 |
| 0-LPNL-925-0045D | PANEL 25-45D | 0 |
| 0-LPNL-925-0045D | PANEL 25-46D | 0 |
| 0-LPNL-925-0047A | PANEL 0-25-47A | 0 |
| 0-LPNL-925-0047B | PANEL 0-25-47B | 0 |
| 0-LPNL-925-0047C | PANEL 0-25-47C | 0 |
| 0-LPNL-925-0047D | PANEL 0-25-47D | 0 |
| 0-OXF-219-TDA | 4KV/480V XFMR TDA | 0 |
| 0-OXF-219-TDB | 4KV/480V XFMR TDB | 0 |
| 0-PMP-23-005 | RHRSW PUMP A2 | 0 |
| 0-PMP-23-012 | RHRSW PUMP C2 | 0 |
| 0-PMP-23-027 | RHRSW PUMP D2 | 0 |
| 0-PMP-23-19 | RHRSW PUMP B2 | 0 |
| 0-PMP-23-85 | RHRSW PUMP A3 | 0 |
| 0-PMP-23-88 | RHRSW PUMP B3 | 0 |
| 0-PMP-23-91 | RHRSW PUMP C3 | 0 |
| 0-PMP-23-94 | RHRSW PUMP D3 | 0 |
| 0-PNLA-009-0023/7 | PANEL 0-9-23-7 | 0 |
| 0-PNLA-009-0023/8 | PANEL 0-9-23-B | 0 |
| 0-PNLA-009-0028 | PANEL 9-28 | 0 |
| 0-PNLA-082-0000A | DG A ELECTRICAL CONTROL CABINET | 0 |

| | | |
|---|---|---|
| 0-PNLA-082-0000B | DG B ELECTRICAL CONTROL CABINET | 0 |
| 0-PNLA-082-0000C | DG C ELECTRICAL CONTROL CABINET | 0 |
| 0-PNLA-082-0000D | DG D ELECTRICAL CONTROL CABINET | 0 |
| 0-PNLA-248-0000A | 250V DISTRIBUTION PANEL SB-A | 0 |
| 0-PNLA-248-0000B | 2580V DISTRIBUTION PANEL SB-B | 0 |
| 0-PNLA-248-0000C | 250V DISTRIBUTION PANEL SB-C | 0 |
| 0-PNLA-248-0000D | 250V DISTRIBUTION PANEL SB-D | 0 |
| 0-PNLA-248-A | 250V DISTRIBUTION PANEL SB-A | 0 |
| 0-PNLA-248-B | 250V DISTRIBUTION PANEL SB-B | 0 |
| 0-PNLA-925-246A | PANEL 25-246A (CAD N2 SUPPLY PNL A) | 0 |
| 0-PNLA-925-246B | PANEL 25-246B (CAD N2 SUPPLY PNL B) | 0 |
| 0-STN-67-925 | A EECW PUMP DISCHARGE STRAINER | 0 |
| 0-STN-67-926 | B EECW PPUMP DISCHARGE STRAINER | 0 |
| 0-STN-67-927 | C EECW PUMP DISCHARGE STRAINER | 0 |
| 0-STN-67-928 | D EECW PUMP DISCHARGE STRAINER | 0 |
| 0-TNK-18-45/1 | DG "A" 7 DAY FUEL OIL TANK | 4 |
| 0-TNK-18-45/2 | DG "A" 7 DAY FUEL OIL TANK | 4 |
| 0-TNK-18-45/3 | DG "A" 7 DAY FUEL OIL TANK | 4 |
| 0-TNK-18-46/1 | DG "B" 7 DAY FUEL OIL TANK | 4 |
| 0-TNK-18-46/2 | DG "B" 7 DAY FUEL OIL TANK | 4 |
| 0-TNK-18-46/3 | DG "B" 7 DAY FUEL OIL TANK | 4 |
| 0-TNK-18-47/1 | DG "C" 7 DAY FUEL OIL TANK | 4 |
| 0-TNK-18-47/2 | DG "C" 7 DAY FUEL OIL TANK | 4 |
| 0-TNK-18-47/3 | DG "C" 7 DAY FUEL OIL TANK | 4 |
| 0-TNK-18-48/1 | DG "D" 7 DAY FUEL OIL TANK | 4 |
| 0-TNK-18-48/2 | DG "D" 7 DAY FUEL OIL TANK | 4 |
| 0-TNK-18-48/3 | DG "D" 7 DAY FUEL OIL TANK | 4 |
| 0-TNK-84-635 | CAD/NITROGEN STORAGE TANK "A" | 4 |
| 0-TNK-84-636 | CAD/NITROGEN STORAGE TANK "B" | 4 |
| 0-TNK-86-650A | DG A LEFT BANK STARTING AIR RECIEVERS | 4 |
| 0-TNK-86-650B | DG "B" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-650C | DG "C" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-650D | DG "D" LEFT BANK STARTING AIR RECEIVERS | 4 |

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| 0-TNK-86-651A | DG A LEFT BANK STARTING AIR RECIEVERS | 4 |
| 0-TNK-86-651B | DG "B" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-651C | DG "C" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-651D | DG "D" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-652A | DG A LEFT BANK STARTING AIR RECIEVERS | 4 |
| 0-TNK-86-652B | DG "B" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-652C | DG "C" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-652D | DG "D" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-653A | DG A LEFT BANK STARTING AIR RECIEVERS | 4 |
| 0-TNK-86-653B | DG "B" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-653C | DG "C" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-653D | DG "D" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-654A | DG A LEFT BANK STARTING AIR RECIEVERS | 4 |
| 0-TNK-86-654B | DG "B" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-654C | DG "C" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-654D | DG "D" LEFT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-655A | DG A RIGHT BANK STARTING AIR RECIEVERS | 4 |
| 0-TNK-86-655B | DG "B" RIGHT BANK STARTING AIR RECEIVER | 4 |
| 0-TNK-86-655C | DG "C" RIGHT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-655D | DG "D" RIGHT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-656A | DG A RIGHT BANK STARTING AIR RECIEVERS | 4 |
| 0-TNK-86-656B | DG "B" RIGHT BANK STARTING AIR RECEIVER | 4 |
| 0-TNK-86-656C | DG "C" RIGHT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-656D | DG "D" RIGHT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-657A | DG A RIGHT BANK STARTING AIR RECIEVERS | 4 |
| 0-TNK-86-657B | DG "B" RIGHT BANK STARTING AIR RECEIVER | 4 |
| 0-TNK-86-657C | DG "C" RIGHT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-657D | DG "D" RIGHT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-658A | DG A RIGHT BANK STARTING AIR RECIEVERS | 4 |
| 0-TNK-86-658B | DG "B" RIGHT BANK STARTING AIR RECEIVER | 4 |
| 0-TNK-86-658C | DG "C" RIGHT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-658D | DG "D" RIGHT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-659A | DG A RIGHT BANK STARTING AIR RECIEVERS | 4 |

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| 0-TNK-86-659B | DG "B" RIGHT BANK STARTING AIR RECEIVER | 4 |
| 0-TNK-86-659C | DG "C" RIGHT BANK STARTING AIR RECEIVERS | 4 |
| 0-TNK-86-659D | DG "D" RIGHT BANK STARTING AIR RECEIVERS | 4 |
| 0-VPR-84-639 | CAD/N2 TANK "A" VAPORIZER | 0 |
| 0-VPR-84-640 | VAD/N2 TANK "B" VAPORIZER | 0 |
| 0-XFA-082-000AA | DG-A NEUTRAL GRN XFMR | 0 |
| 0-XFA-082-000BA | DG-B NEUTRAL GRN XFMR | 0 |
| 0-XFA-082-000CA | DG-C NEUTRAL GRN XFMR | 0 |
| 0-XFA-082-000DA | DG-D NEUTRAL GRN XFMR | 0 |
| 0-XSW-248-0001 | 250V MAIN BATT CHGR OUTPUT XFR SW 1 | 0 |
| 0-XSW-248-0001 | 250V MAIN BATT CHGR OUTPUT XFR SW 1 | 0 |
| 0-XSW-248-0002A | 250V MAIN BATT CHGR OUTPUT XFR SW 2A | 0 |
| 0-XSW-248-0003 | 250V MAIN BATT CHGR OUTPUT XFR SW 3 | 0 |
| 1-ACC-32-6105 | CA/ACCUMULATOR FOR PSV-1-19 | 1, 3 |
| 1-ACC-32-6106 | CA/ACCUMULATOR FOR PSV-1-5 | 1, 3 |
| 1-ACC-32-6107 | CA/ACCUMULATOR FOR PSV-1-22 | 1, 3 |
| 1-ACC-32-6108 | CA/ACCUMULATOR FOR PSV-1-31 | 1, 3 |
| 1-ACC-32-6109 | CA/ACCUMULATOR FOR PSV-1-34 | 1, 3 |
| 1-ACC-32-6111 | CA/ACCUMULATOR FOR PSV-1-30 | 1, 3 |
| 1-AMP-092-0007-41A | IRM CH. "A" VOLTAGE PREAMPLIFIER 7-34A | 0 |
| 1-AMP-092-0007-41B | IRM CH. "A" VOLTAGE PREAMPLIFIER 7-34B | 0 |
| 1-AMP-092-0007-41C | IRM CH. "C" VOLTAGE PREAMPLIFIER 7-24C | 0 |
| 1-AMP-092-0007-41D | IRM CH. "C" VOLTAGE PREAMPLIFIER 7-24D | 0 |
| 1-BATD-283-000A1 | 24V NEUTRON MONITORING BATTERY, U1 CHANNEL A | 0 |
| 1-BATD-283-000B1 | 24V NEUTRON MONITORING BATTERY, U1 CHANNEL B | 0 |
| 1-BDBB-231-0001A | 480V SHDN BD 1A | 0 |
| 1-BDBB-231-0001A | 480V SHDN BD 1A | 0 |
| 1-BDBB-231-0001B | 480V SHDN BD 1B | 0 |
| 1-BDBB-231-0001B | 480KV SHDN BD 1B | 0 |
| 1BDBB-265-0001B | 480V RB VENT BD 1B | 1 |
| 1-BDBB-268-0001A | 480V RMOV BD 1A | 0 |
| 1-BDBB-268-0001A | 480KV SHDN BD 1A | 0 |
| 1-BDBB-268-0001B | 480 RMOV BD 1B | 0 |

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| 1-BDBB-268-0001B | 480KV SHDN BD 1B | 0 |
| 1-BDBB-281-0001A | 250V DC RMOV BOARD 1A | 0 |
| 1-BDBB-281-0001B | 250V DC RMOV BOARD 1B | 0 |
| 1-BDBB-281-0001C | 250V DC RMOV BOARD 1C | 0 |
| 1-CHGD-283-A1-1 | 24V NEUTRON BATTERY CHARGERS A1-1 | 0 |
| 1-CHGD-283-A2-1 | 24V NEUTRON BATTERY CHARGERS A2-1 | 0 |
| 1-CHGD-283-B1-1 | 24V NEUTRON BATTERY CHARGERS B1-1 | 0 |
| 1-CHGD-283-B1-2 | 24V NEUTRON BATTERY CHARGERS B2-1 | 0 |
| 1-CLR-64-917 | EECW/RHR PUMP 1A ROOM COOLER | 5 |
| 1-CLR-67-918 | EECW/RHR PUMP 1B ROOM COOLER | 5 |
| 1-CLR-67-919 | EECW/CS PUMP 1A ROOM COOLER | 5 |
| 1-CLR-67-920 | EECW/CS PUMP 1B ROOM COOLER | 5 |
| 1-CLR-67-921 | EECW/RHR PUMP 1C ROOM COOLER | 5 |
| 1-CLR-67-922 | EECW/RHR PUMP 1D ROOM COOLER | 5 |
| 1-CS-75-37B | CONTROL STATION FOR 1-HS-75-37B | 5 |
| 1-CS-75-9B | CONTROL STATION FOR 1-HS-75-9B | 5 |
| 1-FCV-1-14 | MSIV "A" INBOARD ISOLATION VALVE | 4, 5 |
| 1-FCV-1-15 | MSIV "A" OUTBOARD ISOLATION VALVE | 4, 5 |
| 1-FCV-1-26 | MSIV "B" INBOARD ISOLATION VALVE | 4, 5 |
| 1-FCV-1-27 | MSIV "B" OUTBOARD ISOLATION VALVE | 4, 5 |
| 1-FCV-1-37 | MSIV "C" INBOARD ISOLATION VALVE | 4, 5 |
| 1-FCV-1-38 | MSIV "C" OUTBOARD ISOLATION VALVE | 4, 5 |
| 1-FCV-1-51- | MSIV "D" INBOARD ISOLATION VALVE | 4, 5 |
| 1-FCV-1-52 | MSIV "D" OUTBOARD ISOLATION VALVE | 4, 5 |
| 1-FCV-1-55 | MAIN STEAM LINE DRAIN ISOLATION VALVE | 4, 5 |
| 1-FCV-1-56 | MAIN STEAM LINE DRAIN ISOLATION VALVE | 4, 5 |
| 1-FCV-23-034 | RHR/RHRSW HX A OUTLET VALVE | 4, 5 |
| 1-FCV-23-034 | RHR/RHRSW HX A OUTLET VALVE | 4, 5 |
| 1-FCV-23-040 | RHR/RHRSW HX C OUTLET VALVE | 4, 5 |
| 1-FCV-23-040 | RHR/RHRSW HX C OUTLET VALVE | 4, 5 |
| 1-FCV-23-046 | RHR/RHRSW HX B OUTLET VALVE | 4, 5 |
| 1-FCV-23-046 | RHR/RHRSW HX B OUTLET VALVE | 4, 5 |
| 1-FCV-23-046 | RHR/RHRSW HX B OUTLET VALVE | 4, 5 |

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| 1-FCV-23-052 | RHR/RHRSW HX D OUTLET VALVE | 4, 5 |
| 1-FCV-23-052 | RHR/RHRSW HX D OUTLET VALVE | 4, 5 |
| 1-FCV-23-052 | RHR/RHRSW HX D OUTLET VALVE | 4, 5 |
| 1-FCV-23-57 | RHR/RHRSW CROSS CONNECT VALVE | 4, 5 |
| 1-FCV-23-57 | RHR/RHRSW CROSS CONNECT VALVE | 4, 5 |
| 1-FCV-32-62 | DRYWELL CONTROL AIR SUCTION VALVE | 4, 5 |
| 1-FCV-64-139 | CONTAINMENT DW DP ISOLATION VALVE | 4, 5 |
| 1-FCV-64-140 | CONTAINMENT DW DP ISOLATION VALVE | 4, 5 |
| 1-FCV-64-17 | CONTAINMENT VENTILATION ISOLATION VALVE | 4, 5 |
| 1-FCV-64-18 | COOLING/PURGE AIR TO DRYWELL | 4, 5 |
| 1-FCV-64-19 | COOLING/PURGE AIR TO SUPPRESSION CHAMBER | 4, 5 |
| 1-FCV-64-20 | CONTAINMENT VENTILATION ISOLATION VALVE | 4, 5 |
| 1-FCV-64-21 | CONTAINMENT VENTILATION ISOLATION VALVE | 4, 5 |
| 1-FCV-64-222 | HARDENED WETWELL VENT | 4, 5 |
| 1-FCV-64-28A | SUPRESSION CHAMGER/DRYWELL VACUUM BREAKERS | 4, 5 |
| 1-FCV-64-28B | SUPRESSION CHAMGER/DRYWELL VACUUM BREAKERS | 4, 5 |
| 1-FCV-64-28C | SUPRESSION CHAMGER/DRYWELL VACUUM BREAKERS | 4, 5 |
| 1-FCV-64-28D | SUPRESSION CHAMGER/DRYWELL VACUUM BREAKERS | 4, 5 |
| 1-FCV-64-28E | SUPRESSION CHAMGER/DRYWELL VACUUM BREAKERS | 4, 5 |
| 1-FCV-64-28F | SUPRESSION CHAMGER/DRYWELL VACUUM BREAKERS | 4, 5 |
| 1-FCV-64-28G | SUPRESSION CHAMGER/DRYWELL VACUUM BREAKERS | 4, 5 |
| 1-FCV-64-28H | SUPRESSION CHAMGER/DRYWELL VACUUM BREAKERS | 4, 5 |
| 1-FCV-64-28J | SUPRESSION CHAMGER/DRYWELL VACUUM BREAKERS | 4, 5 |
| 1-FCV-64-28K | SUPRESSION CHAMGER/DRYWELL VACUUM BREAKERS | 4, 5 |
| 1-FCV-64-28L | SUPRESSION CHAMGER/DRYWELL VACUUM BREAKERS | 4, 5 |
| 1-FCV-64-28M | SUPRESSION CHAMGER/DRYWELL VACUUM BREAKERS | 4, 5 |
| 1-FCV-64-30 | CONTAINMENT VENTILATION ISOLATION VALVE | 4, 5 |
| 1-FCV-64-33 | CONTAINMENT VENTILATION ISOLATION VALVE | 4, 5 |
| 1-FCV-67-50 | EECW NORTH HEADER BACKUP TO RBCCW | 4, 5 |
| 1-FCV-67-50 | EECW SYSTEM NORTH HEADER BACKUP TO RBCCW | 4, 5 |
| 1-FCV-67-51 | EECW SYSTEM SOUTH HEADER BACKUP TO RBCCW | 4, 5 |
| 1-FCV-67-51 | EECW SYSTEM SOUTH HEADER BACKUP TO RBCCW | 4, 5 |
| 1-FCV-69-1 | RWCU INBOARD ISOLATION VALVE | 4, 5 |

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| 1-FCV-69-2 | RWCU OUTBOARD ISOLATION VALVE | 4, 5 |
| 1-FCV-70-47 | RBCCW DRYWELL RETURN VAVLE | 4, 5 |
| 1-FCV-71-17 | RCIC INBOARD SUCTION VALVE | 4, 5 |
| 1-FCV-71-18 | RCIC OUTBOARD SUCTION VALVE | 4, 5 |
| 1-FCV-71-2 | RCIC INBOARD ISOLATION VALVE | 4, 5 |
| 1-FCV-71-3 | RCIC OUTBOARD ISLOATION VALVE | 4, 5 |
| 1-FCV-71-40 | PRIMARY CONTAINMENT ISOLATION VALVE | 4, 5 |
| 1-FCV-73-2 | HPCI STEAM SUPPLY ISOLATION VALVE | 4, 5 |
| 1-FCV-73-26 | SPCI INBOARD SUCTION VALVE | 4, 5 |
| 1-FCV-73-27 | HPCI OUTBOARD SUCTION VALVE | 4, 5 |
| 1-FCV-73-3 | HPCI STEAM SUPPLY ISOLATION VALVE | 4, 5 |
| 1-FCV-73-81 | HPCI STEAM SUPPLY ISOLATION BYPASS VALVE | 4, 5 |
| 1-FCV-74-1 | RHR/PUMP 1A SUCTION VALVE FROM SUPRESSION POOL | 1, 3, 4, 5 |
| 1-FCV-74-101 | RHR/U2 TO U1 RHR DISCHARGE X-TIE ISO. VALVE (B,D) | 1, 3, 4, 5 |
| 1-FCV-74-12 | RHR/PUMP 1C SUCTION VALVE FROM SUPRESSION POOL | 1, 3, 4, 5 |
| 1-FCV-74-13 | RHR/PUMP 1C SUCTION VALVE FROM SHUTDOWN COOLING | 1, 3, 4, 5 |
| 1-FCV-74-2 | RHR/PUMP 1A SUCTION VALVE FROM SHUTDOWN COOLING | 1, 3, 4, 5 |
| 1-FCV-74-24 | RHR/PUMP 1B SUCTION VALVE FROM SUPRESSION POOL | 1, 3, 4, 5 |
| 1-FCV-74-25 | RHR/PUMP 1B SUCTION VALVE FROM SHURDOWN COOLING | 1, 3, 4, 5 |
| 1-FCV-74-30 | RHR/PUMP 1B & 1D MINIMUM FLOW VALVE | 1, 3, 4, 5 |
| 1-FCV-74-35 | RHR/PUMP 1D SUCTION VALVE FROM SUPRESSION POOL | 1, 3, 4, 5 |
| 1-FCV-74-36 | RHR/PUMP 1D SUCTION VALVE FROM SHUTDOWN COOLING | 1, 3, 4, 5 |
| 1-FCV-74-52 | RHR/LOOP I OUTBOARD INJECTION VALVE | 1, 3, 4, 5 |
| 1-FCV-74-53 | RHR/LOOP I INBOARD INJECTION VALVE | 1, 3, 4, 5 |
| 1-FCV-74-57 | RHR/LOOP I TORUS CONTAINMENT COOLING/SPRAY VALVE | 1, 3, 4, 5 |
| 1-FCV-74-58 | RHR/LOOP I SUPRESSION POOL SPRAY VALVE | 1, 3, 4, 5 |
| 1-FCV-74-59 | RHR/LOOP I SUPRESSION POOL COOLING VALVE | 1, 3, 4, 5 |
| 1-FCV-74-60 | RHR/LOOP I OUTBOARD DRYWELL SPRAY VALVE | 1, 3, 4, 5 |
| 1-FCV-74-61 | RHR/LOOP I INBOARD DRYWELL SPRAY VALVE | 1, 3, 4, 5 |
| 1-FCV-74-66 | RHR/LOOP II OUTBOARD INJECTION VALVE | 1, 3, 4, 5 |
| 1-FCV-74-67 | RHR/LOOP INBOARD INJECTION VALVE | 1, 3, 4, 5 |
| 1-FCV-74-7 | RHR/PUMP 1A & 1C MINIMUM FLOW VALVE | 1, 3, 4, 5 |
| 1-FCV-74-71 | RHR/LOOP II TORUS CONTAINMENT COOLING/SPRAY VALVE | 1, 3, 4, 5 |

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| 1-FCV-74-72 | RHR/LOOP II SUPRESSION POOL SPRAY VALVE | 1, 3, 4, 5 |
| 1-FCV-74-73 | RHR/LOOP II SUPRESSION POOL COOLING VALVE | 1, 3, 4, 5 |
| 1-FCV-74-74 | RHR/LOOP II OUTBOARD DRYWELL SPRAY VALVE | 1, 3, 4, 5 |
| 1-FCV-74-75 | RHR/LOOP II INBOARD DRYWELL SPRAY VALVE | 1, 3, 4, 5 |
| 1-FCV-75-11 | CS/PUMP 1C SUCTION ISOLATION VALVE | 5 |
| 1-FCV-75-2 | CS/PUMP 1A SUCTION ISOLATION VALVE | 5 |
| 1-FCV-75-22 | CS/PUMPS 1A & 1C TEST ISOLATION VALVE | 5 |
| 1-FCV-75-23 | CS/DIV I OUTBOARD INJECTION VALVE | 5 |
| 1-FCV-75-25 | CS/DIV I INBOARD INJECTION VALVE | 5 |
| 1-FCV-75-30 | CS/PUMP 1B SUCTION ISOLATION VALVE | 5 |
| 1-FCV-75-37 | CS/PUMPS 1B & 1D MINI-FLOW VALVE | 5 |
| 1-FCV-75-39 | CS/PUMP 1D SUCTION ISOLATION VALVE | 5 |
| 1-FCV-75-50 | CS/PUMPS 1B & 1D TEST ISOLATION VALVE | 5 |
| 1-FCV-75-51 | CS/DIV II OUTBOARD DISCHARGE VALVE | 5 |
| 1-FCV-75-53 | CS/DIV II INBOARD DISCHARGE VALVE | 5 |
| 1-FCV-75-57 | PSC PUMP SUCTION ISOLATION VALVE | 5 |
| 1-FCV-75-58 | PSC PUMP SUCTION ISOLATION VALVE | 5 |
| 1-FCV-75-9 | CS/PUMPS 1A & 1C MINI-FLOW VALVE | 5 |
| 1-FCV-76-17 | CONTAINMENT INERTING N2 MAKEUP | 4, 5 |
| 1-FCV-76-18 | CONTAINMENT INERTING DRYWELL N2 MAKEUP VALVE | 4, 5 |
| 1-FCV-76-19 | CONTAINMENT INERTING - PSC N2 MAKEUP VALVE | 4, 5 |
| 1-FCV-76-24 | PRIMARY CONTAINMENT ISOLATION VALVE | 4, 5 |
| 1-FCV-77-15A | DRYWELL EQUIPMENT DRAIN SUMP DISCHARGE | 5 |
| 1-FCV-77-15B | DRYWELL EQUIPMENT DRAIN SUMP DISCHARGE | 5 |
| 1-FCV-77-2A | DRYWELL FLOOR DRAIN SUMP DISCHARGE | 5 |
| 1-FCV-77-2B | DRYWELL FLOOR DRAIN SUMP DISCHARGE | 5 |
| 1-FCV-78-61 | FPC/SPENT FUEL POOL COOLING X-TIE TO RHR | 0 |
| 1-FCV-84-19 | CAD ISOLATION VALVE | 4, 5 |
| 1-FCV-84-20 | CAD ISOLATION VALVE | 4, 5 |
| 1-FCV-85-37C | CRD/WEST SDV DRAIN VALVE | 4, 5 |
| 1-FCV-85-37D | CRD/WEST SDV DRAIN VALVE | 4, 5 |
| 1-FCV-85-37E | CRD/EAST SDV DRAIN VALVE | 4, 5 |
| 1-FCV-85-37F | CRD/EAST SDV DRAIN VALVE | 4, 5 |

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| 1-FCV-85-82A | CRD/WEST SDV VENT VALVE | 4, 5 |
| 1-FCV-85-82A | CRD/WEST SDV VENT VALVE | 4, 5 |
| 1-FCV-85-83 | CRD/EAST SDV VENT VALVE | 4, 5 |
| 1-FCV-85-83A | CRD/EAST SDV VENT VALVE | 4, 5 |
| 1-FI-23-36 | RHRSW HX A FLOR INDICATOR | 0 |
| 1-FI-23-42 | RHRSW HX C FLOW INDICATOR | 0 |
| 1-FI-23-48 | RHRSW HX B FLOW INDICATOR | 0 |
| 1-FI-23-54 | RHRSW HX D FLOW INDICATOR | 0 |
| 1-FI-74-50 | RHR/LOOP I FLOW INDICATOR | 1, 3, 4, 5 |
| 1-FI-74-56 | RHR/LOOP I FLOW INDICATOR | 1, 3, 4, 5 |
| 1-FI-74-64 | RHR/LOOP II FLOW INDICATOR | 1, 3, 4, 5 |
| 1-FI-74-70 | RHR/LOOP II FLOW INDICATOR | 1, 3, 4, 5 |
| 1-FI-75-21 | CS/PUMPS 1A & 1C FLOW INDICATOR | 5 |
| 1-FI-75-49 | CS/PUMPS 1B & 1D FLOW INDICATOR | 5 |
| 1-FSV-84-48 | CAD/CAD SYSTEM "A" TO UNIT 1 DRYWELL CONTROL AIR | 4, 5 |
| 1-FSV-84-49 | CAD/CAD SYSTEM "B" TO UNIT 1 DRYWELL CONTROL AIR | 4, 5 |
| 1-FSV-84-8A | CAD/CAD TO DW (1-FCV-64-18) SOLENOID VALVE | 4, 5 |
| 1-FSV-84-8B | CAD/CAD TO DW (1-FCV-64-19) SOLENOID VALVE | 4, 5 |
| 1-FSV-84-8C | CAC/CAD TO DW (1-FCV-64-19) SOLENOID VALVE | 4, 5 |
| 1-FSV-84-8D | CAD/CAD TO DW (1-FCV-64-18) SOLENOID VALVE | 4, 5 |
| 1-FSV-85-35A | CRD/BACKUP SCRAM VALVE | 4, 5 |
| 1-FSV-85-35B | CRD/BACKUP SCRAM VALVE | 4, 5 |
| 1-FSV-85-37A | CRD/SCRAM DUMP VALVE | 4, 5 |
| 1-FSV-85-37B | CRD/SCRAM DUMP VALVE | 4, 5 |
| 1-FSV-85-39A | CRD/ISOLATION VALVE (185 VALVES) | 4, 5 |
| 1-FSV-85-39B | CRD/ISOLATION VALVE (185 VALVES) | 4, 5 |
| 1-FSV-85-70A | CRD/BACKUP PILOT SCRAM VALVE 'A' | 4, 5 |
| 1-FSV-85-70B | CRD/BACKUP PILOT SCRAM VALVE 'B' | 4, 5 |
| 1-FUDS-099-0001CA | RPS REG XFMR DISC SW FROM 480 V MOV BD 1B | 0 |
| 1-FUDS-099-0001CB | RPS BUS XFMR DISC SW | 0 |
| 1-HCU-85, 1-185 | CRD/HYDRAULIC CONTROL UNIT | 0 |
| 1-HEX-67-915 | EECW/RHR SEAL HX 1A | 2, 3, 4 |
| 1-HEX-67-916 | EECW/RHR SEAL HX 1C | 2, 3, 4 |

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| 1-HEX-67-923 | EECW/RHR SEAL HX 1B | 2, 3, 4 |
| 1-HEX-67-924 | EECW/RHR SEAL HX 1D | 2, 3, 4 |
| 1-HEX-74-900A | RHR/HEAT EXCHANGER 1A | 1, 3, 4, 5 |
| 1-HEX-74-900B | RHR/HEAT EXCHANGER 1B | 1, 3, 4, 5 |
| 1-HEX-74-900C | RHR/HEAT EXCHANGER 1C | 1, 3, 4, 5 |
| 1-HEX-74-900D | RHR/HEAT EXCHANGER 1D | 1, 3, 4, 5 |
| 1-HS-1-56A | HANDSWITCH FOR 1-FCV-1-56 (13075) | 4, 5 |
| 1-HS-23-34B | LOCAL HS STATION (TERM BLOCK) - SEALED BOX | 0 |
| 1-HS-23-34B | HANDSWITCH FOR 1-FCV-23-034 (8004) | 0 |
| 1-HS-23-40B | LOCAL HS STATION (TERM BLOCK) - SEALED BOX | 0 |
| 1-HS-23-40B | HANDSWITCH FOR 1-FCV-23-040 (8010) | 0 |
| 1-HS-23-46B | LOCAL HS STATION | 0 |
| 1-HS-23-46B | HANDSWITCH FOR 1-FCV-23-046 (8016) | 0 |
| 1-HS-23-52B | LOCAL HS STATION | 0 |
| 1-HS-23-52B | HANDSWITCH FOR 1-FCV-23-052 (8022) | 0 |
| 1-HS-23-57B | HANDSWITCH FOR 1-FCV-23-57 | 0 |
| 1-HS-23-57B | HANDSWITCH FOR 1-FCV-23-57 (8025) | 0 |
| 1-HS-64-18 | HANDSWITCH FOR 1-FCV-64-18 (13082) | 0 |
| 1-HS-64-19 | HANDSWITCH FOR 1-FCV-64-19 (13083) | 0 |
| 1-HS-64-41 | HANDSWITCH FOR 1-CLR-67-922 (14015) | 0 |
| 1-HS-64-69 | HANDSWITCH FOR 1-CLR-67-918 (14013) | 0 |
| 1-HS-64-72 | HANDSWITCH FOR 1-CLR-67-919 (14002) | 0 |
| 1-HS-64-73 | HANDSWITCH FOR 1-CLR-67-920 (14014) | 0 |
| 1-HS-69-2B | HANDSWITCH FOR 1-FCV-69-2 (13033) | 0 |
| 1-HS-70-47B | LOCAL HS STATION | 4, 5 |
| 1-HS-71-17B | HANDSWITCH FOR 1-FCV-71-17 (13074) | 0 |
| 1-HS-71-18B | HANDSWITCH FOR 1-FCV-71-18 (13039) | 0 |
| 1-HS-71-2B | HANDSWITCH FOR 1-FCV-71-2 (13037) | 0 |
| 1-HS-73-26B | HANDSWITCH FOR 1-FCV-73-26 (13076) | 0 |
| 1-HS-73-27 | HANDSWITCH FOR 1-FCV-73-27 (13043) | 0 |
| 1-HS-73-3B | HANDSWITCH FOR 1-FCV-73-3 (13041) | 0 |
| 1-HS-73-81B | HANDSWITCH FOR 1-FCV-73-81 (13042) | 0 |
| 1-HS-74-0005B | LOCAL HS STATION - RHR PUMP 1A | 1, 3, 4, 5 |

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| 1-HS-74-0016B | LOCAL HS STATION - RHR PUMP 1C | 1, 3, 4, 5 |
| 1-HS-74-0028B | LOCAL HS STATION - RHR PUMP 1B | 1, 3, 4, 5 |
| 1-HS-74-0039B | LOCAL HS STATION - RHR PUMP 1D | 1, 3, 4, 5 |
| 1-HS-74-101B | HANDSWITCH FOR 1-FCV-74-101 (11055) | 1, 3, 4, 5 |
| 1-HS-74-12B | HANDSWITCH FOR 1-FCV-74-12 (11011) | 1, 3, 4, 5 |
| 1-HS-74-13B | HANDSWITCH FOR 1-FCV-74-13 (11012) | 1, 3, 4, 5 |
| 1-HS-74-1B | HANDSWITCH FOR 1-FCV-74-1 (11001) | 1, 3, 4, 5 |
| 1-HS-74-24B | HANDSWITCH FOR 1-FCV-74-24 (11029) | 1, 3, 4, 5 |
| 1-HS-74-25B | HANDSWITCH FOR 1-FCV-74-25 (11030) | 1, 3, 4, 5 |
| 1-HS-74-2B | HANDSWITCH FOR 1-FCV-74-2 (11002) | 1, 3, 4, 5 |
| 1-HS-74-30B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-35B | HANDSWITCH FOR 1-FCV-74-35 (11037) | 1, 3, 4, 5 |
| 1-HS-74-36B | HANDSWITCH FOR 1-FCV-74-36 (11038) | 1, 3, 4, 5 |
| 1-HS-74-52B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-53B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-57B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-58B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-59B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-60B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-61B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-66B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-67B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-71B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-72B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-73B | HANDSWITCH FOR 1-FCV-74-73 (11046) | 1, 3, 4, 5 |
| 1-HS-74-75B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-74-7B | LOCAL HS STATION | 1, 3, 4, 5 |
| 1-HS-75-0005B | LOCAL HS STATION - CS PUMP 1A | 5 |
| 1-HS-75-0014B | LOCAL HS STATION - CS PUMP 1C | 5 |
| 1-HS-75-0033B | LOCAL HS STATION - CS PUMP 1B | 5 |
| 1-HS-75-0042B | LOCAL HS STATION - CS PUMP 1D | 5 |
| 1-HS-75-09B | LOCAL HS STATION | 5 |
| 1-HS-75-11B | HANDSWITCH FOR 1-FCV-75-11 (15006) | 5 |

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| 1-HS-75-22B | HANDSWITCH FOR 1-FCV-75-22 (15010) | 5 |
| 1-HS-75-23B | HANDSWITCH FOR 1-FCV-75-23 (15012) | 5 |
| 1-HS-75-25B | LOCAL HS STATION | 5 |
| 1-HS-75-2B | HANDSWITCH FOR 1-FCV-75-2 (15001) | 5 |
| 1-HS-75-30B | HANDSWITCH FOR 1-FCV-75-30 (15015) | 5 |
| 1-HS-75-37B | LOCAL HS STATION | 5 |
| 1-HS-75-39B | HANDSWITCH FOR 1-FCV-75-39 (15020) | 5 |
| 1-HS-75-50B | HANDSWITCH FOR 1-FCV-75-50 (15024) | 5 |
| 1-HS-75-51B | HANDSWITCH FOR 1-FCV-75-51 (15026) | 5 |
| 1-HS-75-53B | LOCAL HS STATION (TERM BLOCK) - SEALED BOX | 5 |
| 1-HS-76-18 | HANDSWITCH FOR 1-FCV-76-18 (13084) | 0 |
| 1-HS-76-19 | HANDSWITCH FOR 1-FCV-76-19 (13085) | 0 |
| 1-HS-77-15A | HANDSWITCH FOR 1-FCV-77-15A (13081) | 5 |
| 1-HS-77-2A | HANDSWITCH FOR 1-FCV-77-2A (13080) | 5 |
| 1-HS-78-61B | HANDSWITCH FOR 1-FCV-78-61 (11026) | 0 |
| 1-HS-99-5A/S1A | RPS/REACTOR MANUAL SCRAM CHANNEL A1 | 0 |
| 1-HS-99-5A/S1B | RPS/REACTOR MANUAL SCRAM CHANNEL B1 | 0 |
| 1-HS-99-5A-S1 | RPS/REACTOR MODE SWITCH | 0 |
| 1-INVT-256-0001 | DIV I ECCS ATU INVERTER | 0 |
| 1-INVT-256-0002 | DIV II ECCS ATU INVERTER | 0 |
| 1-JB-0375 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-0658 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-0662 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-0670 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-0681 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-0791 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-1032 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-1079 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-1080 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-1087 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-1095 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-1204 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-1231 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |

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| 1-JB-1559 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-3801 | JUNCTION BOX FOR 1-TS-1-40A | 0 |
| 1-JB-3802 | JUNCTION BOX FOR 1-TS-1-40B | 0 |
| 1-JB-3803 | JUNCTION BOX FOR 1-TS-1-40C | 0 |
| 1-JB-3804 | JUNCTION BOX FOR 1-TS-1-40D | 0 |
| 1-JB-3813 | JUNCTION BOX FOR 1-TS-1-54A | 0 |
| 1-JB-3814 | JUNCTION BOX FOR 1-TS-1-54B | 0 |
| 1-JB-3815 | JUNCTION BOX FOR 1-TS-1-54C | 0 |
| 1-JB-3816 | JUNCTION BOX FOR 1-TS-1-54D | 0 |
| 1-JB-3828 | JUNCTION BOX FOR 1-TS-1-29A | 0 |
| 1-JB-3829 | JUNCTION BOX FOR 1-TS-1-29B | 0 |
| 1-JB-3830 | JUNCTION BOX FOR 1-TS-1-29C | 0 |
| 1-JB-3831 | JUNCTION BOX FOR 1-TS-1-29D | 0 |
| 1-JB-6439 | JUNCTION BOX XERVING 1-TE-161A | 0 |
| 1-JB-6440 | JUNCTION BOX XERVING 1-TE-161B | 0 |
| 1-JB-6441 | JUNCTION BOX XERVING 1-TE-161C | 0 |
| 1-JB-6442 | JUNCTION BOX XERVING 1-TE-161D | 0 |
| 1-JB-6443 | JUNCTION BOX XERVING 1-TE-161E | 0 |
| 1-JB-6444 | JUNCTION BOX XERVING 1-TE-161F | 0 |
| 1-JB-6445 | JUNCTION BOX XERVING 1-TE-161G | 0 |
| 1-JB-6446 | JUNCTION BOX XERVING 1-TE-161H | 0 |
| 1-JB-6447 | JUNCTION BOX XERVING 1-TE-162C | 0 |
| 1-JB-6448 | JUNCTION BOX XERVING 1-TE-162D | 0 |
| 1-JB-6449 | JUNCTION BOX XERVING 1-TE-162E | 0 |
| 1-JB-6450 | JUNCTION BOX SERVING 1-TE-162F | 0 |
| 1-JB-6451 | JUNCTION BOX SERVING 1-TE-162G | 0 |
| 1-JB-6452 | JUNCTION BOX SERVING 1-TE-162H | 0 |
| 1-JB-6453 | JUNCTION BOX XERVING 1-TE-162A | 0 |
| 1-JB-6454 | JUNCTION BOX XERVING 1-TE-162B | 0 |
| 1-JB-654 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-665 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JB-668 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JBOX-1064 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |

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| 1-JBOX-1067 | LOCAL HS STATION (TERM BLOCK) - SEALED BOX | 0 |
| 1-JBOX-1077 | JUNCTION BOX (TERM BLOCK) - SEALED BOX | 0 |
| 1-JBOX-253-6455 | I&C BUS 1A DISC SWITCH 1A1 | 0 |
| 1-JBOX-253-6456 | I&C BUS 1A DISC SWITCHES 1A3, 1A4, 1A5, 1A6 | 0 |
| 1-JBOX-253-6457 | I&C BUS 1A DISC SW 1A2 | 0 |
| 1-JBOX-253-6459 | I&C BUS 1B DISC SWITCHES 1B3, 1B4, 1B5, 1B6 | 0 |
| 1-JBOX-253-6460 | I&C BUS 1B DISC SW 1B2 | 0 |
| 1-JBOX-253-7160 | I&C BUS 1B DISC SWITCH 1B1 | 0 |
| 1-JBOX-253-8862 | I&C BUS 1A DISC SWITCH | 0 |
| 1-JBOX-253-8865 | I&C BUS 1B DISC SWITCH | 0 |
| 1-LI-3-58AA | RPV LEVEL INSTRUMENTATION | 2, 4, 5 |
| 1-LI-3-58BB | RPV LEVEL INSTRUMENTATION | 2, 4, 5 |
| 1-LI-64-159A | TORUS LEVEL INSTRUMENT | 0 |
| 1-LPNL-925-0001 | LOCAL PANEL 25-1 | 0 |
| 1-LPNL-925-0007A | LOCAL PANEL 1-25-7A | 0 |
| 1-LPNL-925-0007B | LOCAL PANEL 1-25-7B | 0 |
| 1-LPNL-925-0027 | PANEL 1-25-27 IRM PREAMP. RPS I | 0 |
| 1-LPNL-925-0032 | LOCAL PANEL 1-25-32 | 0 |
| 1-LPNL-925-0059 | LOCAL PANEL 25-59 | 0 |
| 1-LPNL-925-005A | LOCAL PANEL 25-5A | 0 |
| 1-LPNL-925-005B | LOCAL PANEL 25-5B | 0 |
| 1-LPNL-925-005C | LOCAL PANEL 25-5-001 | 0 |
| 1-LPNL-925-0060 | LOCAL PANEL 25-60 | 0 |
| 1-LPNL-925-0061 | PANEL 1-25-61 IRM PREAMP. RPS II | 0 |
| 1-LPNL-925-0062 | LOCAL PANEL 25-62 | 0 |
| 1-LPNL-925-006A | LOCAL PANEL 25-6A | 0 |
| 1-LPNL-925-006B | LOCAL PANEL 25-6B | 0 |
| 1-LPNL-925-006D | LOCAL PANEL 25-6-001 | 0 |
| 1-LPNL-925-0223 | LOCAL PANEL 1-25-233 - RAW COOLING WATER PANEL | 0 |
| 1-LPNL-925-0223 | LOCAL PANEL 1-25-233 | 0 |
| 1-LPNL-925-0247B | LOCAL PANEL 1-25-247B (CAD N2 SUPPLY PANEL B) | 0 |
| 1-LPNL-925-044A/11 | COMMON BD LOGIC RELAY PANEL 25-44-A11 | 0 |
| 1-LPNL-925-044A/12 | COMMON BD LOGIC RELAY PANEL 25-44-A12 | 0 |

