ENCLOSURE 2

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

BROWNS FERRY NUCLEAR PLANT – UNIT 2 FUKUSHIMA NEAR-TERM TASK FORCE RECOMMENDATION 2.3: SEISMIC RESPONSE REPORT

16-November-2012

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REV	DESCRIPTION	ORIG	REVIEW	WORLEY-PARSONS APPROVAL	DATE	CLIENT APPROVAL	DATE
0	BFN Unit 2 Seismic Walkdown Report	J. Black	N. Pressler	J. Edgar	16-Nov-12	STEPHEN SAMARIA	11/26/2012

Table of Contents

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 2 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 46 areas were included for area walk-bys. The equipment walkdowns and area walk-bys were performed by three teams each consisting of two walkdown engineers and operations personnel, between July 9, 2012 and November 2, 2012.

Of the 120 equipment items in the Seismic Walkdown Equipment List (SWEL), 116 were completed during the walkdown phase. Three potential adverse seismic conditions were found and addressed through the TVA Corrective Action Program. There are four remaining pieces of equipment that were inaccessible at 100% power due to physical limitations or excessive safety hazards. These future equipment walkdowns will be performed during the next Browns Ferry Unit 2 refueling outage scheduled for March-May 2013.

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.

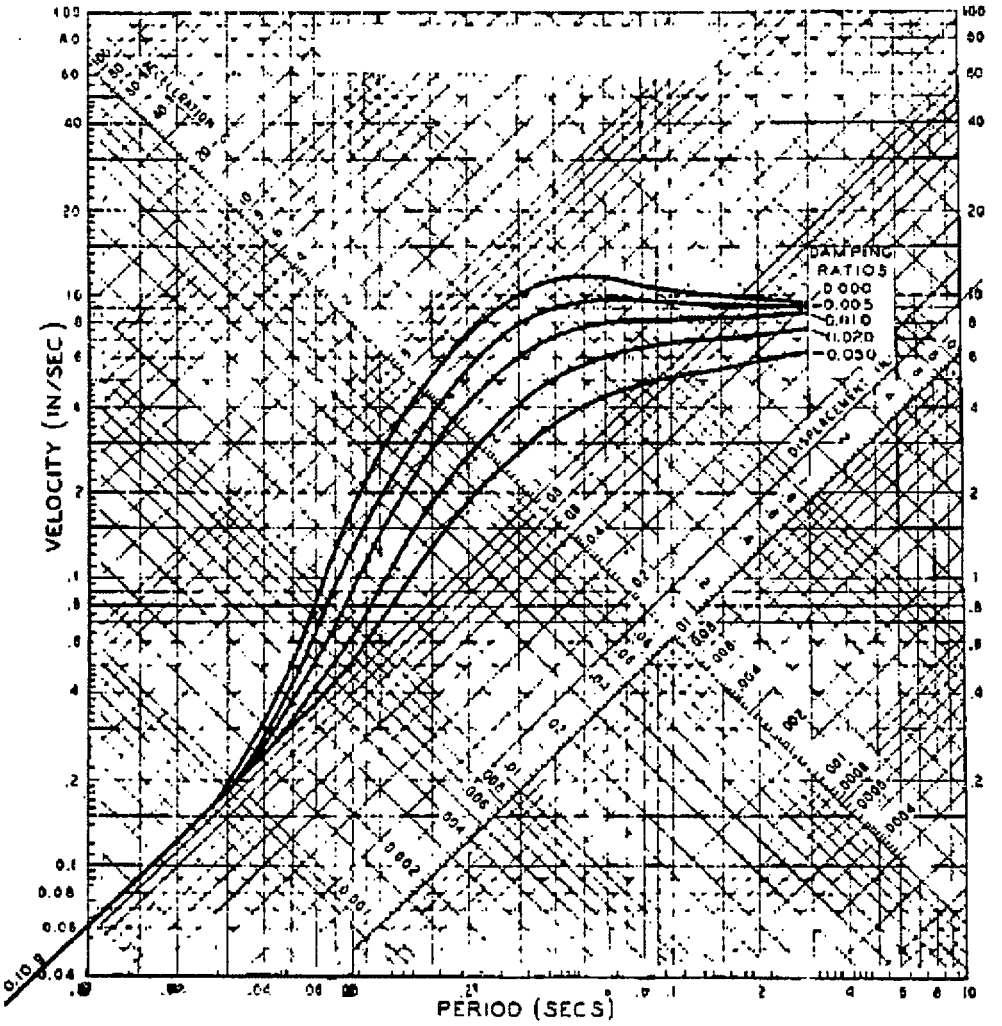

Figure 1 – Site Design Spectrum Operating Basis Earthquake

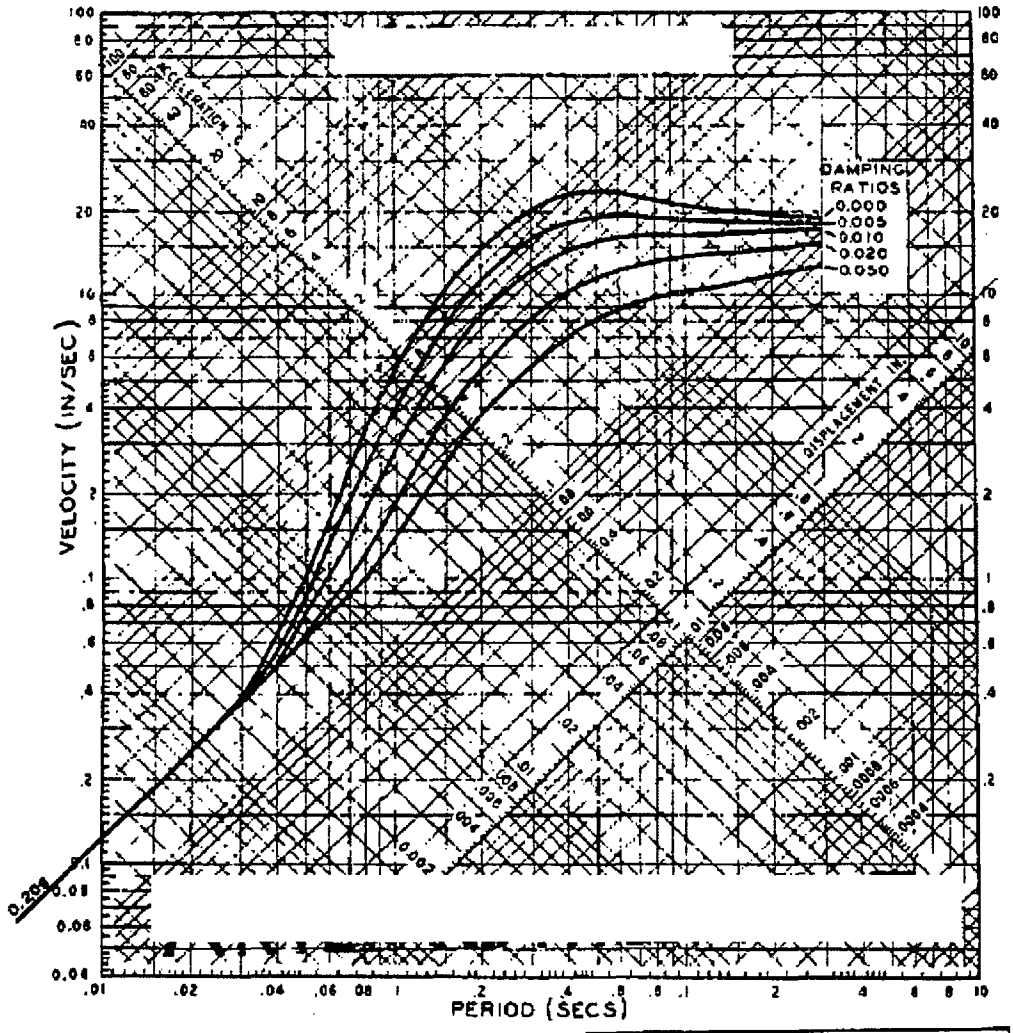

Figure 2 – Site Design Spectrum Design Basis Earthquake

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 involved in 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 involved in performing 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 involved in performing 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 involved in reviewing 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, 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 2 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 Units 2 and 3 (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 Functions
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 Cooling (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 2 consists of 120 items of equipment. The SWEL for Browns Ferry Unit 2 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 equipment addresses the new and improved equipment criteria for Browns Ferry Unit 2:

UNID	Description
BFN-2-PMP-076-0110	CNTMT ATM MON SYS ANLZR 2A SMPLRTN PMP

Table1. 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* and Reference 4 – TVA *CTP-SWD-100.*

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.