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| 1-LPNL-925-044B/11 | COMMON BD LOGIC RELAY PANEL 25-44-B11 | 0 |
| 1-LPNL-925-044B/12 | COMMON BD LOGIC RELAY PANEL 25-44-B12 | 0 |
| 1-LPNL-925-247A | LOCAL PANEL 1-25-247A (CAD DRYWELL & SUPP. CHAMB. V.) | 0 |
| 1-LT-64-159A | TORUS LEVEL TRANSMITTER | 0 |
| 1-LT-64-159B | TORUS LEVEL TRANSMITTER | 0 |
| 1-NM-92-7/41A | CHANNEL "A" IRM INDICATOR | 0 |
| 1-NM-92-7/41B | CHANNEL "B" IRM INDICATOR | 0 |
| 1-NM-92-7/41C | CHANNEL "C" IRM INDICATOR | 0 |
| 1-NM-92-7/41D | CHANNEL "D" IRM INDICATOR | 0 |
| 1-PCV-1-179 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PCV-1-18 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PCV-1-180 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PCV-1-19 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PCV-1-22 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PCV-1-23 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PCV-1-30 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PCV-1-31 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PCV-1-34 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PCV-1-4 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PCV-1-41 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PCV-1-42 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PCV-1-5 | MS/MAIN STEAM SAFETY RELIEF VALVE | 4, 5 |
| 1-PI-3-74A | RPV PRESSURE INSTRUMENT | 2, 4, 5 |
| 1-PI-3-74B | RPV PRESSURE INSTRUMENT | 2, 4, 5 |
| 1-PI-64-160A | DRYWELL PRESSURE INSTRUMENT | 0 |
| 1-PI-64-67 | DRYWELL PRESSURE INSTRUMENT | 0 |
| 1-PI-85-88 | PRESSURE INDICATOR | 0 |
| 1-PI-85-89 | PRESSURE INDICATOR | 0 |
| 1-PI-85-90 | PRESSURE INDICATOR | 0 |
| 1-PMP-74-16 | RHR/PUMP 1C | 1, 3, 4, 5 |
| 1-PMP-74-28 | RHR/PUMP 1B | 1, 3, 4, 5 |
| 1-PMP-74-39 | RHR/PUMP 1D | 1, 3, 4, 5 |
| 1-PMP-74-5 | RHR/PUMP 1A | 1, 3, 4, 5 |

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| 1-PMP-75-14 | CS/PUMP 1C | 5 |
| 1-PMP-75-33 | CS/PUMP 1B | 5 |
| 1-PMP-75-42 | CS/PUMP 1D | 5 |
| 1-PMP-75-5 | CS/PUMP 1A | 5 |
| 1-PNLA-009-0003A | REACTOR SD & CONT. COOLING PNL | 0 |
| 1-PNLA-009-0003B | REACTOR SD & CONT. COOLING PNL | 0 |
| 1-PNLA-009-0004 | CLEANUP & RECIRC PNL | 0 |
| 1-PNLA-009-0005 | REACTOR CONTROL PNL | 0 |
| 1-PNLA-009-0006 | FW & COND. PNL | 0 |
| 1-PNLA-009-0008 | PANEL 1-9-8 | 0 |
| 1-PNLA-009-0008 | PANEL 1-9-8 | 0 |
| 1-PNLA-009-0009 | I&C BUS 1A (CAB 2 OF PNL 1-9-9) | 0 |
| 1-PNLA-009-0009 | I&C BUS 1B (CAB 3 OF PNL 1-9-9) | 0 |
| 1-PNLA-009-0015 | RPS CH A (DIV I) | 0 |
| 1-PNLA-009-0016 | RPS CH A, B, C, D | 0 |
| 1-PNLA-009-0017 | RPS CH B (DIV II) | 0 |
| 1-PNLA-009-0018 | FW & RECIRC PNL | 0 |
| 1-PNLA-009-0019 | PROCESS INSTR PNL | 0 |
| 1-PNLA-009-0020 | PANEL 1-9-20 | 0 |
| 1-PNLA-009-0020 | PANEL 1-9-20 | 0 |
| 1-PNLA-009-0021 | TEMP RECORDING PNL | 0 |
| 1-PNLA-009-0023/1 | ELECTRICAL CONTROL PANEL 1-9-23-1 | 0 |
| 1-PNLA-009-0023/2 | ELECTRICAL CONTROL PANEL 1-9-23-2 | 0 |
| 1-PNLA-009-0023/3 | ELECTRICAL CONTROL PANEL 1-9-23-3 | 0 |
| 1-PNLA-009-0023/4 | ELECTRICAL CONTROL PANEL 1-9-23-4 | 0 |
| 1-PNLA-009-0023/5 | ELECTRICAL CONTROL PANEL 1-9-23-5 | 0 |
| 1-PNLA-009-0023/6 | ELECTRICAL CONTROL PANEL 1-9-23-6 | 0 |
| 1-PNLA-009-0023/7 | ELECTRICAL CONTROL PANEL 1-9-23-7 | 0 |
| 1-PNLA-009-0023/8 | ELECTRICAL CONTROL PANEL 1-9-23-8 | 0 |
| 1-PNLA-009-0028 | CRD SELECT RELAY AUX PNL | 0 |
| 1-PNLA-009-0030 | AUTO BLOWDOWN AUX PNL | 0 |
| 1-PNLA-009-0032 | RHR, CS, & HPCI (CH A) PNL | 0 |
| 1-PNLA-009-0033 | RHR, CS, & HPCI (CH B) PNL | 0 |

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| 1-PNLA-009-0036A | PANEL 1-9-36A | 0 |
| 1-PNLA-009-0039 | HPCI RELAY AUX PNL | 0 |
| 1-PNLA-009-0042 | MSIV (INBOARD) DIV II PNL | 0 |
| 1-PNLA-009-0043 | MSIV (OUTBOARD) DIV II PNL | 0 |
| 1-PNLA-009-0054 | CONTAINMENT ATM. DILUTION PNL | 0 |
| 1-PNLA-009-0054 | PANEL 1-9-54 | 0 |
| 1-PNLA-009-0055 | CONTAINMENT ATM. DILUTION PNL | 0 |
| 1-PNLA-009-0055 | PANEL 1-9-55 | 0 |
| 1-PNLA-009-0081 | DIV I ECCS ATU CABINET | 0 |
| 1-PNLA-009-0082 | DIV II ECCS ATU CABINET | 0 |
| 1-PNLA-009-0083 | RPS ATU CAB | 0 |
| 1-PNLA-009-0084 | RPS ATU CAB | 0 |
| 1-PNLA-009-0085 | RPS ATU CAB | 0 |
| 1-PNLA-009-0086 | RPS ATU CAB | 0 |
| 1-PNLA-009-0087 | DIV I TORUS TEMP MONITORING | 0 |
| 1-PNLA-009-0088 | DIV II TORUS TEMP MONITORING | 0 |
| 1-PNLA-009-0093 | NEW PNL (INSTALLED BY DCN W19433) | 0 |
| 1-PNLA-009-012 | PANEL 1-9-12 | 0 |
| 1-PNLA-925-0031 | LOCAL PANEL 25-31 | 0 |
| 1-PNLA-925-0032 | LOCAL PANEL 25-32 | 0 |
| 1-PREG-84-52 | CAD/CAD SYSTEM "A" TO UNIT 1 DRYWELL CONTROL AIR | 0 |
| 1-PREG-84-54 | CAD/CAD SYSTEM "B" TO UNIT 1 DRYWELL CONTROL AIR | 0 |
| 1-PROT-099-0001A1 | RPS CIRCUIT PROTECTOR CABINET 1A1 | 0 |
| 1-PROT-099-0001A2 | RPS CIRCUIT PROTECTOR CABINET 1A2 | 0 |
| 1-PROT-099-0001B1 | RPS CIRCUIT PROTECTOR CABINET 1B1 | 0 |
| 1-PROT-099-0001B2 | RPS CIRCUIT PROTECTOR CABINET 1B2 | 0 |
| 1-PROT-099-0001C1 | RPS CIRCUIT PROTECTOR CABINET 1C1 | 0 |
| 1-PROT-099-0001C2 | RPS CIRCUIT PROTECTOR CABINET 1C2 | 0 |
| 1-PS-67-50 | PRESSURE SWITCH FOR 1-FCV-67-50 (14046) | 0 |
| 1-PSV-1-179 | MS/SOLENOID VALVE FOR PCV-1-179 | 4, 5 |
| 1-PSV-1-18 | MS/SOLENOID VALVE FOR PCV-1-18 | 4, 5 |
| 1-PSV-1-180 | MS/SOLENOID VALVE FOR PCV-1-180 | 4, 5 |
| 1-PSV-1-19 | MS/SOLENOID VALVE FOR PCV-1-19 | 4, 5 |

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| 1-PSV-1-22 | MS/SOLENOID VALVE FOR PCV-1-22 | 4, 5 |
| 1-PSV-1-23 | MS/SOLENOID VALVE FOR PCV-1-23 | 4, 5 |
| 1-PSV-1-30 | MS/SOLENOID VALVE FOR PCV-1-30 | 4, 5 |
| 1-PSV-1-31 | MS/SOLENOID VALVE FOR PCV-1-31 | 4, 5 |
| 1-PSV-1-34 | MS/SOLENOID VALVE FOR PCV-1-34 | 4, 5 |
| 1-PSV-1-4 | MS/SOLENOID VALVE FOR PCV-1-4 | 4, 5 |
| 1-PSV-1-41 | MS/SOLENOID VALVE FOR PCV-1-41 | 4, 5 |
| 1-PSV-1-42 | MS/SOLENOID VALVE FOR PCV-1-42 | 4, 5 |
| 1-PSV-1-5 | MS/SOLENOID VALVE FOR PCV-1-5 | 4, 5 |
| 1-PX-64-159A | POWER SUPPLY (1-9-18) | 0 |
| 1-PX-64-159B | POWER SUPPLY (PNL 1-9-19) | 0 |
| 1-PX-64-160A | POWER SUPPLY (1-9-18) | 0 |
| 1-PX-64-160B | POWER SUPPLY (PNL 1-9-19: 1-LI-64-159B, 160B) | 0 |
| 1-PX-64-161 | POWER SUPPLY (PNL 9-87) | 0 |
| 1-PX-64-162 | POWER SUPPLY (PNL 9-88) | 0 |
| 1-PX-64-50 | POWER SUPPLY (PNL 1-25-31:XR-64-50 [DEV BA TERM 11/12]) | 0 |
| 1-PX-64-67B | POWER SUPPLY (1-9-19) | 0 |
| 1-PX-67-51 | PRESSURE SWITCH FOR 1-FCV-67-51 (14047) | 0 |
| 1-PX-71-60-1 | ECCS ATU CAB 1-9-81 POWER SUPPLY | 0 |
| 1-PX-71-60-1A | ECCS ATU CAB 1-9-81 POWER SUPPLY | 0 |
| 1-PX-71-60-2 | ECCS ATU CAB 1-9-82 POWER SUPPLY | 0 |
| 1-PX-71-60-2A | ECCS ATU CAB 1-9-82 POWER SUPPLY | 0 |
| 1-PX-74-56 | POWER SUPPLY (PNL 1-9-18: FI74-56) | 1, 3, 4, 5 |
| 1-PX-74-70 | POWER SUPPLY (PNL 1-9-19: FI-74-70) | 1, 3, 4, 5 |
| 1-PXMC-23-114 | POWER SUPPLY (PNL 1-9-18: FI-23-36,42:FI-74-50) | 0 |
| 1-PXMC-23-115 A&B | POWER SUPPLY (PNL 1-9-19: FI-23-48,54; FI-74-64) | 0 |
| 1-TE-64-151F | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-161A | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-161B | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-161C | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-161D | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-161E | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-161G | TORUS TEMPERATURE ELEMENT | 2, 4 |

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| 1-TE-64-161H | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-162A | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-162B | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-162C | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-162D | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-162E | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-162F | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-162G | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TE-64-162H | TORUS TEMPERATURE ELEMENT | 2, 4 |
| 1-TI-64-161 | TORUS TEMPERATURE INSTRUMENT | 0 |
| 1-TI-64-162 | TORUS TEMPERATURE INSTRUMENT | 0 |
| 1-TI-64-52A | DRYWELL TEMPERATURE INSTRUMENT | 0 |
| 1-TNK-85-901 | CRD/WEST SCRAM INSTRUMENT VOLUME | 4 |
| 1-TNK-85-902 | CRD/EAST SCRAM INSTRUMENT VOLUME | 4 |
| 1-TS-1-17A | MAIN STEAM VAULT TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-17B | MAIN STEAM VAULT TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-17C | MAIN STEAM VAULT TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-17D | MAIN STEAM VAULT TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-29A | MAIN STEAM TUNNEL TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-29B | MAIN STEAM TUNNEL TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-29C | MAIN STEAM TUNNEL TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-29D | MAIN STEAM TUNNEL TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-40A | MAIN STEAM TUNNEL TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-40B | MAIN STEAM TUNNEL TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-40C | MAIN STEAM TUNNEL TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-40D | MAIN STEAM TUNNEL TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-54A | MAIN STEAM TUNNEL TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-54B | MAIN STEAM TUNNEL TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-54C | MAIN STEAM TUNNEL TEMPERATURE SWITCH | 4, 5 |
| 1-TS-1-54D | MAIN STEAM TUNNEL TEMPERATURE SWITCH | 4, 5 |
| 1-TS-64-68 | HANDSWITCH FOR 1-CLR-67-917 (14001) | 4 |
| 1-TS-64-68 | TEMPERATURE SWITCH FOR 1-CLR-67-917 (14001) | 4 |
| 1-TS-64-69 | TEMPERATURE SWITCH FOR 1-CLR-67-918 (14013) | 4 |

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| 1-TS-64-70 | HANDSWITCH FOR 1-CLR-67-921 (14003) | 4 |
| 1-TS-64-70 | TEMPERATURE SWITCH FOR 1-CLR-67-921 (14003) | 4 |
| 1-TS-64-71 | TEMPERATURE SWITCH FOR 1-CLR-67-922 (14015) | 4 |
| 1-TS-64-72 | TEMPERATURE SWITCH FOR 1-CLR-67-919 (14002) | 4 |
| 1-TS-64-73 | TEMPERATURE SWITCH FOR 1-CLR-67-920 (14014) | 4 |
| 1-XFA-099-0010 | RPS REGULATING TRANSFORMER TRP-1 | 0 |
| 1-XFA-231-TS1A | 4KV/480V TRANSFORMER TS1A | 0 |
| 1-XFA-231-TS1A | 4KV/480V TRANSFORMER TS1A | 0 |
| 1-XFA-231-TS1B | 4KV/480V TRANSFORMER TS1B | 0 |
| 1-XFA-231-TS1B | 4KV/480V TRANSFORMER TS1B | 0 |
| 1-XFA-253-0001A | I&C BUS 1A REGULATING TRANSFORMER | 0 |
| 1-XFA-253-0001A1 | I&C BUS 1A 480/208-120V TRANSFORMER | 0 |
| 1-XFA-253-0001B1 | I&C BUS 1B 480/208-120V TRANSFORMER | 0 |
| 1-XFA-253-0001B2 | I&C BUS 1B REGULATING TRANSFORMER | 0 |
| 1-XR-64-159 | TORUS LEVEL AND DRYWELL PRESSURE INSTRUMENT | 0 |
| 1-XR-64-50 | DRYWELL TEMPERATURE AND PRESSURE INSTRUMENT | 0 |

# Appendix C: Base List 2

| TVA UNID | Description |
|---|---|
| BFN-1-FU2-078-0015B | BFN-1-FU2-078-0015B, 7C CL CKT |
| BFN-1-SHV-074-0786A | BFN-1-SHV-074-0786A, RHR DRAIN PUMP A DISCHARGE SHUTOFF VLV |
| BFN-1-PMP-078-0010 | BFN-1-PMP-078-0010, FUEL POOL COOLING & CLEAN-UP PUMP A |
| BFN-1-HS-078-0048 | BFN-1-HS-078-0048, FUEL POOL F/D A AIR INLET VLV |
| BFN-1-PMP-078-0015 | BFN-1-PMP-078-0015, FUEL POOL COOLING & CLEAN-UP PUMP B |
| BFN-1-SHV-074-0786B | BFN-1-SHV-074-0786B, RHR DRAIN PMP B DISCH SHUTOFF VLV |
| BFN-1-FU2-078-0015A | BFN-1-FU2-078-0015A, 7C TR CKT |
| BFN-1-HS-078-0045 | BFN-1-HS-078-0045, FUEL POOL F/D D UNIT1 INLET VLV--OUTLET VLV |
| BFN-1-63-078-0015 | BFN-1-63-078-0015, 480V SD 1B/7C PRESSURE RELAY |
| BFN-1-TW-078-0008 | BFN-1-TW-078-0008, SKIMMER SURGE TANK DISCHARGE TEMP |
| BFN-1-BKR-078-0066 | BFN-1-BKR-078-0066, F/D BYPASS ISOL VALVE A |
| BFN-1-FCV-078-0019 | BFN-1-FCV-078-0019, FUEL POOL F/D A INFLUENT VLV |
| BFN-1-FU1-078-0027A | BFN-1-FU1-078-0027A, IND LAMP CKT (19AF11A) |
| BFN-1-BKR-078-0062 | BFN-1-BKR-078-0062, PL MAKEUP FROM RHR OUTBD VLV 480 RMOVBD 1A/13E |
| BFN-1-FU3-078-0010 | BFN-1-FU3-078-0010, 7C FUEL POOL COOLING PUMP 1A |
| BFN-1-BKR-078-0068 | BFN-1-BKR-078-0068, REACTOR WELL INFLUENT INBOARD VALVE |
| BFN-1-RLY-078-0R5A | BFN-1-RLY-078-0R5A, FPC DEMIN STEP SW 1A RELAY |
| BFN-1-BKR-078-0064 | BFN-1-BKR-078-0064, F/D INFLUENT OUTBOARD ISOL VLV 480V RMOV BD 1A/9B2 |
| BFN-1-HS-078-0066A | BFN-1-HS-078-0066A, F/D BYPASS ISOL VALVE A - REPLACE HANDLE & ESCUTCHEON; RELOCATE |
| BFN-1-BKR-078-0063 | BFN-1-BKR-078-0063, F/D INFLUENT INBOARD ISOL VLV |
| BFN-1-BKR-078-0067 | BFN-1-BKR-078-0067, REACTOR WELL INFLUENT OUTBOARD VALVE 480V RMOV BD 1A/9E |
| BFN-1-BKR-078-0065 | BFN-1-BKR-078-0065, F/D BYPASS ISOL VALVE B 480V RMOV BD 1A/9D |
| BFN-1-HS-078-0066B | BFN-1-HS-078-0066B, F/D BYPASS ISOL VALVE |
| BFN-1-BKR-027-0078 | BFN-1-BKR-027-0078, COND C CCW OUTLET SO VALVE SS |
| BFN-1-BKR-066-0078 | BFN-1-BKR-066-0078, RECOMB A DISCH VLV 480V TMOV BD 1C/R11DR |
| BFN-1-BKR-078-0061 | BFN-1-BKR-078-0061, POOL MAKEUP FROM RHR INBD VLV 480 RMOV BD1B/9A |
| BFN-1-TW-006-0078 | BFN-1-TW-006-0078, MOISTURE SEP DRAINS TO HTR B2 |
| BFN-1-TW-002-0078 | BFN-1-TW-002-0078, CNDS FROM HEATER A4 |

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| BFN-1-TW-024-0078 | BFN-1-TW-024-0078, RAW COOLING WATER TO RBCCW HT EXCH A |
| BFN-1-TIS-078-0034 | BFN-1-TIS-078-0034, FUEL POOL F/D A INFLUENT TEMP HIGH |
| BFN-1-@V-078-2801 | BFN-1-@V-078-2801, FUEL POOL FILTER DEMIN CONTROL, FCV-78-67 |
| BFN-1-RTV-078-0228A | BFN-1-RTV-078-0228A, RT VLV TO PS-78-14 |
| BFN-1-RLY-078-19A-K4 | BFN-1-RLY-078-19A-K4, GATE SEAL OR DW TO RX WELL SEAL LEAKAGE RELAY |
| BFN-1-HS-078-0026B | BFN-1-HS-078-0026B, FUEL POOL F/D A RET EFFLUENT VLV |
| BFN-1-@V-078-2803 | BFN-1-@V-078-2803, FUEL POOL FILTER DEMIN CONTROL, FCV-78-67 |
| BFN-1-SHV-078-0523 | BFN-1-SHV-078-0523, STORAGE POOL SUPPLY SHUTOFF VLV |
| BFN-1-@V-078-2802 | BFN-1-@V-078-2802, FUEL POOL FILTER DEMIN CONTROL, FCV-78-67 |
| BFN-1-HS-078-0026A | BFN-1-HS-078-0026A, FUEL POOL F/D A EFFLUENT VLV |
| BFN-1-RLY-078-TDR8A | BFN-1-RLY-078-TDR8A, FPC VESSEL A OFF DELAY RELAY |
| BFN-1-@V-078-2804 | BFN-1-@V-078-2804, FUEL POOL FILTER DEMIN CONTROL, FCV-78-67 |
| BFN-1-SHV-078-0045 | BFN-1-SHV-078-0045, SHUTOFF VLV TO 1-FSV-78-45 |
| BFN-1-@V-078-2800 | BFN-1-@V-078-2800, FUEL POOL FILTER DEMIN SUPPLY, FCV-78-67 |
| BFN-1-SHV-078-0042 | BFN-1-SHV-078-0042, SHUTOFF VLV TO 1-FSV-78-42 |
| BFN-1-FIS-078-0005 | BFN-1-FIS-078-0005, FUEL POOL GATE LEAKAGE EXCESSIVE |
| BFN-1-FU2-078-0067A | BFN-1-FU2-078-0067A, RUN LIGHT |
| BFN-1-XDV-027-0783 | BFN-1-XDV-027-0783, CNDR INLET B1 DISTRIBUTOR VLV |
| BFN-1-FE-003-0078B | BFN-1-FE-003-0078B, RFW FLOW TO REACTOR LINE B |
| BFN-1-TRP-078-0754 | BFN-1-TRP-078-0754, FUEL POOL RESIN TRAP |
| BFN-1-XDV-027-0787 | BFN-1-XDV-027-0787, N CNDR INLET B2 DISTRIBUTOR VLV |
| BFN-1-XDV-027-0785 | BFN-1-XDV-027-0785, S CNDR INLET B2 DISTRIBUTOR VLV |
| BFN-1-CKV-078-0591 | BFN-1-CKV-078-0591, FROM FUEL POOL DEMINS INBD CK VLV |
| BFN-1-PDIS-078-0021 | BFN-1-PDIS-078-0021, FUEL POOL F/D A VESSEL D/P |
| BFN-1-XDV-027-0789 | BFN-1-XDV-027-0789, CNDR INLET C2 DISTRIBUTOR VLV |
| BFN-1-XDV-027-0781 | BFN-1-XDV-027-0781, N CNDR INLET A2 DISTRIBUTOR VLV |
| BFN-1-XDV-027-0780 | BFN-1-XDV-027-0780, CNDR INLET A2 DISTRIBUTOR VLV |
| BFN-1-TV-078-0566 | BFN-1-TV-078-0566, FUEL STRG LINER DR TO DRW TEST CONN VLV |
| BFN-1-XDV-027-0788 | BFN-1-XDV-027-0788, S CNDR INLET C1 DISTRIBUTOR VLV |

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| BFN-1-FU2-078-0067B | BFN-1-FU2-078-0067B, CONT TRANSF |
| BFN-1-XDV-027-0784 | BFN-1-XDV-027-0784, N CNDR INLET B1 DISTRIBUTOR VLV |
| BFN-1-CKV-078-0590 | BFN-1-CKV-078-0590, FROM FUEL POOL DEMINS OUTBD CK VLV |
| BFN-1-PDIS-078-0022 | BFN-1-PDIS-078-0022, FUEL POOL F/D A RESIN TRAP D/P HIGH |
| BFN-1-XDV-027-0782 | BFN-1-XDV-027-0782, S CNDR INLET B1 DISTRIBUTOR VLV |
| BFN-1-FE-003-0078A | BFN-1-FE-003-0078A, RFW FLOW TO REACTOR LINE A |
| BFN-1-TV-078-0564 | BFN-1-TV-078-0564, EXP JOINT SEAL DR TO DRW TEST CONN VLV |
| BFN-1-XDV-027-0786 | BFN-1-XDV-027-0786, CNDR INLET B2 DISTRIBUTOR VLV |
| BFN-1-MVOP-078-0064 | BFN-1-MVOP-078-0064, F/D INFLUENT OUTBOARD ISOL VLV |
| BFN-1-HS-027-0078D | BFN-1-HS-027-0078D, COND C CCW OUTLET SO VALVE SS |
| BFN-1-FSV-078-0028 | BFN-1-FSV-078-0028, FUEL POOL F/D A PRECOAT/BACKWASH VLV |
| BFN-1-MVOP-078-0068 | BFN-1-MVOP-078-0068, REACTOR WELL INFLUENT INBOARD VALVE |
| BFN-1-HS-027-0078B | BFN-1-HS-027-0078B, COND C CCW OUTLET SO VALVE SS |
| BFN-1-MVOP-078-0062 | BFN-1-MVOP-078-0062, POOL MAKEUP FROM RHR OUTBOARD VALVE |
| BFN-1-FSV-078-0026 | BFN-1-FSV-078-0026, FUEL POOL F/D A EFFLUENT VLV |
| BFN-1-BYV-078-0508 | BFN-1-BYV-078-0508, HX B BYPASS VLV |
| BFN-1-MVOP-078-0066 | BFN-1-MVOP-078-0066, F/D BYPASS ISOL VALVE A |
| BFN-1-LI-078-0004 | BFN-1-LI-078-0004, REACTOR WELL LEVEL |
| BFN-1-MVOP-078-0061 | BFN-1-MVOP-078-0061, POOL MAKEUP FROM RHR INBOARD VALVE |
| BFN-1-HS-027-0078A | BFN-1-HS-027-0078A, CNDR 1C SS CCW OUTLET SHUTOFF VALVE |
| BFN-1-MVOP-078-0065 | BFN-1-MVOP-078-0065, F/D BYPASS ISOL VALVE B |
| BFN-1-BYV-078-0509 | BFN-1-BYV-078-0509, HX A BYPASS VLV |
| BFN-1-FSV-078-0023 | BFN-1-FSV-078-0023, FUEL POOL F/D A PRECOAT INLET VLV |
| BFN-1-MVOP-078-0067 | BFN-1-MVOP-078-0067, REACTOR WELL INFLUENT OUTBOARD VALVE |
| BFN-1-MVOP-078-0063 | BFN-1-MVOP-078-0063, F/D INFLUENT INBOARD ISOL VLV |
| BFN-1-FSV-078-0027 | BFN-1-FSV-078-0027, FUEL POOL F/D A RET BYPASS CNDS STG VLV |
| BFN-1-HS-027-0078C | BFN-1-HS-027-0078C, COND C CCW OUTLET SO VALVE SS |
| BFN-1-SMV-078-0516 | BFN-1-SMV-078-0516, SAMPLE CONN |
| BFN-1-FT-003-0078A | BFN-1-FT-003-0078A, RFW FLOW TO REACTOR LINE A |
| BFN-1-HS-066-0078A | BFN-1-HS-066-0078A, RECOMBINER A DISCHARGE |

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| BFN-1-CKV-078-0556 | BFN-1-CKV-078-0556, REACTOR WELL DR CK VLV |
| BFN-1-RTV-078-0212A | BFN-1-RTV-078-0212A, RT VLV TO PI-78-32 |
| BFN-1-CKV-078-0552 | BFN-1-CKV-078-0552, SEAL RUPTURE DR TO CNDR CK VLV |
| BFN-1-FT-003-0078B | BFN-1-FT-003-0078B, RFW FLOW TO REACTOR LINE B |
| BFN-1-HS-066-0078B | BFN-1-HS-066-0078B, RECOMBINER A DISCHARGE |
| BFN-1-FU2-078-0063A | BFN-1-FU2-078-0063A, INDICATION LIGHT |
| BFN-1-HS-078-0010A | BFN-1-HS-078-0010A, FUEL POOL COOLING PUMP A |
| BFN-1-JBOX-260-9078 | BFN-1-JBOX-260-9078, JBOX FOR DOOR 298 DG ACCESS EL. 583.0 |
| BFN-1-RTV-075-0078BB | BFN-1-RTV-075-0078BB, PSC WTR HD TK HIGH LS RT VLV |
| BFN-1-TE-078-0013 | BFN-1-TE-078-0013, FUEL POOL COOL HTX A DISCHARGE TEMP |
| BFN-1-HS-078-0007 | BFN-1-HS-078-0007, DRAIN VLV TO MAIN CONDENSER |
| BFN-1-FU2-078-0063B | BFN-1-FU2-078-0063B, CONTROL CIRCUIT |
| BFN-1-HS-078-0010B | BFN-1-HS-078-0010B, FUEL POOL COOLING PUMP A |
| BFN-1-RTV-075-0078BA | BFN-1-RTV-075-0078BA, PSC WTR HD TK HIGH LS RT VLV |
| BFN-1-BKR-035-0781A | BFN-1-BKR-035-0781A, CONT PWR TO THERMOSTAT T206 DEMIN CAB/8Q |
| BFN-1-TE-078-0018 | BFN-1-TE-078-0018, FUEL POOL COOL HTX B DISCHARGE TEMP |
| BFN-1-DRV-078-0560 | BFN-1-DRV-078-0560, DRYER/SEP STORAGE POOL DR VLV TO DR CRW |
| BFN-1-@V-078-2842 | BFN-1-@V-078-2842, FUEL POOL FILTER DEMIN BYPASS, FCV-78-66 |
| BFN-1-DRV-078-0562 | BFN-1-DRV-078-0562, XFR CANAL DR VLV TO CRW |
| BFN-1-RTV-078-0208A | BFN-1-RTV-078-0208A, RT VLV TO PDIS-78-22L |
| BFN-1-RLY-078-LR6A | BFN-1-RLY-078-LR6A, FPC VESSEL A CYCLE SELECTION RELAY |
| BFN-1-@V-078-2840 | BFN-1-@V-078-2840, FUEL POOL FILTER DEMIN BYPASS, FCV-78-66 |
| BFN-1-DRV-078-0565 | BFN-1-DRV-078-0565, FUEL STRG LINER DR VLV TO DRW |
| BFN-1-DRV-078-0561 | BFN-1-DRV-078-0561, XFR CANAL DR VLV TO DR HDR |
| BFN-1-TE-085-0007-078 | BFN-1-TE-085-0007-078, CRD TEMP AT DRIVE LOCATION 26-31 |
| BFN-1-DRV-078-0569 | BFN-1-DRV-078-0569, DR VLV TO PUMP SUCT |
| BFN-1-@V-078-2841 | BFN-1-@V-078-2841, FUEL POOL FILTER DEMIN BYPASS, FCV-78-66 |
| BFN-1-DRV-078-0563 | BFN-1-DRV-078-0563, EXP JOINT SEAL DR VLV TO DRW |
| BFN-1-VTV-078-0581 | BFN-1-VTV-078-0581, RHR TO FUEL STRG POOL LINE VENT VLV |

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| BFN-1-DRV-074-0787A | BFN-1-DRV-074-0787A, RHR DRAIN PMP A DISCH DRAIN VLV |
| BFN-1-VTV-078-0583 | BFN-1-VTV-078-0583, FPC TO RHR PUMP SUCT LINE VENT VLV |
| BFN-1-FU1-078-0042A | BFN-1-FU1-078-0042A, FUSE, INLET & OUTLET FSV 19AF2 |
| BFN-1-DRV-074-0787B | BFN-1-DRV-074-0787B, RHR DRAIN PMP B DISCH DRAIN VLV |
| BFN-1-VTV-078-0582 | BFN-1-VTV-078-0582, RX WELL DIFFUSER A SPLY VENT VLV |
| BFN-1-VTV-078-0580 | BFN-1-VTV-078-0580, FUEL STRG POOL SPLY LINE VENT VLV |
| BFN-1-@V-078-2860 | BFN-1-@V-078-2860, FUEL POOL COOLING & DEMIN SYS |
| BFN-1-FSV-078-0045 | BFN-1-FSV-078-0045, FUEL POOL F/D D UNIT1 OUTLET VLV |
| BFN-1-PI-078-0030 | BFN-1-PI-078-0030, FUEL POOL F/D A HOLD PUMP SUCTION PRESS |
| BFN-1-FU2-078-0061A | BFN-1-FU2-078-0061A, INDICATION LIGHT |
| BFN-1-HS-078-0028 | BFN-1-HS-078-0028, FUEL POOL F/D A PRECOAT/BACKWASH VLV |
| BFN-1-PI-078-0032 | BFN-1-PI-078-0032, FUEL POOL F/D A HOLD PUMP DISCHARGE PRESS |
| BFN-1-HS-078-0068B | BFN-1-HS-078-0068B, REACTOR WELL INFLUENT INBOARD VALVE |
| BFN-1-VTV-075-0078 | BFN-1-VTV-075-0078, PSC WATER HEAD TANK VENT VALVE |
| BFN-1-RTV-078-0227A | BFN-1-RTV-078-0227A, RT VLV TO PIS-78-11 |
| BFN-1-HS-078-0023 | BFN-1-HS-078-0023, FUEL POOL F/D A PRECOAT INLET VLV |
| BFN-1-FCV-078-0028 | BFN-1-FCV-078-0028, FUEL POOL F/D A PRECOAT/BACKWASH VLV |
| BFN-1-CKV-078-0716 | BFN-1-CKV-078-0716, A HOLDING PUMP DISCH CK VLV |
| BFN-1-TW-078-0017 | BFN-1-TW-078-0017, FUEL POOL COOL HTX B INLET TEMP |
| BFN-1-HS-078-0068A | BFN-1-HS-078-0068A, REACTOR WELL RETURN INBOARD VALVE |
| BFN-1-FSV-078-0042 | BFN-1-FSV-078-0042, FUEL POOL F/D D UNIT1 INLET VLV |
| BFN-1-HS-078-0065B | BFN-1-HS-078-0065B, F/D BYPASS ISOL VALVE |
| BFN-1-TW-078-0013 | BFN-1-TW-078-0013, FUEL POOL COOL HTX A DISCHARGE TEMP |
| BFN-1-HS-078-0027 | BFN-1-HS-078-0027, FUEL POOL F/D A RET BYPASS CNDS STG VLV |
| BFN-1-FU2-078-0061B | BFN-1-FU2-078-0061B, CONTROL CIRCUIT |
| BFN-1-FE-078-0024 | BFN-1-FE-078-0024, FUEL POOL F/D A EFFLUENT FLOW |
| BFN-1-FSV-078-0048 | BFN-1-FSV-078-0048, FUEL POOL F/D A AIR INLET VLV |
| BFN-1-FCV-078-0026 | BFN-1-FCV-078-0026, FUEL POOL F/D A EFFLUENT VLV |
| BFN-1-TE-078-0034 | BFN-1-TE-078-0034, FUEL POOL F/D A INFLUENT TEMP HIGH |

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| BFN-1-DRV-078-0535 | BFN-1-DRV-078-0535, RHR TEST, PURGE & DR VLV |
| BFN-1-SMV-074-0783 | BFN-1-SMV-074-0783, CHEM CLEANING SAMPLE VLV |
| BFN-1-SHV-078-0538 | BFN-1-SHV-078-0538, PUMP B SUCTION VLV |
| BFN-1-SMV-074-0785 | BFN-1-SMV-074-0785, CHEM CLEANING SAMPLE VLV |
| BFN-1-@V-078-2811 | BFN-1-@V-078-2811, CABLE TO 1-LS-078-0001E |
| BFN-1-RTV-078-0206A | BFN-1-RTV-078-0206A, RT VLV TO PI-78-21B AND PDT-78-21L |
| BFN-1-SMV-074-0781 | BFN-1-SMV-074-0781, CHEM CLEANING SAMPLE VLV |
| BFN-1-HEX-078-0758 | BFN-1-HEX-078-0758, FUEL POOL COOLING HEAT EXCHANGER A |
| BFN-1-SHV-026-0786 | BFN-1-SHV-026-0786, EMER CONT MAIN TURB OIL SHUTOFF VLV |
| BFN-1-RLY-078-0R7A | BFN-1-RLY-078-0R7A, FPC VESSEL A PRECOAT/CLEANING RELAY |
| BFN-1-PI-035-0078 | BFN-1-PI-035-0078, STATOR COOLING WATER DEIONIZER OUT PRESS |
| BFN-1-FQ-078-0024 | BFN-1-FQ-078-0024, FUEL POOL F/D A EFFLUENT FLOW |
| BFN-1-RLY-078-LR1A | BFN-1-RLY-078-LR1A, FPC VESSEL A PRECOAT CONTROL RELAY |
| BFN-1-SMV-074-0784 | BFN-1-SMV-074-0784, CHEM CLEANING SAMPLE VLV |
| BFN-1-SHV-078-0539 | BFN-1-SHV-078-0539, PUMP A SUCT VLV |
| BFN-1-ZT-001-0078 | BFN-1-ZT-001-0078, MAIN STEAM STOP VALVE NO. 2 POSITION TRANS |
| BFN-1-SHV-070-0785 | BFN-1-SHV-070-0785, CHEM FD TANK SERVICE CONN |
| BFN-1-@V-078-2810 | BFN-1-@V-078-2810, FUEL POOL COOLING & DEMIN SYS |
| BFN-1-DRV-078-0536 | BFN-1-DRV-078-0536, RHR TEST, PURGE & DR VLV |
| BFN-1-SHV-078-0537 | BFN-1-SHV-078-0537, FPC PUMP SPLY SHUTOFF VLV |
| BFN-1-RLY-078-TDR9A | BFN-1-RLY-078-TDR9A, FPC DEMIN A HOLDING PMP OFF DELAY RLY |
| BFN-1-SMV-074-0782 | BFN-1-SMV-074-0782, CHEM CLEANING SAMPLE VLV |
| BFN-1-HEX-078-0759 | BFN-1-HEX-078-0759, FUEL POOL COOLING HEAT EXCHANGER B |
| BFN-1-FCV-069-0078 | BFN-1-FCV-069-0078, PRECOAT RECYCLE VLV |
| BFN-1-@V-078-2812 | BFN-1-@V-078-2812, CABLE TO 1-LS-078-0001G |
| BFN-1-MVOP-078-0007 | BFN-1-MVOP-078-0007, DRAIN VLV TO MAIN CONDENSER |
| BFN-1-MVOP-001-0078 | BFN-1-MVOP-001-0078, MAIN STEAM STOP VALVE NO. 2 CONTROL CYL |
| BFN-1-DRV-078-0530 | BFN-1-DRV-078-0530, RHR TEST, PURGE & DR VLV |
| BFN-1-MVOP-066-0078 | BFN-1-MVOP-066-0078, RECOMBINER A DISCHARGE VALVE |