5.1 Seismic Walkdown Checklists

One hundred and sixteen (116) out of one hundred and twenty (120) Seismic Walkdown Checklists (SWCs) were completed at Browns Ferry Unit 2. The SWCs completed at Browns Ferry Unit 2 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 moderate
- Visible cracks in surrounding concrete
- Impact of soft targets
- Collapsing equipment
- Line flexibility

Fourty-six (46) Area Walk-By Checklists (AWCs) were completed at Browns Ferry Unit 2. 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

There are four SWCs that resulted in an unknown status due to plant conditions when operating at 100% power. These walkdowns will be performed during a later outage. Additional AWCs will be performed during the equipment walkdowns for the four pieces of equipment that currently have an unknown status.

Anchorage configuration for 50 items of equipment in Browns Ferry Unit 2 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 & AWC Summary

The results documented by the SWCs and AWCs for Browns Ferry Unit 2 are summarized below:

- 113 SWCs resulted in a YES status
- 3 SWCs resulted in a NO status
    - Potentially Adverse Condition 1
        - BFN-0-STN-067-0926
    - Potentially Adverse Condition 2
        - BFN-2-PNLA-009-0015
    - Potentially Adverse Condition 3
        - BFN-2-PNLA-009-0005
- 4 SWCs resulted in an UNKNOWN status
    - Inaccessible Anchorage
    - Inaccessible Equipment
        - BFN-2-FCV-001-0026-MSIV "B" INBOARD ISOLATION VALVE
        - BFN-2-FCV-001-0038-MSIV "C" OUTBOARD ISOLATION VALVE
        - BFN-2-PCV-001-0019-MSRV
        - BFN-2-PCV-001-0034-MSRV
- 46 AWCs resulted in a YES status

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 2. There were a total of three 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 Potentially Seismically Adverse Conditions

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

6.2.1 Potentially Adverse Seismic Condition 1

During a walkdown of BFN-0-STN-067-0926 it was observed that the concrete pad the strainer was sitting on was cracked. This has been entered into the CAP Program and a work order has been written to address the issue.

6.2.2 Potentially Adverse Seismic Condition 2

During the walkdown of BFN-2-PNLA-009-0015 it was observed that the light cage was missing from the interior light. During a seismic event there would be a possibility that the light bulb could dislodge and potentially impact soft targets inside the panel. This has been entered into the CAP Program and a work order has been written to address the issue.

6.2.3 Potentially Adverse Seismic Condition 3

During the walkdown of BFN-2-PNLA-009-0005 it was observed that the light cage was missing from the interior light. During a seismic event there would be a possibility that the light bulb could dislodge and potentially impact soft targets inside the panel. This has been entered into the CAP Program and a work order has been written to address the issue.

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 focuses 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 addressed multiple vulnerabilities that were identified during the original IPEEE walkdown process for Units 2 and 3 systems including common systems for all three units. A full list of these vulnerabilities can be found in Reference 6 - *Seismic IPEEE Report for Browns Ferry Nuclear Plant*. A list of the equipment identified during IPEEE is listed below along with actions taken.

UNID	DESCRIPTION	RESOLUTION
BFN-0-OXF-219-TDA	HCLPF capacity below 0.3g	Transformer to be replaced as part of the long-term asbestos material removal program at BFN.
BFN-0-OXF-219-TDB	HCLPF capacity below 0.3g	Transformer to be replaced as part of the long-term asbestos material removal program at BFN.

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		Tennessee Valley Authority
5	Browns Ferry Nuclear Plant USI A-46 Seismic Evaluation Report	50147-R-001	Tennessee Valley Authority
6	Seismic IPEEE Report Browns Ferry Nuclear Plant	50147-R-002	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.

- Joshua 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

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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.

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.

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.

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.

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
112 Medicine Bend Drive
Madison, AL 35758
(256) 837-4060

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

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

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
2-ACC-32-6105	CA/ACCUMULATOR FOR PSV-1-19	1, 3
2-ACC-32-6106	CA/ACCUMULATOR FOR PSV-1-5	1, 3
2-ACC-32-6107	CA/ACCUMULATOR FOR PSV-1-22	1, 3
2-ACC-32-6108	CA/ACCUMULATOR FOR PSV-1-31	1, 3
2-ACC-32-6109	CA/ACCUMULATOR FOR PSV-1-34	1, 3
2-ACC-32-6111	CA/ACCUMULATOR FOR PSV-1-30	1, 3
2-AMP-092-0007/41A	IRM CH. "A" VOLTAGE PREAMPLIFIER 7-34A	0
2-AMP-092-0007/41B	IRM CH. "B" VOLTAGE PREAMPLIFIER 7-34B	0
2-AMP-092-0007/41C	IRM CH. "C" VOLTAGE PREAMPLIFIER 7-34C	0
2-AMP-092-0007/41D	IRM CH. "D" VOLTAGE PREAMPLIFIER 7-34D	0
2-BATD-283-000A2	24V NEUTRON MONITORING BATTERY, U2 CHANNEL A	0
2-BATD-283-000B2	24V NEUTRON MONITORING BATTERY, U2 CHANNEL B	0
2-BDBB-231-0002A	480KV SHDN BD 2A	0
2-BDBB-231-0002B	480KV SHDN BD 2B	0
2-BDBB-231-0003A	480KV SHDN BD 3A	0
2-BDBB-265-002B	480V RB VENT BD 2B	0
2-BDBB-268-0002A	480KV SHDN BD 2A	0
2-BDBB-268-0002B	480KV SHDN BD 2B	0
2-BDBB-268-0002D	480KV SHDN BD 2D	0
2-BDBB-268-0002E	480KV SHDN BD 2E	0

2-BDBB-281-0002A	250V RMOV BD 2A	0
2-BDBB-281-0002B	250V RMOV BD 2B	0
2-BDBB-281-0002C	250V RMOV BD 2C	0
2-CHGD-283-A1-2	24V NEUTRON BATTERY CHARGERS A1-2	0
2-CHGD-283-A2-2	24V NEUTRON BATTERY CHARGERS A2-2	0
2-CHGD-283-B1-2	24V NEUTRON BATTERY CHARGERS B1-2	0
2-CHGD-283-B2-2	24V NEUTRON BATTERY CHARGERS B2-2	0
2-CKV-10-506	RVVD/MSRV 1-4 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-507	RVVD/MSRV 1-5 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-508	RVVD/MSRV 1-18 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-509	RVVD/MSRV 1-19 DISCHARGE LINE VACCUM BKR	4, 5
2-CKV-10-510	RVVD/MSRV 1-22 DISCHARGE LINE VACCUM BKR	4, 5
2-CKV-10-511	RVVD/MSRV 1-23 DISCHARGE LINE VACCUM BKR	4, 5
2-CKV-10-512	RVVD/MSRV 1-30 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-513	RVVD/MSRV 1-31 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-514	RVVD/MSRV 1-34 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-515	RVVD/MSRV 1-41 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-516	RVVD/MSRV 1-42 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-519	RVVD/MSRV 1-179 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-520	RVVD/MSRV 1-180 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-521	RVVD/MSRV 1-4 DISCHARGE LINE VACUUM BKR	4, 5
2CKV-10-522	RVVD/MSRV 1-5 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-523	RVVD/MSRV 1-18 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-524	RVVD/MSRV 1-19 DISCHARGE LINE VACCUM BKR	4, 5
2-CKV-10-525	RVVD/MSRV 1-22 DISCHARGE LINE VACCUM BKR	4, 5
2-CKV-10-526	RVVD/MSRV 1-23 DISCHARGE LINE VACCUM BKR	4, 5
2-CKV-10-527	RVVD/MSRV 1-30 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-528	RVVD/MSRV 1-31 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-529	RVVD/MSRV 1-34 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-530	RVVD/MSRV 1-41 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-531	RVVD/MSRV 1-42 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-532	RVVD/MSRV 1-179 DISCHARGE LINE VACUUM BKR	4, 5
2-CKV-10-533	RVVD/MSRV 1-180 DISCHARGE LINE VACUUM BKR	4, 5