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| BFN-1-MVOP-027-0078 | BFN-1-MVOP-027-0078, COND C CCW OUTLET SO VALVE SS MTR-OPR |
| BFN-1-RTV-075-0078DA | BFN-1-RTV-075-0078DA, PSC WTR HD TK LOW-LOW LS RT VLV |
| BFN-1-LA-075-0078 | BFN-1-LA-075-0078, PSC HEADTANK LEVEL HIGH |
| BFN-1-ZS-001-0078F | BFN-1-ZS-001-0078F, MAIN STEAM STOP VALVE NO. 2 RPS SW |
| BFN-1-LS-078-0001F | BFN-1-LS-078-0001F, SKIMMER SURGE TANK LEVEL LOW LOW ISOL |
| BFN-1-LS-078-0001B | BFN-1-LS-078-0001B, SKIMMER SURGE TANK LEVEL LOW |
| BFN-1-@V-078-2777 | BFN-1-@V-078-2777, FUEL POOL MAKEUP FROM FCV-78-62 |
| BFN-1-RTV-078-0210A | BFN-1-RTV-078-0210A, RT VLV TO FT-78-24L |
| BFN-1-@PL-078-0704 | BFN-1-@PL-078-0704, CABLE, FUEL POOL COOLING PMP 1B SPLY |
| BFN-1-FU2-078-0066A | BFN-1-FU2-078-0066A, INDICATION LIGHT |
| BFN-1-DRV-078-0585 | BFN-1-DRV-078-0585, FPC TO CNDR HDR DR VLV |
| BFN-1-LS-078-0001D | BFN-1-LS-078-0001D, SKIMMER SURGE TANK LEVEL LOW LOW ISOL |
| BFN-1-LS-078-0001C | BFN-1-LS-078-0001C, SKIMMER SURGE TANK LEVEL LOW LOW |
| BFN-1-DEM-078-0750 | BFN-1-DEM-078-0750, FUEL POOL FILTER DEMIN A |
| BFN-1-@V-078-2778 | BFN-1-@V-078-2778, FUEL POOL MAKEUP FROM FCV-78-62 |
| BFN-1-DRV-078-0584 | BFN-1-DRV-078-0584, FPC PMP SUCT HDR DR VLV TO CRW |
| BFN-1-RTV-075-0078DB | BFN-1-RTV-075-0078DB, PSC WTR HD TK LOW-LOW LS RT VLV |
| BFN-1-FRC-078-0024 | BFN-1-FRC-078-0024, FUEL POOL F/D A EFFLUENT FLOW |
| BFN-1-JBOX-078-4110 | BFN-1-JBOX-078-4110, JBOX, SR5/621 RB (SEALED) |
| BFN-1-JBOX-078-4107 | BFN-1-JBOX-078-4107, JBOX, SR4/621 RB (SEALED) |
| BFN-1-LS-078-0001G | BFN-1-LS-078-0001G, SKIMMER SURGE TANK LEVEL LOW LOW ISOL |
| BFN-1-FSV-069-0078 | BFN-1-FSV-069-0078, PRECOAT RECYCLE VLV |
| BFN-1-FU1-078-25-035AA | BFN-1-FU1-078-25-035AA, UTILITY |
| BFN-1-LS-078-0001E | BFN-1-LS-078-0001E, SKIMMER SURGE TANK LEVEL LOW LOW ISOL |
| BFN-1-LS-078-0001A | BFN-1-LS-078-0001A, SKIMMER SURGE TANK LEVEL HIGH |
| BFN-1-@V-078-2776 | BFN-1-@V-078-2776, FUEL POOL MAKEUP FROM FCV-78-62 |
| BFN-1-FU2-078-0066B | BFN-1-FU2-078-0066B, CONTROL CIRCUIT |
| BFN-1-THV-078-0015A | BFN-1-THV-078-0015A, FPC PMP 1B STUFFING BOX INL THROT VLV |
| BFN-1-CKV-078-0533 | BFN-1-CKV-078-0533, SURGE TANK CNDS SPLY CK VLV |
| BFN-1-VTV-078-0574 | BFN-1-VTV-078-0574, A HX INLET VENT VLV |

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| BFN-1-RTV-078-0207A | BFN-1-RTV-078-0207A, RT VLV TO PDIS-78-22H |
| BFN-1-FSV-078-0036 | BFN-1-FSV-078-0036, FUEL POOL F/D A VESSEL VENT VLV |
| BFN-1-PDA-078-0021A | BFN-1-PDA-078-0021A, FUEL POOL F/D A VESSEL D/P HIGH |
| BFN-1-FCV-078-0063 | BFN-1-FCV-078-0063, F/D INFLUENT OUTBOARD ISOL VLV |
| BFN-1-HS-078-0061A | BFN-1-HS-078-0061A, POOL MAKEUP FROM RHR INBOARD VALVE |
| BFN-1-FCV-078-0067 | BFN-1-FCV-078-0067, REACTOR WELL INFLUENT OUTBOARD VALVE |
| BFN-1-PA-026-0078KA | BFN-1-PA-026-0078KA, EL 565 R2-R3 S-T ZONE 1K FIXED WTR SPRAY |
| BFN-1-FSV-078-0038 | BFN-1-FSV-078-0038, FUEL POOL F/D A HEAD VENT VLV |
| BFN-1-FCV-066-0078 | BFN-1-FCV-066-0078, RECOMBINER A DISCHARGE |
| BFN-1-FCV-027-0078 | BFN-1-FCV-027-0078, COND C CCW OUTLET SO VALVE SS |
| BFN-1-FCV-078-0065 | BFN-1-FCV-078-0065, F/D BYPASS ISOL VALVE |
| BFN-1-FCV-001-0078 | BFN-1-FCV-001-0078, MAIN STEAM STOP VALVE NO. 2 |
| BFN-1-FU1-001-0078A | BFN-1-FU1-001-0078A, 5AF10E (CH A1 TURBINE STP VLV SENSOR) |
| BFN-1-FCV-078-0061 | BFN-1-FCV-078-0061, POOL MAKEUP FROM RHR INBOARD VALVE |
| BFN-1-FSV-078-0033 | BFN-1-FSV-078-0033, FUEL POOL F/D A HOLDING VLV |
| BFN-1-HS-078-0061B | BFN-1-HS-078-0061B, POOL MAKEUP FROM RHR INBOARD VALVE |
| BFN-1-PDA-078-0021B | BFN-1-PDA-078-0021B, FUEL POOL F/D A VESSEL D/P HIGH |
| BFN-1-THV-078-0015B | BFN-1-THV-078-0015B, FPC PMP 1B STUFFING BOX INL THROT VLV |
| BFN-1-FCV-078-0068 | BFN-1-FCV-078-0068, REACTOR WELL INFLUENT INBOARD VALVE |
| BFN-1-VTV-078-0575 | BFN-1-VTV-078-0575, HX BYPASS VENT VLV |
| BFN-1-FCV-078-0064 | BFN-1-FCV-078-0064, F/D INFLUENT INBOARD ISOL VLV |
| BFN-1-MISC-078 | BFN-1-MISC-078, MISCELLANEOUS EQUIPMENT RECORD UNIT 1 SYSTEM 078 |
| BFN-1-PS-078-0009 | BFN-1-PS-078-0009, FUEL POOL COOL PUMP A NPSH LOW INTERLOCK |
| BFN-1-FCV-078-0062 | BFN-1-FCV-078-0062, POOL MAKEUP FROM RHR OUTBOARD VALVE |
| BFN-1-VTV-078-0573 | BFN-1-VTV-078-0573, B HX INLET VENT VLV |
| BFN-1-SHV-044-1078 | BFN-1-SHV-044-1078, RB 1A HTG COIL SPLY VLV |
| BFN-1-FCV-078-0066 | BFN-1-FCV-078-0066, F/D BYPASS ISOL VALVE |
| BFN-1-FU1-001-0078B | BFN-1-FU1-001-0078B, 5AF10D (MAIN STM STOP VLV NO.2 POS SW, BFR-1-ZI -001-0078) |
| BFN-1-TE-068-0078 | BFN-1-TE-068-0078, RECIRC PUMP B DISCHARGE TEMPERATURE. |

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| BFN-1-ZS-078-0007B | BFN-1-ZS-078-0007B, LIMIT SW, DR VLV TO MAIN CNDR CLOSE |
| BFN-1-FI-078-0024A | BFN-1-FI-078-0024A, FUEL POOL F/D A EFFLUENT FLOW |
| BFN-1-@V-078-2788 | BFN-1-@V-078-2788, FUEL POOL FILTER DEMIN BYPASS, FCV-78-65 |
| BFN-1-FCV-078-0035 | BFN-1-FCV-078-0035, FUEL POOL F/D A BACKWASH DRAIN VLV |
| BFN-1-FU2-078-0010A | BFN-1-FU2-078-0010A, 7C TR CKT |
| BFN-1-ZI-001-0078 | BFN-1-ZI-001-0078, STOP VALVE POSITION MSV-2 (OCP #3) (IND26) |
| BFN-1-TW-078-0020 | BFN-1-TW-078-0020, FUEL POOL F/D INFLUENT TEMP |
| BFN-1-XA-057-0078 | BFN-1-XA-057-0078, 4KV SHUTDOWN BUS 2 AUTO XFR |
| BFN-1-PI-078-0021B | BFN-1-PI-078-0021B, FUEL POOL F/D A VESSEL EFFLUENT PRESS |
| BFN-1-PDA-078-0022 | BFN-1-PDA-078-0022, FUEL POOL F/D A RESIN TRAP D/P HIGH |
| BFN-1-RTV-078-0211A | BFN-1-RTV-078-0211A, RT VLV TO PI-78-30 |
| BFN-1-@V-078-2784 | BFN-1-@V-078-2784, FUEL POOL FILTER DEMIN, FCV-78-64 |
| BFN-1-JBOX-078-4285 | BFN-1-JBOX-078-4285, JBOX, SR6/639 RB (SEALED) |
| BFN-1-HS-078-0064A | BFN-1-HS-078-0064A, FILTER DEMIN OUTBOARD ISOL VLV |
| BFN-1-MTR-078-0010 | BFN-1-MTR-078-0010, FUEL POOL COOLING & CLEAN-UP PUMP A |
| BFN-1-PDM-078-0021 | BFN-1-PDM-078-0021, FUEL POOL F/D A VESSEL D/P P/E |
| BFN-1-@V-078-2782 | BFN-1-@V-078-2782, FUEL POOL FILTER DEMIN, FCV-78-64 |
| BFN-1-FCV-078-0033 | BFN-1-FCV-078-0033, FUEL POOL F/D A HOLDING VLV |
| BFN-1-STN-075-0078 | BFN-1-STN-075-0078, PSC HEAD TANK VENT STRAINER |
| BFN-1-BKR-078-0031A | BFN-1-BKR-078-0031A, FUEL POOL DEMIN HOLDING PMP A 480V RW BD 1/5B |
| BFN-1-RLY-078-0R3A | BFN-1-RLY-078-0R3A, FPC VESSEL A FLOW LOW |
| BFN-1-LS-078-0002B | BFN-1-LS-078-0002B, FUEL STORAGE POOL LEVEL LOW |
| BFN-1-TW-003-0078A | BFN-1-TW-003-0078A, RFW TEMP TO REACTOR LINE A |
| BFN-1-ZS-078-0042A | BFN-1-ZS-078-0042A, LIMIT SW, FUEL POOL F/D INLET VLV OPEN |
| BFN-1-LS-078-0002A | BFN-1-LS-078-0002A, FUEL STORAGE POOL LEVEL HIGH |
| BFN-1-FS-078-0051 | BFN-1-FS-078-0051, REFUELING BELLOWS LEAKAGE EXCESSIVE |
| BFN-1-@V-078-2785 | BFN-1-@V-078-2785, FUEL POOL FILTER DEMIN, FCV-78-64 |
| BFN-1-FSV-078-0035A | BFN-1-FSV-078-0035A, FUEL POOL F/D A BACKWASH DRAIN VLV |

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| BFN-1-@V-078-2789 | BFN-1-@V-078-2789, FUEL POOL FILTER DEMIN BYPASS, FCV-78-65 |
| BFN-1-FCV-078-0036 | BFN-1-FCV-078-0036, FUEL POOL F/D VESSEL VENT VLV |
| BFN-1-FU2-078-0010B | BFN-1-FU2-078-0010B, 7C CL CKT |
| BFN-1-@V-078-2781 | BFN-1-@V-078-2781, FUEL POOL FILTER DEMIN, FCV-78-64 |
| BFN-1-FI-078-0024B | BFN-1-FI-078-0024B, FUEL POOL F/D A EFFLUENT FLOW |
| BFN-1-CKV-078-0567 | BFN-1-CKV-078-0567, REFUELING DR HDR CK VLV |
| BFN-1-ZS-078-0007A | BFN-1-ZS-078-0007A, LIMIT SW, DR VLV TO MAIN CNDR OPEN |
| BFN-1-TW-003-0078B | BFN-1-TW-003-0078B, RFW TEMP TO REACTOR LINE B |
| BFN-1-MTR-078-0015 | BFN-1-MTR-078-0015, FUEL POOL COOLING & CLEAN-UP PUMP B |
| BFN-1-ZS-078-0042B | BFN-1-ZS-078-0042B, LIMIT SW, FUEL POOL F/D INLET VLV CLOSE |
| BFN-1-FCV-078-0038 | BFN-1-FCV-078-0038, FUEL POOL F/D A HEAD VENT VLV |
| BFN-1-@V-078-2783 | BFN-1-@V-078-2783, FUEL POOL FILTER DEMIN, FCV-78-64 |
| BFN-1-RTV-078-0226A | BFN-1-RTV-078-0226A, RT VLV TO PS-78-9 |
| BFN-1-PDT-078-0021 | BFN-1-PDT-078-0021, FUEL POOL F/D A VESSEL D/P |
| BFN-1-HS-078-0064B | BFN-1-HS-078-0064B, F/D INFLUENT OUTBOARD ISOL VLV |
| BFN-1-PI-078-0021A | BFN-1-PI-078-0021A, FUEL POOL F/D A VESSEL INFLUENT PRESS |
| BFN-1-LS-075-0078A | BFN-1-LS-075-0078A, LEVEL SWITCH, PRESS SUPPR CHBR HEAD TANK LEVEL |
| BFN-1-FU2-066-0078A | BFN-1-FU2-066-0078A, RUN LIGHT, FCV-66-78 |
| BFN-1-FM-003-0078C | BFN-1-FM-003-0078C, DEFAULT DESCRIPTION |
| BFN-1-@V-078-2825 | BFN-1-@V-078-2825, FUEL POOL RHR MAKEUP, FCV-78-61 |
| BFN-1-LS-075-0078C | BFN-1-LS-075-0078C, LEVEL SWITCH, PRESS SUPPR CHBR HEAD TANK LEVEL |
| BFN-1-FG-078-0029 | BFN-1-FG-078-0029, FUEL POOL F/D A CHEM DRAIN FLOW |
| BFN-1-@V-078-2827 | BFN-1-@V-078-2827, FUEL POOL RHR MAKEUP, FCV-78-61 |
| BFN-1-FU2-078-0062A | BFN-1-FU2-078-0062A, RUN LIGHT |
| BFN-1-@V-078-2826 | BFN-1-@V-078-2826, FUEL POOL RHR MAKEUP, FCV-78-61 |
| BFN-1-LS-075-0078B | BFN-1-LS-075-0078B, LEVEL SWITCH, PRESS SUPPR CHBR HEAD TANK LEVEL |
| BFN-1-FU2-066-0078B | BFN-1-FU2-066-0078B, CONT CKT, FCV-66-78 |
| BFN-1-FU1-078-25-016A | BFN-1-FU1-078-25-016A, UTILITY (19AF9) |
| BFN-1-TE-078-0020 | BFN-1-TE-078-0020, FUEL POOL F/D INFLUENT TEMP |
| BFN-1-@V-078-2828 | BFN-1-@V-078-2828, FUEL POOL RHR MAKEUP, FCV-78-61 |

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| BFN-1-FU2-078-0062B | BFN-1-FU2-078-0062B, CONTROL XFMR |
| BFN-1-LS-075-0078D | BFN-1-LS-075-0078D, LEVEL SWITCH, PRESS SUPPR CHBR HEAD TANK LEVEL |
| BFN-1-@V-078-2854 | BFN-1-@V-078-2854, FUEL POOL FILTER DEMIN CONTROL, FCV-78-68 |
| BFN-1-@PL-078-0694 | BFN-1-@PL-078-0694, FUEL POOL COOLING PUMP 1A CONTROL |
| BFN-1-FLV-026-0781 | BFN-1-FLV-026-0781, FLUSH TO DISCH CULVERT TURB HD END |
| BFN-1-VTV-078-0543 | BFN-1-VTV-078-0543, PUMP A VENT VLV |
| BFN-1-DRV-078-0572 | BFN-1-DRV-078-0572, PUMP A DISCH DR TO CRW |
| BFN-1-DRV-078-0576 | BFN-1-DRV-078-0576, B HX OUTLET DR VLV TO CRW |
| BFN-1-@V-078-2850 | BFN-1-@V-078-2850, FUEL POOL FILTER DEMIN SUPPLY, FCV-78-68 |
| BFN-1-FU2-078-0065A | BFN-1-FU2-078-0065A, RUN LIGHT |
| BFN-1-RLY-078-19A-K6B | BFN-1-RLY-078-19A-K6B, LOW SURGE TNK LEVEL ISOLATION RELAY |
| BFN-1-FA-078-0024B | BFN-1-FA-078-0024B, FUEL POOL F/D A EFFLUENT FLOW LOW |
| BFN-1-FSV-078-0007 | BFN-1-FSV-078-0007, DRAIN VLV TO MAIN CONDENSER |
| BFN-1-FU2-027-0078B | BFN-1-FU2-027-0078B, CONT CKT, FCV-27-78 |
| BFN-1-DRV-078-0578 | BFN-1-DRV-078-0578, DEMIN BYP DR VLV TO CRW |
| BFN-1-PDS-078-0021 | BFN-1-PDS-078-0021, FUEL POOL F/D A VESSEL D/P |
| BFN-1-@V-078-2852 | BFN-1-@V-078-2852, FUEL POOL FILTER DEMIN CONTROL, FCV-78-68 |
| BFN-1-@PL-078-0692 | BFN-1-@PL-078-0692, FUEL POOL COOLING PUMP 1A CONTROL |
| BFN-1-DRV-078-0570 | BFN-1-DRV-078-0570, DR VLV TO CONDENSER |
| BFN-1-DRV-078-0577 | BFN-1-DRV-078-0577, A HX OUTL DR VLV TO CRW |
| BFN-1-@PL-078-0691 | BFN-1-@PL-078-0691, CABLE, FUEL POOL COOLING PMP 1A SPLY |
| BFN-1-@V-078-2851 | BFN-1-@V-078-2851, FUEL POOL FILTER DEMIN CONTROL, FCV-78-68 |
| BFN-1-FU2-027-0078A | BFN-1-FU2-027-0078A, RUN LIGHT, FCV-27-78 |
| BFN-1-FU2-078-0065B | BFN-1-FU2-078-0065B, CONT TRANSF |
| BFN-1-FA-078-0024A | BFN-1-FA-078-0024A, FUEL POOL F/D A EFFLUENT FLOW LOW |
| BFN-1-TI-024-0078 | BFN-1-TI-024-0078, RCW TO RBCCW HT EXCH A |
| BFN-1-DRV-078-0579 | BFN-1-DRV-078-0579, DEMIN SPLY DR VLV TO CRW |
| BFN-1-@PL-078-0693 | BFN-1-@PL-078-0693, FUEL POOL COOLING PUMP 1A CONTROL |
| BFN-1-@V-078-2853 | BFN-1-@V-078-2853, FUEL POOL FILTER DEMIN CONTROL, FCV-78-68 |
| BFN-1-DRV-078-0571 | BFN-1-DRV-078-0571, PUMP B DISCH DR VLV TO CRW |

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| BFN-1-VTV-078-0542 | BFN-1-VTV-078-0542, PUMP B VENT VLV |
| BFN-1-RLY-078-19A-K6A | BFN-1-RLY-078-19A-K6A, LOW SURGE TNK LEVEL ISOLATION RELAY |
| BFN-1-HS-078-0063A | BFN-1-HS-078-0063A, FILTER DEMIN INBOARD ISOL VLV |
| BFN-1-FM-078-0024C | BFN-1-FM-078-0024C, FUEL POOL F/D A EFFLUENT FLOW P/E |
| BFN-1-FU2-078-0064B | BFN-1-FU2-078-0064B, CONT TRANSF |
| BFN-1-FM-078-0024A | BFN-1-FM-078-0024A, FUEL POOL F/D A EFFLUENT FLOW SQ RT |
| BFN-1-FCV-078-0045 | BFN-1-FCV-078-0045, FUEL POOL F/D D UNIT1 OUTLET VLV |
| BFN-1-63-078-0010 | BFN-1-63-078-0010, FPC PUMP 1A CONT CKT PRESS RELAY 63 |
| BFN-1-HS-078-0063B | BFN-1-HS-078-0063B, F/D INFLUENT INBOARD ISOL VLV |
| BFN-1-FCV-078-0048 | BFN-1-FCV-078-0048, FUEL POOL F/D A AIR INLET VLV |
| BFN-1-FU2-078-0064A | BFN-1-FU2-078-0064A, RUN LIGHT |
| BFN-1-FSV-078-0019 | BFN-1-FSV-078-0019, FUEL POOL F/D A INFLUENT VLV |
| BFN-1-PDI-078-0021 | BFN-1-PDI-078-0021, FUEL POOL F/D A VESSEL D/P |
| BFN-1-FM-078-0024B | BFN-1-FM-078-0024B, VESSEL A EFFLUENT FLOW E/P |
| BFN-1-FCV-078-0042 | BFN-1-FCV-078-0042, FUEL POOL F/D D UNIT1 INLET VLV |
| BFN-1-@V-078-2833 | BFN-1-@V-078-2833, FUEL POOL FILTER DEMIN, FCV-78-63 |
| BFN-1-FG-078-0039 | BFN-1-FG-078-0039, FUEL POOL F/D A HEAD VENT FLOW |
| BFN-1-CKV-078-0546 | BFN-1-CKV-078-0546, RX WELL DIFFUSER B SPLY CK VLV |
| BFN-1-@V-078-2835 | BFN-1-@V-078-2835, FUEL POOL FILTER DEMIN, FCV-78-63 |
| BFN-1-TNK-075-0078 | BFN-1-TNK-075-0078, PSC WATER HEAD TANK |
| BFN-1-TNK-078-0756 | BFN-1-TNK-078-0756, SKIMMER SURGE TANK A |
| BFN-1-HS-078-0019B | BFN-1-HS-078-0019B, FUEL POOL F/D A INFLUENT VLV |
| BFN-1-@V-078-2831 | BFN-1-@V-078-2831, FUEL POOL FILTER DEMIN, FCV-78-63 |
| BFN-1-FG-078-0037 | BFN-1-FG-078-0037, FUEL POOL F/D A VESSEL VENT FLOW |
| BFN-1-DRV-026-0789 | BFN-1-DRV-026-0789, DRAIN TO TB FLOOR DRAIN SUMP MAIN TURB OIL |
| BFN-1-@V-078-2839 | BFN-1-@V-078-2839, FUEL POOL FILTER DEMIN BYPASS, FCV-78-66 |
| BFN-1-@V-078-2838 | BFN-1-@V-078-2838, FUEL POOL FILTER DEMIN BYPASS FCV-78-66 |
| BFN-1-DRV-026-0788 | BFN-1-DRV-026-0788, DRAIN TO TB FLOOR DRAIN SUMP MAIN TURB OIL |
| BFN-1-DRV-026-0780 | BFN-1-DRV-026-0780, STNR DRAIN TO DISCH CULVERT TURB HD END |

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| BFN-1-@V-078-2834 | BFN-1-@V-078-2834, FUEL POOL FILTER DEMIN, FCV-78-63 |
| BFN-1-HS-078-0019A | BFN-1-HS-078-0019A, FUEL POOL F/D A INFLUENT VLV |
| BFN-1-@V-078-2832 | BFN-1-@V-078-2832, FUEL POOL FILTER DEMIN, FCV-78-63 |
| BFN-1-CKV-078-0545 | BFN-1-CKV-078-0545, RX WELL DIFFUSER A SPLY CK VLV |
| BFN-1-TNK-078-0757 | BFN-1-TNK-078-0757, SKIMMER SURGE TANK B |
| BFN-1-TE-006-0078 | BFN-1-TE-006-0078, MOISTURE SEP DRAINS TO HTR B2 |
| BFN-1-TE-002-0078 | BFN-1-TE-002-0078, CNDS FROM HEATER A4 |
| BFN-1-PS-078-0014 | BFN-1-PS-078-0014, FUEL POOL COOL PUMP B NPSH LOW INTERLOCK |
| BFN-1-RTV-075-0078CB | BFN-1-RTV-075-0078CB, PSC WTR HD TK LOW LS RTVLV |
| BFN-1-PIS-078-0016 | BFN-1-PIS-078-0016, FUEL POOL COOL PUMP B DISCHARGE PRESS. LOW |
| BFN-1-HS-069-0078 | BFN-1-HS-069-0078, PRECOAT RECYCLE VLV |
| BFN-1-JBOX-023-1078 | BFN-1-JBOX-023-1078, JBOX @LCS W/TERM BLKS FOR 1-FCV-023-0046 (SEALED) |
| BFN-1-TE-078-0008 | BFN-1-TE-078-0008, SKIMMER SURGE TANK DISCHARGE TEMP |
| BFN-1-PIS-078-0011 | BFN-1-PIS-078-0011, FUEL POOL COOL PUMP A DISCHARGE PRESS. LOW |
| BFN-1-RTV-075-0078CA | BFN-1-RTV-075-0078CA, PSC WTR HD TK LOW LS RTVLV |
| BFN-1-@V-078-2792 | BFN-1-@V-078-2792, FUEL POOL FILTER DEMIN BYPASS, FCV-78-65 |
| BFN-1-DRV-078-0713 | BFN-1-DRV-078-0713, A F/D INFLUENT CHEM DR VLV |
| BFN-1-RTV-078-0209A | BFN-1-RTV-078-0209A, RT VLV TO FT-78-24H |
| BFN-1-RLY-078-0R2A | BFN-1-RLY-078-0R2A, FPC VESSEL A DRAIN RELAY |
| BFN-1-BKR-078-0010 | BFN-1-BKR-078-0010, FUELPOOL COOLING/CLEAN-UP PUMP 1A 480 SDBD 1A/7C |
| BFN-1-DRV-078-0558 | BFN-1-DRV-078-0558, RX WELL AND GATE SLOT DR VLV TO DR HDR |
| BFN-1-BKR-035-0780 | BFN-1-BKR-035-0780, PCB 214 AUXILIARY HEATERS 480V TMOV 1A/7D1 |
| BFN-1-@V-078-2790 | BFN-1-@V-078-2790, FUEL POOL FILTER DEMIN BYPASS, FCV-78-65 |
| BFN-1-TW-078-0034 | BFN-1-TW-078-0034, FUEL POOL F/D A INFLUENT TEMP |
| BFN-1-JBOX-078-4279 | BFN-1-JBOX-078-4279, JBOX, SR4/621 RB (SEALED) |
| BFN-1-DRV-078-0553 | BFN-1-DRV-078-0553, RX WELL DR VLV TO CRW |
| BFN-1-BKR-078-0015 | BFN-1-BKR-078-0015, FUEL POOL COOLING/CLEAN-UP PUMP 1B 480 SDBD 1B/7C |
| BFN-1-DRV-078-0714 | BFN-1-DRV-078-0714, A F/D EFFLUENT CHEM DR VLV |

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| BFN-1-DRV-078-0557 | BFN-1-DRV-078-0557, GATE SLOT DRAIN VLV TO DR HDR |
| BFN-1-RTV-078-0225A | BFN-1-RTV-078-0225A, RT VLV TO LI-78-4 |
| BFN-1-@V-078-2791 | BFN-1-@V-078-2791, FUEL POOL FILTER DEMIN BYPASS, FCV-78-65 |
| BFN-1-SHV-078-0715 | BFN-1-SHV-078-0715, A HOLDING PUMP SUCT SHUTOFF VLV |
| BFN-1-DRV-078-0555 | BFN-1-DRV-078-0555, REACTOR WELL DR VLV |
| BFN-1-DRV-078-0559 | BFN-1-DRV-078-0559, DRYER/SEP STORAGE POOL DR TO DR HDR |
| BFN-1-DRV-078-0551 | BFN-1-DRV-078-0551, SEAL RUPTURE DR VLV TO CNDR |
| BFN-1-DRV-078-0519 | BFN-1-DRV-078-0519, DEMIN EFFL TO DRW DR VLV |
| BFN-1-FU1-078-25-015B | BFN-1-FU1-078-25-015B, IND LAMP CKT (19AF8) |
| BFN-1-DRV-078-0513 | BFN-1-DRV-078-0513, HX B-CRW DR VLV |
| BFN-1-ZS-078-0045B | BFN-1-ZS-078-0045B, LIMIT SW, FUEL POOL F/D OUTLET VLV CLOSE |
| BFN-1-RTV-078-0229A | BFN-1-RTV-078-0229A, RT VLV TO PIS-78-16 |
| BFN-1-ZS-078-0045A | BFN-1-ZS-078-0045A, LIMIT SW, FUEL POOL F/D OUTLET VLV OPEN |
| BFN-1-FU1-078-25-015A | BFN-1-FU1-078-25-015A, IND LAMP CKT (19AF7) |
| BFN-1-FS-078-0024 | BFN-1-FS-078-0024, FUEL POOL F/D A EFFLUENT FLOW |
| BFN-1-DRV-078-0514 | BFN-1-DRV-078-0514, HX A-CRW DR VLV |
| BFN-1-HS-078-0038 | BFN-1-HS-078-0038, FUEL POOL F/D A HEAD VENT VLV |
| BFN-1-HS-078-0031B | BFN-1-HS-078-0031B, FUEL POOL F/D A HOLDING PUMP |
| BFN-1-HS-078-0036 | BFN-1-HS-078-0036, FUEL POOL F/D A VESSEL VENT VLV |
| BFN-1-HS-078-0015A | BFN-1-HS-078-0015A, FUEL POOL COOLING PUMP B |
| BFN-1-HS-078-0035 | BFN-1-HS-078-0035, FUEL POOL F/D A BACKWASH DRAIN VLV |
| BFN-1-CKV-078-0586 | BFN-1-CKV-078-0586, FPC TO COND HDR CK VLV |
| BFN-1-HS-078-0015B | BFN-1-HS-078-0015B, FUEL POOL COOLING PUMP B |
| BFN-1-HS-078-0033 | BFN-1-HS-078-0033, FUEL POOL F/D A HOLDING VLV |
| BFN-1-HS-078-0031A | BFN-1-HS-078-0031A, FUEL POOL F/D A HOLDING PUMP |
| BFN-1-HS-078-0067A | BFN-1-HS-078-0067A, REACTOR WELL RETURN OUTBOARD VALVE |
| BFN-1-FCV-078-0007 | BFN-1-FCV-078-0007, DRAIN VLV TO MAIN CONDENSER |
| BFN-1-FU2-078-0068B | BFN-1-FU2-078-0068B, CONTROL CIRCUIT |
| BFN-1-RTV-078-0205A | BFN-1-RTV-078-0205A, RT VLV TO PI-78-21A AND PDT-78-21H |
| BFN-1-VTV-078-0512 | BFN-1-VTV-078-0512, HX B-VENT |

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| BFN-1-TV-075-0078B | BFN-1-TV-075-0078B, PSC WATER HEAD TANK TEST VLV |
| BFN-1-TW-068-0078 | BFN-1-TW-068-0078, RECIRC PUMP B DISCHARGE TEMPERATURE. |
| BFN-1-VTV-078-0515 | BFN-1-VTV-078-0515, HX A-VENT A |
| BFN-1-HS-078-0067B | BFN-1-HS-078-0067B, REACTOR WELL INFLUENT OUTBOARD VALVE |
| BFN-1-TV-075-0078A | BFN-1-TV-075-0078A, PSC WATER HEAD TANK TEST VLV |
| BFN-1-FU2-078-0068A | BFN-1-FU2-078-0068A, INDICATION LIGHT |
| BFN-1-CKV-078-0502 | BFN-1-CKV-078-0502, PUMP A DISCH CK VLV |
| BFN-1-THV-078-0010B | BFN-1-THV-078-0010B, FPC PMP 1A STUFFING BOX INL THROT VLV |
| BFN-1-THV-078-0010A | BFN-1-THV-078-0010A, FPC PMP 1A STUFFING BOX INL THROT VLV |
| BFN-1-CKV-078-0501 | BFN-1-CKV-078-0501, PUMP B DISCH CK VLV |
| BFN-1-TA-078-0034 | BFN-1-TA-078-0034, FUEL POOL F/D A INFLUENT TEMP HIGH |
| BFN-1-FT-078-0024 | BFN-1-FT-078-0024, FUEL POOL F/D A EFFLUENT FLOW |
| BFN-1-CKV-078-0521 | BFN-1-CKV-078-0521, TO FUEL POOL DEMINS CK VLV |
| BFN-1-RTV-075-0078AB | BFN-1-RTV-075-0078AB, PSC WTR HD TK HIGH-HIGH LS RT VLV |
| BFN-1-ZS-078-0027B | BFN-1-ZS-078-0027B, LIMIT SW, FUEL POOL F/D VLV CLOSE |
| BFN-1-FI-066-0078 | BFN-1-FI-066-0078, RECOMBINER A DISCH VLV SEAL AIR |
| BFN-1-CKV-078-0527 | BFN-1-CKV-078-0527, VALVE, CHECK, SPENT FUEL POOL DISCHARLINE |
| BFN-1-PA-026-0078LA | BFN-1-PA-026-0078LA, EL 565 R3-R5 S-T ZONE 1L FIXED WTR SPRAY |
| BFN-1-FI-003-0078B | BFN-1-FI-003-0078B, RFW FLOW LINE B |
| BFN-1-FI-003-0078A | BFN-1-FI-003-0078A, RFW FLOW LINE A |
| BFN-1-RLY-078-CR17A | BFN-1-RLY-078-CR17A, FPC DEMIN A HOLDING PMPCONTROL RLY |
| BFN-1-CKV-078-0526 | BFN-1-CKV-078-0526, TO POOL DIFFUSER A |
| BFN-1-ZS-078-0027A | BFN-1-ZS-078-0027A, LIMIT SW, FUEL POOL F/D VLV OPEN |
| BFN-1-CKV-078-0522 | BFN-1-CKV-078-0522, FROM FUEL POOL DEMINS CK VLV |
| BFN-1-RTV-075-0078AA | BFN-1-RTV-075-0078AA, PSC WTR HD TK HIGH-HIGH LS RT VLV |
| BFN-1-FU1-078-0007A | BFN-1-FU1-078-0007A, IND LAMP CKT (19AF10) |
| BFN-1-FCV-078-0023 | BFN-1-FCV-078-0023, FUEL POOL F/D A PRECOAT INLET VLV |
| BFN-1-TW-078-0012 | BFN-1-TW-078-0012, FUEL POOL COOL HTX A INLET TEMP |
| BFN-1-HS-078-0065A | BFN-1-HS-078-0065A, FILTER DEMIN BYPASS VALVE |
| BFN-1-FCV-078-0027 | BFN-1-FCV-078-0027, FUEL POOL F/D A RET BYPASS CNDS STG VLV |

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| BFN-1-TW-078-0018 | BFN-1-TW-078-0018, FUEL POOL COOL HTX B DISCHARGE TEMP |
| BFN-1-IL-078-0001B/CB | BFN-1-IL-078-0001B/CB, SKIMMER SURGE TANK LEVEL LOW |
| BFN-1-IL-078-0001E/GB | BFN-1-IL-078-0001E/GB, SKIMMER SURGE TANK LEVEL LOW LOW ISOL |
| BFN-1-IL-078-0001D/FB | BFN-1-IL-078-0001D/FB, SKIMMER SURGE TANK LEVEL LOW LOW ISOL |
| BFN-1-IL-078-0015C | BFN-1-IL-078-0015C, FUEL POOL COOLING PUMP 1B RUNNING |
| BFN-1-IL-078-0001AB | BFN-1-IL-078-0001AB, SKIMMER SURGE TANK LEVEL HIGH |
| BFN-1-IL-078-0010C | BFN-1-IL-078-0010C, FUEL POOL COOLING PUMP 1A RUNNING |
| BFN-1-PISV-078-0009 | BFN-1-PISV-078-0009, PANEL ISOL VLV FOR 1-PS-78-9 |
| BFN-1-PISV-078-0014 | BFN-1-PISV-078-0014, PANEL ISOL VLV FOR 1-PS-78-14 |
| BFN-1-PISV-078-0011 | BFN-1-PISV-078-0011, PANEL ISOL VLV FOR 1-LI-78-11 |
| BFN-1-PISV-078-0004 | BFN-1-PISV-078-0004, PANEL ISOL VLV FOR 1-LI-78-4 |
| BFN-1-PISV-078-0016 | BFN-1-PISV-078-0016, PANEL ISOL VLV FOR 1-PS-78-16 |
| BFN-1-TTIV-078-0004 | BFN-1-TTIV-078-0004, INSTR TEST VLV FOR 1-LI-78-4 |
| BFN-1-VTV-078-0014 | BFN-1-VTV-078-0014, VENT VLV FOR PS-78-14 |
| BFN-1-VTV-078-0011 | BFN-1-VTV-078-0011, VENT VLV FOR PIS-78-11 |
| BFN-1-VTV-078-0009 | BFN-1-VTV-078-0009, VENT VLV FOR PS-78-9 |
| BFN-1-VTV-078-0016 | BFN-1-VTV-078-0016, VENT VLV FOR PIS-78-16 |
| BFN-1-EQIV-078-0001 | BFN-1-EQIV-078-0001, INSTR EQUALIZING VLV FOR 1-PIS-78-11 AND -16LABELING PER TAG REQ NO. T431927 (TACF 1-84-054-78) |
| BFN-1-OR-078-0761 | BFN-1-OR-078-0761, FUEL POOL COOL DEMIN BYPASS FLOW REDUCING ORIFICE |
| BFN-1-FE-078-0758 | BFN-1-FE-078-0758, FUEL POOL COOL HEX A FLOW ELEMENT |
| BFN-1-FE-078-0759 | BFN-1-FE-078-0759, FUEL POOL COOL HEX B FLOW ELEMENT |
| BFN-1-FE-078-0760 | BFN-1-FE-078-0760, FUEL POOL COOL HEX BYPASS FLOW ELEMENT |
| BFN-1-TV-078-0758A | BFN-1-TV-078-0758A, 1-FE-78-758 HI SIDE TEST VENT VALVE |
| BFN-1-TV-078-0758B | BFN-1-TV-078-0758B, 1-FE-78-758 LO SIDE TEST VENT VALVE |
| BFN-1-TV-078-0759A | BFN-1-TV-078-0759A, 1-FE-78-759 HI SIDE TEST VENT VALVE |
| BFN-1-TV-078-0759B | BFN-1-TV-078-0759B, 1-FE-78-759 LO SIDE TEST VENT VALVE |
| BFN-1-TV-078-0760A | BFN-1-TV-078-0760A, 1-FE-78-760 HI SIDE TEST VENT VALVE |

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| BFN-1-TV-078-0760B | BFN-1-TV-078-0760B, 1-FE-78-760 LO SIDE TEST VENT VALVE |
| BFN-1-DRIV-078-0024H | BFN-1-DRIV-078-0024H, HIGH SIDE INSTR DRAIN VLV 1-FT-78-24 |
| BFN-1-DRIV-078-0024L | BFN-1-DRIV-078-0024L, LOW SIDE INSTR DRAIN VLV FOR 1-FT-78-24 |
| BFN-1-EQIV-078-0024 | BFN-1-EQIV-078-0024, INSTR EQUALIZING VLV FOR 1-FT-78-24 |
| BFN-1-ISIV-078-0024H | BFN-1-ISIV-078-0024H, HIGH SIDE MANIFOLD ISOL VLV TO 1-FT-78-24 |
| BFN-1-ISIV-078-0024L | BFN-1-ISIV-078-0024L, LOW SIDE MANIFOLD ISOL VLV TO 1-FT-78-24 |
| BFN-1-SHV-070-1078 | BFN-1-SHV-070-1078, RBCCW RETURN FROM DRYWELL |
| BFN-1-@PL-063-0786 | BFN-1-@PL-063-0786, CABLE FOR SLC VALVE POSITION INDICATION (1-ISV-63-12A) |
| BFN-1-$ES-001-0078A | BFN-1-$ES-001-0078A, CONTROL CABLE SPLICE TO PSV-1-22 FROM EPEN-EC |
| BFN-1-$ES-001-0078B | BFN-1-$ES-001-0078B, CONTROL CABLE SPLICE TO PSV-1-22 FROM EPEN-EC |
| BFN-1-@ES-001-0078/IS1 | BFN-1-@ES-001-0078/IS1, CONTROL CABLE TO PSV-1-22 FROM EPEN-EC |
| BFN-1-@R-001-0782 | BFN-1-@R-001-0782, SIGNAL CABLE FROM MS LINE D RELIEF, TE-1-41 TO EPEN-CB |
| BFN-1-@R-001-0785 | BFN-1-@R-001-0785, SIGNAL CABLE FROM MS LINE C RELIEF, TE-1-31 TO EPEN-CB |
| BFN-1-@R-001-0788 | BFN-1-@R-001-0788, SIGNAL CABLE FROM MS LINE C RELIEF, TE-1-30 TO EPEN-CB |
| BFN-1-SCV-033-0780 | BFN-1-SCV-033-0780, 1" SA SERVICE CONN VLV |
| BFN-1-SCV-033-0781 | BFN-1-SCV-033-0781, 1" SA SERVICE CONN VLV |
| BFN-1-SCV-033-0782 | BFN-1-SCV-033-0782, 1" SA SERVICE CONN VLV |
| BFN-1-SCV-033-0783 | BFN-1-SCV-033-0783, 1" SA SERVICE CONN VLV |
| BFN-1-SHV-033-0784 | BFN-1-SHV-033-0784, SPARE |
| BFN-1-@PL-063-0780 | BFN-1-@PL-063-0780, CABLE, STAND BY LIQUID CONTROL |
| BFN-1-@PL-063-0785 | BFN-1-@PL-063-0785, CABLE, STAND BY LIQUID CONTROL |
| BFN-1-TB-023-1078A | BFN-1-TB-023-1078A, TERMINAL BLOCK IN 1-JBOX-023-1078 (1-FCV-023-0046) |
| BFN-1-TB-023-1078B | BFN-1-TB-023-1078B, TERMINAL BLOCK IN 1-JBOX-023-1078 (1-FCV-023-0052) |
| BFN-1-DRV-075-0078A | BFN-1-DRV-075-0078A, PSC WTR HEAD TK HIGH-HIGH LS DR VLV |
| BFN-1-DRV-075-0078B | BFN-1-DRV-075-0078B, PSC WTR HEAD TK HIGH LS DR VLV |
| BFN-1-DRV-075-0078C | BFN-1-DRV-075-0078C, PSC WTR HEAD TK LOW LS DR VLV |
| BFN-1-DRV-075-0078D | BFN-1-DRV-075-0078D, PSC WTR HEAD TK LOW-LOW LS DR VLV |
| BFN-1-VTV-075-0078A | BFN-1-VTV-075-0078A, PSC WTR HEAD TK HIGH-HIGH LS VENT VLV |