2-CKV-23-579	RHRSW TO HX A INLET CHECK VALVE	4, 5
2-CKV-23-580	RHRSW TO HX B INLET CHECK VALVE	4, 5
2-CKV-23-581	RHRSW TO HX C INLET CHECK VALVE	4, 5
2-CKV-23-582	RHRSW TO HX D INLET CHECK VALVE	4, 5
2-CKV-32-2163	CA/CHECK VALVE FROM DWCA CMPRSSR TO DRYWELL-PATH 3	4, 5
2-CKV-32-2516	CA/CHECK VALVE FROM DWCA CMPRSSR TO DRYWELL-PATH 1	4, 5
2-CKV-32-2521	CA/CHECK VALVE FROM DWCA CMPRSSR TO DRYWELL-PATH 1	4, 5
2-CKV-32-336	CA/CHECK VALVE FROM DWCA CMPRSSR TO DRYWELL-PATH 2	4, 5
2-CKV-32-826	CA/DRYWELL CONTROL AIR TO PSV-1-19	4, 5
2-CKV-32-869	CA/DRYWELL CONTROL AIR TO PSV-1-5	4, 5
2-CKV-32-872	CA/DRYWELL CONTROL AIR TO PSV-1-22	4, 5
2-CKV-32-892	CA/DRYWELL CONTROL AIR TO PSV-1-30	4, 5
2-CKV-32-915	CA/DRYWELL CONTROL AIR TO PSV-1-31	4, 5
2-CKV-32-919	CA/DRYWELL CONTROL AIR TO PSV-1-34	4, 5
2-CKV-3-554	FEEDWATER "A" OUTBOARD ISOLATION VALVE	2, 4, 5
2-CKV-3-558	FEEDWATER "A" INBOARD ISOLATION VALVE	2, 4, 5
2-CKV-3-568	FEEDWATER "B" OUTBOARD ISOLATION VALVE	2, 4, 5
2-CKV-3-572	FEEDWATER "B" INBOARD ISOLATION VALVE	2, 4, 5
2-CKV-67-541	EECW SOUTH HEADER SUPPLY CHECK VALVE TO A CS	4, 5
2-CKV-67-542	EECW SOUTH HEADER SUPPLY CHECK VALVE TO A CS	4, 5
2-CKV-67-558	EECW SOUTH HEADER SUPPLY CHECK VALVE TO A & C RHR	4, 5
2-CKV-67-559	EECW SOUTH HEADER SUPPLY CHECK VALVE TO A & C RHR	4, 5
2-CKV-67-584	EECW SOUTH HEADER SUPPLY CHECK VALVE TO B CS	4, 5
2-CKV-67-585	EECW SOUTH HEADER SUPPLY CHECK VALVE TO B CS	4, 5
2-CKV-67-600	EECW SOUTH HEADER SUPPLY CHECK VALVE TO B & D RHR	4, 5
2-CKV-67-601	EECW SOUTH HEADER SUPPLY CHECK VALVE TO B & D RHR	4, 5
2-CKV-67-638	EECW NORTH HEADER SUPPLY CHECK VALVE TO A & C RHR	4, 5
2-CKV-67-639	EECW NORTH HEADER SUPPLY CHECK VALVE TO A & C RHR	4, 5
2-CKV-67-648	EECW NORTH HEADER SUPPLY CHECK VALVE TO A CS	4, 5
2-CKV-67-649	EECW NORTH HEADER SUPPLY CHECK VALVE TO A CS	4, 5
2-CKV-67-656	EECW NORTH HEADER SUPPLY CHECK VALVE TO B CS	4, 5
2-CKV-67-657	EECW NORTH HEADER SUPPLY CHECK VALVE TO B CS	4, 5
2-CKV-67-659	EECW NORTH HEADER SUPPLY CHECK VALVE TO B&D RHR	4, 5

2-CKV-67-660	EECW NORTH HEADER SUPPLY CHECK VALVE TO B&D RHR	4, 5
2-CKV-69-630	RWCU SUSTEM RETURN CHECK VALVE	4, 5
2-CKV-70-506	RBCCW DRYWELL SUPPLY CHECK VALVE	4, 5
2-CKV-71-547	RCIC/RCIC MINIMUM FLOW CHECK VALVE	4, 5
2-CKV-73-559	HPCI/HPCI PUMP MINIMUM FLOW CHECK VALVE	4, 5
2-CKV-74-559A	RHR/PUMP 2A DISCHARGE CHECK VALVE	1, 3, 4, 5
2-CKV-74-559B	RHR/PUMP 2B DISCHARGE CHECK VALVE	1, 3, 4, 5
2-CKV-74-559C	RHR/PUMP 2C DISCHARGE CHECK VALVE	1, 3, 4, 5
2-CKV-74-559D	RHR/PUMP 2D DISCHARGE CHECK VALVE	1, 3, 4, 5
2-CKV-74-560A	RHR/PUMP 2A MINIMUM FLOW CHECK VALVE	1, 3, 4, 5
2-CKV-74-560B	RHR/PUMP 2B MINIMUM FLOW CHECK VALVE	1, 3, 4, 5
2-CKV-74-560C	RHR/PUMP 2C MINIMUM FLOW CHECK VALVE	1, 3, 4, 5
2-CKV-74-560D	RHR/PUMP 2D MINIMUM FLOW CHECK VALVE	1, 3, 4, 5
2-CKV-75-537A	CS/PUMP 2A DISCHARGE CHECK VALVE	5
2-CKV-75-537B	CS/PUMP 2B DISCHARGE CHECK VALVE	5
2-CKV-75-537C	CS/PUMP 2C DISCHARGE CHECK VALVE	5
2-CKV-75-537D	CS/PUMP 2D DISCHARGE CHECK VALVE	5
2-CKV-75-570A	CSI/PUMP 2A MINI-FLOW CHECK VALVE	5
2-CKV-75-570B	CS/PUMP 2B MINI-FLOW CHECK VALVE	5
2-CKV-75-570C	CS/PUMP 2C MINI-FLOW CHECK VALVE	5
2-CKV-75-570D	CS/PUMP 2D MINI-FLOW CHCK VALVE	5
2-CLR-67-917	EECW/RHR PUMP 2A ROOM COOLER	5
2-CLR-67-918	EECW/RHR PUMP 2B ROOM COOLER	5
2-CLR-67-919	EECW/CS PUMP 2A ROOM COOLER	5
2-CLR-67-920	EECW/CS PUMP 2B ROOM COOLER	5
2-CLR-67-921	EECW/RHR PUMP 2C ROOM COOLER	5
2-CLR-67-922	EECW/RHR PUMP 2D ROOM COOLER	5
2-ECAB-099-0002A1	RPC CIRCUIT PROTECTOR CABINET 2A1	0
2-ECAB-099-0002A2	RPC CIRCUIT PROTECTOR CABINET 2A2	0
2-ECAB-099-0002B1	RPC CIRCUIT PROTECTOR CABINET 2B1	0
2-ECAB-099-0002B2	RPC CIRCUIT PROTECTOR CABINET 2B2	0
2-ECAB-099-0002C1	RPC CIRCUIT PROTECTOR CABINET 2C1	0
2-ECAB-099-0002C2	RPC CIRCUIT PROTECTOR CABINET 2C2	0