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| BFN-1-VTV-075-0078B | BFN-1-VTV-075-0078B, PSC WTR HEAD TK HIGH LS VENT VLV |
| BFN-1-VTV-075-0078C | BFN-1-VTV-075-0078C, PSC WTR HEAD TK LOW LS VENT VLV |
| BFN-1-VTV-075-0078D | BFN-1-VTV-075-0078D, PSC WTR HEAD TK LOW-LOW LS VENT VLV |
| BFN-1-MTR-078-0062 | BFN-1-MTR-078-0062, FUEL POOL MAKEUP FROM RHR OUTBOARD VALVE MTR |
| BFN-1-ZI-078-0062B | BFN-1-ZI-078-0062B, FUEL POOL MAKEUP FROM RHR OUTBOARD VALVE |
| BFN-1-ACC-078-0024 | BFN-1-ACC-078-0024, VOLUME CHAMBER TO 1-FM-78-24A |
| BFN-1-DRIV-078-0021A | BFN-1-DRIV-078-0021A, INSTR DRAIN VALVE FOR 1-PI-78-21A |
| BFN-1-DRIV-078-0021B | BFN-1-DRIV-078-0021B, INSTR DRAIN VALVE FOR 1-PI-78-21B |
| BFN-1-DRIV-078-0021H | BFN-1-DRIV-078-0021H, HIGH SIDE INSTR DRAIN VALVE FOR 1-PDT-78-21 |
| BFN-1-DRIV-078-0021L | BFN-1-DRIV-078-0021L, LOW SIDE INSTR DRAIN VALVE FOR 1-PDT-78-21 |
| BFN-1-DRIV-078-0022H | BFN-1-DRIV-078-0022H, HIGH SIDE INSTR DRAIN VALVE FOR 1-PDIS-78-22 |
| BFN-1-DRIV-078-0022L | BFN-1-DRIV-078-0022L, LOW SIDE INSTR DRAIN VALVE FOR 1-PDIS-78-22 |
| BFN-1-DRIV-078-0024 | BFN-1-DRIV-078-0024, INSTR DRAIN VALVE FOR 1-FQ-78-24 |
| BFN-1-DRIV-078-0030 | BFN-1-DRIV-078-0030, INSTR DRAIN VALVE FOR 1-PI-78-30 |
| BFN-1-DRIV-078-0032 | BFN-1-DRIV-078-0032, INSTR DRAIN VALVE FOR 1-PI-78-32 |
| BFN-1-DRV-078-0547 | BFN-1-DRV-078-0547, DRYER/SEP STORAGE LINER LKG DRV |
| BFN-1-DRV-078-0549 | BFN-1-DRV-078-0549, RX WELL LINER LEAKAGE DR VLV |
| BFN-1-DRV-078-0554 | BFN-1-DRV-078-0554, GATE SLOT DR VLV TO 1-FIS-78-5 |
| BFN-1-DRV-078-0588 | BFN-1-DRV-078-0588, BULKHEAD DR VLV TO CRW |
| BFN-1-DRV-078-0719 | BFN-1-DRV-078-0719, A RESIN TRAP DR SHUTOFF VLV |
| BFN-1-EQV-078-0531 | BFN-1-EQV-078-0531, FUEL POOL AND XFR CANAL EQV |
| BFN-1-IL-078-0001AA | BFN-1-IL-078-0001AA, SKIMMER SURGE TANK LEVEL HIGH |
| BFN-1-IL-078-0001B/CA | BFN-1-IL-078-0001B/CA, SKIMMER SURGE TANK LEVEL LOW |
| BFN-1-IL-078-0001D/FA | BFN-1-IL-078-0001D/FA, SKIMMER SURGE TANK LEVEL LOW LOW ISOL |
| BFN-1-IL-078-0001E/GA | BFN-1-IL-078-0001E/GA, SKIMMER SURGE TANK LEVEL LOW LOW ISOL |
| BFN-1-IL-078-0002 | BFN-1-IL-078-0002, FUEL STORAGE POOL LEVEL ABN ( HIGH ) |
| BFN-1-IL-078-0005 | BFN-1-IL-078-0005, FUEL POOL GATE LEAKAGE EXCESSIVE |
| BFN-1-IL-078-0011 | BFN-1-IL-078-0011, FUEL POOL COOLING PUMP A DISCH PRESS LOW |

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| BFN-1-IL-078-0016 | BFN-1-IL-078-0016, FUEL POOL COOLING PUMP B DISCH PRESS LOW |
| BFN-1-IL-078-0051 | BFN-1-IL-078-0051, REFUELING BELLOWS LEAKAGE EXCESSIVE |
| BFN-1-ISIV-078-0001A | BFN-1-ISIV-078-0001A, INSTR ISOL VLV FOR 1-LS-78-1A |
| BFN-1-ISIV-078-0001B | BFN-1-ISIV-078-0001B, INSTR ISOL VLV FOR 1-LS-78-1B |
| BFN-1-ISIV-078-0001C | BFN-1-ISIV-078-0001C, INSTR ISOL VLV FOR 1-LS-78-1C |
| BFN-1-ISIV-078-0001D | BFN-1-ISIV-078-0001D, INSTR ISOL VLV FOR 1-LS-78-1D |
| BFN-1-ISIV-078-0001E | BFN-1-ISIV-078-0001E, INSTR ISOL VLV FOR 1-LS-78-1E |
| BFN-1-ISIV-078-0001F | BFN-1-ISIV-078-0001F, INSTR ISOL VLV FOR 1-LS-78-1F |
| BFN-1-ISIV-078-0001G | BFN-1-ISIV-078-0001G, INSTR ISOL VLV FOR 1-LS-78-1G |
| BFN-1-ISIV-078-0021A | BFN-1-ISIV-078-0021A, INSTR ISOL VALVE FOR 1-PDT-78-21 |
| BFN-1-ISIV-078-0021B | BFN-1-ISIV-078-0021B, INSTR ISOL VALVE FOR 1-PDM-78-21 |
| BFN-1-ISIV-078-0021C | BFN-1-ISIV-078-0021C, INSTR ISOL VALVE FOR 1-PDS-78-21 |
| BFN-1-ISIV-078-0021D | BFN-1-ISIV-078-0021D, INSTR ISOL VALVE FOR 1-PDI-78-21 |
| BFN-1-ISIV-078-0022H | BFN-1-ISIV-078-0022H, HIGH SIDE PANEL ISOLATION VLV TO 1-PDIS-78-22 |
| BFN-1-ISIV-078-0022L | BFN-1-ISIV-078-0022L, LOW SIDE MANIFOLD ISOLATION VLV TO 1-PDIS-78-22 |
| BFN-1-ISIV-078-0024A | BFN-1-ISIV-078-0024A, INSTR ISOL VALVE TO 1-FM-78-24A |
| BFN-1-ISIV-078-0024B | BFN-1-ISIV-078-0024B, INSTR ISOL VALVE FOR 1-FM-78-24A |
| BFN-1-ISIV-078-0024C | BFN-1-ISIV-078-0024C, INSTR ISOL VALVE FOR 1-FM-78-24C |
| BFN-1-ISIV-078-0024D | BFN-1-ISIV-078-0024D, INSTR ISOL VALVE FOR 1-FT-78-24 |
| BFN-1-ISIV-078-0024E | BFN-1-ISIV-078-0024E, INSTR ISOL VLV FOR 1-FS-78-24 |
| BFN-1-ISIV-078-0024F | BFN-1-ISIV-078-0024F, INSTR ISOL VLV FOR 1-FI-78-24B |
| BFN-1-ISIV-078-0024G | BFN-1-ISIV-078-0024G, INSTR ISOL VLV FOR 1-FQ-78-24 |
| BFN-1-ISIV-078-0030 | BFN-1-ISIV-078-0030, INSTR ISOL VALVE TO 1-PI-78-30 |
| BFN-1-ISIV-078-0032 | BFN-1-ISIV-078-0032, INSTR ISOL VALVE TO 1-PI-78-32 |
| BFN-1-MBIV-078-0021 | BFN-1-MBIV-078-0021, MULTI BRANCH ISOL VLV TO 1-PDT-78-21, 1-PDM-78-21 |
| BFN-1-MBIV-078-0024 | BFN-1-MBIV-078-0024, MULTI BRANCH ISOL VLV TO 1-FM-78-24A, 1-FM-78-24C |
| BFN-1-MTR-078-0031 | BFN-1-MTR-078-0031, FUEL POOL HOLDING PUMP MOTOR |
| BFN-1-MTR-078-0061 | BFN-1-MTR-078-0061, FUEL POOL MAKEUP FROM RHR INBD VLV MTR |

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| BFN-1-MTR-078-0063 | BFN-1-MTR-078-0063, F/D INFLUENT INBOARD ISOL VLV MTR |
| BFN-1-MTR-078-0064 | BFN-1-MTR-078-0064, F/D INFLUENT OUTBOARD ISOL VLV MTR |
| BFN-1-MTR-078-0065 | BFN-1-MTR-078-0065, F/D INFLUENT OUTBOARD ISOL VLV MTR |
| BFN-1-MTR-078-0066 | BFN-1-MTR-078-0066, F/D BYPASS ISOL VLV A MTR |
| BFN-1-MTR-078-0067 | BFN-1-MTR-078-0067, REACTOR WELL INFLUENT OUTBD VLV MTR |
| BFN-1-MTR-078-0068 | BFN-1-MTR-078-0068, REACTOR WELL INFLUENT OUTBD VLV MTR |
| BFN-1-PISV-078-0021A | BFN-1-PISV-078-0021A, PANEL ISOL VLV TO 1-PI-78-21A |
| BFN-1-PISV-078-0021B | BFN-1-PISV-078-0021B, PANEL ISOL VLV TO 1-PI-78-21B |
| BFN-1-PISV-078-0021H | BFN-1-PISV-078-0021H, HIGH SIDE PANEL ISOL VLV TO 1-PDT-78-21 |
| BFN-1-PISV-078-0021L | BFN-1-PISV-078-0021L, LOW SIDE PANEL ISOL VLV TO 1-PDT-78-21 |
| BFN-1-PISV-078-0022H | BFN-1-PISV-078-0022H, HIGH SIDE PANEL ISOL VLV TO 1-PDIS-78-22 |
| BFN-1-PISV-078-0022L | BFN-1-PISV-078-0022L, LOW SIDE PANEL ISOL VLV TO 1-PDIS-78-22 |
| BFN-1-PISV-078-0024 | BFN-1-PISV-078-0024, PANEL ISOL VLV TO 1-FQ-78-24 |
| BFN-1-PISV-078-0024H | BFN-1-PISV-078-0024H, HIGH SIDE PANEL ISOL VLV TO 1-FT-78-24 |
| BFN-1-PISV-078-0024L | BFN-1-PISV-078-0024L, LOW SIDE PANEL ISOL VLV TO 1-FT-78-24 |
| BFN-1-PMP-078-0031 | BFN-1-PMP-078-0031, FUEL POOL HOLDING PUMP |
| BFN-1-SHV-078-0505 | BFN-1-SHV-078-0505, HX B-INLET VLV |
| BFN-1-SHV-078-0506 | BFN-1-SHV-078-0506, HX A-INLET VLV |
| BFN-1-SHV-078-0507 | BFN-1-SHV-078-0507, PUMP A&B CROSSTIE VLV |
| BFN-1-SHV-078-0510 | BFN-1-SHV-078-0510, HX B-OUTLET VLV |
| BFN-1-SHV-078-0511 | BFN-1-SHV-078-0511, HX A-OUTLET VLV |
| BFN-1-SHV-078-0524 | BFN-1-SHV-078-0524, POOL DIFFUSER A SHUTOFF VLV |
| BFN-1-SHV-078-0525 | BFN-1-SHV-078-0525, POOL DIFFUSER B SHUTOFF VLV |
| BFN-1-SHV-078-0529 | BFN-1-SHV-078-0529, RHR TEST, PURGE & DR VLV |
| BFN-1-SHV-078-0532 | BFN-1-SHV-078-0532, SURGE TANK CNDS SPLY SHUTOFF VLV |
| BFN-1-SHV-078-0534 | BFN-1-SHV-078-0534, FPC TO RHR SUCT VLV |
| BFN-1-SHV-078-0589 | BFN-1-SHV-078-0589, 1-FS-78-51 SHUTOFF VALVE |
| BFN-1-SHV-078-0717 | BFN-1-SHV-078-0717, A F/D EFFLUENT SHUTOFF VLV |
| BFN-1-SHV-078-0718 | BFN-1-SHV-078-0718, A RESIN TRAP BW CNDS SHUTOFF VLV |
| BFN-1-SHV-078-0720 | BFN-1-SHV-078-0720, A F/D EFFLUENT SHUTOFF VLV |

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| BFN-1-SHV-078-0721 | BFN-1-SHV-078-0721, BYPASS VLV TO CNDS STRG TK |
| BFN-1-SHV-078-0724 | BFN-1-SHV-078-0724, A F/D INFLUENT SAMPLE RT VLV |
| BFN-1-SHV-078-0725 | BFN-1-SHV-078-0725, A F/D EFFLUENT SAMPLE RT VLV |
| BFN-1-THV-078-0024 | BFN-1-THV-078-0024, THROTTLE VALVE TO 1-FM-78-24A |
| BFN-1-TTIV-078-0001A | BFN-1-TTIV-078-0001A, INSTR TEST VLV FOR 1-LS-78-1A |
| BFN-1-TTIV-078-0001B | BFN-1-TTIV-078-0001B, INSTR TEST VLV FOR 1-LS-78-1B |
| BFN-1-TTIV-078-0001C | BFN-1-TTIV-078-0001C, INSTR TEST VLV FOR 1-LS-78-1C |
| BFN-1-TTIV-078-0021 | BFN-1-TTIV-078-0021, INSTR TEST VALVE FOR 1-PDM-78-21 |
| BFN-1-TTIV-078-0024A | BFN-1-TTIV-078-0024A, INSTR TEST VALVE FOR 1-FM-78-24A |
| BFN-1-TTIV-078-0024C | BFN-1-TTIV-078-0024C, INSTR TEST VALVE FOR 1-FM-78-24C |
| BFN-1-TV-078-0548 | BFN-1-TV-078-0548, DRYER/SEP STORAGE LINER DR TEST CONN |
| BFN-1-TV-078-0550 | BFN-1-TV-078-0550, RX LINER LKG DR TEST CONN VLV |
| BFN-1-VTV-078-0004 | BFN-1-VTV-078-0004, VENT VLV FOR 1-LI-78-4 |
| BFN-1-VTV-078-0021H | BFN-1-VTV-078-0021H, VENT FOR 1-PI-78-21A & 1-PDT-78-21 HIGH SIDE |
| BFN-1-VTV-078-0021L | BFN-1-VTV-078-0021L, VENT FOR 1-PI-78-21B & 1-PDT-78-21 LOW SIDE |
| BFN-1-VTV-078-0022H | BFN-1-VTV-078-0022H, VENT FOR 1-PDIS-78-22 HIGH SIDE |
| BFN-1-VTV-078-0022L | BFN-1-VTV-078-0022L, VENT FOR 1-PDIS-78-22 LOW SIDE |
| BFN-1-VTV-078-0030 | BFN-1-VTV-078-0030, INSTR ISOL VALVE TO 1-PI-78-30 |
| BFN-1-VTV-078-0032 | BFN-1-VTV-078-0032, INSTR ISOL VALVE TO 1-PI-78-32 |
| BFN-1-ZI-078-0061B | BFN-1-ZI-078-0061B, FUEL POOL MAKEUP FROM RHR INBOARD VALVE |
| BFN-1-ZI-078-0063B | BFN-1-ZI-078-0063B, FILTER DEMIN INFLUENT INBOARD ISOL VLV |
| BFN-1-ZI-078-0064B | BFN-1-ZI-078-0064B, FILTER DEMIN INFLUENT OUTBOARD ISOL VLV |
| BFN-1-ZI-078-0065B | BFN-1-ZI-078-0065B, FILTER DEMIN BYPASS B VALVE |
| BFN-1-ZI-078-0066B | BFN-1-ZI-078-0066B, FILTER DEMIN BYPASS A VALVE |
| BFN-1-ZI-078-0067B | BFN-1-ZI-078-0067B, REACTOR WELL INFLUENT OUTBOARD VLV |
| BFN-1-ZI-078-0068B | BFN-1-ZI-078-0068B, REACTOR WELL INFLUENT INBOARD VLV |
| BFN-1-@ES-075-0786/I | BFN-1-@ES-075-0786/I, CS LOGIC CONTROL DIV I |
| BFN-1-@ES-075-0787/I | BFN-1-@ES-075-0787/I, CS LOGIC CONTROL DIV I |

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| BFN-1-FLV-090-0784 | BFN-1-FLV-090-0784, PURGE WATER FLUSH VLV |
| BFN-1-SHV-090-0788 | BFN-1-SHV-090-0788, REAC BLDG SPLY TO RAD MON 250A SHUTOFF VLV. |
| BFN-1-SHV-090-0789 | BFN-1-SHV-090-0789, REAC BLDG SPLY TO RAD MON 250B SHUTOFF VLV. |
| BFN-1-SNUB-074-5078 | BFN-1-SNUB-074-5078, RHR SYSTEM PIPE SUPPORT NO. 1-47B452-3252 (NORTH), FLOOR EL. 519'-0", R/R6 |
| BFN-1-JBOX-069-10780 | BFN-1-JBOX-069-10780, JBOX AT EL. 584 (SEALED) |
| BFN-1-JBOX-069-10781 | BFN-1-JBOX-069-10781, JBOX FOR 1-TE-69-834B (SEALED) |
| BFN-1-JBOX-069-10782 | BFN-1-JBOX-069-10782, JBOX AT EL. 584 (SEALED) |
| BFN-1-JBOX-069-10783 | BFN-1-JBOX-069-10783, JBOX FOR 1-TE-69-834C (SEALED) |
| BFN-1-JBOX-069-10784 | BFN-1-JBOX-069-10784, JBOX AT EL. 584 (SEALED) |
| BFN-1-JBOX-069-10785 | BFN-1-JBOX-069-10785, JBOX FOR 1-TE-69-834D (SEALED) |
| BFN-1-JBOX-069-10786 | BFN-1-JBOX-069-10786, JBOX AT EL. 584 (SEALED) |
| BFN-1-JBOX-069-10787 | BFN-1-JBOX-069-10787, JBOX FOR 1-TE-69-835A (SEALED) |
| BFN-1-JBOX-069-10788 | BFN-1-JBOX-069-10788, JBOX AT EL. 589 (SEALED) |
| BFN-1-JBOX-069-10789 | BFN-1-JBOX-069-10789, JBOX FOR 1-TE-69-835B (SEALED) |
| BFN-1-ZS-069-0078A | BFN-1-ZS-069-0078A, POSN SW FOR 1-FCV-69-78 (OPEN) |
| BFN-1-ZS-069-0078B | BFN-1-ZS-069-0078B, POSN SW FOR 1-FCV-69-78 (CLOSED) |
| BFN-1-@RP-085-1078/G2 | BFN-1-@RP-085-1078/G2, GROUP 2 PILOT SCRAM VLV SOLENOID |
| BFN-1-DRIV-074-9078 | BFN-1-DRIV-074-9078, INSTR DRAIN VALVE FOR 1-PS-74-42B |
| BFN-1-JBOX-085-11078 | BFN-1-JBOX-085-11078, JUNCTION BOX |
| BFN-1-SHV-074-0780 | BFN-1-SHV-074-0780, CHEM CLEANING SOV |
| BFN-1-@RP-085-0780/G3 | BFN-1-@RP-085-0780/G3, GROUP 3 PILOT SCRAM VLV SOLENOID |
| BFN-1-@RP-085-0781/G3 | BFN-1-@RP-085-0781/G3, GROUP 3 PILOT SCRAM VLV SOLENOID |
| BFN-1-@RP-085-0782/G3 | BFN-1-@RP-085-0782/G3, GROUP 3 PILOT SCRAM VLV SOLENOID |
| BFN-1-@RP-085-0783/G3 | BFN-1-@RP-085-0783/G3, GROUP 3 PILOT SCRAM VLV SOLENOID |
| BFN-1-@RP-085-0784/G3 | BFN-1-@RP-085-0784/G3, GROUP 3 PILOT SCRAM VLV SOLENOID |
| BFN-1-@RP-085-0785/G3 | BFN-1-@RP-085-0785/G3, GROUP 3 PILOT SCRAM VLV SOLENOID |
| BFN-1-@RP-085-0786/G3 | BFN-1-@RP-085-0786/G3, GROUP 3 PILOT SCRAM VLV SOLENOID |
| BFN-1-@RP-085-0787/G3 | BFN-1-@RP-085-0787/G3, GROUP 3 PILOT SCRAM VLV SOLENOID |

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| BFN-1-@RP-085-0788/G3 | BFN-1-@RP-085-0788/G3, GROUP 3 PILOT SCRAM VLV SOLENOID |
| BFN-1-@RP-085-0789/G3 | BFN-1-@RP-085-0789/G3, GROUP 3 PILOT SCRAM VLV SOLENOID |
| BFN-1-@R-001-0781 | BFN-1-@R-001-0781, MS LINE D SAFETY RELIEF VLV TEMP RECORDER (TR-1-1) |
| BFN-1-@R-001-0784 | BFN-1-@R-001-0784, MS LINE C SAFETY RELIEF VLV TEMP RECORDER (TR-1-1) |
| BFN-1-@R-001-0787 | BFN-1-@R-001-0787, MS LINE C SAFETY RELIEF VLV TEMP RECORDER (TR-1-1) |
| BFN-1-$ES-073-4078A | BFN-1-$ES-073-4078A, SPLICE IN CABLE 1ES4078/II |
| BFN-1-@ES-073-4078/II | BFN-1-@ES-073-4078/II, HPCI STEAM FLOW (1-PDT-73-1B) |
| BFN-1-@ES-074-3078/II | BFN-1-@ES-074-3078/II, RHR PUMP B SHUTDOWN COOLING SUCTION VALVE (FCV-74-25) |
| BFN-1-ZI-078-0062A | BFN-1-ZI-078-0062A, FUEL POOL MAKEUP FROM RHR OUTBOARD VLV |
| BFN-1-HS-047-0078A | BFN-1-HS-047-0078A, OFF (SW 29)(OCP #1) |
| BFN-1-HS-047-0078B | BFN-1-HS-047-0078B, LOWER (SW26)(OCP #1) |
| BFN-1-HS-047-0078C | BFN-1-HS-047-0078C, RAISE (SW 25)(OCP #1) |
| BFN-1-HS-047-0078D | BFN-1-HS-047-0078D, CHEST WARMING (SW 31)(OCP #1) |
| BFN-1-HS-047-0078E | BFN-1-HS-047-0078E, SHELL WARMING (SW 30)(OCP #1) |
| BFN-1-ZI-047-0078 | BFN-1-ZI-047-0078, MSV-2 PILOT POSITION (IND6) (OCP #1) |
| BFN-1-LA-078-0001A | BFN-1-LA-078-0001A, FUEL POOL SKIMMER SURGE TK LEVEL HIGH |
| BFN-1-LA-078-0001B | BFN-1-LA-078-0001B, FUEL POOL SKIMMER SURGE TK LEVEL LO/LO-LO |
| BFN-1-XA-078-0051 | BFN-1-XA-078-0051, FUEL POOL SYSTEM ABNORMAL |
| BFN-1-@FE-026-8078 | BFN-1-@FE-026-8078, FIRE DETECTION AND ALARM U1 565' LOOP 1 |
| BFN-1-FU1-078-0015A | BFN-1-FU1-078-0015A, 120 VAC SUPPLY FROM LC 106 |
| BFN-1-FU1-078-0016A | BFN-1-FU1-078-0016A, 120 VAC SUPPLY FROM LC 106 |
| BFN-1-FU2-078-0016A | BFN-1-FU2-078-0016A, 24VDC TO FIELD CONTACTS |
| BFN-1-UPX-078-0015A | BFN-1-UPX-078-0015A, UNINTERUPTED 120 VAC POWER SOURCE |
| BFN-1-XM-078-0015A | BFN-1-XM-078-0015A, COMMUNICATIONS MODULE RS485 NETWORK |
| BFN-1-XM-078-0016A | BFN-1-XM-078-0016A, COMMUNICATIONS MODULE RS485 NETWORK |
| BFN-1-SHV-026-0782 | BFN-1-SHV-026-0782, TURBINE HEAD END SHUTOFF VLV |
| BFN-1-SHV-026-0785 | BFN-1-SHV-026-0785, SOL PILOT MAIN TURB OIL SHUTOFF VLV |
| BFN-1-SHV-026-0787 | BFN-1-SHV-026-0787, FIRE PMP CONT SHUTOFF TO MAIN TURB OIL |

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| BFN-1-DRV-002-0781 | BFN-1-DRV-002-0781, CNDS BSTR PUMP A SUCT DRV |
| BFN-1-DRV-002-0782 | BFN-1-DRV-002-0782, CNDS BSTR PUMP B SUCT DRV |
| BFN-1-DRV-002-0783 | BFN-1-DRV-002-0783, CNDS BSTR PUMP C SUCT DRV |
| BFN-1-SHV-002-0784 | BFN-1-SHV-002-0784, CNDS BSTR PUMP A H2 INJ. |
| BFN-1-SHV-002-0785 | BFN-1-SHV-002-0785, CNDS BSTR PUMP B H2 INJ. |
| BFN-1-SHV-002-0786 | BFN-1-SHV-002-0786, CNDS BSTR PUMP C H2 INJ. |
| BFN-1-RES-066-1078 | BFN-1-RES-066-1078, OFFGAS PANEL ANNUNCIATOR RESISTOR |
| BFN-1-SHV-024-0787 | BFN-1-SHV-024-0787, RCW TO GEN BKR COOLER |
| BFN-1-SHV-024-0788 | BFN-1-SHV-024-0788, FROM GEN BKR COOLER |
| BFN-1-ZM-001-0078 | BFN-1-ZM-001-0078, LVDT CONDITIONER |
| BFN-1-RLY-046-0078 | BFN-1-RLY-046-0078, RFPT 1C BACKUP OVERSPEED TRIP RELAY DURING TST |
| BFN-1-DRIV-003-0078AH | BFN-1-DRIV-003-0078AH, HIGH SIDE INSTRUMENT DRAIN VALVE FOR 1-FT-003-0078A |
| BFN-1-DRIV-003-0078AL | BFN-1-DRIV-003-0078AL, LOW SIDE INSTRUMENT DRAIN VALVE FOR 1-FT-003-0078A |
| BFN-1-DRIV-003-0078BH | BFN-1-DRIV-003-0078BH, HIGH SIDE INSTRUMENT DRAIN VALVE FOR 1-FT-003-0078B |
| BFN-1-DRIV-003-0078BL | BFN-1-DRIV-003-0078BL, LOW SIDE INSTRUMENT DRAIN VALVE FOR 1-FT-003-0078B |
| BFN-1-EQIV-003-0078A | BFN-1-EQIV-003-0078A, INSTRUMENT EQUALIZING VALVE FOR 1-FT-003-0078A |
| BFN-1-EQIV-003-0078B | BFN-1-EQIV-003-0078B, INSTRUMENT EQUALIZING VALVE FOR 1-FT-003-0078B |
| BFN-1-ISIV-003-0078AH | BFN-1-ISIV-003-0078AH, HIGH SIDE INSTRUMENT ISOLATION VALVE TO 1-FT-003-0078A |
| BFN-1-ISIV-003-0078AL | BFN-1-ISIV-003-0078AL, LOW SIDE INSTRUMENT ISOLATION VALVE TO 1-FT-003-0078A |
| BFN-1-ISIV-003-0078BH | BFN-1-ISIV-003-0078BH, HIGH SIDE INSTRUMENT ISOLATION VALVE TO 1-FT-003-0078B |
| BFN-1-ISIV-003-0078BL | BFN-1-ISIV-003-0078BL, LOW SIDE INSTRUMENT ISOLATION VALVE TO 1-FT-003-0078B |
| BFN-1-PISV-003-0078AH | BFN-1-PISV-003-0078AH, HIGH SIDE PANEL ISOLATION VALVE TO 1-FT-003-0078A |
| BFN-1-PISV-003-0078AL | BFN-1-PISV-003-0078AL, LOW SIDE PANEL ISOLATION VALVE TO 1-FT-003-0078A |
| BFN-1-PISV-003-0078BH | BFN-1-PISV-003-0078BH, HIGH SIDE PANEL ISOLATION VALVE TO 1-FT-003-0078B |

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| BFN-1-PISV-003-0078BL | BFN-1-PISV-003-0078BL, LOW SIDE PANEL ISOLATION VALVE TO 1-FT-003-0078B |
| BFN-1-FLR-078-0015A | BFN-1-FLR-078-0015A, FUEL POOL ANNUNCIATOR NETWORK POWER SUPPLY FILTER |
| BFN-1-FLR-078-0016A | BFN-1-FLR-078-0016A, FUEL POOL ANNUNCIATOR NETWORK POWER SUPPLY FILTER |
| BFN-1-FU1-078-0015A1 | BFN-1-FU1-078-0015A1, 120 VAC SUPPLY FROM LC 106 |
| BFN-1-FU2-078-0015A2 | BFN-1-FU2-078-0015A2, 24VDC TO FIELD CONTACTS |
| BFN-1-DRIV-078-0009 | BFN-1-DRIV-078-0009, INST DRN VLV FOR 1-PS-78-0009 |
| BFN-1-DRIV-078-0014 | BFN-1-DRIV-078-0014, INST DRN VLV FOR 1-PS-78-0014 |
| BFN-1-ISIV-078-0009 | BFN-1-ISIV-078-0009, ISOL VLV FOR 1-PS-78-0009 |
| BFN-1-ISIV-078-0014 | BFN-1-ISIV-078-0014, ISOL VLV FOR 1-PS-78-0014 |
| BFN-1-SNUB-073-5078 | BFN-1-SNUB-073-5078, SYSTEM 073 PIPE SUPPORT 1-47B455-2125, MECHANICAL SNUBBER, ELV 571' 6", AZ 45 |
| BFN-1-DRIV-078-0011 | BFN-1-DRIV-078-0011, INST DRN VLV FOR 1-PIS-78-0011 |
| BFN-1-DRIV-078-0016 | BFN-1-DRIV-078-0016, INST DRN VLV FOR 1-PIS-78-0016 |
| BFN-1-ISIV-078-0011 | BFN-1-ISIV-078-0011, INST ISOL VLV FOR 1-PIS-78-0011 |
| BFN-1-ISIV-078-0016 | BFN-1-ISIV-078-0016, INST ISOL VLV FOR 1-PIS-78-0016 |
| BFN-1-FU1-078-0001D | BFN-1-FU1-078-0001D, 19AF15A |
| BFN-1-FU1-078-0001E | BFN-1-FU1-078-0001E, 19AF15B |
| BFN-1-IL-069-0078A | BFN-1-IL-069-0078A, PRECOAT RECYCLE VLV "OPEN" |
| BFN-1-IL-069-0078B | BFN-1-IL-069-0078B, PRECOAT RECYCLE VLV "CLOSED" |
| BFN-1-IL-078-0010A | BFN-1-IL-078-0010A, FUEL POOL COOLING PUMP 1A |
| BFN-1-IL-078-0010B | BFN-1-IL-078-0010B, FUEL POOL COOLING PUMP 1A |
| BFN-1-IL-078-0015A | BFN-1-IL-078-0015A, FUEL POOL COOLING PUMP 1B |
| BFN-1-IL-078-0015B | BFN-1-IL-078-0015B, FUEL POOL COOLING PUMP 1B |
| BFN-1-SHV-078-0587 | BFN-1-SHV-078-0587, BULKHEAD DR VLV TO CRW |
| BFN-1-SHV-078-0603 | BFN-1-SHV-078-0603, DRYER STORAGE POOL DRAIN TO CRW SOV |
| BFN-1-XV-078-0602 | BFN-1-XV-078-0602, DRYER STORAGE POOL DRAIN, HYDROLAZING/ DRAIN VALVE |
| BFN-1-FU2-078-0031A | BFN-1-FU2-078-0031A, FUEL POOL/DMNRLZR/HOLDING PUMP A RUN LIGHT |

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| BFN-1-FU2-078-0031B | BFN-1-FU2-078-0031B, FUEL POOL/DMNRLZR/HOLDING PUMP A CONT CKT |
| BFN-1-RLY-078-0015A | BFN-1-RLY-078-0015A, RELAY |
| BFN-1-RLY-078-0016A | BFN-1-RLY-078-0016A, RELAY |
| BFN-1-UPX-078-0016A | BFN-1-UPX-078-0016A, UNINTERUPTED 120 VAC POWER SOURCE |
| BFN-1-XC-078-0015A | BFN-1-XC-078-0015A, PLC FOR FPC ALARMS |
| BFN-1-XC-078-0016A | BFN-1-XC-078-0016A, PLC FOR FPC ALARMS |
| BFN-1-LOV-078-0061 | BFN-1-LOV-078-0061, FCV-78-61 PACKING LEAKOFF VALVE |
| BFN-1-RTV-078-6001 | BFN-1-RTV-078-6001, RT VLV TO 1-LS-78-1A, 1B, 1C, 1D, 1E, 1F & 1G |
| BFN-1-VTV-078-0568 | BFN-1-VTV-078-0568, VENT VALVE |
| BFN-1-30X-078-0010 | BFN-1-30X-078-0010, FPC PMP 1A CONT CKT AUX ANN RELAY 30X |
| BFN-1-30X-078-0015 | BFN-1-30X-078-0015, FPC PMP 1B CONT CKT AUX ANN RELAY 30X |
| BFN-1-IL-078-0061 | BFN-1-IL-078-0061, FUEL POOL MAKEUP FROM RHR INBD VLV |
| BFN-1-IL-078-0062 | BFN-1-IL-078-0062, FUEL POOL MAKEUP FROM RHR OUTBD VLV |
| BFN-1-IL-078-0063 | BFN-1-IL-078-0063, FILTER DEMIN INFLUENT INBD ISOL VLV |
| BFN-1-IL-078-0064 | BFN-1-IL-078-0064, FILTER DEMIN INFLUENT OUTBD ISOL VLV |
| BFN-1-IL-078-0065 | BFN-1-IL-078-0065, FILTER DEMIN BYPASS B VLV |
| BFN-1-IL-078-0066 | BFN-1-IL-078-0066, FILTER DEMIN BYPASS A VLV |
| BFN-1-IL-078-0067 | BFN-1-IL-078-0067, REACTOR WELL INFLUENT OUTBD VLV |
| BFN-1-IL-078-0068 | BFN-1-IL-078-0068, REACTOR WELL INFLUENT INBD VLV |
| BFN-1-PREG-078-0007 | BFN-1-PREG-078-0007, PRESSURE REGULATOR TO 1-FSV-78-7 |
| BFN-1-ZI-078-0061A | BFN-1-ZI-078-0061A, FUEL POOL MAKEUP FROM RHR INBOARD VALVE |
| BFN-1-ZI-078-0063A | BFN-1-ZI-078-0063A, FILTER DEMIN INFLUENT INBOARD ISOL VLV |
| BFN-1-ZI-078-0064A | BFN-1-ZI-078-0064A, FILTER DEMIN INFLUENT OUTBOARD ISOL VLV |
| BFN-1-ZI-078-0065A | BFN-1-ZI-078-0065A, FILTER DEMIN BYPASS B VALVE |
| BFN-1-ZI-078-0066A | BFN-1-ZI-078-0066A, FILTER DEMIN BYPASS A VALVE |
| BFN-1-ZI-078-0067A | BFN-1-ZI-078-0067A, REACTOR WELL INFLUENT OUTBOARD VLV |
| BFN-1-ZI-078-0068A | BFN-1-ZI-078-0068A, REACTOR WELL INFLUENT INBOARD VLV |
| BFN-1-JBOX-068-12078 | BFN-1-JBOX-068-12078, JBOX, PR3/565 RB (SEALED) LOCATED ON 1-LPNL-925-51A |
| BFN-1-FU1-067-0078 | BFN-1-FU1-067-0078, DIP DCN 69465 - FUSE FOR FIT-67-39B |

| | |
|---|---|
| BFN-1-WBOX-027-0078 | BFN-1-WBOX-027-0078, 1C1 CCW Waterbox Outlet |
| BFN-1-FUPG-043-2078 | BFN-1-FUPG-043-2078, WTR SMPL RECIRC/RWCU CHLR FUSIBLE PLUG VENT FOR 1-RVR-43-2079 |

# Appendix D: SWELs and Areas

| Brown Ferry Unit 1 Seismic Walkdown Equipment List | | | | Created By: Phillip Ogle FOR Jason Black via telecon | | | | | Approved By: Steve Gray Per telecon RAM 11-21-12 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Equip. Class (0 - 21) | UNID | Description | Unit | Bldg. | Elev. | Sys. | Seismic Cat 1 Yes/No | Safety Function | Risk Ranking | New or Replaced | Anch. Verified | AWC |
| 66 | 15 | BFN-0-BATA-248-0000A | SHUTDOWN BDS 250V DC BATTERY SB-A | 0 | RB | 621 | 248 | YES | 1,2,3,4,5 | YES | | YES | 078 |
| 67 | 15 | BFN-0-BATA-248-0000B | SHUTDOWN BDS 250V DC BATTERY SB-B | 0 | RB | 621 | 248 | YES | 1,2,3,4,5 | YES | | YES | 079 |
| 68 | 15 | BFN-0-BATA-248-0001 | 250V DC UNIT BATTERY | 0 | CB | 593 | 248 | YES | 1,2,3,4,5 | NO | | YES | 032 |
| 69 | 15 | BFN-0-BATB-254-0000A | 125 VDC DIESEL SYSTEM BATTERY A | 0 | DG | 565 | 254 | YES | 1,2,3,4,5 | NO | | YES | 065 |
| 70 | 15 | BFN-0-BATB-254-0000B | 125 VDC DIESEL SYSTEM BATTERY B | 0 | DG | 565 | 254 | YES | 1,2,3,4,5 | NO | | YES | 059 |
| 11 | 3 | BFN-0-BDAA-211-000A | 4KV SHUTDOWN BOARD A | 0 | CB | 617 | 211 | YES | 1,2,3,4,5 | YES | | NO | 068 |
| 12 | 3 | BFN-0-BDAA-211-000B | 4KV SHUTDOWN BOARD B | 0 | CB | 593 | 211 | YES | 1,2,3,4,5 | YES | | NO | 030 |
| 60 | 14 | BFN-0-BDDD-280-0001 | 250-V DC BATTERY BOARD 1 | 0 | CB | 593 | 280 | YES | 2,3,4,5 | NO | | NO | 062 |
| 61 | 14 | BFN-0-BDGG-254-0000A | 125 VDC DSL SYS BAT BOARD A | 0 | DG | 565 | 254 | YES | 1,2,3,4,5 | NO | | NO | 065 |
| 62 | 14 | BFN-0-BDGG-254-0000B | 125 VDC DSL SYS BAT BOARD B | 0 | DG | 565 | 254 | YES | 1,2,3,4,5 | NO | | YES | 059 |
| 73 | 16 | BFN-0-CHGA-248-0000A | SHUTDOWN BDS 250V DC BATTERY CHARGER SB-A | 0 | CB | 617 | 248 | YES | 1,2,3,4,5 | NO | | YES | 068 |
| 74 | 16 | BFN-0-CHGA-248-0000B | SHUTDOWN BDS 250V DC BATTERY CHARGER SB-B | 0 | CB | 617 | 248 | YES | 1,2,3,4,5 | NO | | YES | 068 |
| 75 | 16 | BFN-0-CHGB-254-0000AA | DGA 125 VDC DSL SYS BTRY CHGR A | 0 | DG | 565 | 254 | YES | 1,2,3,4,5 | NO | | YES | 006 |
| 59 | 11 | BFN-0-CHR-031-2100 | CONTROL BAY WATER CHILLER A | 0 | CB | 595 | 031 | YES | 3,4,5 | YES | | YES | 069 |
| 45 | 9 | BFN-0-FAN-030-0064 | DIESEL GEN RM A EXH FAN A | 0 | DG | 583 | 030 | YES | 3,4,5 | NO | | YES | 064 |
| 46 | 9 | BFN-0-FAN-030-0065 | DIESEL GEN RM A EXH FAN B | 0 | DG | 583 | 030 | YES | 3,4,5 | NO | | YES | 064 |
| 47 | 9 | BFN-0-FAN-030-0066 | DIESEL GEN RM B EXH FAN A | 0 | DG | 583 | 030 | YES | 3,4,5 | NO | | YES | 060 |
| 48 | 9 | BFN-0-FAN-030-0067 | DIESEL GEN RM B EXH FAN B | 0 | DG | 583 | 030 | YES | 3,4,5 | NO | | YES | 060 |
| 55 | 10 | BFN-0-FCO-030-0064A | OUTLET DAMPER FOR FAN "A" IN DG ROOM "A" | 0 | DG | 583 | 030 | YES | 3,4,5 | NO | | NO | 064 |
| 56 | 10 | BFN-0-FCO-030-0064B | INLET DAMPER FOR FAN "A" IN DG ROOM "A" | 0 | DG | 565 | 030 | YES | 3,4,5 | NO | | NO | 065 |
| 57 | 10 | BFN-0-FCO-030-0066A | OUTLET DAMPER FOR FAN "A" IN DG ROOM "B" | 0 | DG | 583 | 030 | YES | 3,4,5 | NO | | NO | 060 |
| 58 | 10 | BFN-0-FCO-030-0066B | INLET DAMPER FOR FAN "A" IN DG ROOM "B" | 0 | DG | 565 | 030 | YES | 3,4,5 | NO | | NO | 059 |
| 80 | 17 | BFN-0-GEN-082-000A | DIESEL GENERATOR A | 0 | DG | 565 | 082 | YES | 3,4,5 | YES | | NO | 065 |
| 81 | 17 | BFN-0-GEN-082-000B | DIESEL GENERATOR B | 0 | DG | 565 | 082 | YES | 3,4,5 | YES | | NO | 059 |
| 63 | 14 | BFN-0-PNLA-248-0000A | 250V DISTRIBUTION PANEL SB-A | 0 | CB | 617 | 248 | YES | 1,2,3,4,5 | YES | | YES | 068 |
| 64 | 14 | BFN-0-PNLA-248-0000B | 250V DISTRIBUTION PANEL SB-B | 0 | CB | 617 | 248 | YES | 1,2,3,4,5 | YES | | YES | 068 |
| 1 | 0 | BFN-0-STN-067-0925 | EECW NORTH HDR STRAINER A | 0 | INTAKE | 565 | 067 | YES | 3,4,5 | YES | | NO | 034 |
| 108 | 4 | BFN-0-XFA-219-TDA | 4KV/480V XFMR TDA | 0 | DG | 583 | 219 | YES | 1,2,3,4,5 | YES | | YES | 115 |
| 71 | 15 | BFN-1-BATD-283-000A1 | 24V NEUTRON MONITORING BATTERY, U1 CHANNEL A | 1 | CB | 593 | 283 | YES | 1 | NO | | NO | 032 |
| 72 | 15 | BFN-1-BATD-283-000B1 | 24V NEUTRON MONITORING BATTERY, U1 CHANNEL B | 1 | CB | 593 | 283 | YES | 1 | NO | | NO | 032 |
| 9 | 2 | BFN-1-BDBB-231-0001A | 480V SHDN BD 1A | 1 | CB | 621 | 231 | YES | 1,2,3,4,5 | YES | | NO | 111 |
| 10 | 2 | BFN-1-BDBB-231-0001B | 480V SHDN BD 1B | 1 | CB | 621 | 231 | YES | 1,2,3,4,5 | YES | | NO | 107 |
| 4 | 1 | BFN-1-BDBB-265-0001B | 480V RB VENT BD 1B | 1 | RB | 565 | 265 | YES | 1,2,3,4,5 | NO | | NO | 071 |
| 5 | 1 | BFN-1-BDBB-268-0001B | 480V RMOV BD 1B | 1 | CB | 593 | 268 | YES | 1,2,3,4,5 | YES | | YES | 030 |
| 6 | 1 | BFN-1-BDDD-281-0001A | 250V DC RMOV BOARD 1A | 1 | CB | 617 | 281 | YES | 1,2,3,4,5 | YES | | YES | 068 |
| 7 | 1 | BFN-1-BDDD-281-0001B | 250V DC RMOV BOARD 1B | 1 | CB | 593 | 281 | YES | 1,2,3,4,5 | YES | | YES | 030 |
| 8 | 1 | BFN-1-BDDD-281-0001C | 250V DC RMOV BOARD 1C | 1 | RB | 565 | 281 | YES | 1,2,3,4,5 | YES | | NO | 073 |
| 76 | 16 | BFN-1-CHGA-248-0001 | 250V BATTERY CHARGER 1 | 1 | CB | 593 | 248 | YES | 1,2,3,4,5 | NO | | NO | 062 |
| 77 | 16 | BFN-1-CHGD-283-00A1-1 | 24V NEUTRON BATTERY CHARGERS A1-1 | 1 | CB | 593 | 283 | YES | 1 | NO | YES | YES | 062 |
| 49 | 10 | BFN-1-CLR-064-0068 | EECW/RHR PUMP 1A ROOM COOLER | 1 | RB | 541 | 067 | YES | 3,4,5 | NO | YES | NO | 087 |
| 50 | 10 | BFN-1-CLR-064-0069 | EECW/RHR PUMP 1B ROOM COOLER | 1 | RB | 541 | 067 | YES | 3,4,5 | NO | YES | NO | 083 |

| Item # | Equip. Class (0 - 21) | UNID | Description | Unit | Bldg. | Elev. | Sys. | Seismic Cat 1 Yes/No | Safety Function | Risk Ranking | New or Replaced | Anch. Verified | AWC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | 10 | BFN-1-CLR-064-0070 | EECW/RHR PUMP 1C ROOM COOLER | 1 | RB | 541 | 067 | YES | 3,4,5 | NO | YES | NO | 087 |
| 54 | 10 | BFN-1-CLR-064-0071 | EECW/RHR PUMP 1D ROOM COOLER | 1 | RB | 541 | 067 | YES | 3,4,5 | NO | YES | NO | 083 |
| 51 | 10 | BFN-1-CLR-064-0072 | EECW/CS PUMP 1A ROOM COOLER | 1 | RB | 541 | 067 | YES | 3,4,5 | NO | YES | NO | 085 |
| 52 | 10 | BFN-1-CLR-064-0073 | EECW/CS PUMP 1B ROOM COOLER | 1 | RB | 519 | 067 | YES | 3,4,5 | NO | YES | NO | 084 |
| 120 | 7 | BFN-1-FCV-001-0014 | MSIV "A" INBOARD ISOLATION VALVE | 1 | RB | 565 | 001 | YES | 2 | NO | | NO | 127 |
| 35 | 8 | BFN-1-FCV-023-0040 | RHR/RHRSW HX C OUTLET VALVE | 1 | RB | 565 | 023 | YES | 4,5 | NO | | NO | 071 |
| 36 | 8 | BFN-1-FCV-023-0046 | RHR/RHRSW HX B OUTLET VALVE | 1 | RB | 565 | 023 | YES | 4,5 | NO | | NO | 072 |
| 2 | 0 | BFN-1-FCV-063-0008A | SLC INJECTION VALVE A | 1 | RB | 639 | 063 | YES | 1 | NO | | NO | 023 |
| 3 | 0 | BFN-1-FCV-063-0008B | SLC INJECTION VALVE B | 1 | RB | 639 | 063 | YES | 1 | NO | | NO | 023 |
| 28 | 7 | BFN-1-FCV-064-0033 | SUPP CHAMBER EXHAUST OUTBD ISOL VLV | 1 | RB | 565 | 064 | YES | 5 | NO | | NO | 073 |
| 29 | 7 | BFN-1-FCV-067-0050 | EECW NORTH HDR SUP VLV TO RBCCW HTXS | 1 | RB | 593 | 067 | YES | 3,4,5 | NO | | NO | 074 |
| 37 | 8 | BFN-1-FCV-071-0017 | RCIC SUPPR POOL INBD SUCT FLOW CONT VALVE | 1 | RB | 519 | 071 | YES | 3 | YES | | NO | 086 |
| 38 | 8 | BFN-1-FCV-071-0018 | RCIC SUPPR POOL OUTBD SUCT FLOW CONT VALVE | 1 | RB | 519 | 071 | YES | 3 | YES | | NO | 086 |
| 39 | 8 | BFN-1-FCV-071-0019 | RCIC CNDS TANK SUCTION VLV | 1 | RB | 519 | 071 | YES | 3 | YES | | NO | 086 |
| 40 | 8 | BFN-1-FCV-073-0027 | HPCI OUTBOARD SUCTION VALVE | 1 | RB | 519 | 073 | YES | 3 | YES | | NO | 095 |
| 41 | 8 | BFN-1-FCV-075-0002 | CS/PUMP 1A SUCTION ISOLATION VALVE | 1 | RB | 519 | 075 | YES | 3 | NO | | NO | 086 |
| 42 | 8 | BFN-1-FCV-075-0039 | CS/PUMP 1D SUCTION ISOLATION VALVE | 1 | RB | 519 | 075 | YES | 3 | NO | | NO | 084 |
| 110 | 8 | BFN-1-FCV-078-0062 | POOL MAKEUP FROM RHR OUTBOARD VALVE | 1 | RB | 639 | 078 | YES | SWEL 2 | NO | | NO | 105 |
| 31 | 7 | BFN-1-FCV-085-0037C | WEST SCRAM DISCH VOL DRAIN CONT VLV B | 1 | RB | 565 | 085 | YES | 1 | NO | | NO | 073 |
| 32 | 7 | BFN-1-FCV-085-0037D | WEST SCRAM DISCH VOL DRAIN CONT VLV A | 1 | RB | 565 | 085 | YES | 1 | NO | | NO | 073 |
| 33 | 7 | BFN-1-FCV-085-0037E | EAST SCRAM DISCH VOL DRAIN CONT VLV B | 1 | RB | 565 | 085 | YES | 1 | NO | | NO | 070 |
| 34 | 7 | BFN-1-FCV-085-0037F | EAST SCRAM DISCH VOL DRAIN CONT VLV A | 1 | RB | 565 | 085 | YES | 1 | NO | | NO | 070 |
| 109 | 7 | BFN-1-FCV-085-0083 | CRD/EAST SDV VENT VALVE | 1 | RB | 565 | 085 | YES | 1 | NO | | NO | 070 |
| 43 | 8 | BFN-1-FSV-085-0037A | CRD SCRAM DISCH VOL DR & VENT PILOT VLV A | 1 | RB | 565 | 085 | YES | 1 | NO | | NO | 070 |
| 44 | 8 | BFN-1-FSV-085-0037B | CRD SCRAM DISCH VOL DR & VENT PILOT VLV B | 1 | RB | 565 | 085 | YES | 1 | NO | | NO | 070 |
| 103 | 21 | BFN-1-HEX-074-0005 | RHR PUMP SEAL HEAT EXCHANGER A | 1 | RB | 519 | 074 | YES | 3,4 | NO | | NO | 082 |
| 104 | 21 | BFN-1-HEX-074-0016 | RHR PUMP SEAL HEAT EXCHANGER C | 1 | RB | 519 | 074 | YES | 3,4 | NO | | NO | 082 |
| 78 | 16 | BFN-1-INVT-256-0001 | ECCS ATU INVERTER | 1 | CB | 593 | 256 | YES | 1,2,3,4,5 | NO | YES | NO | 030 |
| 79 | 16 | BFN-1-INVT-256-0002 | ECCS ATU INVERTER DIV II | 1 | CB | 617 | 256 | YES | 1,2,3,4,5 | NO | YES | YES | 068 |
| 82 | 18 | BFN-1-LPNL-925-0005A | REACTOR PROTECTION & NSS PNL | 1 | RB | 593 | 925 | YES | 1 | NO | YES | YES | 077 |
| 83 | 18 | BFN-1-LPNL-925-0005B | REACTOR PROTECTION & NSS PNL | 1 | RB | 593 | 925 | YES | 1 | NO | YES | YES | 077 |
| 84 | 18 | BFN-1-LPNL-925-0006A | REACTOR PROTECTION & NSS PNL | 1 | RB | 593 | 925 | YES | 1 | NO | YES | YES | 076 |
| 85 | 18 | BFN-1-LPNL-925-0006B | REACTOR PROTECTION & NSS PNL | 1 | RB | 593 | 925 | YES | 1 | NO | YES | YES | 076 |
| 86 | 18 | BFN-1-LPNL-925-0007A | RECIRC SYS PNL | 1 | RB | 541 | 925 | YES | 1 | NO | | YES | 075 |
| 87 | 18 | BFN-1-LPNL-925-0007B | RECIRC SYS PNL | 1 | RB | 541 | 925 | YES | 1 | NO | | YES | 075 |
| 112 | 20 | BFN-1-LS-078-0001D | SKIMMER SURGE TANK LEVEL LOW LOW ISOL | 1 | RB | 639 | 078 | YES | SWEL 2 | NO | | NO | 100 |
| 111 | 20 | BFN-1-LS-078-0001E | SKIMMER SURGE TANK LEVEL LOW LOW ISOL | 1 | RB | 639 | 078 | YES | SWEL 2 | NO | | NO | 100 |
| 113 | 20 | BFN-1-LS-078-0001F | SKIMMER SURGE TANK LEVEL LOW LOW ISOL | 1 | RB | 639 | 078 | YES | SWEL 2 | NO | | NO | 100 |
| 114 | 20 | BFN-1-LS-078-0001G | SKIMMER SURGE TANK LEVEL LOW LOW ISOL | 1 | RB | 639 | 078 | YES | SWEL 2 | NO | | NO | 100 |
| 88 | 18 | BFN-1-LT-064-0159A | SUPP CHAMBER WATER LVL | 1 | RB | 519 | 064 | YES | 5 | NO | YES | YES | 081 |
| 89 | 18 | BFN-1-LT-064-0159B | SUPP CHAMBER WATER LVL | 1 | RB | 519 | 064 | YES | 5 | NO | YES | YES | 088 |
| 122 | 7 | BFN-1-PCV-001-0018 | MAIN STEAM LINE B RELIEF VALVE | 1 | RB | 583 | 001 | YES | 2 | NO | | NO | 129 |

| Item # | Equip. Class (0 - 21) | UNID | Description | Unit | Bldg. | Elev. | Sys. | Seismic Cat 1 Yes/No | Safety Function | Risk Ranking | New or Replaced | Anch. Verified | AWC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 123 | 7 | BFN-1-PCV-001-0030 | MAIN STEAM LINE C RELIEF VALVE | 1 | RB | 583 | 001 | YES | 2 | NO | | NO | 129 |
| 18 | 5 | BFN-1-PMP-063-0006A | STANDBY LIQ CONT PMP A | 1 | RB | 639 | 063 | YES | 1 | NO | | YES | 023 |
| 19 | 5 | BFN-1-PMP-063-0006B | STANDBY LIQ CONT PMP B | 1 | RB | 639 | 063 | YES | 1 | NO | | YES | 023 |
| 20 | 5 | BFN-1-PMP-073-0029 | HPCI BOOSTER PUMP | 1 | RB | 519 | 073 | YES | 3 | NO | | NO | 095 |
| 21 | 5 | BFN-1-PMP-073-0054 | HPCI TURBINE MAIN PUMP | 1 | RB | 519 | 073 | YES | 3 | YES | | NO | 095 |
| 22 | 6 | BFN-1-PMP-074-0005 | RESIDUAL HEAT REMOVAL PUMP 1A | 1 | RB | 519 | 074 | YES | 3,4 | NO | | YES | 082 |
| 23 | 6 | BFN-1-PMP-074-0016 | RESIDUAL HEAT REMOVAL PUMP 1C | 1 | RB | 519 | 074 | YES | 3,4 | NO | | YES | 082 |
| 24 | 6 | BFN-1-PMP-075-0005 | CORE SPRAY PUMP 1A | 1 | RB | 519 | 075 | YES | 3 | NO | | YES | 086 |
| 25 | 6 | BFN-1-PMP-075-0014 | CORE SPRAY PUMP 1C | 1 | RB | 519 | 075 | YES | 3 | NO | | YES | 086 |
| 27 | 6 | BFN-1-PMP-075-0033 | CORE SPRAY PUMP 1B | 1 | RB | 519 | 075 | YES | 3 | NO | | YES | 084 |
| 26 | 6 | BFN-1-PMP-075-0042 | CORE SPRAY PUMP 1D | 1 | RB | 519 | 075 | YES | 3 | NO | | YES | 084 |
| 90 | 20 | BFN-1-PNLA-009-0003A | REACTOR SHUTDOWN & CONTAINMENT COOLING | 1 | CB | 617 | 009 | YES | 1,3,4 | NO | | NO | 120 |
| 91 | 20 | BFN-1-PNLA-009-0005 | REACTOR CONTROL PANEL | 1 | CB | 617 | 009 | YES | 1 | NO | | NO | 120 |
| 92 | 20 | BFN-1-PNLA-009-0008 | GEN & AUX POWER PANEL | 1 | CB | 617 | 009 | YES | 1,2,3,4,5 | NO | | NO | 120 |
| 93 | 20 | BFN-1-PNLA-009-0009 | I&C BUS 1A | 1 | CB | 617 | 009 | YES | 1,2,3,4,5 | YES | | NO | 120 |
| 94 | 20 | BFN-1-PNLA-009-0016 | PROT SYS OPS & TEST PNL | 1 | CB | 593 | 009 | YES | 1 | NO | | YES | 063 |
| 95 | 20 | BFN-1-PNLA-009-0017 | PROT LGC CHL B AUX PNL | 1 | CB | 593 | 009 | YES | 1 | NO | | YES | 063 |
| 96 | 20 | BFN-1-PNLA-009-0032 | RHR,CS, & HPCI (CH A) PNL | 1 | CB | 593 | 009 | YES | 2,3,4,5 | NO | | YES | 063 |
| 97 | 20 | BFN-1-PNLA-009-0036A | AUX INST RM TO 480V BD 3D | 1 | CB | 593 | 009 | YES | 3 | NO | | YES | 063 |
| 98 | 20 | BFN-1-PNLA-009-0039 | HPCI RELAY AUX PNL | 1 | CB | 593 | 009 | YES | 2,3,4,5 | NO | | YES | 063 |
| 99 | 20 | BFN-1-PNLA-009-0042 | MISV (INBOARD) DIV I PNL | 1 | CB | 593 | 009 | YES | 2 | NO | | YES | 063 |
| 100 | 20 | BFN-1-PNLA-009-0082 | ECCS DIV 2 TRIP UNIT CABINET | 1 | CB | 593 | 009 | YES | 2,3,4,5 | NO | | NO | 063 |
| 101 | 20 | BFN-1-PNLA-009-0086 | 9-86 RPS B2 TRIP UNIT CABINET | 1 | CB | 593 | 009 | YES | 2,3,4,5 | NO | | NO | 063 |
| 118 | 19 | BFN-1-TE-064-0161B | SUPP POOL BULK TEMP DIV I | 1 | RB | 519 | 064 | YES | 5 | NO | | NO | 125 |
| 115 | 19 | BFN-1-TE-064-0161C | SUPP POOL BULK TEMP DIV I | 1 | RB | 519 | 064 | YES | 5 | NO | | NO | 125 |
| 119 | 19 | BFN-1-TE-064-0162A | SUPP POOL BULK TEMP DIV II | 1 | RB | 519 | 064 | YES | 5 | NO | | NO | 125 |
| 117 | 19 | BFN-1-TE-064-0162B | SUPP POOL BULK TEMP DIV II | 1 | RB | 519 | 064 | YES | 5 | NO | | NO | 125 |
| 116 | 19 | BFN-1-TE-064-0162C | SUPP POOL BULK TEMP DIV II | 1 | RB | 519 | 064 | YES | 5 | NO | | NO | 125 |
| 105 | 21 | BFN-1-TNK-063-0583 | STANDBY LIQ CONT TANK | 1 | RB | 639 | 063 | YES | 1 | YES | | YES | 023 |
| 106 | 21 | BFN-1-TNK-085-0901 | SCRAM DISCHARGE INSTRUMENT VOLUME (WEST) | 1 | RB | 565 | 085 | YES | 1 | NO | | YES | 073 |
| 107 | 21 | BFN-1-TNK-085-0902 | SCRAM DISCHARGE INSTRUMENT VOLUME (EAST) | 1 | RB | 565 | 085 | YES | 1 | NO | | YES | 070 |
| 13 | 4 | BFN-1-XFA-231-TS1A | 4KV/480V XFMR TS1A | 1 | RB | 621 | 231 | YES | 1,2,3,4,5 | YES | YES | NO | 024 |
| 14 | 4 | BFN-1-XFA-231-TS1B | 4KV/480V XFMR TS1B | 1 | RB | 621 | 231 | YES | 1,2,3,4,5 | YES | YES | NO | 024 |
| 15 | 4 | BFN-1-XFA-253-0001A1 | 480-120/208 VAC XFMR FOR I&C BUS A | 1 | CB | 617 | 253 | YES | 1,2,3,4,5 | NO | | YES | 068 |
| 16 | 4 | BFN-1-XFA-253-0001B1 | 480-120/208 VAC XFMR FOR I&C BUS B | 1 | CB | 593 | 253 | YES | 1,2,3,4,5 | NO | | YES | 030 |
| 17 | 4 | BFN-1-XFA-253-0001B2 | 120/208-120/208 VAC REG XFMR FOR I&C BUS B | 1 | CB | 593 | 253 | YES | 1,2,3,4,5 | NO | | NO | 030 |
| 65 | 14 | BFN-1-XSW-248-0001 | 250V MAIN BATT CHGR OUTPUT XFR SW 1 | 1 | CB | 593 | 248 | YES | 1,2,3,4,5 | NO | | NO | 062 |

| No. | AWC No. | Unit | Bldg | Elev | Location | Walkdown Date |
|---|---|---|---|---|---|---|
| 032 | 0-CB-EL593-032 | 0 | CB | 593 | Battery Room 1 | 7/27/2012 |
| 069 | 0-CB-EL595-069 | 0 | CB | 595 | Chiller Area on roof | 8/3/2012 |
| 120 | 0-CB-EL617-120 | 0 | CB | 617 | Main Control Room | 8/14/2012 |
| 006 | 0-DG-EL565-006 | 0 | DG | 565 | Electrical Tunnel | 7/19/2012 |
| 115 | 0-DG-EL583-115 | 0 | DG | 583 | Diesel Aux Board Room | 8/13/2012 |
| 034 | 0-YD-EL565-034 | 0 | INTAKE | 565 | RHRSW Pump Room A | 7/27/2012 |
| 030 | 1-CB-EL593-030 | 1 | CB | 593 | Electrical Board Room 1B | 7/26/2012 |
| 063 | 1-CB-EL593-063 | 1 | CB | 593 | Aux Instrument Room | 8/2/2012 |
| 068 | 1-CB-EL617-068 | 1 | CB | 617 | Electric Board Room1A | 8/3/2012 |
| 107 | 1-CB-EL621-107 | 1 | CB | 621 | 480V Shutdown Board Rm 1B | 8/10/2012 |
| 111 | 1-CB-EL621-111 | 1 | CB | 621 | 480V Shutdown Board Room 1A | 8/10/2012 |
| 059 | 1-DG-EL565-059 | 1 | DG | 565 | Diesel Generator Room B | 8/2/2012 |
| 065 | 1-DG-EL565-065 | 1 | DG | 565 | Diesel Generator Room A | 8/2/2012 |
| 060 | 1-DG-EL583-060 | 1 | DG | 583 | Diesel Generator Fan Room B | 8/2/2012 |
| 064 | 1-DG-EL583-064 | 1 | DG | 583 | Diesel Generator Fan Room A | 8/2/2012 |
| 062 | 1-DG-EL593-062 | 1 | DG | 593 | Battery Board Room 1 | 8/2/2012 |
| 081 | 1-RB-EL519-081 | 1 | RB | 519 | Torus between NE and NW Quad | 8/7/2012 |
| 082 | 1-RB-EL519-082 | 1 | RB | 519 | SW Quad | 8/7/2012 |
| 084 | 1-RB-EL519-084 | 1 | RB | 519 | NE Quad to top of 541' | 8/7/2012 |
| 086 | 1-RB-EL519-086 | 1 | RB | 519 | NW Quad | 8/7/2012 |
| 088 | 1-RB-EL519-088 | 1 | RB | 519 | Torus | 8/7/2012 |
| 095 | 1-RB-EL519-095 | 1 | RB | 519 | HPCI Room | 8/8/2012 |
| 125 | 1-RB-EL519-125 | 1 | RB | 519 | Torus | 8/14/2012 |
| 075 | 1-RB-EL541-075 | 1 | RB | 541 | SW Quad | 8/6/2012 |
| 083 | 1-RB-EL541-083 | 1 | RB | 541 | SE Quad | 8/7/2012 |
| 085 | 1-RB-EL541-085 | 1 | RB | 541 | NW Quad Room Coolers | 8/7/2012 |
| 087 | 1-RB-EL541-087 | 1 | RB | 541 | SW Quad Room Chiller | 8/7/2012 |
| 070 | 1-RB-EL565-070 | 1 | RB | 565 | SCRAM Dump Valve Area | 8/6/2012 |
| 071 | 1-RB-EL565-071 | 1 | RB | 565 | R1-R4, S-U | 8/6/2012 |
| 072 | 1-RB-EL565-072 | 1 | RB | 565 | Above Clean room | 8/6/2012 |
| 073 | 1-RB-EL565-073 | 1 | RB | 565 | R1-R3, N-S | 8/6/2012 |
| 127 | 1-RB-EL565-127 | 1 | RB | 565 | DRYWELL | 10/18/2012 |
| 129 | 1-RB-EL583-129 | 1 | RB | 583 | DRYWELL | 10/18/2012 |
| 074 | 1-RB-EL593-074 | 1 | RB | 593 | Core Spray Valve Mezzanine | 8/6/2012 |
| 076 | 1-RB-EL593-076 | 1 | RB | 593 | Local Panel 25-6 Area | 8/6/2012 |
| 077 | 1-RB-EL593-077 | 1 | RB | 593 | Local Panel 25-5 Area | 8/6/2012 |
| 024 | 1-RB-EL621-024 | 1 | RB | 621 | Transformer Area | 7/26/2012 |
| 078 | 1-RB-EL621-078 | 1 | RB | 621 | Electric Board Rm 1A - Battery Room A | 8/6/2012 |
| 079 | 1-RB-EL621-079 | 1 | RB | 621 | Electric Board Rm 1A - Battery Room B | 8/6/2012 |
| 023 | 1-RB-EL639-023 | 1 | RB | 639 | SLC Area | 7/26/2012 |
| 100 | 1-RB-EL639-100 | 1 | RB | 639 | P/R10 | 8/9/2012 |
| 105 | 1-RB-EL639-105 | 1 | RB | 639 | S-U R4-R7 | 8/9/2012 |

## Appendix E: SWCs

The following signatures are provided for the engineers responsible for the Seismic Walkdown Checklists in Browns Ferry Unit 1.

| Name | Signature | Date |
|---|---|---|
| Jason Black | Jason Black | 11-15-12 |
| George Bongart | George Bongart | 11-15-12 |
| Avinash Chunduri | | 11-15-12 |
| James Edgar | | 11-15-12 |
| Jeffrey Lawrence | | 11-15-12 |
| Patrick McCarraher | Patrick McCarraher | 11-15-12 |
| Nicholas Pressler | | 11-15-12 |

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0000A** Equipment Class[3] 15

Equipment Description 250V DC BATTERY SHUTDOWN BOARD SB-A

Location: Bldg. U1-RB Floor El. 621 Room, Area 078, Electric Board Room 1A, Battery RM A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0000A** Equipment Class[3] 15

Equipment Description 250V DC BATTERY SHUTDOWN BOARD SB-A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Calculation CDQ002489190431 verifies the anchorage configuration.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0000A** Equipment Class[3] 15

Equipment Description 250V DC BATTERY SHUTDOWN BOARD SB-A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Masonry walls have been qualified per IEB 80-11 program. Refer to drawing 41N1201-1 wall #32.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0000A** Equipment Class[3] 15

Equipment Description 250V DC BATTERY SHUTDOWN BOARD SB-A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0000A** Equipment Class[3] 15

Equipment Description 250V DC BATTERY SHUTDOWN BOARD SB-A

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/6/2012

Patrick McCarraher 8/6/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0000B** Equipment Class[3] 15

Equipment Description 250V DC BATTERY SHUTDOWN BOARD SB-B

Location: Bldg. U1-RB Floor El. 621 Room, Area 079, Electric Board RM 1A, Battery RM B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0000B** Equipment Class[3] 15

Equipment Description 250V DC BATTERY SHUTDOWN BOARD SB-B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Calculation CDQ02489190431 verifies the anchorage configuration.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0000B** Equipment Class[3] 15

Equipment Description 250V DC BATTERY SHUTDOWN BOARD SB-B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Masonry walls are seismically qualified per IEB 80-11 program. Refer to drawing 41N1201-1 wall #32.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0000B** Equipment Class[3] 15

Equipment Description 250V DC BATTERY SHUTDOWN BOARD SB-B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0000B** Equipment Class[3] 15

Equipment Description 250V DC BATTERY SHUTDOWN BOARD SB-B

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/6/2012

Patrick McCarraher 8/6/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0001** Equipment Class[3] 15

Equipment Description 250V DC UNIT BATTERY

Location: Bldg. U1-CB Floor El. 593 Room, Area 032, Battery Room 1

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0001** Equipment Class[3] 15

Equipment Description 250V DC UNIT BATTERY

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage configuration has been verified per A-46 SEWS (SSEL #9137)

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0001** Equipment Class[3] 15

Equipment Description 250V DC UNIT BATTERY

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Masonry walls have been qualified as seismically adequate by SSEL No. 9137.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0001** Equipment Class[3] 15

Equipment Description 250V DC UNIT BATTERY

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATA-248-0001** Equipment Class[3] 15

Equipment Description 250V DC UNIT BATTERY

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/27/2012

Patrick McCarraher 7/27/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATB-254-0000A** Equipment Class[3] 15

Equipment Description 125 VDC DIESEL SYSTEM BATTERY A

Location: Bldg. U1/2 DG Floor El. 565 Room, Area 065, Diesel Generator Room A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATB-254-0000A** Equipment Class[3] 15

Equipment Description 125 VDC DIESEL SYSTEM BATTERY A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage verified per Calculation Number CDQ0999900691.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATB-254-0000A** Equipment Class[3] 15

Equipment Description 125 VDC DIESEL SYSTEM BATTERY A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATB-254-0000A** Equipment Class[3] 15

Equipment Description 125 VDC DIESEL SYSTEM BATTERY A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATB-254-0000A** Equipment Class[3] 15

Equipment Description 125 VDC DIESEL SYSTEM BATTERY A

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jason Black Date:08/02/2012

Jeff Lawrence 08/02/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATB-254-0000B** Equipment Class[3] 15

Equipment Description 125VDC DIESEL SYSTEM BATTERY B

Location: Bldg. U1/2 DG Floor El. 565 Room, Area 059, Diesel Generator Room B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATB-254-0000B** Equipment Class[3] 15

Equipment Description 125VDC DIESEL SYSTEM BATTERY B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per Calculation/drawing CDQ0999900691 the anchorage is OK.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATB-254-0000B** Equipment Class[3] 15

Equipment Description 125VDC DIESEL SYSTEM BATTERY B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATB-254-0000B** Equipment Class[3] 15

Equipment Description 125VDC DIESEL SYSTEM BATTERY B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BATB-254-0000B** Equipment Class[3] 15

Equipment Description 125VDC DIESEL SYSTEM BATTERY B

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/2/2012

George Bongart 8/2/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDAA-211-000A** Equipment Class[3] 3

Equipment Description 4KV SHUTDOWN BOARD A

Location: Bldg. U1-CB Floor El. 617 Room, Area 068, Electric Board Room 1A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Cannot see anchorage to see if there is any bent, broken, missing or loose hardware. Internal anchorage inaccessible because extensive disassembly is required to enter the cabinet. The cabinet is checked externally for its condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDAA-211-000A** Equipment Class[3] 3

Equipment Description 4KV SHUTDOWN BOARD A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDAA-211-000A** Equipment Class[3] 3

Equipment Description 4KV SHUTDOWN BOARD A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

No potentially adverse seismic conditions were observed.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDAA-211-000A** Equipment Class[3] 3

Equipment Description 4KV SHUTDOWN BOARD A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Based on the comments and field observations it has been determined that the equipment is free of potentially adverse seismic interaction effects.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other adverse seismic conditions that could affect the safety functions of equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDAA-211-000A** Equipment Class[3] 3

Equipment Description 4KV SHUTDOWN BOARD A

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/10/2012

George Bongart 8/10/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDAA-211-000B** Equipment Class[3] 3

Equipment Description 4KV SHUTDOWN BOARD B

Location: Bldg. U1-CB Floor El. 593 Room, Area 030, Electrical Board Room 1B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Cannot see anchorage to determine.Internal anchorage inaccessible because extensive disassembly is required to enter the cabinet. The cabinet is checked externally for its condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDAA-211-000B** Equipment Class[3] 3

Equipment Description 4KV SHUTDOWN BOARD B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDAA-211-000B** Equipment Class[3] 3

Equipment Description 4KV SHUTDOWN BOARD B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

No potentially adverse seismic conditions observed.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

Soft targets are free from impact by nearby equipment and structures.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDAA-211-000B** Equipment Class[3] 3

Equipment Description 4KV SHUTDOWN BOARD B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other adverse seismic conditions that could affect the safety functions of the equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDAA-211-000B** Equipment Class[3] 3

Equipment Description 4KV SHUTDOWN BOARD B

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/10/2012

Patrick McCarraher 8/10/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDDD-280-0001** Equipment Class[3] 14

Equipment Description 250V DC BATTERY BOARD 1

Location: Bldg. U1-CB Floor El. 593 Room, Area 062, Battery Board Room 1

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Welds in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDDD-280-0001** Equipment Class[3] 14

Equipment Description 250V DC BATTERY BOARD 1

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDDD-280-0001** Equipment Class[3] 14

Equipment Description 250V DC BATTERY BOARD 1

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDDD-280-0001** Equipment Class[3] 14

Equipment Description 250V DC BATTERY BOARD 1

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDDD-280-0001** Equipment Class[3] 14

Equipment Description 250V DC BATTERY BOARD 1

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/2/2012

George Bongart 8/2/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDGG-254-0000A** Equipment Class[3] 14

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD A

Location: Bldg. U1/2 DG Floor El. 565 Room, Area 065, Diesel Generator Room A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDGG-254-0000A** Equipment Class[3] 14

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDGG-254-0000A** Equipment Class[3] 14

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDGG-254-0000A** Equipment Class[3] 14

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDGG-254-0000A** Equipment Class[3] 14

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD A

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDGG-254-0000B** Equipment Class[3] 14

Equipment Description 125VDC DIESEL SYSTEM BATTERY BOARD B

Location: Bldg. U1/2 DG Floor El. 565 Room, Area 059, Diesel Generator Room B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDGG-254-0000B** Equipment Class[3] 14

Equipment Description 125VDC DIESEL SYSTEM BATTERY BOARD B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

Some washers were mildly corroded.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Current configuration is per documentation. Documentation per A-46 SSEL No. 9147 & 9146.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDGG-254-0000B** Equipment Class[3] 14

Equipment Description 125VDC DIESEL SYSTEM BATTERY BOARD B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

Equipment in the cabinet is protected by the cabinet. The breakers on the front of the cabinet are protected by cages.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDGG-254-0000B** Equipment Class[3] 14

Equipment Description 125VDC DIESEL SYSTEM BATTERY BOARD B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-BDGG-254-0000B** Equipment Class[3] 14

Equipment Description 125VDC DIESEL SYSTEM BATTERY BOARD B

**Comments** (Additional pages may be added as necessary)

Latch for the bottom cage is broken. The cage itself cannot move inward to cause damage to the breakers or trip them.

Evaluated by: George Bongart Date:8/2/2012

Patrick McCarraher 8/2/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGA-248-0000A** Equipment Class[3] 16

Equipment Description 250V DC BATTERY CHARGER SB-A

Location: Bldg. U1-CB Floor El. 617 Room, Area 068, Electric Board Room 1A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGA-248-0000A** Equipment Class[3] 16

Equipment Description 250V DC BATTERY CHARGER SB-A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per A-46 SSEL 9121 drawing the current configuration matches this and has been determined to be adequate.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGA-248-0000A** Equipment Class[3] 16

Equipment Description 250V DC BATTERY CHARGER SB-A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Masonry wall has been determined to be seismically adequate per IEB 80-11 program. Refer to drawing 41N1201-1 Wall #32.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGA-248-0000A** Equipment Class[3] 16

Equipment Description 250V DC BATTERY CHARGER SB-A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGA-248-0000A** Equipment Class[3] 16

Equipment Description 250V DC BATTERY CHARGER SB-A

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/6/2012

Patrick McCarraher 8/6/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGA-248-0000B** Equipment Class[3] 16

Equipment Description 250V DC BATTERY CHARGER SB-B

Location: Bldg. U1-CB Floor El. 617 Room, Area 068, Electric Board Room 1A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGA-248-0000B** Equipment Class[3] 16

Equipment Description 250V DC BATTERY CHARGER SB-B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per A-46 SSEL 9124 documentation, the current configuration matches this and has been determined to be adequate.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGA-248-0000B** Equipment Class[3] 16

Equipment Description 250V DC BATTERY CHARGER SB-B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Masonry wall has been seismically qualified per IEB 80-11 program. Refer to drawing 41N1201-1 Wall #32.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGA-248-0000B** Equipment Class[3] 16

Equipment Description 250V DC BATTERY CHARGER SB-B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGA-248-0000B** Equipment Class[3] 16

Equipment Description 250V DC BATTERY CHARGER SB-B

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: George Bongart Date:08/06/2012

Patrick McCarraher 08/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGB-254-0000AA** Equipment Class[3] 16

Equipment Description DGA 125 VDC DSL SYS BTRY CHGR A

Location: Bldg. U1/2-DG Floor El. 565 Room, Area 006, Electrical Tunnel

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

This equipment has been selected for the 50% verification.

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Small gap in the top row of bolts to the far left side of the charger while this is not a concern it should be corrected.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGB-254-0000AA** Equipment Class[3] 16

Equipment Description DGA 125 VDC DSL SYS BTRY CHGR A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per calculation CDQ0254931006and drawing 0-48B900-224, the current anchorage configuration matches the plant documentation.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGB-254-0000AA** Equipment Class[3] 16

Equipment Description DGA 125 VDC DSL SYS BTRY CHGR A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGB-254-0000AA** Equipment Class[3] 16

Equipment Description DGA 125 VDC DSL SYS BTRY CHGR A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHGB-254-0000AA** Equipment Class[3] 16

Equipment Description DGA 125 VDC DSL SYS BTRY CHGR A

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/2/2012

Patrick McCarraher 8/2/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHR-031-2100** Equipment Class[3] 11

Equipment Description CONTROL BAY WATER CHILLER A

Location: Bldg. U1-CB Floor El. 595 Room, Area 069, Roof Chiller A & B Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHR-031-2100** Equipment Class[3] 11

Equipment Description CONTROL BAY WATER CHILLER A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

Dirt/debis around the bolts/nuts. The bolts and nuts are in good condtion.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

Minor cracking was noticed in the grout which doesn't appear to be significant. There is also a crack along the interface between the grout and the concrete surface, this crack is approximately three feet in length. This also does not appear to be significant.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per drawing 0-48N891-1 the current anchorage matches the drawing.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHR-031-2100** Equipment Class[3] 11

Equipment Description CONTROL BAY WATER CHILLER A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHR-031-2100** Equipment Class[3] 11

Equipment Description CONTROL BAY WATER CHILLER A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-CHR-031-2100** Equipment Class[3] 11

Equipment Description CONTROL BAY WATER CHILLER A

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/3/2012

Patrick McCarraher 8/3/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0064** Equipment Class[3] 9

Equipment Description DIESEL GEN ROOM A EXHAUST FAN "A"

Location: Bldg. U1/2-DG Floor El. 583 Room, Area 064, Diesel Generator Fan Room A

Manufacturer, Model, Etc. (optional but recommended) Barry Blower Company

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0064** Equipment Class[3] 9

Equipment Description DIESEL GEN ROOM A EXHAUST FAN "A"

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage verified per A-46 SEWS (SSEL # 7015).

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0064** Equipment Class[3] 9

Equipment Description DIESEL GEN ROOM A EXHAUST FAN "A"

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0064** Equipment Class[3] 9

Equipment Description DIESEL GEN ROOM A EXHAUST FAN "A"

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0064** Equipment Class[3] 9

Equipment Description DIESEL GEN ROOM A EXHAUST FAN "A"

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0065** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM A EXHAUST FAN B

Location: Bldg. U1/2-DG Floor El. 583 Room, Area 064 Diesel Generator Fan Room A

Manufacturer, Model, Etc. (optional but recommended) Barry Blower Company

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0065** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM A EXHAUST FAN B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage verified per arrangement and subsequent calc. perfomed in A-46 SEWS(7015)

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0065** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM A EXHAUST FAN B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0065** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM A EXHAUST FAN B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0065** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM A EXHAUST FAN B

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0066** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM B EXHAUST FAN A

Location: Bldg. U1/2-DG Floor El. 583 Room, Area 060, Diesel Generator Fan Room B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0066** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM B EXHAUST FAN A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage configuration has been verified per A-46 SEWS (SSEL #7015).

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0066** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM B EXHAUST FAN A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0066** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM B EXHAUST FAN A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0066** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM B EXHAUST FAN A

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/2/2012

Patrick McCarraher 8/2/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0067** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM B EXHAUST FAN B

Location: Bldg. U1/2-DG Floor El. 583 Room, Area 060, Diesel Generator Fan Room B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0067** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM B EXHAUST FAN B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage configuration has been verified per A-46 SEWS (SSEL #7015).

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0067** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM B EXHAUST FAN B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0067** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM B EXHAUST FAN B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FAN-030-0067** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM B EXHAUST FAN B

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**Comments** (Additional pages may be added as necessary)

Standing water inside the support structure directly under the fan unit.

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Evaluated by: George Bongart Date:8/2/2012

Patrick McCarraher 8/2/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0064A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "A" IN DG ROOM A

Location: Bldg. U1/2-DG Floor El. 583 Room, Area 064, Diesel Generator Fan Room A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0064A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "A" IN DG ROOM A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

FCO is mounted to outlet of fan and damper is mounted between fan outlet and outlet ductwork. No anchorage to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0064A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "A" IN DG ROOM A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0064A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "A" IN DG ROOM A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0064A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "A" IN DG ROOM A

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0064B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM A

Location: Bldg. U1/2 DG Floor El. 565 Room, Area 065, Diesel Generator Room A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Actuator supported at bottom of steel frame of the damper structure by 4 bolts. Damper frame is bolted to steel frame which is bolted to the ceiling of the room.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0064B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0064B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

Nothing located above the actuator since it is mounted to the ceiling of the room. The only risks of impact to soft targets would be from whatever could fall through the floor above the diesel generator room. Based on the walkdown of the fan room above, no fall hazards exist.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0064B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0064B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM A

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0066A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "A" IN DG ROOM B

Location: Bldg. U1/2-DG Floor El. 583 Room, Area 060, Diesel Generator Fan Room B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0066A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "A" IN DG ROOM B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

Not attached to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0066A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "A" IN DG ROOM B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0066A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "A" IN DG ROOM B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0066A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "A" IN DG ROOM B

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/2/2012

Patrick McCarraher 8/2/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0066B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM B

Location: Bldg. U1/2 DG Floor El. 565 Room, Area 059, Diesel Generator Room B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0066B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0066B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0066B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-FCO-030-0066B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM B

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/2/2012

Patrick McCarraher 8/2/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-GEN-082-000A** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR A

Location: Bldg. U1/2-DG Floor El. 565 Room, Area 065, DIESEL GENERATOR ROOM A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

For additional information reference drawings 41N576 and 41N577-1.