2-FCV-1-14	MSIV "A" INBOARD ISOLATION VALVE	4, 5
2-FCV-1-15	MSIV "A" OUTBOARD ISOLATION VALVE	4, 5
2-FCV-1-26	MSIV "B" INBOARD ISOLATION VALVE	4, 5
2-FCV-1-27	MSIV "B" OUTBOARD ISOLATION VALVE	4, 5
2-FCV-1-37	MSIV "C" INBOARD ISOLATION VALVE	4, 5
2-FCV-1-38	MSIV "C" OUTBOARD ISOLATION VALVE	4, 5
2-FCV-1-51	MSIV "D" INBOARD ISOLATION VALVE	4, 5
2-FCV-1-52	MSIV "D" OUTBOARD ISOLATION VALVE	4, 5
2-FCV-1-55	MAIN STEAM LINE DRAIN ISOLATION VALVE	4, 5
2-FCV-23-034	RHR/RHRSW HX A OUTLET VALVE	4, 5
2-FCV-23-040	RHR/RHRSW HX C OUTLET VALVE	4, 5
2-FCV-23-046	RHR/RHRSW HX B OUTLET VALVE	4, 5
2-FCV-23-052	RHR/RHRSW HX D OUTLET VALVE	4, 5
2-FCV-23-57	RHR/RHRSW CROSS CONNECT VALVE	4, 5
2-FCV-32-63	DRYWELL CONTROL AIR SUCTION VALVE	4, 5
2-FCV-64-139	CONTAINMENT DW DP ISOLATION VALVE	4, 5
2-FCV-64-140	CONTAINMENT DW DP ISOLATION VALVE	4, 5
2-FCV-64-17	CONTAINMENT VENTILATION ISOLATION VALVE	4, 5
2-FCV-64-222	HARDENED WETWELL VENT	4, 5
2-FCV-64-28A	SUPPRESSION CHAMBER/DRYWELL VACUUM BREAKERS	4, 5
2-FCV-64-28B	SUPPRESSION CHAMBER/DRYWELL VACUUM BREAKERS	4, 5
2-FCV-64-28C	SUPPRESSION CHAMBER/DRYWELL VACUUM BREAKERS	4, 5
2-FCV-64-28D	SUPPRESSION CHAMBER/DRYWELL VACUUM BREAKERS	4, 5
2-FCV-64-28E	SUPPRESSION CHAMBER/DRYWELL VACUUM BREAKERS	4, 5
2-FCV-64-28F	SUPPRESSION CHAMBER/DRYWELL VACUUM BREAKERS	4, 5
2-FCV-64-28G	SUPPRESSION CHAMBER/DRYWELL VACUUM BREAKERS	4, 5
2-FCV-64-28H	SUPPRESSION CHAMBER/DRYWELL VACUUM BREAKERS	4, 5
2-FCV-64-28J	SUPPRESSION CHAMBER/DRYWELL VACUUM BREAKERS	4, 5
2-FCV-64-28K	SUPPRESSION CHAMBER/DRYWELL VACUUM BREAKERS	4, 5
2-FCV-64-28L	SUPPRESSION CHAMBER/DRYWELL VACUUM BREAKERS	4, 5
2-FCV-64-28M	SUPPRESSION CHAMBER/DRYWELL VACUUM BREAKERS	4, 5
2-FCV-64-30	CONTAINMENT VENTILATION ISOLATION VALVE	4, 5
2-FCV-64-33	CONTAINMENT VENTILATION ISOLATION VALVE	4, 5

2-FCV-67-50	EECW SYSTEM NORTH HEADER BACKUP TO RBCCW	4, 5
2-FCV-67-51	EECW SYSTEM SOUTH HEADER BACKUP TO RBCCW	4, 5
2-FCV-69-1	RWCU INBOARD ISOLATION VALVE	4, 5
2-FCV-69-2	RWCU OUTBOARD ISOLATION VALVE	4, 5
2-FCV-70-47	RBCCW DRYWELL RETURN VALVE	4, 5
2-FCV-71-1B	RCIC OUTBOARD SUCTION VALVE	4, 5
2-FCV-71-2	RCIC INBOARD ISOLATION VALVE	4, 5
2-FCV-71-3	RCIC OUTBOARD ISOLATION VALVE	4, 5
2-FCV-73-2	HPCI STEAM SUPPLY ISOLATION VALVE	4, 5
2-FCV-73-27	HPCI OUTBOARD SUCTION VALVE	4, 5
2-FCV-73-3	HPCI STEAM SUPPLY ISOLATION VALVE	4, 5
2-FCV-73-81	HPCI STEAM SUPPLY ISOLATION BYPASS VALVE	4, 5
2-FCV-74-1	RHR/PUMP 2A SUCTION VALVE FROM SUPRESSION POOL	1, 3, 4, 5
2-FCV-74-100	RHR/U2 TO U1 RHR DISCHARGE X-TIE ISOLATION VALVE	1, 3, 4, 5
2-FCV-74-101	RHR/U2 TO U3 RHR DISCHARGE X-TIE ISOLATION VALVE	1, 3, 4, 5
2-FCV-74-12	RHR/PUMP 2C SUCTION VALVE FROM SUPRESSION POOL	1, 3, 4, 5
2-FCV-74-13	RHR/PUMP 2C SUCTION VALVE FROM SHUTDOWN COOLING	1, 3, 4, 5
2-FCV-74-2	RHR/PUMP 2A SUCTION VALVE FROM SHUTDOWN COOLING	1, 3, 4, 5
2-FCV-74-24	RHR/PUMP 2B SUCTION VALVE FROM SUPRESSION POOL	1, 3, 4, 5
2-FCV-74-25	RHR/PUMP 2B SUCTION VALVE FROM SHUTDOWN COOLING	1, 3, 4, 5
2-FCV-74-30	RHR/PUMP 2B&2D MINIMUM FLOW VALVE	1, 3, 4, 5
2-FCV-74-35	RHR/PUMP 2D SUCTION VALVE FROM SUPRESSION POOL	1, 3, 4, 5
2-FCV-74-36	RHR/PUMP 2D SUCTION VALVE FROM SHUTDOWN COOLING	1, 3, 4, 5
2-FCV-74-52	RHR/LOOP I OUTBOARD INJECTION VALVE	1, 3, 4, 5
2-FCV-74-53	RHR/LOOP I INBOARD INJECTION VALVE	1, 3, 4, 5
2-FCV-74-54	RHR/LOOP I TESTABLE CHECK VALVE	1, 3, 4, 5
2-FCV-74-57	RHR/LOOP I TORUS CONTAINMENT COOLING/SPRAY VALVE	1, 3, 4, 5
2-FCV-74-58	RHR/LOOP I SUPRESSION POOL SPRAY VALVE	1, 3, 4, 5
2-FCV-74-59	RHR/LOOP I SUPRESSION POOL COOLING VALVE	1, 3, 4, 5
2-FCV-74-60	RHR/LOOP I OUTBOARD DRYWELL SPRAY VALVE	1, 3, 4, 5
2-FCV-74-61	RHR/LOOP I INBOARD DRYWELL SPRAY VALVE	1, 3, 4, 5
2-FCV-74-66	RHR/LOOP II OUTBOARD INJECTION VALVE	1, 3, 4, 5
2-FCV-74-67	RHR/LOOP II INBOARD INJECTION VALVE	1, 3, 4, 5