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-GEN-082-000A** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

For additional information reference drawings 41N576 and 41N577-1.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-GEN-082-000A** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-GEN-082-000A** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-GEN-082-000A** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR A

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:10/18/2012

Jason Black 10/18/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-GEN-082-000B** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR B

Location: Bldg. U1/2 DG Floor El. 565 Room, Area 059, Diesel Generator Room B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

For additional information reference drawings 41N576 and 41N577-1.

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-GEN-082-000B** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

Grout missing accross entire pad, the thickness is approximately 1.5" thick. The support frame is sitting on shims. This has been determined to be satisfactory per A-46 SSEL #7001.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

For additional information reference drawings 41N576 and 41N577-1.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-GEN-082-000B** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-GEN-082-000B** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-GEN-082-000B** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR B

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: George Bongart Date:8/2/2012

Patrick McCarraher 8/2/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-PNLA-248-0000A** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-A

Location: Bldg. U1-CB Floor El. 617 Room, Area 068, Electric Board Room 1A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-PNLA-248-0000A** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per calculatioin CD-Q0248-920729 and drawing 0-48B1500-51, anchorage configuration is in accordance with this documentation.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-PNLA-248-0000A** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

The masonry wall has been qualified per IEB 80-11. Refer to drawing 41N1201-1 wall #32.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-PNLA-248-0000A** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-PNLA-248-0000A** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-A

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/3/2012

George Bongart 8/3/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-PNLA-248-0000B** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-B

Location: Bldg. U1-CB Floor El. 617 Room, Area 068, Electric Board Room 1A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-PNLA-248-0000B** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per calculation CD-Q0248-920729 and drawing 0-48B1500-51 the current anchorage configuration is matches the documentation.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-PNLA-248-0000B** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Masonry wall has been seismically qualified per IEB 80-11. Refer to drawing 41N1201-1 wall #32.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-PNLA-248-0000B** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-PNLA-248-0000B** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-B

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:08/10/2012

Patrick McCarraher 08/10/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-STN-067-0925** Equipment Class[3] 0

Equipment Description EECW NORTH HDR STRAINER A

Location: Bldg. INTAKE Floor El. 565 Room, Area 034, RHRSW Pump Room A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-STN-067-0925** Equipment Class[3] 0

Equipment Description EECW NORTH HDR STRAINER A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-STN-067-0925** Equipment Class[3] 0

Equipment Description EECW NORTH HDR STRAINER A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-STN-067-0925** Equipment Class[3] 0

Equipment Description EECW NORTH HDR STRAINER A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-STN-067-0925** Equipment Class[3] 0

Equipment Description EECW NORTH HDR STRAINER A

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/27/2012

Patrick McCarraher 7/27/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-XFA-219-TDA** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TDA

Location: Bldg. U1/2-DG Floor El. 583 Room, Area 115, Diesel Aux Board Room

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-XFA-219-TDA** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TDA

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage verified per calculation and supporting documentation in A-46 SEWS (SSEL # 9004).

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-XFA-219-TDA** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TDA

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-XFA-219-TDA** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TDA

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-XFA-219-TDA** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TDA

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/13/2012

Jason Black 08/13/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BATD-283-000A1** Equipment Class[3] 15

Equipment Description 24V NEUTRON MONITORING BATTERY, U1 CHANNEL A

Location: Bldg. U1 CB Floor El. 593 Room, Area 032, Battery Room 1

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BATD-283-000A1** Equipment Class[3] 15

Equipment Description 24V NEUTRON MONITORING BATTERY, U1 CHANNEL A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BATD-283-000A1** Equipment Class[3] 15

Equipment Description 24V NEUTRON MONITORING BATTERY, U1 CHANNEL A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Masonary wall has been determined to be seismically adequate by SSEL No. 9137

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BATD-283-000A1** Equipment Class[3] 15

Equipment Description 24V NEUTRON MONITORING BATTERY, U1 CHANNEL A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BATD-283-000A1** Equipment Class[3] 15

Equipment Description 24V NEUTRON MONITORING BATTERY, U1 CHANNEL A

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:7/27/2012

George Bongart 7/27/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BATD-283-000B1** Equipment Class[3] 15

Equipment Description 24V NEUTRON MONITORING BATTERY, U1 CHANNEL B

Location: Bldg. U1 CB Floor El. 593 Room, Area 032, Battery Room 1

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Anchorage is by steel embedded plates, supports are welded to base plates. Welds in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BATD-283-000B1** Equipment Class[3] 15

Equipment Description 24V NEUTRON MONITORING BATTERY, U1 CHANNEL B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BATD-283-000B1** Equipment Class[3] 15

Equipment Description 24V NEUTRON MONITORING BATTERY, U1 CHANNEL B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Masonary walls have been qualified as seismically adequate based on SSEL No. 9137.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BATD-283-000B1** Equipment Class[3] 15

Equipment Description 24V NEUTRON MONITORING BATTERY, U1 CHANNEL B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BATD-283-000B1** Equipment Class[3] 15

Equipment Description 24V NEUTRON MONITORING BATTERY, U1 CHANNEL B

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/27/2012

Patrick McCarraher 7/27/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-231-0001A** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 1A

Location: Bldg. U1-CB Floor El. 621 Room, Area 111, Q/R1 Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Cannot see anchorage to determine whether there is any bent, broken, missing or loose hardware. Internal anchorage inaccessible because extensive disassembly is required to enter the cabinet. The cabinet is checked externally for its condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-231-0001A** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 1A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-231-0001A** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 1A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

No potentially adverse seismic conditions were observed.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-231-0001A** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 1A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

Attached lines have adequate flexibility to avoid damage.

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Based on field observations and the comments in this section the equipment is free of potentially adverse seismic interaction effects.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other seismic conditons that could affect the safety functions of the equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-231-0001A** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 1A

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/10/2012

Patrick McCarraher 8/10/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-231-0001B** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 1B

Location: Bldg. U1-CB Floor El. 621 Room, Area 107, 480V Shutdown Board RM 1B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Cannot see anchorage. Internal anchorage inaccessible because extensive disassembly is required to enter the cabinet. The cabinet is checked externally for its condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-231-0001B** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 1B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-231-0001B** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 1B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

No potentially adverse seismic conditions were observed.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

Soft targets are free from impact by nearby equipment and structures.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-231-0001B** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 1B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

Attached lines have adequate flexibility to avoid damage.

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Based on the comments and field observations the equipment is free of potentially adverse seismic interaction effects.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other seismic conditions that could adversely affect the safety functions of the equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-231-0001B** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 1B

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/10/2012

George Bongart 8/10/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-265-0001B** Equipment Class[3] 1

Equipment Description 480V RB VENT BD 1B

Location: Bldg. U1-RB Floor El. 565 Room, Area 071, R1-R4, S-U Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Board anchored to sill channel by a weld in all 4 corners of all 12 bays of panel. 43 of the 48 welds were observed. There were no adverse seismic conditions observed.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-265-0001B** Equipment Class[3] 1

Equipment Description 480V RB VENT BD 1B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-265-0001B** Equipment Class[3] 1

Equipment Description 480V RB VENT BD 1B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-265-0001B** Equipment Class[3] 1

Equipment Description 480V RB VENT BD 1B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-265-0001B** Equipment Class[3] 1

Equipment Description 480V RB VENT BD 1B

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:08/10/2012

Jason Black 08/10/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-268-0001B** Equipment Class[3] 1

Equipment Description 480V RMOV BD 1B

Location: Bldg. U1-CB Floor El. 593 Room, Area 030, Electrical Board Room 1B

Manufacturer, Model, Etc. (optional but recommended) General Electric

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Gaps were determined to be satisfactory according to A-46, the loose bolts have been tightened.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-268-0001B** Equipment Class[3] 1

Equipment Description 480V RMOV BD 1B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

No corrosion other than mild surface oxidation was found.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

No cracks visible in the concrete near the anchors.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

The anchorage has been verified against A-46, the current configuration matches the A-46 documentation, SSEL 9024.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-268-0001B** Equipment Class[3] 1

Equipment Description 480V RMOV BD 1B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

Based on the previous comments the anchorage is free of potentially adverse seismic conditions.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-268-0001B** Equipment Class[3] 1

Equipment Description 480V RMOV BD 1B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Based on field observations the MCC has been judged free of potentially adverse seismic interaction effects.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other seismic conditions that could keep the MCC from performing its safety function.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDBB-268-0001B** Equipment Class[3] 1

Equipment Description 480V RMOV BD 1B

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/10/2012

George Bongart 8/10/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001A** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1A

Location: Bldg. U1-CB Floor El. 617 Room, Area 068, Electric Board Room 1A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001A** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage has been verified against A-46 SEWS Number 9023.
The Current configuration matches the reference material.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001A** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001A** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001A** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1A

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/10/2012

George Bongart 8/10/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001B** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1B

Location: Bldg. U1-CB Floor El. 593 Room, Area 030, Electrical Board Room 1B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001B** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

The anchorage was verified using A-46 documentation. The current configuration has been verified as acceptable. The missing bolts described in A-46, SSEL 19031 have been replaced.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001B** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001B** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001B** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1B

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/10/2012

George Bongart 8/10/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001C** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1C

Location: Bldg. U1-RB Floor El. 565 Room, Area 111, Q/R1 Area

Manufacturer, Model, Etc. (optional but recommended) General Electric

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

The welds were in good condition, and the anchor bolts were not visible.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001C** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1C

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001C** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1C

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001C** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1C

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-BDDD-281-0001C** Equipment Class[3] 1

Equipment Description 250V DC RMOV BOARD 1C

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/10/2012

George Bongart 8/10/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CHGA-248-0001** Equipment Class[3] 16

Equipment Description 250V BATTERY CHARGER 1

Location: Bldg. U1-CB Floor El. 593 Room, Area 062, Battery Board Room 1

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Cannnot see anchorage from the outside. Internal anchorage inaccessible because extensive disassembly is required to enter the cabinet. The cabinet is checked externally for its condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CHGA-248-0001** Equipment Class[3] 16

Equipment Description 250V BATTERY CHARGER 1

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

Welds along bottom of embedded plate is all that is visible.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CHGA-248-0001** Equipment Class[3] 16

Equipment Description 250V BATTERY CHARGER 1

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

No potentially adverse seismic conditions were observed.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CHGA-248-0001** Equipment Class[3] 16

Equipment Description 250V BATTERY CHARGER 1

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CHGA-248-0001** Equipment Class[3] 16

Equipment Description 250V BATTERY CHARGER 1

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/2/2012

George Bongart 8/2/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CHGD-283-0000A1-1** Equipment Class[3] 16

Equipment Description 24V NEUTRON BATTERY CHARGERS A1-1

Location: Bldg. U1-CB Floor El. 593 Room, Area 062, Battery Board Room 1

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CHGD-283-0000A1-1** Equipment Class[3] 16

Equipment Description 24V NEUTRON BATTERY CHARGERS A1-1

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Mounted to plate which is mounted to the support structure. Need to verify that is OK.
UPDATE 8/3/2012: Per Calculation CDQ199920031491 and Drawing 0-45N230 (DCN 61728-022) anchorage is verified as OK with no outstanding issues.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CHGD-283-0000A1-1** Equipment Class[3] 16

Equipment Description 24V NEUTRON BATTERY CHARGERS A1-1

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CHGD-283-0000A1-1** Equipment Class[3] 16

Equipment Description 24V NEUTRON BATTERY CHARGERS A1-1

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CHGD-283-0000A1-1** Equipment Class[3] 16

Equipment Description 24V NEUTRON BATTERY CHARGERS A1-1

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/2/2012

Patrick McCarraher 8/2/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0068** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1A ROOM COOLER

Location: Bldg. U1-RB Floor El. 541 Room, Area 087, SW Quad Room Chiller

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0068** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1A ROOM COOLER

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

Not attached to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0068** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1A ROOM COOLER

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0068** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1A ROOM COOLER

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0068** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1A ROOM COOLER

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/7/2012

George Bongart 8/7/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0069** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1B ROOM COOLER

Location: Bldg. U1-RB Floor El. 541 Room, Area 083, SE Quad

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0069** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1B ROOM COOLER

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0069** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1B ROOM COOLER

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0069** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1B ROOM COOLER

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0069** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1B ROOM COOLER

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/07/2012

Jason Black 08/07/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0070** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1C ROOM COOLER

Location: Bldg. U1-RB Floor El. 541 Room, Area 087, SW Quad Room Chiller

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0070** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1C ROOM COOLER

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

Not attached to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0070** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1C ROOM COOLER

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0070** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1C ROOM COOLER

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0070** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1C ROOM COOLER

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/7/2012

George Bongart 8/7/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0071** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1D ROOM COOLER

Location: Bldg. U1-RB Floor El. 541 Room, Area 083, SE Quad

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0071** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1D ROOM COOLER

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

Coolers mounted to structural steel overhead - no connection to concrete

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0071** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1D ROOM COOLER

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0071** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1D ROOM COOLER

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0071** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 1D ROOM COOLER

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/07/2012

Jason Black 08/07/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0072** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 1A ROOM COOLER

Location: Bldg. U1-RB Floor El. 541 Room, Area 085, NW Quad Room Coolers

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

There is a missing bolt on the one side of the cooler. After review of calculation CDQ1 067 2003 2581 it was determined that the five remaining bolts are adequate to resist the horizontal seismic force.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0072** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 1A ROOM COOLER

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

Not attached to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0072** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 1A ROOM COOLER

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0072** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 1A ROOM COOLER

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-064-0072** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 1A ROOM COOLER

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/7/2012

George Bongart 8/7/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-067-0073** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 1B ROOM COOLER

Location: Bldg. U1-RB Floor El. 519 Room, Area 084, NE Quad to top of EL 541'

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-067-0073** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 1B ROOM COOLER

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

Cooler was bolted to structure steel above the 541' platform and skid was anchored to wall. no sign of concrete cracks.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-067-0073** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 1B ROOM COOLER

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-067-0073** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 1B ROOM COOLER

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-CLR-067-0073** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 1B ROOM COOLER

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:8/07/2012

Jason Black 8/07/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-001-0014** Equipment Class[3] 7

Equipment Description MSIV "A" INBOARD ISOLATION VALVE

Location: Bldg. RB Floor El. 565 Room, Area 127, DRYWELL

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-001-0014** Equipment Class[3]

Equipment Description MSIV "A" INBOARD ISOLATION VALVE

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-001-0014** Equipment Class[3]

Equipment Description MSIV "A" INBOARD ISOLATION VALVE

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-001-0014** Equipment Class[3]

Equipment Description MSIV "A" INBOARD ISOLATION VALVE

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-001-0014** Equipment Class[3]

Equipment Description MSIV "A" INBOARD ISOLATION VALVE

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date: 10/25/2012

Jason Black 10/25/2012

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-023-0040** Equipment Class[3] 8

Equipment Description RHR/RHRSW HX C OUTLET VALVE

Location: Bldg. U1-RB Floor El. 565 Room, Area 071 R1-R4 S-U Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☐ N ☐ U ☐ N/A ☒

Inline Valve with no anchorage to concrete.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-023-0040** Equipment Class[3] 8

Equipment Description RHR/RHRSW HX C OUTLET VALVE

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☐ N ☐ U ☐ N/A ☒

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-023-0040** Equipment Class[3] 8

Equipment Description RHR/RHRSW HX C OUTLET VALVE

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-023-0040** Equipment Class[3] 8

Equipment Description RHR/RHRSW HX C OUTLET VALVE

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-023-0040** Equipment Class[3] 8

Equipment Description RHR/RHRSW HX C OUTLET VALVE

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:08/06/2012

Jason Black 08/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-023-0046** Equipment Class[3] 8

Equipment Description RHR/RHRSW HX B OUTLET VALVE

Location: Bldg. U1-RB Floor El. 565 Room, Area 072, ABOVE CLEAN ROOM

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☐ N ☐ U ☐ N/A ☒

Inline valve not anchored to concrete.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-023-0046** Equipment Class[3] 8

Equipment Description RHR/RHRSW HX B OUTLET VALVE

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☐ N ☐ U ☐ N/A ☒

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-023-0046** Equipment Class[3] 8

Equipment Description RHR/RHRSW HX B OUTLET VALVE

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-023-0046** Equipment Class[3] 8

Equipment Description RHR/RHRSW HX B OUTLET VALVE

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-023-0046** Equipment Class[3] 8

Equipment Description RHR/RHRSW HX B OUTLET VALVE

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:08/06/2012

Jason Black 08/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-063-0008A** Equipment Class[3] 0

Equipment Description SLC INJECTION VALVE A

Location: Bldg. U1-RB Floor El. 639 Room, Area 023, SLC AREA

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☐ N ☐ U ☐ N/A ☒

Valve was in-line, welds connecting valve to pipe in good condition. The flange bolts are also in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-063-0008A** Equipment Class[3] 0

Equipment Description SLC INJECTION VALVE A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

Not attached to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-063-0008A** Equipment Class[3] 0

Equipment Description SLC INJECTION VALVE A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-063-0008A** Equipment Class[3] 0

Equipment Description SLC INJECTION VALVE A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-063-0008A** Equipment Class[3] 0

Equipment Description SLC INJECTION VALVE A

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/26/2012

Patrick McCarraher 7/26/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-063-0008B** Equipment Class[3] 0

Equipment Description SLC INJECTION VALVE B

Location: Bldg. U1-RB Floor El. 639 Room, Area 023, SLC AREA

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☐ N ☐ U ☐ N/A ☒

Valve is in-line, welds connecting valve to piping in good condition. Flange bolts are also in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-063-0008B** Equipment Class[3] 0

Equipment Description SLC INJECTION VALVE B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

Not attached to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-063-0008B** Equipment Class[3] 0

Equipment Description SLC INJECTION VALVE B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-063-0008B** Equipment Class[3] 0

Equipment Description SLC INJECTION VALVE B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-063-0008B** Equipment Class[3] 0

Equipment Description SLC INJECTION VALVE B

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/26/2012

Patrick McCarraher 7/26/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-064-0033** Equipment Class[3] 7

Equipment Description SUPP CHAMBER EXHAUST OUTBD ISOL VLV

Location: Bldg. U1-RB Floor El. 565 Room, Area 073, R1-R3 N-S Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☐ N ☐ U ☐ N/A ☒

Inline valve not anchored to concrete.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-064-0033** Equipment Class[3] 7

Equipment Description SUPP CHAMBER EXHAUST OUTBD ISOL VLV

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☐ N ☐ U ☐ N/A ☒

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-064-0033** Equipment Class[3] 7

Equipment Description SUPP CHAMBER EXHAUST OUTBD ISOL VLV

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-064-0033** Equipment Class[3] 7

Equipment Description SUPP CHAMBER EXHAUST OUTBD ISOL VLV

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-064-0033** Equipment Class[3] 7

Equipment Description SUPP CHAMBER EXHAUST OUTBD ISOL VLV

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/06/2012

Jason Black 08/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-067-0050** Equipment Class[3] 7

Equipment Description EECW NORTH HDR SUPPLY VALVE TO RBCCW HTXS

Location: Bldg. U1-RB Floor El. 593 Room, Area 074, Core Spray Valve Mezzanine

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-067-0050** Equipment Class[3] 7

Equipment Description EECW NORTH HDR SUPPLY VALVE TO RBCCW HTXS

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

Not attached to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-067-0050** Equipment Class[3] 7

Equipment Description EECW NORTH HDR SUPPLY VALVE TO RBCCW HTXS

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-067-0050** Equipment Class[3] 7

Equipment Description EECW NORTH HDR SUPPLY VALVE TO RBCCW HTXS

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-067-0050** Equipment Class[3] 7

Equipment Description EECW NORTH HDR SUPPLY VALVE TO RBCCW HTXS

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/6/2012

George Bongart 8/6/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0017** Equipment Class[3] 8

Equipment Description RCIC SUPPR POOL INBD SUCTION FLOW CONT VALVE

Location: Bldg. U1-RB Floor El. 519 Room, Area 086, NW Quad

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Flange bolts holding valve to piping in good condition. The bolts that are holding the support pole to the ground are also in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0017** Equipment Class[3] 8

Equipment Description RCIC SUPPR POOL INBD SUCTION FLOW CONT VALVE

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0017** Equipment Class[3] 8

Equipment Description RCIC SUPPR POOL INBD SUCTION FLOW CONT VALVE

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0017** Equipment Class[3] 8

Equipment Description RCIC SUPPR POOL INBD SUCTION FLOW CONT VALVE

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0017** Equipment Class[3] 8

Equipment Description RCIC SUPPR POOL INBD SUCTION FLOW CONT VALVE

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: George Bongart Date:8/7/2012

Patrick McCarraher 8/7/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0018** Equipment Class[3] 8

Equipment Description RCIC SUPPR POOL OUTBD SUCTION FLOW CONT VALVE

Location: Bldg. U1-RB Floor El. 519 Room, Area 086, NW Quad

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0018** Equipment Class[3] 8

Equipment Description RCIC SUPPR POOL OUTBD SUCTION FLOW CONT VALVE

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

Small portion of the corner of the grout pad has cracked off. This has been determined to be insignificant.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0018** Equipment Class[3] 8

Equipment Description RCIC SUPPR POOL OUTBD SUCTION FLOW CONT VALVE

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0018** Equipment Class[3] 8

Equipment Description RCIC SUPPR POOL OUTBD SUCTION FLOW CONT VALVE

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0018** Equipment Class[3] 8

Equipment Description RCIC SUPPR POOL OUTBD SUCTION FLOW CONT VALVE

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/7/2012

Patrick McCarraher 8/7/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0019** Equipment Class[3] 8

Equipment Description RCIC CNDS TANK SUCTION VALVE

Location: Bldg. U1-RB Floor El. 519 Room, Area 086, NW Quad

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0019** Equipment Class[3] 8

Equipment Description RCIC CNDS TANK SUCTION VALVE

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0019** Equipment Class[3] 8

Equipment Description RCIC CNDS TANK SUCTION VALVE

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0019** Equipment Class[3] 8

Equipment Description RCIC CNDS TANK SUCTION VALVE

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-071-0019** Equipment Class[3] 8

Equipment Description RCIC CNDS TANK SUCTION VALVE

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: George Bongart Date:8/7/2012

Patrick McCarraher 8/7/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-073-0027** Equipment Class[3] 8

Equipment Description HPCI OUTBOARD SUCTION VALVE

Location: Bldg. U1-RB Floor El. 519 Room, Area 095, SW Quad HPCI Room

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☐ N ☐ U ☐ N/A ☒

Inline valve not anchored to concrete.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-073-0027** Equipment Class[3] 8

Equipment Description HPCI OUTBOARD SUCTION VALVE

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☐ N ☐ U ☐ N/A ☒

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-073-0027** Equipment Class[3] 8

Equipment Description HPCI OUTBOARD SUCTION VALVE

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-073-0027** Equipment Class[3] 8

Equipment Description HPCI OUTBOARD SUCTION VALVE

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-073-0027** Equipment Class[3] 8

Equipment Description HPCI OUTBOARD SUCTION VALVE

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/08/2012

Jason Black 08/08/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-075-0002** Equipment Class[3] 8

Equipment Description CS/PUMP 1A SUCTION ISOLATION VALVE

Location: Bldg. U1-RB Floor El. 519 Room, Area 086, NW Quad

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Flange bolts holding the valve to the pipe are in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-075-0002** Equipment Class[3] 8

Equipment Description CS/PUMP 1A SUCTION ISOLATION VALVE

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

Not attached to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-075-0002** Equipment Class[3] 8

Equipment Description CS/PUMP 1A SUCTION ISOLATION VALVE

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-075-0002** Equipment Class[3] 8

Equipment Description CS/PUMP 1A SUCTION ISOLATION VALVE

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-075-0002** Equipment Class[3] 8

Equipment Description CS/PUMP 1A SUCTION ISOLATION VALVE

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/7/2012

George Bongart 8/7/2012

Browns Ferry Nuclear Plant

Enclosure 1 continued

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-075-0039** Equipment Class[3] 8

Equipment Description CS/PUMP 1D SUCTION ISOLATION VALVE

Location: Bldg. U1-RB Floor El. 519 Room, Area 084, NE Quad to top of 541'

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☐ N ☐ U ☐ N/A ☒

Inline valve attached to piping, and piping is properly secured.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-075-0039** Equipment Class[3] 8

Equipment Description CS/PUMP 1D SUCTION ISOLATION VALVE

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☐ N ☐ U ☐ N/A ☒

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-075-0039** Equipment Class[3] 8

Equipment Description CS/PUMP 1D SUCTION ISOLATION VALVE

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-075-0039** Equipment Class[3] 8

Equipment Description CS/PUMP 1D SUCTION ISOLATION VALVE

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-075-0039** Equipment Class[3] 8

Equipment Description CS/PUMP 1D SUCTION ISOLATION VALVE

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:8/07/2012

Jason Black 8/07/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-078-0062** Equipment Class[3] 8

Equipment Description POOL MAKEUP FROM RHR OUTBOARD VALVE

Location: Bldg. U1-RB Floor El. 639 Room, Area 105, R4-R7 S-U Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

Valve is in-line component and has no anchorage to evaluate

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☐ N ☐ U ☐ N/A ☒

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-078-0062** Equipment Class[3] 8

Equipment Description POOL MAKEUP FROM RHR OUTBOARD VALVE

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☐ N ☐ U ☐ N/A ☒

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-078-0062** Equipment Class[3] 8

Equipment Description POOL MAKEUP FROM RHR OUTBOARD VALVE

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-078-0062** Equipment Class[3] 8

Equipment Description POOL MAKEUP FROM RHR OUTBOARD VALVE

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-078-0062** Equipment Class[3] 8

Equipment Description POOL MAKEUP FROM RHR OUTBOARD VALVE

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/09/2012

Jason Black 08/09/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037C** Equipment Class[3] 7

Equipment Description WEST SCRAM DISCH VOL DRAIN CONT VLV B

Location: Bldg. U1-RB Floor El. 565 Room, Area 073, R1-R3, N-S Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Nothing missing or damaged.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037C** Equipment Class[3] 7

Equipment Description WEST SCRAM DISCH VOL DRAIN CONT VLV B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037C** Equipment Class[3] 7

Equipment Description WEST SCRAM DISCH VOL DRAIN CONT VLV B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037C** Equipment Class[3] 7

Equipment Description WEST SCRAM DISCH VOL DRAIN CONT VLV B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037C** Equipment Class[3] 7

Equipment Description WEST SCRAM DISCH VOL DRAIN CONT VLV B

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:8/06/2012

Jason Black 8/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037D** Equipment Class[3] 7

Equipment Description WEST SCRAM DISCH VOL DRAIN CONT VLV A

Location: Bldg. U1-RB Floor El. 565 Room, Area 073, R1-R3, N-S Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

No hardware missing.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037D** Equipment Class[3] 7

Equipment Description WEST SCRAM DISCH VOL DRAIN CONT VLV A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037D** Equipment Class[3] 7

Equipment Description WEST SCRAM DISCH VOL DRAIN CONT VLV A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037D** Equipment Class[3] 7

Equipment Description WEST SCRAM DISCH VOL DRAIN CONT VLV A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037D** Equipment Class[3] 7

Equipment Description WEST SCRAM DISCH VOL DRAIN CONT VLV A

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:8/06/2012

Jason Black 8/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037E** Equipment Class[3] 7

Equipment Description EAST SCRAM DISCH VOL DRAIN CONT VLV B

Location: Bldg. U1-RB Floor El. 565 Room, Area 070, CRD/SCRAM Dump Valve Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037E** Equipment Class[3] 7

Equipment Description EAST SCRAM DISCH VOL DRAIN CONT VLV B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037E** Equipment Class[3] 7

Equipment Description EAST SCRAM DISCH VOL DRAIN CONT VLV B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037E** Equipment Class[3] 7

Equipment Description EAST SCRAM DISCH VOL DRAIN CONT VLV B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037E** Equipment Class[3] 7

Equipment Description EAST SCRAM DISCH VOL DRAIN CONT VLV B

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/06/2012

Jason Black 08/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037F** Equipment Class[3] 7

Equipment Description EAST SCRAM DISCH VOL DRAIN CONT VLV A

Location: Bldg. U1-RB Floor El. 565 Room, Area 070, CRD/SCRAM Dump Valve Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037F** Equipment Class[3] 7

Equipment Description EAST SCRAM DISCH VOL DRAIN CONT VLV A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037F** Equipment Class[3] 7

Equipment Description EAST SCRAM DISCH VOL DRAIN CONT VLV A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037F** Equipment Class[3] 7

Equipment Description EAST SCRAM DISCH VOL DRAIN CONT VLV A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0037F** Equipment Class[3] 7

Equipment Description EAST SCRAM DISCH VOL DRAIN CONT VLV A

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/06/2012

Jason Black 08/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0083** Equipment Class[3] 7

Equipment Description CRD/SDV VENT VALVE (EAST)

Location: Bldg. U1-RB Floor El. 565 Room, Area 070, CRD/SCRAM Dump Valve Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0083** Equipment Class[3] 7

Equipment Description CRD/SDV VENT VALVE (EAST)

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0083** Equipment Class[3] 7

Equipment Description CRD/SDV VENT VALVE (EAST)

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

Valve Diaphragm is close (2"-3") to steel structure and would likely interact in seismic event. This was noticed at the time of the A-46 walkdown and was noted as an outlier (OSVS 10007-01). Steel structure was modified to provide adequate clearance.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0083** Equipment Class[3] 7

Equipment Description CRD/SDV VENT VALVE (EAST)

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FCV-085-0083** Equipment Class[3] 7

Equipment Description CRD/SDV VENT VALVE (EAST)

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:08/06/2012

Jason Black 08/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FSV-085-0037A** Equipment Class[3] 8

Equipment Description CRD SCRAM DISCH VOL DR & VENT PILOT VLV A

Location: Bldg. U1-RB Floor El. 565 Room, Area 070, CRD/SCRAM Dump Valve Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☐ N ☐ U ☐ N/A ☒

Inline valve not anchored to concrete.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FSV-085-0037A** Equipment Class[3] 8

Equipment Description CRD SCRAM DISCH VOL DR & VENT PILOT VLV A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☐ N ☐ U ☐ N/A ☒

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FSV-085-0037A** Equipment Class[3] 8

Equipment Description CRD SCRAM DISCH VOL DR & VENT PILOT VLV A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FSV-085-0037A** Equipment Class[3] 8

Equipment Description CRD SCRAM DISCH VOL DR & VENT PILOT VLV A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FSV-085-0037A** Equipment Class[3] 8

Equipment Description CRD SCRAM DISCH VOL DR & VENT PILOT VLV A

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/06/2012

Jason Black 08/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FSV-085-0037B** Equipment Class[3] 8

Equipment Description CRD SCRAM DISCH VOL DR & VENT PILOT VLV B

Location: Bldg. U1-RB Floor El. 565 Room, Area 070, CRD/SCRAM Dump Valve Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☐ N ☐ U ☐ N/A ☒

Inline valve not anchored to concrete.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FSV-085-0037B** Equipment Class[3] 8

Equipment Description CRD SCRAM DISCH VOL DR & VENT PILOT VLV B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☐ N ☐ U ☐ N/A ☒

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FSV-085-0037B** Equipment Class[3] 8

Equipment Description CRD SCRAM DISCH VOL DR & VENT PILOT VLV B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FSV-085-0037B** Equipment Class[3] 8

Equipment Description CRD SCRAM DISCH VOL DR & VENT PILOT VLV B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-FSV-085-0037B** Equipment Class[3] 8

Equipment Description CRD SCRAM DISCH VOL DR & VENT PILOT VLV B

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:08/06/2012

Jason Black 08/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-HEX-074-0005** Equipment Class[3] 21

Equipment Description RHR PUMP SEAL HEAT EXCHANGER A

Location: Bldg. U1-RB Floor El. 519 Room, Area 082, SW Quad

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-HEX-074-0005** Equipment Class[3] 21

Equipment Description RHR PUMP SEAL HEAT EXCHANGER A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

Heat Exchanger is bolted to steel structure which is welded to pump skid steel frame. The equipment is not connected to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-HEX-074-0005** Equipment Class[3] 21

Equipment Description RHR PUMP SEAL HEAT EXCHANGER A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-HEX-074-0005** Equipment Class[3] 21

Equipment Description RHR PUMP SEAL HEAT EXCHANGER A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-HEX-074-0005** Equipment Class[3] 21

Equipment Description RHR PUMP SEAL HEAT EXCHANGER A

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:08/07/2012

Jason Black 08/07/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-HEX-074-0016** Equipment Class[3] 21

Equipment Description RHR PUMP SEAL HEAT EXCHANGER C

Location: Bldg. U1-RB Floor El. 519 Room, Area 082, SW Quad

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-HEX-074-0016** Equipment Class[3] 21

Equipment Description RHR PUMP SEAL HEAT EXCHANGER C

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

Heat Exchanger is bolted to steel structure which is welded to pump skid steel frame - no connection to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-HEX-074-0016** Equipment Class[3] 21

Equipment Description RHR PUMP SEAL HEAT EXCHANGER C

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-HEX-074-0016** Equipment Class[3] 21

Equipment Description RHR PUMP SEAL HEAT EXCHANGER C

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-HEX-074-0016** Equipment Class[3] 21

Equipment Description RHR PUMP SEAL HEAT EXCHANGER C

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/07/2012

Jason Black 08/07/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-INVT-256-0001** Equipment Class[3] 16

Equipment Description ECCS ATU INVERTER

Location: Bldg. U1-CB Floor El. 593 Room, Area 030, Electrical Board Room 1B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-INVT-256-0001** Equipment Class[3] 16

Equipment Description ECCS ATU INVERTER

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-INVT-256-0001** Equipment Class[3] 16

Equipment Description ECCS ATU INVERTER

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-INVT-256-0001** Equipment Class[3] 16

Equipment Description ECCS ATU INVERTER

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-INVT-256-0001** Equipment Class[3] 16

Equipment Description ECCS ATU INVERTER

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**Comments** (Additional pages may be added as necessary)

Outlet box by the front of the panel is very close to the inverter. Inverter cabinet is secure. Outlet box is firmly secured to wall and is not considered an adverse seismic condition.

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Evaluated by: George Bongart Date:8/2/2012

Patrick McCarraher 8/2/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-INVT-256-0002** Equipment Class[3] 16

Equipment Description DIV II ECCS ATU INVERTER

Location: Bldg. U1-CB Floor El. 617 Room, Area 068, Electric Board Room 1A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-INVT-256-0002** Equipment Class[3] 16

Equipment Description DIV II ECCS ATU INVERTER

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage has been verified as matching A-46 SEWS Number 19075.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-INVT-256-0002** Equipment Class[3] 16

Equipment Description DIV II ECCS ATU INVERTER

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-INVT-256-0002** Equipment Class[3] 16

Equipment Description DIV II ECCS ATU INVERTER

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-INVT-256-0002** Equipment Class[3] 16

Equipment Description DIV II ECCS ATU INVERTER

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/6/2012

Patrick McCarraher 8/6/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0005A** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

Location: Bldg. U1-RB Floor El. 593 Room, Area 077, Local Panel 25-5 Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0005A** Equipment Class[3] 18

Equipment Description: RX PROT & NSS PNL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per A-46 SSEL 19195 the anchorage matches the documented configuration. All bolts have been accounted for.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0005A** Equipment Class[3] 18

Equipment Description: RX PROT & NSS PNL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0005A** Equipment Class[3] 18

Equipment Description: RX PROT & NSS PNL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0005A** Equipment Class[3] 18

Equipment Description: RX PROT & NSS PNL

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: George Bongart Date:8/6/2012

Patrick McCarraher 8/6/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0005B** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

Location: Bldg. U1-RB Floor El. 593 Room, Area 077, Local Panel 25-5 Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0005B** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per A-46 SSEL 19196 the anchorage matches the drawings.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0005B** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0005B** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0005B** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: George Bongart Date:8/6/2012

Patrick McCarraher 8/6/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0006A** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

Location: Bldg. U1-RB Floor El. 593 Room, Area 076, Local Panel 25-6 Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0006A** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per A-46 SSEL 19198 the current anchorage configuration matches the documentation. The gaps mentioned on the A-46 checklist have been fixed.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0006A** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0006A** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0006A** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/6/2012

Patrick McCarraher 8/6/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0006B** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

Location: Bldg. U1-RB Floor El. 593 Room, Area 076, Local Panel 25-6 Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

## Anchorage

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0006B** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per A-46 SSEL 19792 the current anchorage matches documentation. The gaps mentioned in the A-46 have been fixed.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0006B** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0006B** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0006B** Equipment Class[3] 18

Equipment Description RX PROT & NSS PNL

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/6/2012

George Bongart 8/6/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0007A** Equipment Class[3] 18

Equipment Description RECIRC SYS PNL

Location: Bldg. U1-RB Floor El. 541 Room, Area 075, SW Quad

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0007A** Equipment Class[3] 18

Equipment Description RECIRC SYS PNL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per A-46 SSEL 19230, the current anchorage configuration matches plant documentation.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0007A** Equipment Class[3] 18

Equipment Description RECIRC SYS PNL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0007A** Equipment Class[3] 18

Equipment Description RECIRC SYS PNL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0007A** Equipment Class[3] 18

Equipment Description RECIRC SYS PNL

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: George Bongart Date:8/6/2012

Patrick McCarraher 8/6/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0007B** Equipment Class[3] 18

Equipment Description RECIRC SYS PNL

Location: Bldg. U1-RB Floor El. 541 Room, Area 075, SW Quad

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0007B** Equipment Class[3] 18

Equipment Description RECIRC SYS PNL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per A-46 SSEL 19231, the current anchorage configuration matches plant documentation.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0007B** Equipment Class[3] 18

Equipment Description RECIRC SYS PNL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0007B** Equipment Class[3] 18

Equipment Description RECIRC SYS PNL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LPNL-925-0007B** Equipment Class[3] 18

Equipment Description RECIRC SYS PNL

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: George Bongart Date:8/6/2012

Patrick McCarraher 8/6/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001D** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

Location: Bldg. U1-RB Floor El. 639 Room, Area 100, SLC Area (By Stairs)

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

The indicator hardware holding the indicator to the panel is in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001D** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

No corrosion was found on the indicator.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

The indicator is not attached to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001D** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

Soft targets are free from impact from nearby equipment or structures.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001D** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

The attached lines have adequate flexibility so they will avoid damage in a seismic event.

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other sesimic conditions that would adversely affect this indicator.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001D** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/9/2012

George Bongart 8/9/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001E** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

Location: Bldg. U1-RB Floor El. 639 Room, Area 100, SLC Area (By Stairs)

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

The indicator hardware holding the indicator to the panel is in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001E** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

No corrosion was found on the indicator.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

The indicator is not attached to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001E** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

Based on field observations and responses to the questions in this section the anchorage is free of potentially adverse seismic conditions.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

Soft targets are free from impact from nearby equipment or structures.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001E** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

The attached lines have adequate flexibility so they will avoid damage in a seismic event.

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Based on field observations and the responses made in this section the indicator is free of adverse seismic interaction effects.

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other sesimic conditions that would adversely affect this indicator.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001E** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/9/2012

George Bongart 8/9/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001F** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

Location: Bldg. U1-RB Floor El. 639 Room, Area 100, SLC Area (By Stairs)

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

The indicator hardware holding the indicator to the panel is in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001F** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

No corrosion was found on the indicator.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

The indicator is not attached to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001F** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

Based on field observations and responses to the questions in this section the anchorage is free of potentially adverse seismic conditions.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

Soft targets are free from impact from nearby equipment or structures.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001F** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

The attached lines have adequate flexibility so they will avoid damage in a seismic event.

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Based on field observations and the comments made in this section the indicator is free of adverse seismic interaction effects.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other sesimic conditions that would adversely affect this indicator.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001F** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Patrick McCarraher Date:8/9/2012

George Bongart 8/9/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001G** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

Location: Bldg. U1-RB Floor El. 639 Room, Area 100, SLC Area (By Stairs)

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

The indicator hardware holding the indicator to the panel is in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001G** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

No corrosion was found on the indicator.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

The indicator is not attached to concrete.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001G** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

Based on field observations and responses to the questions in this section the anchorage is free of potentially adverse seismic conditions.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

Soft targets are free from impact from nearby equipment or structures.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001G** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

The attached lines have adequate flexibility so they will avoid damage in a seismic event.

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Based on field observations and the comments made in this section the indicator is free of adverse seismic interaction effects.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other sesimic conditions that would adversly affect this indicator.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LS-078-0001G** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LEVEL LOW LOW ISOL

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Patrick McCarraher Date:8/9/2012

George Bongart 8/9/2012

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LT-064-0159A** Equipment Class[3] 18

Equipment Description SUPP CHAMBER WATER LVL

Location: Bldg. U1-RB Floor El. 519 Room, Area 081, Torus between NE and NW Quad

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

Anchorage verified per drawing 1-47W600-211

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Bolted to plate connected to unistrut that is bolted to wall.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LT-064-0159A** Equipment Class[3] 18

Equipment Description SUPP CHAMBER WATER LVL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LT-064-0159A** Equipment Class[3] 18

Equipment Description SUPP CHAMBER WATER LVL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LT-064-0159A** Equipment Class[3] 18

Equipment Description SUPP CHAMBER WATER LVL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LT-064-0159A** Equipment Class[3] 18

Equipment Description SUPP CHAMBER WATER LVL

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:8/07/2012

Jason Black 8/07/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LT-064-0159B** Equipment Class[3] 18

Equipment Description SUPP CHAMBER WATER LVL

Location: Bldg. U1-RB Floor El. 519 Room, Area 088, U1 Torus

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LT-064-0159B** Equipment Class[3] 18

Equipment Description SUPP CHAMBER WATER LVL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per A-46 SSEL No. 13102 the current anchorage configuration meets the description described in the referenced SSEL.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LT-064-0159B** Equipment Class[3] 18

Equipment Description SUPP CHAMBER WATER LVL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LT-064-0159B** Equipment Class[3] 18

Equipment Description SUPP CHAMBER WATER LVL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-LT-064-0159B** Equipment Class[3] 18

Equipment Description SUPP CHAMBER WATER LVL

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/7/2012

George Bongart 8/7/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PCV-001-0018** Equipment Class[3] 7

Equipment Description MAIN STEAM LINE B RELIEF VALVE

Location: Bldg. RB Floor El. 583 Room, Area 129, DRYWELL

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PCV-001-0018** Equipment Class[3] 7

Equipment Description MAIN STEAM LINE B RELIEF VALVE

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PCV-001-0018** Equipment Class[3] 7

Equipment Description MAIN STEAM LINE B RELIEF VALVE

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PCV-001-0018** Equipment Class[3] 7

Equipment Description MAIN STEAM LINE B RELIEF VALVE

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PCV-001-0018** Equipment Class[3] 7

Equipment Description MAIN STEAM LINE B RELIEF VALVE

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:10/25/2012

Jason Black 10/25/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PCV-001-0030** Equipment Class[3] 7

Equipment Description MAIN STEAM LINE C RELIEF VALVE

Location: Bldg. RB Floor El. 583 Room, Area 129 DRY WELL

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PCV-001-0030** Equipment Class[3] 7

Equipment Description MAIN STEAM LINE C RELIEF VALVE

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PCV-001-0030** Equipment Class[3] 7

Equipment Description MAIN STEAM LINE C RELIEF VALVE

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PCV-001-0030** Equipment Class[3] 7

Equipment Description MAIN STEAM LINE C RELIEF VALVE

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PCV-001-0030** Equipment Class[3] 7

Equipment Description MAIN STEAM LINE C RELIEF VALVE

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:10/25/2012

Jason Black 10/25/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-063-0006A** Equipment Class[3] 5

Equipment Description STANDBY LIQUID CONTAINMENT PMP 1A

Location: Bldg. U1-RB Floor El. 639 Room, Area 023, SLC Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-063-0006A** Equipment Class[3] 5

Equipment Description STANDBY LIQUID CONTAINMENT PMP 1A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Current configuration matches that of drawing 41N803

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-063-0006A** Equipment Class[3] 5

Equipment Description STANDBY LIQUID CONTAINMENT PMP 1A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-063-0006A** Equipment Class[3] 5

Equipment Description STANDBY LIQUID CONTAINMENT PMP 1A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-063-0006A** Equipment Class[3] 5

Equipment Description STANDBY LIQUID CONTAINMENT PMP 1A

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/26/2012

Patrick McCarraher 7/26/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-063-0006B** Equipment Class[3] 5

Equipment Description STANDBY LIQUID CONTAINMENT PMP 1B

Location: Bldg. U1-RB Floor El. 639 Room, Area 023, SLC Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-063-0006B** Equipment Class[3] 5

Equipment Description STANDBY LIQUID CONTAINMENT PMP 1B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

Heavy buildup of an unknown substance on a bolt/nut by the drain hose on the back left side. The buildup has been painted over. If the buildup is determined to be benign, this question could turn to "YES".

UPDATE 07/26/2012:
See Comment Section.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Current configuration meets plant documentation, drawing 41N803..

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-063-0006B** Equipment Class[3] 5

Equipment Description STANDBY LIQUID CONTAINMENT PMP 1B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

Nitrogen canister strapped at the top. The bottom has a brace in the back that surrounds the canister half way.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-063-0006B** Equipment Class[3] 5

Equipment Description STANDBY LIQUID CONTAINMENT PMP 1B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-063-0006B** Equipment Class[3] 5

Equipment Description STANDBY LIQUID CONTAINMENT PMP 1B

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**Comments** (Additional pages may be added as necessary)

UPDATE: 7/26/2012
Site engineering has determined that the pump is seismically adequate with only five bolts engaged. This piece of equipment has therefore been deemed seismically adequate.

Anchorage Question 3 regarding mild corrosion has been changed from "UNKNOWN" to "YES".

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Evaluated by: Patrick McCarraher Date:7/26/2012

George Bongart 7/26/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-073-0029** Equipment Class[3] 5

Equipment Description HPCI BOOSTER PUMP

Location: Bldg. U1-RB Floor El. 519 Room, Area 095, SW Quad HPCI ROOM

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Anchorage checked for booster pump and for skid. Booster pump is bolted to steel frame that is welded to skid; pump skid is bolted to concrete. All anchorage observed to be in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-073-0029** Equipment Class[3] 5

Equipment Description HPCI BOOSTER PUMP

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PMP-073-0029** Equipment Class[3] 5

Equipment Description HPCI BOOSTER PUMP

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0008** Equipment Class[3] 20

Equipment Description GEN & AUX POWER PANEL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

Attached lines have adequate flexibility to avoid damage.

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Panel is one (1) rugged unit with multiple bay doors.

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other seismic conditions that could affect the safety functions of the equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0008** Equipment Class[3] 20

Equipment Description GEN & AUX POWER PANEL

**Comments** (Additional pages may be added as necessary)

Bay 4 has no cage around the light fixture.

Evaluated by: Patrick McCarraher Date:8/14/2012

George Bongart 8/14/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0009** Equipment Class[3] 20

Equipment Description I&C BUS 1A

Location: Bldg. U1-CB Floor El. 617 Room, Area 120, Main Control Room

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Anchorage is in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0009** Equipment Class[3] 20

Equipment Description I&C BUS 1A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

Carpet covering the concrete in the area prevents a visual inspection of the floor.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0009** Equipment Class[3] 20

Equipment Description I&C BUS 1A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

Based on the comments herein and from field observations the anchorage is free of potentially adverse seismic conditions.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0009** Equipment Class[3] 20

Equipment Description I&C BUS 1A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Panel consists of six (6) cabinets that are all adequately bolted together which will prevent the cabinets from interacting with each other in a seismic event.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0009** Equipment Class[3] 20

Equipment Description I&C BUS 1A

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**Comments** (Additional pages may be added as necessary)

Cabinet 6 has no cage around the light fixutre.

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Evaluated by: George Bongart Date:08/14/2012

Patrick McCarraher 08/14/2012

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0016** Equipment Class[3] 20

Equipment Description PROT SYS OPS & TEST PNL

Location: Bldg. U1-CB Floor El. 593 Room, Area 063, Aux Instrument Room

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

Anchorage verified per A-46 SEWS (SSEL # 19121)

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Panel welded to channel which is anchored to the concrete. Anchorage of channel to concrete is not visible; see drawing 47E605-3

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0016** Equipment Class[3] 20

Equipment Description PROT SYS OPS & TEST PNL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per the SEWS documentation taken from calculation CDQ1-009 2003-2571, the cabinet is welded to the channels by four (2) partial plug welds, two (2) in the back and two (2) in the front. Welds were observed to be in accordance with the SEWS documentation and judged seismically adequate.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0016** Equipment Class[3] 20

Equipment Description PROT SYS OPS & TEST PNL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Equipment located inside properly latched panel. Block wall seismically qualified per drawing 1-41N1201-1. Fluorescent light fixtures in area do not have straps or cages to keep bulbs from impacting equipment during seismic event. The potential for impact from bulbs has been deemed credible but not significant based on 1) relays are on internal panels, not on the face of panels 2) from discussion w/ engineering, all relays in panels are highly rugged 3) the panels are rigid and rugged. Therefore there is no potential adverse seismic interaction.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0016** Equipment Class[3] 20

Equipment Description PROT SYS OPS & TEST PNL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Panel consists of one (1) bay that is bolted to adjacent panels which will prevent the bays from interacting with each other in a seismic event.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0016** Equipment Class[3] 20

Equipment Description PROT SYS OPS & TEST PNL

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0017** Equipment Class[3] 20

Equipment Description PROT LGC CHL B AUX PNL

Location: Bldg. U1-CB Floor El. 593 Room, Area 063, AUX INST ROOM

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

Anchorage verified per A-46 SEWS (SSEL # 19122)

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Cabinet is welded to the channel which is anchored to the concrete. Anchorage of the channel to the concrete is not visible; see drawing 48E605-3

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0017** Equipment Class[3] 20

Equipment Description PROT LGC CHL B AUX PNL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per the SEWS documentation taken from calculation CDQ1-009-2003-2571, the cabinet is welded to the channels by four (4) partial plug welds, two (2) in the front and two (2) in the back. Welds were observed to be in accordance with the SEWS documentation and judged seismically adequate.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0017** Equipment Class[3] 20

Equipment Description PROT LGC CHL B AUX PNL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Equipment located inside properly latched panel. Block wall seismically qualified per drawing 1-41N1201-1. Fluorescent light fixtures in area do not have straps or cages to keep bulbs from impacting equipment during seismic event. The potential for impact from bulbs has been deemed credible but not significant based on 1) relays are on internal panels, not on the face of panels 2) from discussion w/ engineering, all relays in panels are highly rugged 3) the panels are rigid and rugged. Therefore there is no potentially adverse seismic condition.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0017** Equipment Class[3] 20

Equipment Description PROT LGC CHL B AUX PNL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Panel consists of multiple bays that are bolted together and are bolted to the adjacent panels. This provides lateral restraint which will prohibit the bays from interacting with adjacent bays during a seismic event.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0017** Equipment Class[3] 20

Equipment Description PROT LGC CHL B AUX PNL

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0032** Equipment Class[3] 20

Equipment Description RHR, CS & HPCI (CH A) PNL

Location: Bldg. U1-CB Floor El. 593 Room, Area 063, AUX INSTRUMENT ROOM

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

Anchorage verified per A-46 SEWS (SSEL # 19128).

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Cabinet is welded to the channel which is anchored to concrete. Anchorage of channel to concrete is not visible; see drawing 47E605-3.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0032** Equipment Class[3] 20

Equipment Description RHR, CS & HPCI (CH A) PNL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per the SEWS documentation taken from calculation CDQ1-009-2003-2571, the cabinet is welded to the channels by three (3) fillet welds (1", 1-1/2", and 1/2") in the back and three (3) fillet welds in the front (1-1/2", 1-1/2", and 2" welds) along with one (1) plug weld. Welds were observed to be in accordance with the SEWS documentation and judged seismically adequate.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0032** Equipment Class[3] 20

Equipment Description RHR, CS & HPCI (CH A) PNL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Equipment located inside properly latched panel. Block wall seismically qualified per drawing 1-41N1201-1. Fluorescent light fixtures in area do not have straps or cages to keep bulbs from impacting equipment during seismic event. The potential for impact from bulbs has been deemed credible but not significant based on 1) relays are on internal panels, not on the face of panels 2) from discussion w/ engineering, all relays in panels are highly rugged 3) the panels are rigid and rugged. Therefore there is no potentially adverse seismic condition.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0032** Equipment Class[3] 20

Equipment Description RHR, CS & HPCI (CH A) PNL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Panel consists of multiple bays that are bolted together and are bolted to the adjacent panels. This provides lateral restraint which will prohibit the bays from interacting with adjacent bays during a seismic event.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0032** Equipment Class[3] 20

Equipment Description RHR, CS & HPCI (CH A) PNL

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

Status: Y ☐ N ☒ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0036A** Equipment Class[3] 20

Equipment Description AUX INST RM TO 480V BD 3D

Location: Bldg. U1-CB Floor El. 593 Room, Area 063, AUX INSTRUMENT ROOM

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

Anchorage verified per A-46 SEWS (SSEL #19228)

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Cabinet is welded to a channel which is embedded in the concrete.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0036A** Equipment Class[3] 20

Equipment Description AUX INST RM TO 480V BD 3D

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per the SEWS documentation, the cabinet is welded to the channels by two (2) fillet welds (one 3", one 1-1/2") in the back and two fillet welds in the front (2-1/2" and 1-1/4" welds). Welds were observed to be in accordance with the SEWS documentation and judged seismically adequate.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0036A** Equipment Class[3] 20

Equipment Description AUX INST RM TO 480V BD 3D

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☐ N ☒ U ☐ N/A ☐

Interior light missing cage for bulb.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Equipment located inside properly latched panel. Block wall seismically qualified per drawing 1-41N1201-1. Fluorescent light fixtures in area do not have straps or cages to keep bulbs from impacting equipment during seismic event. The potential for impact from bulbs has been deemed credible but not significant based on 1) relays are on internal panels, not on the face of panels 2) from discussion w/ engineering, all relays in panels are highly rugged 3) the panels are rigid and rugged. Therefore there is no potentially adverse seismic condition.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0036A** Equipment Class[3] 20

Equipment Description AUX INST RM TO 480V BD 3D

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☐ N☒ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0036A** Equipment Class[3] 20

Equipment Description AUX INST RM TO 480V BD 3D

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0039** Equipment Class[3] 20

Equipment Description HPCI RELAY AUX PNL

Location: Bldg. U1-CB Floor El. 593 Room, Area 063, Aux Instrument Room

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

Anchorage verified per A-46 SEWS (SSEL # 19130).

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Cabinet is welded to the channel which is embedded in the concrete.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0039** Equipment Class[3] 20

Equipment Description HPCI RELAY AUX PNL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

Mild oxidation on weld in front of panel. It would be preferential to grind the weld and paint it to stop further oxidation but the condition is seismically adequate. BFN engineering has been notified of existing condition of weld.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per the SEWS documentation taken from calculation CDQ1-009-2003-2591, the cabinet is welded to the channels by one (1) 1/2" fillet weld in the back and two (2) fillet welds in the front (1/2" and 1-1/2" welds). Welds were observed to be in accordance with the SEWS documentation and judged seismically adequate.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0039** Equipment Class[3] 20

Equipment Description HPCI RELAY AUX PNL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Equipment located inside properly latched panel. Block wall seismically qualified per drawing 1-41N1201-1. Fluorescent light fixtures in area do not have straps or cages to keep bulbs from impacting equipment during seismic event. The potential for impact from bulbs has been deemed credible but not significant based on 1) relays are on internal panels, not on the face of panels 2) from discussion w/ engineering, all relays in panels are highly rugged 3) the panels are rigid and rugged. Therefore there is no potentially adverse seismic equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0039** Equipment Class[3] 20

Equipment Description HPCI RELAY AUX PNL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Cabinet consts of one (1) bay and is bolted to both adjacent panels which will prevent the bays from interacting with each other in a seismic event.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0039** Equipment Class[3] 20

Equipment Description HPCI RELAY AUX PNL

**Comments** (Additional pages may be added as necessary)

Outlier: Gap between 1-PNLA-009-0039 and 1-PNLA-009-0082 has been resolved.

Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0042** Equipment Class[3] 20

Equipment Description MISV (INBOARD) DVI I PNL

Location: Bldg. U1-CB Floor El. 593 Room, Area 063, Aux Instrument Room

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

Anchorage verified per A-46 SEWS (SSEL #19131).

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Cabinet is welded to the channel which is embedded in the concrete.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0042** Equipment Class[3] 20

Equipment Description MISV (INBOARD) DVI I PNL

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Per the SEWS documentation taken from calculation CDQ1-009-2003-2571, the cabinet is welded to the channels by two (2) 1" fillet welds on the left side of the panel and one (1) 1" fillet weld in the front. Welds were observed to be in accordance with the SEWS documentation and judged seismically adequate.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0042** Equipment Class[3] 20

Equipment Description MISV (INBOARD) DVI I PNL

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Equipment located inside properly latched panel. Block wall seismically qualified per drawing 1-41N1201-1. Fluorescent light fixtures in area do not have straps or cages to keep bulbs from impacting equipment during seismic event. The potential for impact from bulbs has been deemed credible but not significant based on 1) relays are on internal panels, not on the face of panels 2) from discussion w/ engineering, all relays in panels are highly rugged 3) the panels are rigid and rugged. Therefore there is no potentially adverse seismic condition.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0042** Equipment Class[3] 20

Equipment Description MISV (INBOARD) DVI I PNL

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Cabinet consists of one (1) bay that is bolted to the adjacent panels which will prohitib the bays from interacting with each other during a seismic event.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0042** Equipment Class[3] 20

Equipment Description MISV (INBOARD) DVI I PNL

**Comments** (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0082** Equipment Class[3] 20

Equipment Description ECCS DIV 2 TRIP UNIT CABINET

Location: Bldg. U1-CB Floor El. 593 Room, Area 063, AuxInstrument Room

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0082** Equipment Class[3] 20

Equipment Description ECCS DIV 2 TRIP UNIT CABINET

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0082** Equipment Class[3] 20

Equipment Description ECCS DIV 2 TRIP UNIT CABINET

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Consult area walk-by 063 for block walls and lighting.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0082** Equipment Class[3] 20

Equipment Description ECCS DIV 2 TRIP UNIT CABINET

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Panel consists of one (1) bay and is bolted to the only adjacent panel which will prevent them from interacting during a seismic event.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0082** Equipment Class[3] 20

Equipment Description ECCS DIV 2 TRIP UNIT CABINET

**Comments** (Additional pages may be added as necessary)

Internal fan for panel is properly bolted to door.

Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0086** Equipment Class[3] 20

Equipment Description 9-86 RPS B2 TRIP UNIT CABINET

Location: Bldg. U1-CB Floor El. 593 Room, Area 063, Aux Instrument Room

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0086** Equipment Class[3] 20

Equipment Description 9-86 RPS B2 TRIP UNIT CABINET

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0086** Equipment Class[3] 20

Equipment Description 9-86 RPS B2 TRIP UNIT CABINET

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Block wall seismically qualified per drawing 1-41N1201-1. Fluorescent light fixtures in area do not have straps or cages to keep bulbs from impacting equipment during seismic event. The potential for impact from bulbs has been deemed credible but not significant based on 1) relays are on internal panels, not on the face of panels 2) from discussion w/ engineering, all relays in panels are highly rugged 3) the panels are rigid and rugged. Therefore there is no potentially adverse seismic condition.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0086** Equipment Class[3] 20

Equipment Description 9-86 RPS B2 TRIP UNIT CABINET

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Cabinets are bolted to adjacent panels on the exterior of the panels which will prohibit the bays from interacting with each other during a seismic event.

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-PNLA-009-0086** Equipment Class[3] 20

Equipment Description 9-86 RPS B2 TRIP UNIT CABINET

**Comments** (Additional pages may be added as necessary)

Fan for panel is properly mounted to inside of panel door. Outlier: RPS panels 009-83, 009-84, 009-85, 009-86 all have been connected using bracket on top.

Evaluated by: Jeff Lawrence Date:08/02/2012

Jason Black 08/02/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0161B** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV I

Location: Bldg. U1-RB Floor El. 519 Room, Area 125, U1 Torus

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Welds are in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0161B** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV I

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

The probe is not attached to concrete only to the torus

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0161B** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV I

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

The anchorage is free of potentially adverse seismic conditions.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0161B** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV I

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

There are no adverse seismic interaction effects.

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other adverse seismic conditions that could adversely affect the safety functions of the equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0161B** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV I

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/14/2012

George Bongart 8/14/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0161C** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV I

Location: Bldg. U1-RB Floor El. 519 Room, Area 125, U1 Torus

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Welds are in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0161C** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV I

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

The probe is not attached to concrete, only to the torus

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0161C** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV I

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

The anchorage is free of potentially adverse seismic conditions.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0161C** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV I

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

There are no adverse seismic interaction effects.

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other adverse seismic conditions that could adversely affect the safety functions of the equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0161C** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV I

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/14/2012

George Bongart 8/14/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162A** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

Location: Bldg. U1-RB Floor El. 519 Room, Area 125, U1 Torus

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Welds are in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162A** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

The probe is not attached to concrete, only to the torus

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162A** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

The anchorage is free of potentially adverse seismic conditions.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162A** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

There are no adverse seismic interaction effects.

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other adverse seismic conditions that could adversely affect the safety functions of the equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162A** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/14/2012

George Bongart 8/14/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162B** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

Location: Bldg. U1-RB Floor El. 519 Room, Area 125, U1 Torus

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Welds are in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162B** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

The probe is not attached to concrete, only to the torus

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162B** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

The anchorage is free of potentially adverse seismic conditions.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162B** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

There are no adverse seismic interaction effects.

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other adverse seismic conditions that could adversely affect the safety functions of the equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162B** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/14/2012

George Bongart 8/14/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162C** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

Location: Bldg. U1-RB Floor El. 519 Room, Area 125, U1 Torus

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Welds are in good condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162C** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☐ N ☐ U ☐ N/A ☒

The probe is not attached to concrete, only to the torus

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162C** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

The anchorage is free of potentially adverse seismic conditions.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162C** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

There are no adverse seismic interaction effects.

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

There are no other adverse seismic conditions that could adversely affect the safety functions of the equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TE-064-0162C** Equipment Class[3] 19

Equipment Description SUPP POOL BULK TEMP DIV II

**Comments** (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:8/14/2012

George Bongart 8/14/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-063-0583** Equipment Class[3] 21

Equipment Description STANDBY LIQ CONT TANK

Location: Bldg. U1-RB Floor El. 639 Room, Area 023, SLC Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

First bolt to the left of 1-DRV-063-0537 is not fully engaged. Two bolts to the right of 1-DRV-063-0537 are not fully engaged to different degrees. The first bolt to the right has minor engagement issues while the second bolt has only been engaged slightly above half way. Looks as though the second bolt to the right has been welded and painted over. **SEE COMMENT SECTION**

UPDATE 7/27/2012: SEE COMMENT SECTION FOR RESOLUTION. RESPONSE CHANGED FROM "NO" TO "YES".

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-063-0583** Equipment Class[3] 21

Equipment Description STANDBY LIQ CONT TANK

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Current anchorage configuration matches that of documentation on 41N803.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-063-0583** Equipment Class[3] 21

Equipment Description STANDBY LIQ CONT TANK

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

If the noted problems in question 2 are determined to be OK then this question can be answered as "YES".
After discussing with site engineering this SLC tank's anchorage has been determined to be FREE of potentially adverse seismic conditions. SEE COMMENT SECTION FOR RESOLUTION.

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-063-0583** Equipment Class[3] 21

Equipment Description STANDBY LIQ CONT TANK

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-063-0583** Equipment Class[3] 21

Equipment Description STANDBY LIQ CONT TANK

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**Comments** (Additional pages may be added as necessary)

UPDATE 7/27/2012:
The loose engagement of the above mentioned bolts have already been noted and evaluated. According to calculation BWPC1153 the bolts are adequate to secure the tank to the foundation. Note that the loose engagement was in regards to nuts A, K, and L in calculation BWPC1153. The missing nut "A" has been replaced.

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Evaluated by: George Bongart Date:7/26/2012

Patrick McCarraher 7/26/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-085-0901** Equipment Class[3] 21

Equipment Description CRD/SCRAM INSTRUMENT VOLUME (WEST)

Location: Bldg. U1-RB Floor El. 565 Room, Area 073, R1-R3, N-S Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-085-0901** Equipment Class[3] 21

Equipment Description CRD/SCRAM INSTRUMENT VOLUME (WEST)

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage verified per calculation CDQ1-085-2004-0153

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-085-0901** Equipment Class[3] 21

Equipment Description CRD/SCRAM INSTRUMENT VOLUME (WEST)

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-085-0901** Equipment Class[3] 21

Equipment Description CRD/SCRAM INSTRUMENT VOLUME (WEST)

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-085-0901** Equipment Class[3] 21

Equipment Description CRD/SCRAM INSTRUMENT VOLUME (WEST)

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:8/06/2012

Jason Black 8/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-085-0902** Equipment Class[3] 21

Equipment Description CRD/SCRAM INSTRUMENT VOLUME (EAST)

Location: Bldg. U1-RB Floor El. 565 Room, Area 070, CRD/SCRAM Dump Valve Area

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-085-0902** Equipment Class[3] 21

Equipment Description CRD/SCRAM INSTRUMENT VOLUME (EAST)

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage verified per Calculation CDQ1 085 2004 0153

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-085-0902** Equipment Class[3] 21

Equipment Description CRD/SCRAM INSTRUMENT VOLUME (EAST)

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-085-0902** Equipment Class[3] 21

Equipment Description CRD/SCRAM INSTRUMENT VOLUME (EAST)

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-TNK-085-0902** Equipment Class[3] 21

Equipment Description CRD/SCRAM INSTRUMENT VOLUME (EAST)

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: Jeff Lawrence Date:08/06/2012

Jason Black 08/06/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-231-TS1A** Equipment Class[3] 4

Equipment Description 4KV/480V TRANSFORMER TS1A

Location: Bldg. U1-RB Floor El. 621 Room, Area 024, Transformer Area, T/R1

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-231-TS1A** Equipment Class[3] 4

Equipment Description 4KV/480V TRANSFORMER TS1A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-231-TS1A** Equipment Class[3] 4

Equipment Description 4KV/480V TRANSFORMER TS1A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Masonry wall is in good condition with no visible cracks. This masonary wall has been qualified as seismically adequate per IEB80-11, refer to drawing 0-45N328 wall 31.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-231-TS1A** Equipment Class[3] 4

Equipment Description 4KV/480V TRANSFORMER TS1A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-231-TS1A** Equipment Class[3] 4

Equipment Description 4KV/480V TRANSFORMER TS1A

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/30/2012

Patrick McCarraher 7/30/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-231-TS1B** Equipment Class[3] 4

Equipment Description 4KV/480V TRANSFORMER TS1B

Location: Bldg. U1-RB Floor El. 621 Room, Area 024, Transformer Area, T/R1

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-231-TS1B** Equipment Class[3] 4

Equipment Description 4KV/480V TRANSFORMER TS1B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-231-TS1B** Equipment Class[3] 4

Equipment Description 4KV/480V TRANSFORMER TS1B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Masonry wall is in good condition with no visible cracks. This masonary wall has been qualified as seismically adequate per IEB 80-11 program. Refer to drawing 0-41N1201-1, wall 31.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-231-TS1B** Equipment Class[3] 4

Equipment Description 4KV/480V TRANSFORMER TS1B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-231-TS1B** Equipment Class[3] 4

Equipment Description 4KV/480V TRANSFORMER TS1B

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**Comments** (Additional pages may be added as necessary)

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Evaluated by: George Bongart Date:7/26/2012

Patrick McCarraher 7/26/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001A1** Equipment Class[3] 4

Equipment Description 480-120/208 VAC TRANSFORMER FOR I&C BUS A

Location: Bldg. U1-CB Floor El. 617 Room, Area 068, Electric Board Room 1A

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001A1** Equipment Class[3] 4

Equipment Description 480-120/208 VAC TRANSFORMER FOR I&C BUS A

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage configuration has been verified per A-46 SEWS (SSEL #19040).

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001A1** Equipment Class[3] 4

Equipment Description 480-120/208 VAC TRANSFORMER FOR I&C BUS A

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

All soft targets are enclosed.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001A1** Equipment Class[3] 4

Equipment Description 480-120/208 VAC TRANSFORMER FOR I&C BUS A

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001A1** Equipment Class[3] 4

Equipment Description 480-120/208 VAC TRANSFORMER FOR I&C BUS A

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/26/2012

Patrick McCarraher 7/26/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001B1** Equipment Class[3] 4

Equipment Description 480-120/208 VAC TRANSFORMER FOR I&C BUS B

Location: Bldg. U1-CB Floor El. 593 Room, Area 030, Electrical Board Room 1B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☒ N ☐

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001B1** Equipment Class[3] 4

Equipment Description 480-120/208 VAC TRANSFORMER FOR I&C BUS B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☒ N ☐ U ☐ N/A ☐

Anchorage verified per A-46 SEWS (SSEL #19049).

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001B1** Equipment Class[3] 4

Equipment Description 480-120/208 VAC TRANSFORMER FOR I&C BUS B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

No soft targets.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Overhead lighting may fall during a seismic event, but this will not cause a potentially adverse seismic condition.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001B1** Equipment Class[3] 4

Equipment Description 480-120/208 VAC TRANSFORMER FOR I&C BUS B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001B1** Equipment Class[3] 4

Equipment Description 480-120/208 VAC TRANSFORMER FOR I&C BUS B

**Comments** (Additional pages may be added as necessary)

Evaluated by: Avinash Chunduri Date:7/26/2012

Jeff lawrence 7/26/2012

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001B2** Equipment Class[3] 4

Equipment Description 120/208-120/208 VAC TRANSFORMER FOR I&C BUS B

Location: Bldg. U1-CB Floor El. 593 Room, Area 030, Electrical Board Room 1B

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001B2** Equipment Class[3] 4

Equipment Description 120/208-120/208 VAC TRANSFORMER FOR I&C BUS B

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001B2** Equipment Class[3] 4

Equipment Description 120/208-120/208 VAC TRANSFORMER FOR I&C BUS B

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

Soft targets encased

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Overhead lights may fall during a seismic event, but this will not cause a potentially adverse seismic event.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001B2** Equipment Class[3] 4

Equipment Description 120/208-120/208 VAC TRANSFORMER FOR I&C BUS B

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-1-XFA-253-0001B2** Equipment Class[3] 4

Equipment Description 120/208-120/208 VAC TRANSFORMER FOR I&C BUS B

**Comments** (Additional pages may be added as necessary)

Evaluated by: Avinash Chunduri Date:07/26/2012

Jeff Lawrence 07/26/2012

Status: Y ☒ N ☐ U ☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-XSW-248-0001** Equipment Class[3] 14

Equipment Description 250V MAIN BATTERY CHARGER OUTPUT XFR SW 1

Location: Bldg. U1-CB Floor El. 593 Room, Area 062, Battery Board Room 1

Manufacturer, Model, Etc. (optional but recommended)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

**Anchorage**

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y ☐ N ☒

2. Is the anchorage free of bent, broken, missing or loose hardware? Y ☒ N ☐ U ☐ N/A ☐

Internal anchorage hidden by cabinet, cannot see anything from the outside. Internal anchorage inaccessible because extensive dissassembly is required to enter the cabinet. Cabinet checked externally for its condition.

[3]Enter the equipment class name from Appendix B, Classes of Equipment.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-XSW-248-0001** Equipment Class[3] 14

Equipment Description 250V MAIN BATTERY CHARGER OUTPUT XFR SW 1

**Anchorage (Continued)**

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y ☒ N ☐ U ☐ N/A ☐

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y ☒ N ☐ U ☐ N/A ☐

From observation of surrounding concrete walls there are no cracks present near the anchorage of this equipment.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-XSW-248-0001** Equipment Class[3] 14

Equipment Description 250V MAIN BATTERY CHARGER OUTPUT XFR SW 1

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y ☒ N ☐ U ☐

**Interaction Effects**

7. Are soft targets free from impact by nearby equipment or structures? Y ☒ N ☐ U ☐ N/A ☐

Breakers on the front of the panel have protection from being flipped in a seismic event.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y ☒ N ☐ U ☐ N/A ☐

Masonry walls are seismically qualified by IEB 80-11. Refer to drawing 41N201-1 walls 9 & 10.

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-XSW-248-0001** Equipment Class[3] 14

Equipment Description 250V MAIN BATTERY CHARGER OUTPUT XFR SW 1

**Interaction Effects (Continued)**

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

---

**Other Adverse Conditions**

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐

**Seismic Walkdown Checklist (SWC)**

Equipment ID No. **BFN-0-XSW-248-0001** Equipment Class[3] 14

Equipment Description 250V MAIN BATTERY CHARGER OUTPUT XFR SW 1

**Comments** (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:8/2/2012

Patrick McCarraher 8/2/2012

## Appendix F: AWCs

The following signatures are provided for the engineers responsible for the Area Walk-By Checklists in Browns Ferry Unit 1.

| Name | Signature | Date |
|---|---|---|
| Jason Black | Jason Black | 11-15-12 |
| George Bongart | George Bongart | 11-15-12 |
| Avinash Chunduri | | 11-15-12 |
| James Edgar | | 11-15-12 |
| Jeffrey Lawrence | | 11-15-12 |
| Patrick McCarraher | Patrick McCarraher | 11-15-12 |
| Nicholas Pressler | | 11-15-12 |

**0-CB-EL593-032** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 593 Area[4] Room 460, Main Battery Room 1

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 593 Area[4]Room 460, Main Battery Room 1

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 593 Area[4]Room 460, Main Battery Room 1

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 593 Area[4] Room 460, Main Battery Room 1

**Comments** (Additional pages may be added as necessary)

Masonry wall by sink has two minor chips.
Chip #1: Located 4 rows up, on the corner, minor chip determined to be not significant.
Chip #2: Located 8 rows up, on the corner, minor chip determined to be not significant.

Equipment associated with this AWC:

BFN-1-BATD-283-000A1
BFN-1-BATD-283-000B1
BFN-0-BATA-248-0001

Evaluated by:George Bongart Date:7/27/2012

Patrick McCarraher 7/27/2012

Status: Y ☒ N ☐ U ☐

**0-CB-EL595-069**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 595 Area[4] Roof Chiller A & B Area

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

Corroded bolts on pump B1 for Chiller B. Corrosion appears to minor and of no significance.

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**0-CB-EL595-069**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 595 Area[4] Roof Chiller A & B Area

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☐ N ☐ U ☐ N/A ☒

The chillers are located outside with nothing running overhead.

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

Sensitive components are protected by covers that are weather resistant.

**0-CB-EL595-069**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 595 Area[4] Roof Chiller A & B Area

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

Orange tarp located in the corner by Chiller A could be picked up by the wind, two bags of trashed insulation were found under Chiller B, and an unsecured ladder (laying down longways, against wall) were found in the area. All these items were determined to be insignificant.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**0-CB-EL595-069**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 595 Area[4] Roof Chiller A & B Area

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-0-CHR-031-2200
BFN-0-CHR-031-2100

Evaluated by:George Bongart Date:8/3/2012

Patrick McCarraher 8/3/2012

Status: Y ☒ N ☐ U ☐

**0-CB-EL617-120**

**Area Walk-By Checklist (AWC):**

Location: Bldg. CB Floor El. 617 Area[4] UNIT 1 & 2 MAIN CONTROL ROOM

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**0-CB-EL617-120**

**Area Walk-By Checklist (AWC):**

Location: Bldg. CB Floor El. 617 Area[4] UNIT 1 & 2 MAIN CONTROL ROOM

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**0-CB-EL617-120**

**Area Walk-By Checklist (AWC):**

Location: Bldg. CB Floor El. 617 Area[4] UNIT 1 & 2 MAIN CONTROL ROOM

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

There was a vacuum present in the Unit 1 area that was not secured; this is not a problem as all sensitive equipment is enclosed in the panels.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**0-CB-EL617-120**

**Area Walk-By Checklist (AWC):**

Location: Bldg. CB Floor El. 617 Area[4] UNIT 1 & 2 MAIN CONTROL ROOM

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:
BFN-1-PNLA-009-0003A
BFN-1-PNLA-009-0005
BFN-1-PNLA-009-0008
BFN-1-PNLA-009-0009
BFN-2-PNLA-009-0003A
BFN-2-PNLA-009-0005
BFN-2-PNLA-009-0006
BFN-2-PNLA-009-0009

Evaluated by:George Bongart Date:8/14/2012

Patrick McCarraher 8/14/2012

Status: Y ☒ N ☐ U ☐

**0-DG-EL565-006**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 565 Area[4] Electrical Tunnel

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**0-DG-EL565-006**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 565 Area[4] Electrical Tunnel

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**0-DG-EL565-006**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 565 Area[4] Electrical Tunnel

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

UPDATE 8/2/2012:
Temporary power cords and drain plug box in the vicinity of these items can slide. However these items are considered to be insignificant due to the elevation of the equipment. Power supply cart not chained, also considered to be insignificant.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**0-DG-EL565-006**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 565 Area[4] Electrical Tunnel

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:
BFN-0-CHGB-254-0000AA
BFN-0-CHGB-254-0000CA
BFN-0-CHGB-254-0000DA

UPDATE 8/2/2012:
Site was revisted for equipment BFN-0-CHGB-254-0000AA. Updates are noted as above.

Evaluated by:George Bongart Date:7/19/2012

Patrick McCarraher 7/19/2012

Status: Y ☒ N ☐ U ☐

**0-DG-EL583-115**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 583 Area[4] Diesel Aux Board Room

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**0-DG-EL583-115**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 583 Area[4] Diesel Aux Board Room

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**0-DG-EL583-115**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 583 Area[4] Diesel Aux Board Room

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**0-DG-EL583-115**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 583 Area[4] Diesel Aux Board Room

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:
BFN-0-BDBB-219-0000A
BFN-0-BDBB-219-0000B
BFN-0-XFA-219-TDA
BFN-0-XFA-219-TDB

Evaluated by:Jeff Lawrence Date:8/13/2012

Jason Black 8/13/2012

**0-YD-EL565-034** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. INTAKE Floor El. 565 Area[4] RHRSW Room A

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. INTAKE Floor El. 565 Area[4]RHRSW Room A

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. INTAKE Floor El. 565 Area[4]RHRSW Room A

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. INTAKE Floor El. 565 Area[4] RHRSW Room A

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-0-STN-067-0925

Evaluated by:Patrick McCarraher Date:7/27/2012

George Bongart 7/27/2012

Status: Y ☒ N ☐ U ☐

**1-CB-EL593-030**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 593 Area[4] U1 Electrical Board Room 1B

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-CB-EL593-030**

**Area Walk-By Checklist (AWC)**

Location: Bldg.CB Floor El. 593 Area[4]U1 Electrical Board Room 1B

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-CB-EL593-030**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 593 Area[4]U1 Electrical Board Room 1B

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-CB-EL593-030**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 593 Area[4] U1 Electrical Board Room 1B

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-XFA-253-0001B2
BFN-1-XFA-253-0001B1
BFN-1-BDDD-281-0001B
BFN-1-BDBB-268-0001B
BFN-0-BDAA-211-000B
BFN-1-INVT-256-0001

Evaluated by: Patrick McCarraher Date: 8/10/2012

George Bongart 8/10/2012

Status: Y ☒ N ☐ U ☐

**1-CB-EL593-063**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 593 Area[4] AUX INSTRUMENT ROOM

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-CB-EL593-063**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 593 Area[4]AUX INSTRUMENT ROOM

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

Block wall seismically qualified per drawing 1-41N1201-1. Fluorescent light fixtures in area do not have straps or cages to keep bulbs from impacting equipment during seismic event. The potential for impact from bulbs has been deemed credible but not significant based on 1) relays are on internal panels, not the face of panels 2) from discussion w/ engineering, all relays in panels are highly rugged 3) the panels are rigid and rugged.

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

Guard for fire protection nozzle against panel 009-17 Fire protection system in this room is CO2, not high pressure water suppression system; therefore, does not present a spray hazard..

**1-CB-EL593-063**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 593 Area[4]AUX INSTRUMENT ROOM

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

EOI box not anchored to anything. Box has low center of gravity and is heavy enough to not scoot very far in a seismic event. Also, EOI box is located far enough away from panels to not present an impact concern to the panels in the area.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-CB-EL593-063**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 593 Area[4] AUX INSTRUMENT ROOM

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:
BFN-1-PNLA-009-0016
BFN-1-PNLA-009-0017
BFN-1-PNLA-009-0032
BFN-1-PNLA-009-0039
BFN-1-PNLA-009-0036A
BFN-1-PNLA-009-0042
BFN-1-PNLA-009-0063
BFN-1-PNLA-009-0082
BFN-1-PNLA-009-0086

Evaluated by:Jeff Lawrence Date:8/2/2012

Jason Black 8/2/2012

**1-CB-EL617-068** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 617 Area[4] U1 ELECTRIC BOARD ROOM 1A

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 617 Area[4]U1 ELECTRIC BOARD ROOM 1A

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 617 Area[4]U1 ELECTRIC BOARD ROOM 1A

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 617 Area[4] U1 ELECTRIC BOARD ROOM 1A

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-PNLA-248-0000A
BFN-1-PNLA-248-0000B
BFN-0-CHGA-248-0000A
BFN-0-CHGA-248-0000B
BFN-0-BDAA-211-000A
BFN-1-INVT-256-0002
BFN-1-XFA-253-0001A1
BFN-1-BDDD-281-0001A

UPDATE 8/6/2012
The site was revisted to walkdown equipment BFN-0-CHGA-248-0000A and BFN-0-CHGA-248-0000B; no adverse conditions found.

Evaluated by:George Bongart Date: 8/3/2012

Patrick McCarraher 8/3/2012

**1-CB-EL621-107** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 621 Area[4] 480V SHUTDOWN BOARD RM 1B

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

Anchorage of the equipment in the area is free of significant degraded conditions.

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 621 Area[4]480V SHUTDOWN BOARD RM 1B

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

The area is free of potentially adverse seismic spatial interactions with other equipment in the area.