2-FCV-74-68	RHR/LOOP II TESTABLE CHECK VALVE	1, 3, 4, 5
2-FCV-74-7	RHR/PUMP 2A&2C MINIMUM FLOW VALVE	1, 3, 4, 5
2-FCV-74-71	RHR/LOOP II TORUS CONTAINMENT COOLING/SPRAY VALVE	1, 3, 4, 5
2-FCV-74-72	RHR/LOOP II SUPRESSION POOL SPRAY VALVE	1, 3, 4, 5
2-FCV-74-73	RHR/LOOP II SUPRESSION POOL COOLING VALVE	1, 3, 4, 5
2-FCV-74-74	RHR/LOOP II OUTBOARD DRYWELL SPRAY VALVE	1, 3, 4, 5
2-FCV-74-75	RHR/LOOP II INBOARD DRYWELL SPRAY VALVE	1, 3, 4, 5
2-FCV-74-96	RHR/UNIT 2 TO UNIT 1 RHR X-TIE ISOLATION VALVE	1, 3, 4, 5
2-FCV-74-97	RHR/UNIT 2 TO UNIT 1 RHR X-TIE ISOLATION VALVE	1, 3, 4, 5
2-FCV-74-98	RHR/UNIT 2 TO UNIT 3 RHR X-TIE ISOLATION VALVE	1, 3, 4, 5
2-FCV-74-99	RHR/UNIT 2 TO UNIT 3 RHR X-TIE ISOLATION VALVE	1, 3, 4, 5
2-FCV-75-11	CS/PUMP 2C SUCTION ISOLATION VALVE	5
2-FCV-75-2	CS/PUMP 2A SUCTION ISOLATION VALVE	5
2-FCV-75-22	CS/PUMPS 2A & 2C TEST ISOLATION VALVE	5
2-FCV-75-23	CS/DIV I OUTBOARD INJECTION VALVE	5
2-FCV-75-25	CS/DIV I INBOARD INJECTION VALVE	5
2-FCV-75-26	CS/DIV I TESTABLE CHECK VALVE	5
2-FCV-75-30	CS/PUMP 2B SUCTION ISOLATION VALVE	5
2-FCV-75-37	CS/PUMPS 2B & 2D MINI-FLOW VALVE	5
2-FCV-75-39	CS/PUMP 2D SUCTION ISOLATION VALVE	5
2FCV-75-50	CS/PUMPS 2B & 2D TEST ISOLATION VALVE	4, 5
2-FCV-75-51	CS/DIV II OUTBOARD DISCHARGE VALVE	5
2-FCV-75-53	CS/DIV II INBOARD DISCHARGE VALVE	5
2-FCV-75-54	CS/DIV II TESTABLE CHECK VALVE	5
2-FCV-75-57	PSC PUMP SUCTION ISOLATION VALVE	5
2-FCV-75-58	PSC PUMP SUCTION ISOLATION VALVE	5
2-FCV-75-9	CS/PUMPS 2A & 2C MINI-FLOW VALVE	5
2-FCV-76-17	CONTAINMENT INERTING N2 MAKEUP	4, 5
2-FCV-76-24	PRIMARY CONTAINMENT ISOLATION VALVE	4, 5
2-FCV-77-15B	DRYWELL EQUIPMENT DRAIN SUMP DISCHARGE	5
2-FCV-77-2B	DRYWELL FLOOR DRAIN SUMP DISCHARGE	5
2-FCV-78-61	FCP/SPENT FUEL POOL COOLING X-TIE TO RHR	0
2-FCV-84-19	CAD ISOLATION VALVE	4, 5

2-FCV-84-20	CAD ISOLATION VALVE	4, 5
2-FCV-85-37C	CRD\WEST SDV DRAIN VALVE	4, 5
2-FCV-85-37D	CRD\WEST SDV DRAIN VALVE	4, 5
2-FCV-85-37E	CRD\EAST SDV DRAIN VALVE	4, 5
2-FCV-85-37F	CRD\EAST SDV DRAIN VALVE	4, 5
2-FCV-85-82	CRD\WEST SDV VENT VALVE	4, 5
2-FCV-85-82A	CRD\WEST SDV VENT VALVE	4, 5
2-FCV-85-83	CRD\EAST SDV VENT VALVE	4, 5
2-FCV-85-83A	CRD\EAST SDV VENT VALVE	4, 5
2-FI-23-36	RHRSW HX A FLOW INDICATOR	0
2-FI-23-42	RHRSW HX C FLOW INDICATOR	0
2-FI-23-48	RHRSW HX B FLOW INDICATOR	0
2-FI-23-54	RHRSW HX D FLOW INDICATOR	0
2-FI-74-50	RHR/LOOP I FLOW INDICATOR	1, 3, 4, 5
2-FI-74-56	RHR/LOOP I FLOW INDICATOR	1, 3, 4, 5
2-FI-74-64	RHR/LOOP II FLOW INDICATOR	1, 3, 4, 5
2-FI-74-70	RHR/LOOP II FLOW INDICATOR	1, 3, 4, 5
2-FI-75-21	CS/PUMPS 2A & 2C FLOW INDICATOR	5
2-FI-75-49	CS/PUMPS 2B & 2D FLOW INDICATOR	5
2-FSV-43-50	PASS LIQUID SAMPLE VALVE	5
2-FSV-84-48	CAD/CAD SYSTEM "A" TO UNIT 2 DRYWELL CONTROL AIR	4, 5
2-FSV-84-49	CAD/CAD SYSTEM "B" TO UNIT 2 DRYWELL CONTROL AIR	4, 5
2-FSV-84-8A	CAD/CAD TO DW (2-FCV-64-18) SOLENOID VALVE	4, 5
2-FSV-84-8B	CAD/CAD TO DW (2-FCV-64-19) SOLENOID VALVE	4, 5
2-FSV-84-8C	CAD/CAD TO DW (2-FCV-64-19) SOLENOID VALVE	4, 5
2-FSV-84-8D	CAD/CAD TO DW (2-FCV-64-18) SOLENOID VALVE	4, 5
2-FSV-85-35A	CRD\BACKUP SCRAM VALVE	4, 5
2-FSV-85-35B	CRD\BACKUP SCRAM VALVE	4, 5
2-FSV-85-37A	CRD\SCRAM DUMP VALVE	4, 5
2-FSV-85-37B	CRD\SCRAM DUMP VALVE	4, 5
2-HCU-85,1-185	CRD\HYDRAULIC CONTROL UNIT	0
2-HEX-67-915	EECW/RHR SEAL HX 2A	2, 3, 4
2-HEX-67-916	EECW/RHR SEAL HX 2C	2, 3, 4

2-HEX-67-923	EECW/RHR SEAL HX 2B	2, 3, 4
2-HEX-67-924	EECW/RHR SEAL HX 2D	2, 3, 4
2-HEX-74-900A	RHR/HEAT EXCHANGER 2A	1, 3, 4, 5
2-HEX-74-900B	RHR/HEAT EXCHANGER 2B	1, 3, 4, 5
2-HEX-74-900C	RHR/HEAT EXCHANGER 2C	1, 3, 4, 5
2-HEX-74-900D	RHR/HEAT EXCHANGER 2D	1, 3, 4, 5
2-HS-23-24B	LOCAL HS STATION	0
2-HS-23-40B	LOCAL HS STATION	0
2-HS-23-46B	LOCAL HS STATION	0
2-HS-23-52B	LOCAL HS STATION	0
2-HS-23-57B	HANDSWITCH FOR 2-FCV-23-57 (8026)	0
2-HS-64-68	HANDSWITCH FOR 2-CLR-67-917 (4006)	0
2-HS-64-69	HANDSWITCH FOR 2-CLR-67-918 (4049)	0
2-HS-64-70	HANDSWITCH FOR 2-CLR-67-921 (4008)	0
2-HS-64-71	HANDSWITCH FOR 2-CLR-67-922 (4051)	0
2-HS-64-72	HANDSWITCH FOR 2-CLR-67-919 (4007)	0
2-HS-64-73	HANDSWITCH FOR 2-CLR-67-920 (4050)	0
2-HS-69-2B	HANDSWITCH FOR 2-FCV-69-2 (3034)	0
2-HS-71-18B	HANDSWITCH FOR 2-FCV-71-18 (3040)	0
2-HS-71-2B	HANDSWITCH FOR 2-FCV-71-2 (3038)	0
2-HS-73-27B	HANDSWITCH FOR 2-FCV-73-27 (3044)	0
2-HS-73-3B	HANDSWITCH FOR 2-FCV-73-3 (3042)	0
2-HS-73-81B	HANDSWITCH FOR 2-FCV-73-81 (3043)	0
2-HS-74-0005B	LOCAL HS STATION - RHR PUMP 2A	1, 3, 4, 5
2-HS-74-0016B	LOCAL HS STATION - RHR PUMP 2C	1, 3, 4, 5
2-HS-74-0028B	LOCAL HS STATION - RHR PUMP 2B	1, 3, 4, 5
2-HS-74-0039B	LOCAL HS STATION - RHR PUMP 2D	1, 3, 4, 5
2-HS-74-100B	HANDSWITCH FOR 2-FCV-74-100 (1010)	1, 3, 4, 5
2-HS-74-101B	HANDSWITCH FOR 2-FCV-74-101 (1038)	1, 3, 4, 5
2-HS-74-12B	HANDSWITCH FOR 2-FCV-74-12 (1011)	1, 3, 4, 5
2-HS-74-13B	HANDSWITCH FOR 2-FCV-74-13 (1012)	1, 3, 4, 5
2-HS-74-1B	HANDSWITCH FOR 2-FCV-74-1 (1001)	1, 3, 4, 5
2-HS-74-24B	HANDSWITCH FOR 2-FCV-74-24 (1029)	1, 3, 4, 5