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 621 Area[4]480V SHUTDOWN BOARD RM 1B

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

There were no portable equipment or temporary installations in the area that could cause an adverse condition.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 621 Area[4] 480V SHUTDOWN BOARD RM 1B

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-BDBB-231-0001B

Evaluated by:George Bongart Date:8/10/2012

Patrick McCarraher 8/10/2012

Status: Y ☒ N ☐ U ☐

**1-CB-EL621-111**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 621 Area[4] 480V SHUTDOWN BOARD ROOM 1A

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-CB-EL621-111**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 621 Area[4] 480V SHUTDOWN BOARD ROOM 1A

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-CB-EL621-111**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 621 Area[4] 480V SHUTDOWN BOARD ROOM 1A

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-CB-EL621-111**

**Area Walk-By Checklist (AWC)**

Location: Bldg. CB Floor El. 621 Area[4] 480V SHUTDOWN BOARD ROOM 1A

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-BDBB-231-0001A

Evaluated by: Patrick McCarraher Date: 8/10/2012

George Bongart 8/10/2012

Status: Y ☒ N ☐ U ☐

**1-DG-EL565-059**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 565 Area[4] U1 Diesel Generator Room B

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-DG-EL565-059**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 565 Area[4] U1 Diesel Generator Room B

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-DG-EL565-059**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 565 Area[4] U1 Diesel Generator Room B

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-DG-EL565-059**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 565 Area[4] U1 Diesel Generator Room B

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-0-FCO-030-0066B
BFN-0-BDGG-254-0000B
BFN-0-BATB-254-0000B
BFN-0-GEN-082-000B

Evaluated by: Patrick McCarraher Date: 8/02/2012

George Bongart 8/02/2012

Status: Y ☒ N ☐ U ☐

**1-DG-EL565-065**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 565 Area[4] DG ROOM A

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-DG-EL565-065**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 565 Area[4]DG ROOM A

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

Ductwork in area is braced and supported well

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

Lighting in area is screw in type

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-DG-EL565-065**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 565 Area[4]DG ROOM A

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

Diesel Generator oil/fuel tanks are clear of impact hazards.

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

Ladders hung properly. fire extinguisher on floor not properly secured to wall. workers present in area at time of walkdown, 1 ladder not properly hung on wall but is not in close proximity to safety shutdown equipment.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-DG-EL565-065**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 565 Area[4] DG ROOM A

**Comments** (Additional pages may be added as necessary)

Equipment included in this AWC:

BFN-0-BATB-254-0000A

BFN-0-BDGG-254-0000A

BFN-0-FCO-030-0064B

BFN-0-GEN-082-000B

Evaluated by:Jeff Lawrence Date:8/2/2012

Jason Black 8/2/2012

**1-DG-EL583-060** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 583 Area[4] DIESEL GENERATOR FAN ROOM B

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 583 Area[4]DIESEL GENERATOR FAN ROOM B

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 583 Area[4]DIESEL GENERATOR FAN ROOM B

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 583 Area[4] DIESEL GENERATOR FAN ROOM B

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-0-FCO-030-0066A
BFN-0-FAN-030-0067
BFN-0-FAN-030-0066

Evaluated by:Patrick McCarraher Date:8/2/2012

George Bongart 8/2/2012

Status: Y ☒ N ☐ U ☐

**1-DG-EL583-064**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 583 Area[4] FAN ROOM A

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-DG-EL583-064**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 583 Area[4]FAN ROOM A

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-DG-EL583-064**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 583 Area[4]FAN ROOM A

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-DG-EL583-064**

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 583 Area[4] FAN ROOM A

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-0-FAN-030-0064

BFN-0-FAN-030-0065

BFN-0-FCO-030-0064A

Evaluated by:Jeff Lawrence Date:8/2/2012

Jason Black 8/2/2012

**1-DG-EL593-062** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 593 Area[4] BATTERY BOARD ROOM 1

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 593 Area[4]BATTERY BOARD ROOM 1

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 593 Area[4]BATTERY BOARD ROOM 1

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

Unsecure fire extinguisher sitting on floor. This could move during a seismic event. It has been determined that the fire extinguisher cannot do significant damage to sensitive equipment in the area.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. DG Floor El. 593 Area[4] BATTERY BOARD ROOM 1

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-0-BDDD-280-0001
BFN-1-CHGA-248-0001
BFN-1-XSW-248-0001
BFN-1-CHGD-283-0000A1-1

Evaluated by:George Bongart Date:8/2/2012

Patrick McCarraher 8/2/2012

Status: Y ☒ N ☐ U ☐

**1-RB-EL519-081**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4] Torus between NE and NW Quads

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-RB-EL519-081**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4]Torus between NE and NW Quads

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-RB-EL519-081**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4]Torus between NE and NW Quads

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-RB-EL519-081**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4] Torus between NE and NW Quads

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:
BFN-1-LT-064-0159A

Evaluated by:Jeff Lawrence Date:8/07/2012

Jason Black 8/07/2012

Status: Y ☒ N ☐ U ☐

**1-RB-EL519-082**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519' Area[4] SW Quad

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-RB-EL519-082**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519' Area[4]SW Quad

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

Ductwork is located directly above RHR pumps in the area and they are well supported by steel supports

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-RB-EL519-082**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519' Area[4]SW Quad

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

Lead shields on wheels in area are locked at wheels.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-RB-EL519-082**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519' Area[4] SW Quad

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:
1-PMP-074-0005
1-PMP-074-0016
1-HEX-074-0005
1-HEX-074-0016

Evaluated by:Jeff Lawrence Date:08/07/2012

Jason Black 08/07/2012

Status: Y ☒ N ☐ U ☐

**1-RB-EL519-084**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4] NE QUAD TO TOP OF 541

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

Bolt missing on 1-PMP-077-0017B remaining bolts provide adequate anchorage for pump.

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-RB-EL519-084**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4]NE QUAD TO TOP OF 541

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

HVAC ducts supported, no raceways

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-RB-EL519-084**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4]NE QUAD TO TOP OF 541

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

Shielding on equipment, tubing taped on floor, no adverse conditions

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-RB-EL519-084**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4] NE QUAD TO TOP OF 541

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:
BFN-1-CLR-067-0920
BFN-1-PMP-075-0042
BFN-1-PMP-075-0033
BFN-1-FCV-075-0039

Evaluated by:Jeff Lawrence Date:8/07/2012

Jason Black 8/07/2012

**1-RB-EL519-086** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4] NW QUAD

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4]NW QUAD

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4] NW QUAD

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4] NW QUAD

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-PMP-075-0014
BFN-1-PMP-075-0005
BFN-1-FCV-075-0002
BFN-1-FCV-071-0017
BFN-1-FCV-071-0018
BFN-1-FCV-071-0019

Evaluated by:Patrick McCarraher Date:8/7/2012

George Bongart 8/7/2012

**1-RB-EL519-088** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4] U1 TORUS

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4]U1 TORUS

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4]U1 TORUS

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 519 Area[4] U1 TORUS

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-LT-064-159B

Evaluated by:Patrick McCarraher Date:8/07/2012

George Bongart 8/07/2012

Status: Y ☒ N ☐ U ☐

**1-RB-EL519-095**

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 519 Area[4] SW QUAD HPCI ROOM

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

Mild surface oxidation on wall mounted pipe support anchorage for steam trap outlet on system 073, located near 1-JBOX-073-0978. No material loss on anchorage was observed so oxidation is not considered an adverse condition. Also, a minor gap was observed on anchor bolt for nearby pipe support on system 073. Bolt appears to be installed at a slight angle creating the gap; bolt is judged to be engaged and performing properly. No adverse condition noted.

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-RB-EL519-095**

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 519 Area[4]SW QUAD HPCI ROOM

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

There are no cable raceways in the area. HVAC ducting supported approximately 8' by trapeeze hangers. No adverse conditions observed.

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

A FCV on system 073 (no tag visible from floor, located near 1-DRV-073-0568) was observed to be close to HPCI steam turbine pipe line. Clearance between valve and pipe insulation is approximately 5". Both systems are Seismic Category 1 and are analayzed piping; as such proximity concerns are addressed accordingly in the piping analysis.

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-RB-EL519-095**

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 519 Area[4]SW QUAD HPCI ROOM

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-RB-EL519-095**

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 519 Area[4] SW QUAD HPCI ROOM

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:
BFN-1-PMP-073-0029
BFN-1-PMP-073-0054
BFN-1-FCV-073-0027

Evaluated by:Jeff Lawrence Date:8/8/2012

Jason Black 8/8/2012

**1-RB-EL519-125** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 519 Area[4] U1 TORUS

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 519 Area[4]U1 TORUS

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☐ N ☐ U ☐ N/A ☒

No HVAC ducting or cable trays in the area.

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 519 Area[4]U1 TORUS

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

No portable equipment in the area.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 519 Area[4] U1 TORUS

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-TE-064-0161B
BFN-1-TE-064-0161C
BFN-1-TE-064-0162A
BFN-1-TE-064-0162B
BFN-1-TE-064-0162C

Evaluated by:George Bongart Date:8/14/2012

Patrick McCarraher 8/14/2012

**1-RB-EL541-075** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541 Area[4] U1 SW QUAD

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541 Area[4] U1 SW QUAD

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541 Area[4] U1 SW QUAD

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541 Area[4] U1 SW QUAD

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-LPNL-925-0007A
BFN-1-LPNL-925-0007B

Evaluated by:George Bongart Date:8/6/2012

Patrick McCarraher 8/6/2012

Status: Y ☒ N ☐ U ☐

**1-RB-EL541-083**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541' Area[4] SE Quad

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-RB-EL541-083**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541' Area[4]SE Quad

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-RB-EL541-083**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541' Area[4] SE Quad

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-RB-EL541-083**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541' Area[4] SE Quad

**Comments** (Additional pages may be added as necessary)

This area walk-by covers the following equipment:
1-CLR-064-0069
1-CLR-064-0071

Evaluated by:Jeff Lawrence Date:08/07/2012

Jason Black 08/07/2012

**1-RB-EL541-085** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541 Area[4] NW QUAD, ROOM COOLERS

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541 Area[4]NW QUAD, ROOM COOLERS

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541 Area[4]NW QUAD, ROOM COOLERS

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541 Area[4] NW QUAD, ROOM COOLERS

**Comments** (Additional pages may be added as necessary)

The ladder leading up the coolers is missing the bolts connecting it to the grating underneath. This has been determined to be insignificant because the ladder has several other bolted spots that secure it firmly to the wall.

Equipment associated with this AWC:

BFN-1-CLR-064-0072

Evaluated by:Patrick McCarraher Date:8/7/2012

George Bongart 8/7/2012

**1-RB-EL541-087** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541 Area[4] SW QUAD, ROOM CHILLERS

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541 Area[4]SW QUAD, ROOM CHILLERS

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541 Area[4]SW QUAD, ROOM CHILLERS

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 541 Area[4] SW QUAD, ROOM CHILLERS

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-CLR-064-0070
BFN-1-CLR-064-0068

Evaluated by:George Bongart Date:8/7/2012

Patrick McCarraher 8/7/2012

Status: Y ☒ N ☐ U ☐

**1-RB-EL565-070**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4] CRD/SCRAM Dump Valve Area

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

Bent bolt on pipe support anchored to floor for system drains system for a 2" drain line. Not a seismic concern. Panel 1-LPNL-925-0313 is missing an anchor bolt on one of its two legs. The panel is bolted to the wall and the floor and mounted rigidly to the wall - the missing bolt does not present a seismic concern.

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-RB-EL565-070**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4]CRD/SCRAM Dump Valve Area

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-RB-EL565-070**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4]CRD/SCRAM Dump Valve Area

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

Gas cylinders and cabinets anchored properly. EOI box resting on non-skid mat.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-RB-EL565-070**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4] CRD/SCRAM Dump Valve Area

**Comments** (Additional pages may be added as necessary)

Equipment included in this AWC:
BFN-1-FCV-085-0083
BFN-1-TNK-085-0902
BFN-1-FSV-085-0037A
BFN-1-FSV-085-0037B
BFN-1-FCV-085-0037E
BFN-1-FCV-085-0037F

Evaluated by:Jeff Lawrence Date:08/06/12

Jason Black 08/06/12

Status: Y ☒ N ☐ U ☐

**1-RB-EL565-071**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4] R1-R4, S-U Area

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

Gap exists btw floor and channel of RBCCW pump seal LKG transfer pump skid. pump is >50lb, <100lbs, minimum water volume, doesn't create a potential adverse seismic condition.

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-RB-EL565-071**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4]R1-R4, S-U Area

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-RB-EL565-071**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4]R1-R4, S-U Area

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

Scaffolding planks left in area by steps near T-R1, temp. shielding on some wheels are locked.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

Crane in area that has hook lowered from spool by 12' and is 10' from ground. Crane will not adversely interact with safety rated equipment.

**1-RB-EL565-071**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4] R1-R4, S-U Area

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:
BFN-1-FCV-023-0040
BFN-1-BDBB-268-0001B

Evaluated by:Jeff Lawrence Date:8/06/2012

Jason Black 8/06/2012

Status: Y ☐ N ☒ U ☐

**1-RB-EL565-072**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4] Above Clean Room

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-RB-EL565-072**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4]Above Clean Room

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☐ N ☒ U ☐ N/A ☐

Nozzle head close to pipe. No shield around head. above 1-MVOP-074-0067 and pipe hanger 1-47E491-878-4-390.

**1-RB-EL565-072**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4]Above Clean Room

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-RB-EL565-072**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4] Above Clean Room

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:
BFN-1-FCV-023-0046

Evaluated by:Jeff Lawrence Date:8/06/2012

Jason Black 8/06/2012

Status: Y ☒ N ☐ U ☐

**1-RB-EL565-073**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4] R1-R3, N-S Area

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-RB-EL565-073**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4]R1-R3, N-S Area

| | |
|---|---|
| 3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y ☒ N ☐ U ☐ N/A ☐ |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y ☒ N ☐ U ☐ N/A ☐ |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y ☒ N ☐ U ☐ N/A ☐ |

**1-RB-EL565-073**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4]R1-R3, N-S Area

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

Ladder properly tied off, cart properly chained.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-RB-EL565-073**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 565 Area[4] R1-R3, N-S Area

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:
BFN-1-TNK-085-0901
BFN-1-FCV-085-0037D
BFN-1-FCV-064-0033
BFN-1-FCV-085-0037C

Evaluated by:Jeff Lawrence Date:8/06/2012

Jason Black 8/06/2012

**1-RB-EL565-127** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 565 Area[4] DRYWELL

**Instructions for Completing Checklist**

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Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 565 Area[4]DRYWELL

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 565 Area[4]DRYWELL

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 565 Area[4] DRYWELL

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-FCV-001-0014

Evaluated by:Jeff Lawrence Date:10/18/2012

Jason Black 10/18/2012

**1-RB-EL583-129** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 583 Area[4] DRYWELL

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 583 Area[4]DRYWELL

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 583 Area[4]DRYWELL

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC):**

Location: Bldg. RB Floor El. 583 Area[4] DRYWELL

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-PCV-001-0018
BFN-1-PCV-001-0030

Evaluated by:Jeff Lawrence Date:10/18/2012

Jason Black 10/18/2012

**1-RB-EL593-074** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 593 Area[4] Core Spray Valve Mezzanine

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 593 Area[4]Core Spray Valve Mezzanine

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 593 Area[4]Core Spray Valve Mezzanine

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 593 Area[4] Core Spray Valve Mezzanine

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-FCV-067-0050

Evaluated by:Patrick McCarraher Date:8/6/2012

George Bongart 8/6/2012

**1-RB-EL593-076** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 593 Area[4] PANEL 25-6 AREA

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 593 Area[4]PANEL 25-6 AREA

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 593 Area[4]PANEL 25-6 AREA

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

Eye wash station is chained and locked. The step ladder is chained and locked and one leg is inside a channel where it cannot jump out.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 593 Area[4] PANEL 25-6 AREA

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-PNLA-925-0006A
BFN-1-PNLA-925-0006B

Evaluated by:George Bongart Date:8/6/2012

Patrick McCarraher 8/6/2012

**1-RB-EL593-077** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 593 Area[4] LOCAL PANEL 25-5 AREA

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 593 Area[4]LOCAL PANEL 25-5 AREA

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 593 Area[4]LOCAL PANEL 25-5 AREA

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 593 Area[4] LOCAL PANEL 25-5 AREA

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-LPNL-925-0005A
BFN-1-LPNL-925-0005B

Evaluated by: Patrick McCarraher Date: 8/06/2012

George Bongart 8/06/2012

**1-RB-EL621-024** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 621 Area[4] Transformer Area, T/R1

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 621 Area[4]Transformer Area, T/R1

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 621 Area[4]Transformer Area, T/R1

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

Portable fire extingusher with wheels present, located approximately eight feet away from the transformer. Seated on a pad to prevent movement with no chain. Does not pose a problem to the transformer

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 621 Area[4] Transformer Area, T/R1

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-XFA-231-TS1A
BFN-1-XFA-231-TS1B

Evaluated by:George Bongart Date:7/26/2012

Patrick McCarraher 7/26/2012

**1-CB-EL621-078** Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 621 Area[4] 078, Electric Board Room 1A - Battery Room A

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments. Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 621 Area[4] 078, Electric Board Room 1A - Battery Room A

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 621 Area[4] 078, Electric Board Room 1A - Battery Room A

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 621 Area[4] 078, Electric Board Room 1A - Battery Room A

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-0-BATA-248-0000A

Evaluated by:George Bongart Date:8/6/2012

Patrick McCarraher 8/6/2012

Status: Y ☒ N ☐ U ☐

**1-RB-EL621-079**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 621 Area[4] Electric Board Room 1A – Battery Room B

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-RB-EL621-079**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 621 Area4 ELECTRIC BOARD ROOM 1A – BATTERY ROOM B

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-RB-EL621-079**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 621 Area4 ELECTRIC BOARD ROOM 1A – BATTERY ROOM B

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-RB-EL621-079**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 621 Area4 ELECTRIC BOARD ROOM 1A – BATTERY ROOM B

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-0-BATA-248-0000B

Evaluated by: Patrick McCarraher Date: 8/06/2012

George Bongart 8/06/2012

**1-RB-EL639-023**

Status: Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 639 Area[4] SLC AREA

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 639 Area[4]SLC AREA

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

All equipment in the area is elevated a minimum of approximately 6 inches.

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 639 Area[4]SLC AREA

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

Step ladder present, it is chained to a support of another tank BFN-1-TNK-063-0582.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 639 Area[4] SLC AREA

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-1-TNK-063-0583
BFN-1-FCV-063-0008A
BFN-1-FCV-063-0008B
BFN-1-PMP-063-0006A
BFN-1-PMP-063-0006B

Evaluated by:George Bongart Date:7/26/2012

Patrick McCarraher 7/26/2012

Status: Y ☒ N ☐ U ☐

**1-RB-EL639-100**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 639 Area[4] SLC AREA (BY STAIRS)

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-RB-EL639-100**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 639 Area[4]SLC AREA (BY STAIRS)

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

HVAC ducting in the area is free of potentially adverse seismic conditioins.

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-RB-EL639-100**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 639 Area[4]SLC AREA (BY STAIRS)

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-RB-EL639-100**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 639 Area[4] SLC AREA (BY STAIRS)

**Comments** (Additional pages may be added as necessary)

Equipment covered under this Area Walk-by Checklist:
BFN-1-LS-078-0001D
BFN-1-LS-078-0001E
BFN-1-LS-078-0001F
BFN-1-LS-078-0001G

Evaluated by:Patrick McCarraher Date:8/9/2012

George Bongart 8/9/2012

Status: Y ☒ N ☐ U ☐

**1-RB-EL639-105**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 639 Area[4] R4-R7, S-U Area

**Instructions for Completing Checklist**

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y ☒ N ☐ U ☐ N/A ☐

No adverse seismic conditions were observed with anchorage in area.

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

No degradation was observed.

[4]If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of about 35 feet from the SWEL item.

**1-RB-EL639-105**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 639 Area[4]R4-R7, S-U Area

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y ☒ N ☐ U ☐ N/A ☐

Low fill conditions of cables in trays. No adverse seismic conditions observed.

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y ☒ N ☐ U ☐ N/A ☐

No ceiling tiles are present in the area and lighting is secure.

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y ☒ N ☐ U ☐ N/A ☐

**1-RB-EL639-105**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 639 Area[4]R4-R7, S-U Area

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y ☒ N ☐ U ☐ N/A ☐

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y ☒ N ☐ U ☐ N/A ☐

No poor housekeeping practices were observed in area.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y ☒ N ☐ U ☐

**1-RB-EL639-105**

**Area Walk-By Checklist (AWC)**

Location: Bldg. RB Floor El. 639 Area[4] R4-R7, S-U Area

**Comments** (Additional pages may be added as necessary)

Equipment associated with this AWC:
1-FCV-078-0062

Evaluated by:Jeff Lawrence Date:08/09/2012

Jason Black 08/09/2012

# Appendix G: Peer Review Report

NTTF 2.3/BFN-01
November 26, 2012

**PEER REVIEW REPORT**
**Browns Ferry Nuclear Plant Unit 1**
**Near-Term Task Force 2.3 Seismic Walkdowns**

A peer review of the Tennessee Valley Authority (TVA) Browns Ferry Nuclear Plant - Unit 1 (BFN1) seismic walkdowns for Near-Term Task Force (NTTF) Recommendation 2.3: Seismic was performed in accordance with the U.S. Nuclear Regulatory Commission (NRC) 50.54 (f) letter (listed as Reference 2 in the BFN1 Seismic Response Report) and the guidance provided in Electric Power Research Institute (EPRI) Report 1025286 (listed as Reference 3 in the Seismic Response Report).

A highly interactive process was utilized by the peer review team. This involved ongoing open dialog consultation with project participants throughout training, equipment selection, equipment walkdowns, area walkbys, review of potentially adverse seismic conditions and corrective action program documentation, and final report preparation.

In summary, the peer review team is in full concurrence with the final results as documented in the BFN1 Seismic Response Report, and we conclude that all of the project requirements have been met and adequately documented. The following sections summarize the details of the peer review process for the major elements of the project.

TRAINING

The walkdown teams are described in Section 3 of the BFN1 Seismic Response Report. All of the walkdown team members successfully completed the EPRI developed training on NTTF Recommendation 2.3 - Seismic Walkdown Guidance. All of the individual team members meet the qualification requirements as defined in EPRI Report 1025286. In addition to this training, per our recommendations, all walkdown team members received additional training. The purpose of the additional training was two-fold. First, additional technical training was provided on equipment anchorage and seismic interaction evaluations, as an enhancement to the anchorage and interaction issues overview provided in the EPRI training course. Second, background information was provided on the site-specific seismic programs implemented by TVA at BFN. This provided team members with historical background on the scope and findings of prior seismic reviews, as well as to deepened their understanding of the seismic licensing basis for BFN.

Many seismic programs were implemented at BFN starting from about 1985, and these programs addressed all structures, systems, and components. The seismic licensing basis for mechanical and electrical equipment components is a combination of Unresolved Safety Issue (USI) A-46, rigorous analysis, and IEEE 344 qualification packages. The additional plant-specific training material provided for the team members included the following:

SELECTION OF ITEMS ON THE SEISMIC WALKDOWN EQUIPMENT LIST (SWEL)

The completed SWEL as described in Section 4 of the BFN1 Seismic Response Report is in full compliance with the guidelines in EPRI Report 1025286.

The SWEL 1 represents a diverse sample of selected equipment and support systems required to perform the five safety functions of reactor reactivity control, reactor coolant pressure control, reactor coolant inventory control, decay heat removal, and containment function. The SWEL 1 includes, as appropriate, various types of systems, classes of equipment, and equipment environments. The SWEL 1 includes new and replacement equipment.

The BFN IPEEE review was performed using the EPRI margins methodology and that success path based SSEL associated with BFN1 was used as a starting point for SWEL 1. No seismic PRA has been performed for BFN1 so no information regarding dominant contributors to seismic risk was available. SWEL 1 was compared to the Core Damage Frequency (CDF) and Large Early Release Frequency (LERF) Rankings, and any shared equipment was noted.

The SWEL 2 represents selected equipment related to the spent fuel pool system, including those that could cause rapid drain-down of the pool and accidental exposures of the fuel assemblies.

There was considerable interaction between the peer review team, the walkdown team, and the equipment selection team during the course of the evaluation. The final SWEL, as documented in Section 4 and in Appendix D of the BFN1 Seismic Response Report, is a culmination of this interaction. Examples of peer review comments that were adequately addressed and resolved during the SWEL development process include the following:

- During the development of the preliminary SWEL, minor clarification to the designation of certain equipment classes were made, such as those of equipment classes 07 & 08. Furthermore, it was noted that there were no equipment items selected inside the Drywell. As such, representative MSIV's and MSRV's are added to the final SWEL.
- To enhance reactivity control and coolant inventory control safety functions, selected components of the Standby Liquid Control (SLC) and the HPCI & RCIC systems were added to the SWEL.
- In order to include representative equipment items covering the 21 classes of equipment listed in Table B-1 of the EPRI Report 1025286, items of equipment were added to the SWEL that were not part of the USI A-46 & IPEEE reviews. It was noted that this was unnecessary yet conservative, so the items remained on the SWEL.
- It is noted that the final SWEL adequately includes equipment in each major building structure and encompasses mild to more severe environments.

SEISMIC EQUIPMENT WALKDOWNS AND AREA WALKBYS

The peer review team spent considerable time interfacing with the walkdown team members during the BFN1 seismic equipment walkdowns and area walkbys. This included responding to questions regarding the scope and content of the reviews. This also included in-plant observations of the teams during the reviews as well as independent in-plant reviews of individual equipment components. Walkdown observations and results were reviewed and discussed on a weekly basis with the walkdown team members. Particular emphasis was given

the team noted corroded bolts on Pump B1 for Chiller B. This was determined to be surface rust and of no significance to seismic capacity. During the area walkby for the SW Quad HPCI Pump Room, mild surface oxidation on wall-mounted pipe support anchorage for steam trap outlet on system 073 was noted and determined by the walkdown team to be insignificant. On Standby Liquid Containment Pump 1B, the walkdown team noted buildup of an unknown substance on a bolt/nut that was painted over. Site engineering was contacted, who determined that the configuration was adequate even if the questioned bolt was neglected. The walkdown team conservatively resolved the finding on that basis.

- The walkdown teams were alert for potential seismic proximity interactions involving vulnerable targets. On the operator for CRD/SDV Vent Valve 1-FCV-085-0083, they noted and questioned 2" to 3" clearance between the operator diaphragm and the adjacent steel structure. The teams reviewed the A-46 walkdown results for the valve, and noted that the condition was addressed and resolved.

- The walkdown teams diligently reviewed overhead lighting as potential seismic interaction falling sources. On some of the panels in the Main Control Room and in the Auxiliary Instrument Room, lack of safety cages on overhead lighting or lack of safety clips on fluorescent light tubes were noted and discussed and evaluated in detail. In these cases, the potential for impact from bulbs was determined to not be significant because there were no relays mounted on internal panels or on the face of the panels, all of the relays in the panels are rugged, and the panels themselves are very rigid and rugged. We concur with this assessment and note that it is consistent with the conclusions of the USI A-46 reviews.

- For all masonry bock walls encountered, the walkdown teams diligently confirmed verification by the IE Bulletin 80-11 program. During the area walkby in Main Battery Room 1, they noted minor chips in 2 locations at corners of the wall, and dismissed these as being insignificant. We concur with this assessment.

- In the NW Quad Room Cooler area, a permanent ladder was observed during the area walkby to be missing its base connection bolts at the grating. The missing bolts were determined to be insignificant because the ladder has many other bolts rigidly fastening it to the concrete wall. We concur with this assessment.

- During the area walkbys, the teams diligently identified and assessed miscellaneous items and temporary equipment as possible seismic interaction sources. In the Main Control Room, an unrestrained temporary vacuum cleaner was observed and determined to not pose a threat to any of the sensitive equipment. In the Diesel Generator Building Electrical Tunnel, various unrestrained temporary items were observed and determined to not be seismically significant. In the Auxiliary Instrument Room, an unrestrained emergency operations instruction box was observed and determined to be sufficiently distant from safety-related panels. Unrestrained fire extinguishers in Diesel Generator Room A and Battery Board Room 1 were identified and assessed to not pose any threat to sensitive equipment. In the Reactor Building Floor Elevation 565 ft. (Area 71), loosely stored scaffolding planks and temporary shielding were observed and determined to be sufficiently distant from safety-related equipment. We concur with these assessments.

Sincerely,

John O. Dizon, P.E.
Lead Peer Reviewer

Stephen J. Eder, P.E.
Peer Reviewer

NTTF 2.3/BFN-01
November 26, 2012

**PEER REVIEW REPORT**
**Browns Ferry Nuclear Plant Unit 1**
**Near-Term Task Force 2.3 Seismic Walkdowns**

A peer review of the Tennessee Valley Authority (TVA) Browns Ferry Nuclear Plant - Unit 1 (BFN1) seismic walkdowns for Near-Term Task Force (NTTF) Recommendation 2.3: Seismic was performed in accordance with the U.S. Nuclear Regulatory Commission (NRC) 50.54 (f) letter (listed as Reference 2 in the BFN1 Seismic Response Report) and the guidance provided in Electric Power Research Institute (EPRI) Report 1025286 (listed as Reference 3 in the Seismic Response Report).

A highly interactive process was utilized by the peer review team. This involved ongoing open dialog consultation with project participants throughout training, equipment selection, equipment walkdowns, area walkbys, review of potentially adverse seismic conditions and corrective action program documentation, and final report preparation.

In summary, the peer review team is in full concurrence with the final results as documented in the BFN1 Seismic Response Report, and we conclude that all of the project requirements have been met and adequately documented. The following sections summarize the details of the peer review process for the major elements of the project.

TRAINING

The walkdown teams are described in Section 3 of the BFN1 Seismic Response Report. All of the walkdown team members successfully completed the EPRI developed training on NTTF Recommendation 2.3 - Seismic Walkdown Guidance. All of the individual team members meet the qualification requirements as defined in EPRI Report 1025286. In addition to this training, per our recommendations, all walkdown team members received additional training. The purpose of the additional training was two-fold. First, additional technical training was provided on equipment anchorage and seismic interaction evaluations, as an enhancement to the anchorage and interaction issues overview provided in the EPRI training course. Second, background information was provided on the site-specific seismic programs implemented by TVA at BFN. This provided team members with historical background on the scope and findings of prior seismic reviews, as well as to deepened their understanding of the seismic licensing basis for BFN.

Many seismic programs were implemented at BFN starting from about 1985, and these programs addressed all structures, systems, and components. The seismic licensing basis for mechanical and electrical equipment components is a combination of Unresolved Safety Issue (USI) A-46, rigorous analysis, and IEEE 344 qualification packages. The additional plant-specific training material provided for the team members included the following:

- Description of BFN seismic design basis 0.20g Housner-shaped ground motion response spectrum
- Scope and overview of the various seismic programs implemented as part of the Nuclear Performance Plan (NPP, NUREG 1232) for BFN:
  - Large-bore piping and supports
  - Small-bore piping and supports
  - Torus piping (both internal and external)
  - Control rod drive (CRD) piping and supports
  - Instrument tubing
  - Cable trays and supports
  - Electrical conduit and supports
  - HVAC ductwork and supports
  - Drywell steel platforms
  - Miscellaneous steel
  - Torus structure (including internal)
  - Mechanical and electrical equipment
  - Effect of the failures of seismic Class II features on seismic Class I systems
  - Secondary containment penetrations
  - Seismic ground motion
  - Dynamic analysis of Class I structures
  - Generation of amplified response spectra (ARS)Programmatic control of safety-related design modifications
- Scope and overview of the additional special seismic programs completed for BFN:
  - II/I spray program
  - MSIV leakage
- Discussion of USI A-46 implementation and the results of the program:
  - Safe Shutdown Equipment List (SSEL)
  - 100% walkdown and anchorage evaluation
  - Seismic Evaluation Work Sheets (SEWS)
  - Includes seismic interaction proximity and falling evaluations
  - Area walkdowns used for conduit and cable trays, including limited analytical reviews
  - All outliers resolved by further evaluations, work orders, or modifications
- The Seismic Individual Plant Examination for External Events (IPEEE) program was performed in parallel with the USI A-46 program at BFN. Presentations included:
  - Expanded Safe Shutdown Equipment List
  - Summary of BFN seismic IPEEE walkdown results
  - Results, governing HCLPF capacities, and planned upgrades
- Plant procedures that overlap with the NTTF 2.3 seismic walkdowns:
  - Temporary Equipment -- NPG-SPP-09.17 & TI-471
  - Scaffolding -- MMTP-102
  - Seismic Interaction Commodity Clearance Requirements -- MAI-4.10

SELECTION OF ITEMS ON THE SEISMIC WALKDOWN EQUIPMENT LIST (SWEL)

The completed SWEL as described in Section 4 of the BFN1 Seismic Response Report is in full compliance with the guidelines in EPRI Report 1025286.

The SWEL 1 represents a diverse sample of selected equipment and support systems required to perform the five safety functions of reactor reactivity control, reactor coolant pressure control, reactor coolant inventory control, decay heat removal, and containment function. The SWEL 1 includes, as appropriate, various types of systems, classes of equipment, and equipment environments. The SWEL 1 includes new and replacement equipment.

The BFN IPEEE review was performed using the EPRI margins methodology and that success path based SSEL associated with BFN1 was used as a starting point for SWEL 1. No seismic PRA has been performed for BFN1 so no information regarding dominant contributors to seismic risk was available. SWEL 1 was compared to the Core Damage Frequency (CDF) and Large Early Release Frequency (LERF) Rankings, and any shared equipment was noted.

The SWEL 2 represents selected equipment related to the spent fuel pool system, including those that could cause rapid drain-down of the pool and accidental exposures of the fuel assemblies.

There was considerable interaction between the peer review team, the walkdown team, and the equipment selection team during the course of the evaluation. The final SWEL, as documented in Section 4 and in Appendix D of the BFN1 Seismic Response Report, is a culmination of this interaction. Examples of peer review comments that were adequately addressed and resolved during the SWEL development process include the following:

- During the development of the preliminary SWEL, minor clarification to the designation of certain equipment classes were made, such as those of equipment classes 07 & 08. Furthermore, it was noted that there were no equipment items selected inside the Drywell. As such, representative MSIV's and MSRV's are added to the final SWEL.
- To enhance reactivity control and coolant inventory control safety functions, selected components of the Standby Liquid Control (SLC) and the HPCI & RCIC systems were added to the SWEL.
- In order to include representative equipment items covering the 21 classes of equipment listed in Table B-1 of the EPRI Report 1025286, items of equipment were added to the SWEL that were not part of the USI A-46 & IPEEE reviews. It was noted that this was unnecessary yet conservative, so the items remained on the SWEL.
- It is noted that the final SWEL adequately includes equipment in each major building structure and encompasses mild to more severe environments.

SEISMIC EQUIPMENT WALKDOWNS AND AREA WALKBYS

The peer review team spent considerable time interfacing with the walkdown team members during the BFN1 seismic equipment walkdowns and area walkbys. This included responding to questions regarding the scope and content of the reviews. This also included in-plant observations of the teams during the reviews as well as independent in-plant reviews of individual equipment components. Walkdown observations and results were reviewed and discussed on a weekly basis with the walkdown team members. Particular emphasis was given

to any items preliminarily identified as potential adverse seismic conditions (see discussion in the next section). In the end, the peer review addressed more than 50% of the completed walkdown documentation forms.

It is noted that the in-plant activity and 50% documentation review is above and beyond the peer review requirements as defined in EPRI Report 1025286. As a result of this effort, we are highly confident that the teams conducted the reviews in a thorough and competent manner, and that the reviews are fully in compliance with the intent of the NRC 50.54 (f) letter.

Examples of walkdown team observations and seismic issues discussed and resolved during the course of the peer review process for the BFN1 equipment seismic walkdowns and area walkbys include the following:

- For many items of equipment, the seismic licensing basis for equipment anchorage was the USI A-46 review Screening Evaluation Work Sheet (SEWS) documentation or anchorage calculation. In some instances, gaps at anchors were observed by the walkdown teams, and they later discovered the configuration was acceptable by the USI A-46 verification. Examples include the 480V Reactor MOV Board 1B in the 4kV Board Room, and RBCCW transfer pump skid noted during area walkby in the Reactor Building, El. 565 ft. Similarly, missing grout and use of shims was observed on Diesel Generator B by the walkdown teams, and later this configuration was found to be verified as-is under USI A-46 program.

- Instances of missing bolts were identified by the walkdown and reviewed and discussed in detail. The walkdown team identified a missing bolt (1 of 6) on one side of the EECW/CS Pump 1A Room Cooler. This was discussed and determined to be insignificant. The walkdown team retrieved and reviewed design calculation CDQ1 067 2003 2581 and concluded that the 5 bolts were adequate for compliance with the seismic licensing basis. During area walkbys in the NE Quad Room, the team noted a missing bolt on 1-PMP-077-0017B. It was judged that the remaining bolts obviously had more than sufficient capacity for the seismic loading. During area walkbys in the CRD/Scram Area, the team identified a missing anchor bolt on one leg of Panel 1-LPNL-925-0313. Because the panel is also rigidly mounted to the wall, this was judged to not represent a significant seismic concern.

- Minor cracking of grout was observed at the base anchorage for Control Bay Water Chiller A and on a support for the RCIC Suppression Pool Outboard Suction Flow Control Valve. This was determined to be insignificant. We concur with this assessment.

- On the Standby Liquid Control Tank, the walkdown team noted instances of bolts lacking full thread engagement, and observed that one of the bolts appeared to be welded in place. Considerable time was spent with the team to assess the capacity of bolted connections with less than full thread engagement. Site engineering retrieved design calculation BWPC1153 that documents adequacy of the existing configuration, and the finding was dismissed on this basis.

- The walkdown team noted instances of visible corrosion and these were discussed and in most cases were determined to be surface rust that did not significantly degrade bolt capacity. During the area walkby of the Chiller A and B on the roof of the DG building,

the team noted corroded bolts on Pump B1 for Chiller B. This was determined to be surface rust and of no significance to seismic capacity. During the area walkby for the SW Quad HPCI Pump Room, mild surface oxidation on wall-mounted pipe support anchorage for steam trap outlet on system 073 was noted and determined by the walkdown team to be insignificant. On Standby Liquid Containment Pump 1B, the walkdown team noted buildup of an unknown substance on a bolt/nut that was painted over. Site engineering was contacted, who determined that the configuration was adequate even if the questioned bolt was neglected. The walkdown team conservatively resolved the finding on that basis.

- The walkdown teams were alert for potential seismic proximity interactions involving vulnerable targets. On the operator for CRD/SDV Vent Valve 1-FCV-085-0083, they noted and questioned 2" to 3" clearance between the operator diaphragm and the adjacent steel structure. The teams reviewed the A-46 walkdown results for the valve, and noted that the condition was addressed and resolved.

- The walkdown teams diligently reviewed overhead lighting as potential seismic interaction falling sources. On some of the panels in the Main Control Room and in the Auxiliary Instrument Room, lack of safety cages on overhead lighting or lack of safety clips on fluorescent light tubes were noted and discussed and evaluated in detail. In these cases, the potential for impact from bulbs was determined to not be significant because there were no relays mounted on internal panels or on the face of the panels, all of the relays in the panels are rugged, and the panels themselves are very rigid and rugged. We concur with this assessment and note that it is consistent with the conclusions of the USI A-46 reviews.

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- In the NW Quad Room Cooler area, a permanent ladder was observed during the area walkby to be missing its base connection bolts at the grating. The missing bolts were determined to be insignificant because the ladder has many other bolts rigidly fastening it to the concrete wall. We concur with this assessment.

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In the end, the peer review team is in concurrence with the Seismic Walkdown Checklists (SWCs) and Area Walkby Checklists (AWCs) as presented in Appendices E and F, respectively, of the BFN1 Seismic Response Report.

## POTENTIAL ADVERSE SEISMIC CONDITIONS

The peer review team spent considerable time with the walkdown teams addressing preliminary potential adverse seismic conditions identified during walkdowns. It is noted that there were very many questions early in the walkdown review process on the conservative side of issues, and these kinds of questions diminished towards the end of the project as the judgment of the teams significantly improved. Most of these early concerns were in regards to potential seismic interaction effects. In most cases, these issues were resolved by review of prior evaluations or the TVA procedures and guidance already in place at the plant.

All potential adverse seismic conditions were reviewed in detail, including working with the teams to address seismic licensing basis and operability issues, if necessary, for the confirmed potential adverse seismic conditions that resulted in the initiation of Problem Evaluation Reports (PERs) as part of the Corrective Action Program (CAP). In the end, the peer review team is in full concurrence with all of the potential adverse seismic conditions summarized in Section 6.2 of the BFN1 Seismic Response Report.

Comments regarding the individual potential adverse seismic conditions for BFN1 include the following:

- Potentially Adverse Seismic Condition 1 addresses a missing protective cage for an interior light located inside the Auxiliary Instrument Room Panel 009-0036A. The walkdown team conservatively concluded that during a seismic event the light bulb could dislodge and impact sensitive devices inside the panel, and the condition was entered into the CAP.
- Potentially Adverse Seismic Condition 2 addresses a fire protection sprinkler head in close proximity to an electrical conduit in the area above the clean room at El. 565 ft. of the Reactor Building. After considerable discussion and review, it was determined that there were no spray sensitive items of equipment in the immediate area. The walkdown team noted this as a potential adverse seismic condition and entered it into the CAP.

## SUBMITTAL REPORT

The peer review team has reviewed the BFN1 submittal report in detail and we are in full concurrence with the documented observations and findings. The report is in compliance with the guidance in EPRI Report 1025286, and meets the requirements and objectives of the NRC 50.54 (f) letter.

In our opinion, the potential adverse seismic conditions identified by the program are in general only minor issues, and this is a reflection of the adequate seismic design criteria as well as sufficiently rigorous seismic-related construction and maintenance procedures that TVA has in place at BFN1. The walkdown demonstrates that the current plant configuration is in compliance with the current seismic licensing basis. Furthermore, the walkdown demonstrates that that TVA has maintained or improved the seismic IPEEE HCLPF capacity of the plant.

Sincerely,

John O. Dizon, P.E.
Lead Peer Reviewer

Stephen J. Eder, P.E.
Peer Reviewer