2-HS-74-25B	HANDSWITCH FOR 2-FCV-74-25 (1030)	1, 3, 4, 5
2-HS-74-2B	HANDSWITCH FOR 2-FCV-74-2 (1002)	1, 3, 4, 5
2-HS-74-30B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-35B	HANDSWITCH FOR 2-FCV-74-35 (1039)	1, 3, 4, 5
2-HS-74-36B	HANDSWITCH FOR 2-FCV-74-36 (1040)	1, 3, 4, 5
2-HS-74-47B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-52B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-53B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-57B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-58B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-59B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-60B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-61B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-66B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-67B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-71B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-72B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-73B	HANDSWITCH FOR 2-FCV-74-73 (1049)	1, 3, 4, 5
2-HS-74-75B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-7B	LOCAL HS STATION	1, 3, 4, 5
2-HS-74-96B	HANDSWITCH FOR 2-FCV-74-96 (1003)	1, 3, 4, 5
2-HS-74-97B	HANDSWITCH FOR 2-FCV-74-97 (1013)	1, 3, 4, 5
2-HS-74-98B	HANDSWITCH FOR 2-FCV-74-98 (1031)	1, 3, 4, 5
2-HS-74-99B	HANDSWITCH FOR 2-FCV-74-99 (1041)	1, 3, 4, 5
2-HS-75-0005B	LOCAL HS STATION - CS PUMP 2A	5
2-HS-75-0014B	LOCAL HS STATION - CS PUMP 2C	5
2-HS-75-0033B	LOCAL HS STATION - CS PUMP 2B	5
2-HS-75-0042B	LOCAL HS STATION - CS PUMP 2D	5
2-HS-75-11B	HANDSWITCH FOR 2-FCV-75-11 (5006)	5
2-HS-75-22B	HANDSWITCH FOR 2-FCV-75-22 (5010)	5
2-HS-75-23B	HANDSWITCH FOR 2-FCV-75-23 (5012)	5
2-HS-75-25B	LOCAL HS STATION	5
2-HS-75-2B	HANDSWITCH FOR 2-FCV-75-2 (5001)	5

2-HS-75-30B	HANDSWITCH FOR 2-FCV-75-30 (5015)	5
2-HS-75-37B	LOCAL HS STATION	5
2-HS-75-39B	HANDSWITCH FOR 2-FCV-75-39 (5020)	5
2-HS-75-50B	HANDSWITCH FOR 2-FCV-75-50 (5024)	5
2-HS-75-51B	HANDSWITCH FOR 2-FCV-75-51 (5026)	5
2-HS-75-53B	LOCAL HS STATION	5
2-HS-75-9B	LOCAL HS STATION	5
2-HS-78-61B	HANDSWITCH FOR 2-FCV-75-61 (1026	0
2-HS-99-5A/S3A	RPS\REACTOR MANUAL SCRAM CHANNEL A3	0
2-HS-99-5A/S3B	RPS\REACTOR MANUAL SCRAM CHANNEL B3	0
2-HS-99-5A-S1	RPS\REACTOR MODE SWITCH	0
2-INV-256-0001	DIVISION I ECCS ATU INVERTER	0
2-INV-256-0002	DIVISION II ECCS ATU INVERTER	0
2-JBOX-23-2115	JUNCTION BOX (TERM BLOCK) - SEALED BOX	0
2-JBOX-23-2116	JUNCTION BOX (TERM BLOCK) - SEALED BOX	0
2-JBOX-253-7192	DISC SW BOX (I&C BUS A)	0
2-JBOX-253-7193	I&C BUS BREAKER BOX BUS 2A	0
2-JBOX-253-7194	DISC SW BOX (I&C BUS A)	0
2-JBOX-253-7195	DISC SW BOX (I&C BUS B)	0
2-JBOX-253-7196	I&C BUS BREAKER BOX BUS 2B	0
2-JBOX-253-7197	DISC SW BOX (I&C BUS B)	0
2-JBOX-256-9722	DIV I ECCS ATO INV FUSE BOX	0
2-JBOX-258-5990	MG SET 2DN CONTROL STATION (2-HS-268-002DN)	0
2-JBOX-258-5992	MG SET 2EN CONTROL STATION (2-HS-268-002EN)	0
2-JBOX-268-5951	MG SET 2DN CONTROL BOX	0
2-JBOX-268-5952	MG SET 2DA CONTROL BOX (RELAYS)	0
2-JBOX-268-5953	MG SET 2EN CONTROL BOX	0
2-JBOX-268-5954	MG SET 2EA CONTROL BOX (RELAYS)	0
2-JBOX-268-5991	MG SET 2DA CONTROL STATION (2-HS-268-0002DA)	0
2-JBOX-268-5993	MG SET 2EA CONTROL STATION (2-HS-268-0002EA)	0
2-JBOX-70-2111	JUNCTION BOX (TERM BLOCK) - SEALED BOX	4, 5
2-JBOX-74-2132	JUNCTION BOX (TERM BLOCK) - SEALED BOX	1, 3, 4, 5
2-JBOX-74-2134	JUNCTION BOX (TERM BLOCK) - SEALED BOX	1, 3, 4, 5

2-JBOX-74-2146	JUNCTION BOX (TERM BLOCK) - SEALED BOX	1, 3, 4, 5
2-JBOX-74-2255	JUNCTION BOX (TERM BLOCK) - SEALED BOX	1, 3, 4, 5
2-JBOX-74-2296	JUNCTION BOX (TERM BLOCK) - SEALED BOX	1, 3, 4, 5
2-JBOX-74-2309	JUNCTION BOX (TERM BLOCK) - SEALED BOX	1, 3, 4, 5
2-JBOX-74-2938	JUNCTION BOX (TERM BLOCK) - SEALED BOX	1, 3, 4, 5
2-JBOX-75-1222	JUNCTION BOX (TERM BLOCK) - SEALED BOX	5
2-JBOX-75-1223	JUNCTION BOX (TERM BLOCK) - SEALED BOX	5
2-JBOX-75-2237	JUNCTION BOX (TERM BLOCK) - SEALED BOX	5
2-JBOX-75-2246	JUNCTION BOX (TERM BLOCK) - SEALED BOX	5
2-JOB-74-2310	JUNCTION BOX (TERM BLOCK) - SEALED BOX	1, 3, 4, 5
2-LI-3-58A	RPV LEVEL INSTRUMENT	2, 4, 5
2-LI-3-58-B	RPV LEVEL INSTRUMENT	2, 4, 5
2-LI-64-159A	TORUS LEVEL INSTRUMENT	0
2-LNPL-925-0223	LOCAL PANEL 2-25-223	0
2-LNPL-927-0007A	LOCAL PABNEL 2-25-7A	0
2-LNPL-927-0007B	LOCAL PABNEL 2-25-7B	0
2-LPNL-925-0001	PANEL 25-0001	0
2-LPNL-925-0027	PANEL 2-25-27 IRM PREAMP. RPS I	0
2-LPNL-925-0031	PANEL 25-31	0
2-LPNL-925-0032	PANEL 25-32	0
2-LPNL-925-0059	LOCAL PANEL 25-59	0
2-LPNL-925-005A	LOCAL PANEL 25-5A	0
2-LPNL-925-005B	LOCAL PANEL 25-5B	0
2-LPNL-925-005D	LOCAL PANEL 25-5D	0
2-LPNL-925-0060	PANEL 25-60	0
2-LPNL-925-0061	PANEL 2-25-61 IRM PREAMP. RPS II	0
2-LPNL-925-0062	LOCAL PANEL 25-62	0
2-LPNL-925-006A	LOCAL PANEL 25-6A	0
2-LPNL-925-006D	LOCAL PANEL 25-6D	0
2-LPNL-925-044A/11	PANEL 25-44A11	0
2-LPNL-925-044A/12	PANEL 25-44A12	0
2-LPNL-925-044B/11	PANEL 25-44B11	0
2-LPNL-925-044B/12	PANEL 25-44B12	0

2-LPNL-925-247A	LOCAL PANEL 2-25-247A (CAD DRYWELL & SUPP. CHAM. V.)	0
2-LPNL-925-247B	LOCAL PANEL 2-25-247B (CAD N2 SUPPLY PNL B)	0
2-MGEN-268-0002DA	LPCI MG SET 2DA	0
2-MGEN-268-0002DN	LPCI M-G SET 2DN	0
2-MGEN-268-0002EA	LPCI MG SET 2EA	0
2-MGEN-268-0002EN	LPCI M-G SET 2EN	0
2-NM-92-7/41A	CHANNEL "A" IRM INDICATOR	0
2-NM-92-7/41A	CHANNEL "A" IRM INDICATOR	0
2-NM-92-7/41B	CHANNEL "B" IRM INDICATOR	0
2-NM-92-7/41B	CHANNEL "B" IRM INDICATOR	0
2-NM-92-7/41C	CHANNEL "C" IRM INDICATOR	0
2-NM-92-7/41D	CHANNEL "D" IRM INDICATOR	0
2-PCV-1-179	MS/MAIN STEAM SAFETY RELIEF VALVE	4, 5
2-PCV-1-18	MS/MAIN STEAM SAFETY RELIEF VALVE	4, 5
2-PCV-1-180	MS/MAIN STEAM SAFETY RELIEF VALVE	4, 5
2-PCV-1-19	MS/MAIN STEAM SAFETY RELIEF VALVE	4, 5
2-PCV-1-22	MS/MAIN STEAM SAFETY RELIEF VALVE	4, 5
2-PCV-1-23	MS/MAIN STEAM SAFETY RELIEF VALVE	4, 5
2-PCV-1-30	MS/MAIN STEAM SAFETY RELIEF VALVE	4, 5
2-PCV-1-31	MS/MAIN STEAM SAFETY RELIEF VALVE	4, 5
2-PCV-1-34	MS/MAIN STEAM SAFETY RELIEF VALVE	4, 5
2-PCV-1-4	MS/MAIN SAFETY RELIEF VALVE	4, 5
2-PCV-1-41	MS/MAIN STEAM SAFETY RELIEF VALVE	4, 5
2-PCV-1-42	MS/MAIN STEAM SAFETY RELIEF VALVE	4, 5
2-PCV-1-5	MS/MAIN STEAM SAFETY RELIEF VALVE	4, 5
2-PI-3-74B	RPV PRESSURE INSTRUMENT	2, 4, 5
2-PI-64-160A	DRYWELL PRESSURE INSTRUMENT	0
2-PI-64-67B	DRYWELL PRESSURE INSTRUMENT	0
2-PL-3-74A	RPV PRESSURE INSTRUMENT	2, 4, 5
2-PMP-74-16	RHR/PUMP 2C	1, 3, 4, 5
2-PMP-74-28	RHR/PUMP 2B	1, 3, 4, 5
2-PMP-74-39	RHR/PUMP 2D	1, 3, 4, 5
2-PMP-74-5	RHR/PUMP 2A	1, 3, 4, 5

2-PMP-75-14	CS/PUMP 2C	5
2-PMP-75-33	CS/PUMP 2B	5
2-PMP-75-42	CS/PUMP 2D	5
2-PMP-75-5	CS/PUMP 2A	5
2-PNLA-009-0003	PANEL 1-9-3	0
2-PNLA-009-0003A	PANEL 9-3A	0
2-PNLA-009-0003B	PANEL 9-3B	0
2-PNLA-009-0004	PANEL 9-4	0
2-PNLA-009-0005	PANEL 9-5	0
2-PNLA-009-0006	PANEL 9-6	0
2-PNLA-009-0008	PANEL 2-9-8	0
2-PNLA-009-0009	PANEL 9-9	0
2-PNLA-009-0015	PANEL 9-15	0
2-PNLA-009-0017	PANEL 9-17	0
2-PNLA-009-0018	PANEL 9-18	0
2-PNLA-009-0019	PANEL 9-19	0
2-PNLA-009-0020	PANEL 2-9-20	0
2-PNLA-009-0021	PANEL 9-21	0
2-PNLA-009-0030	PANEL 9-30	0
2-PNLA-009-0032	PANEL 9-32	0
2-PNLA-009-0033	PANEL 9-33	0
2-PNLA-009-0036A	PANEL 2-9-36A	0
2-PNLA-009-0039	PANEL 9-39	0
2-PNLA-009-0042	PANEL 9-42	0
2-PNLA-009-0043	PANEL 9-43	0
2-PNLA-009-0054	PANEL 9-54	0
2-PNLA-009-0055	PANEL 9-55	0
2-PNLA-009-0081	PANEL 9-81	0
2-PNLA-009-0082	PANEL 9-82	0
2-PNLA-009-0083	PANEL 9-83	0
2-PNLA-009-0084	PANEL 9-84	0
2-PNLA-009-0085	PANEL 9-85	0
2-PNLA-009-0086	PANEL 9-86	0

2-PNLA-009-0087	PANEL 9-87	0
2-PNLA-009-0088	PANEL 9-88	0
2-PNLA-009-0093	CONTROL PANEL 9-93	0
2-PNLA-009-012	PANEL 2-9-12	0
2-PREG-84-52	CAD/CAD SYSTEM "A" TO UNIT 2 DRYWELL CONTROL AIR	0
2-PREG-84-54	CAD/CAD SYSTEM "B" TO UNIT 2 DRYWELL CONTROL AIR	0
2-PS-67-50	PRESSURE SWITCH FOR 2-FCV-67-50 (4017)	0
2-PS-67-51	PRESSURE SWITCH FOR 2-FCV-67-51 (4060)	0
2-PSV-1-179	MS/SOLENOID VALVE FOR PCV-1-179	4, 5
2-PSV-1-18	MS/SOLENOID VALVE FOR PCV-1-18	4, 5
2-PSV-1-180	MS/SOLENOID VALVE FOR PCV-1-180	4, 5
2-PSV-1-19	MS/SOLENOID VALVE FOR PCV-1-19	4, 5
2-PSV-1-22	MS/SOLENOID VALVE FOR PCV-1-22	4, 5
2-PSV-1-23	MS/SOLENOID VALVE FOR PCV-1-23	4, 5
2-PSV-1-30	MS/SOLENOID VALVE FOR PCV-1-30	4, 5
2-PSV-1-31	MS/SOLENOID VALVE FOR PCV-1-31	4, 5
2-PSV-1-34	MS/SOLENOID VALVE FOR PCV-1-34	4, 5
2-PSV-1-4	MS/SOLENOID VALVE FOR PCV-1-4	4, 5
2-PSV-1-41	MS/SOLENOID VALVE FOR PCV-1-41	4, 5
2-PSV-1-42	MS/SOLENOID VALVE FOR PCV-1-42	4, 5
2-PSV-1-5	MS/SOLENOID VALVE FOR PCV-1-5	4, 5
2-PX-64-159A	POWER SUPPLY (PNL 2-9-18)	0
2-PX-64-159B	POWER SUPPLY (PNL 9-19)	0
2-PX-64-160A	POWER SUPPLY (PNL 2-9-18)	0
2-PX-64-160B	POWER SUPPLY (PNL 9-19)	0
2-PX-64-161	POWER SUPPLY (PNL 9-87)	0
2-PX-64-162	POWER SUPPLY (PNL 9-88)	0
2-PX-64-50	POWER SUPPLY (PNL 25-32)	0
2-PX-64-67B	POWER SUPPLY (PNL 2-9-19;SUPPORTS 2-PI-64-67B)	0
2-PX-71-60-1	ECCS ATU CAB 2-9-81 POWER SUPPLY	0
2-PX-71-60-1A	ECCS ATU CAB 2-9-81 POWER SUPPLY	0
2-PX-71-60-2	ECCS ATU CAB 2-9-82 POWER SUPPLY	0
2-PX-71-60-2A	ECCS ATU CAB 2-9-82 POWER SUPPLY	0

2-PX-74-56	POWER SUPPLY (PNL 2-9-18)	1, 3, 4, 5
2-PX-74-70	POWER SUPPLY (2-9-19)	1, 3, 4, 5
2-PXMC-23-114	POWER SUPPLY (PNL 2-9-18)	0
2-PXMC-23-115	POWER SUPPLY (PNL 2-9-19)	0
2-TI-64-161	TORUS TEMPERATURE INSTRUMENT	0
2-TI-64-162	TORUS TEMPERATURE INSTRUMENT	0
2-TI-64-52AB	DRYWELL TEMPERATURE INSTRUMENT	0
2-TNK-85-901	CRD\WEST SCRAM INSTRUMENT VOLUME	4
2-TNK-85-902	CRD\EAST SCRAM INSTRUMENT VOLUME	4
2-TS-1-17A	MAIN STEAM VAULT TEMPERATURE SWITCH	4, 5
2-TS-1-17B	MAIN STEAM VAULT TEMPERATURE SWITCH	4, 5
2-TS-1-17C	MAIN STEAM VAULT TEMPERATURE SWITCH	4, 5
2-TS-1-17D	MAIN STEAM VAULT TEMPERATURE SWITCH	4, 5
2-TS-1-29A	MAIN STEAM TUNNEL TEMPERATURE SWITCH	4, 5
2-TS-1-29B	MAIN STEAM TUNNEL TEMPERATURE SWITCH	4, 5
2-TS-1-29C	MAIN STEAM TUNNEL TEMPERATURE SWITCH	4, 5
2-TS-1-29D	MAIN STEAM TUNNEL TEMPERATURE SWITCH	4, 5
2-TS-1-40A	MAIN STEAM TUNNEL TEMPERATURE SWITCH	4, 5
2-TS-1-40B	MAIN STEAM TUNNEL TEMPERATURE SWITCH	4, 5
2-TS-1-40C	MAIN STEAM TUNNEL TEMPERATURE SWITCH	4, 5
2-TS-1-40D	MAIN STEAM TUNNEL TEMPERATURE SWITCH	4, 5
2-TS-1-54A	MAIN STEAM TUNNEL TEMPERATURE SWITCH	4, 5
2-TS-1-54B	MAIN STEAM TUNNEL TEMPERATURE SWITCH	4, 5
2-TS-1-54C	MAIN STEAM TUNNEL TEMPERATURE SWITCH	4, 5
2-TS-1-54D	MAIN STEAM TUNNEL TEMPERATURE SWITCH	4, 5
2-TS-64-68	TEMPERATURE SWITCH FOR 2-CLR-67-917 (4006)	4
2-TS-64-69	TEMPERATURE SWITCH FOR 2-CLR-67-918 (4049)	4
2-TS-64-70	TEMPERATURE SWITCH FOR 2-CLR-67-921 (4008)	4
2-TS-64-71	TEMPERATURE SWITCH FOR 2-CLR-67-922 (4051)	4
2-TS-64-72	TEMPERATURE SWITCH FOR 2-CLR-67-919 (4007)	4
2-TS-64-73	TEMPERATURE SWITCH FOR 2-CLR-67-920 (4050)	4
2-XFA-231-TS2A	4KV/480V XFMR TS2A	0
2-XFA-231-TS2B	4KV/480V XFMR TS2B	0

2-XFA-253-0002A1	480V-120/208V XFMR FOR I&C BUS 2A	0
2-XFA-253-0002A2	208V/120V REG XFMR FOR I&C BUS 2A	0
2-XFA-253-0002B1	480V-120/208V XFMR FOR I&C BUS 2B	0
2-XFA-253-0002B2	208V/120V REG XFMR FOR I&C BUS 2B	0
2-XR-64-159	TORUS LEVEL AND DRYWELL PRESSURE INSTRUMENT	0
2-XR-64-50	DRYWELL TEMPERATURE AND PRESSURE DEVICE	0

Appendix C: Base List 2

TVA UNID	Description
BFN-2-ZI-078-0038	BFN-2-ZI-078-0038, FUEL POOL F/D B HEAD VENT VLV.
BFN-2-TTIV-078-0004	BFN-2-TTIV-078-0004, INSTR TEST VLV FOR 2-LI-78-4
BFN-2-SHV-024-0789	BFN-2-SHV-024-0789, HDR ISOL TO CRD PUMPS
BFN-2-BKR-078-0065	BFN-2-BKR-078-0065, F/D BYPASS ISOL VALVE B
BFN-2-HS-078-0066A	BFN-2-HS-078-0066A, FILTER DEMIN BYPASS A VALVE
BFN-2-ISV-067-0789	BFN-2-ISV-067-0789, EMER SOUTH HDR SUPPLY
BFN-2-SHV-044-0781	BFN-2-SHV-044-0781, TB 2B HTG COIL SPLY VLV
BFN-2-SHV-026-0785	BFN-2-SHV-026-0785, SOL PILOT MAIN TURB OIL SHUTOFF VLV
BFN-2-RTV-078-6001	BFN-2-RTV-078-6001, RT VLV TO LS-78-1A, 1B, 1C, 1D, 1E, 1F, & 1G
BFN-2-EQIV-003-0078A	BFN-2-EQIV-003-0078A, INSTR EQG VLV FOR FT-3-78A
BFN-2-JBOX-078-4122	BFN-2-JBOX-078-4122, JUNCTION BOX
BFN-2-BKR-078-0061	BFN-2-BKR-078-0061, POOL MAKEUP FROM RHR INBOARD VALVE
BFN-2-ISV-033-0789	BFN-2-ISV-033-0789, 1" SA SERVICE CONN VLV
BFN-2-SHV-002-0785	BFN-2-SHV-002-0785, CNDS BSTR PMP 2B H2 INJ ISOL VLV
BFN-2-BKR-078-0067	BFN-2-BKR-078-0067, REACTOR WELL INFLUENT OUTBOARD VALVE
BFN-2-BKR-027-0078	BFN-2-BKR-027-0078, COND C CCW OUTLET SO VALVE SS
BFN-2-ISV-033-0787	BFN-2-ISV-033-0787, 1" SA SERVICE CONN VLV
BFN-2-BKR-066-0078	BFN-2-BKR-066-0078, RECOMBINER A DISCHARGE 480 TMOV BD 2C/11DR
BFN-2-IL-078-0001E/GA	BFN-2-IL-078-0001E/GA, SKIMMER SURGE TANK LEVEL LOW LOW ISOL
BFN-2-SHV-044-0787	BFN-2-SHV-044-0787, TB 2B HTG COIL SPLY VLV
BFN-2-RLY-078-0R5B	BFN-2-RLY-078-0R5B, FPC DEMIN STEP SW 1B RELAY
BFN-2-BKR-078-0063	BFN-2-BKR-078-0063, F/D INFLUENT INBOARD ISOL VLV
BFN-2-ISIV-003-6078	BFN-2-ISIV-003-6078, DCN T36813, DIP
BFN-2-BKR-074-0078	BFN-2-BKR-074-0078, BREAKER FOR FCV-74-78 480V RMOV BD 2A/8E
BFN-2-ISV-067-0787	BFN-2-ISV-067-0787, EMER NORTH HDR SUPPLY
BFN-2-ISV-026-0787	BFN-2-ISV-026-0787, FIRE PMP CONT SHUTOFF TO MAIN TURB OIL
BFN-2-ZI-078-0036	BFN-2-ZI-078-0036, FUEL POOL F/D B VESSEL VENT VLV
BFN-2-HS-078-0048	BFN-2-HS-078-0048, FUEL POOL F/D B AIR INLET VLV
BFN-2-TTIV-078-0009	BFN-2-TTIV-078-0009, INSTR TEST VLV FOR 2-PS-78-9
BFN-2-FU3-078-0010	BFN-2-FU3-078-0010, 7C FUEL POOL COOLING PUMP 2A
BFN-2-ZI-078-0035	BFN-2-ZI-078-0035, FUEL POOL F/D B BACKWASH DRAIN VLV
BFN-2-BKR-078-0068	BFN-2-BKR-078-0068, REACTOR WELL INFLUENT INBOARD VALVE
BFN-2-SHV-002-0784	BFN-2-SHV-002-0784, CNDS BSTR PMP 2A H2 INJ ISOL VLV
BFN-2-ISV-033-0788	BFN-2-ISV-033-0788, 1" SA SERVICE CONN VLV
BFN-2-JBOX-078-4286	BFN-2-JBOX-078-4286, JUNCTION BOX W/HS-78-62B

BFN-2-BKR-078-0064	BFN-2-BKR-078-0064, F/D INFLUENT OUTBOARD ISOL VLV
BFN-2-SHV-044-0780	BFN-2-SHV-044-0780, TB SEC PMP 2B DISCH VLV
BFN-2-ISV-043-0780	BFN-2-ISV-043-0780, AUX BOILER CNDS XFER PMP-GRAB
BFN-2-ISV-067-0788	BFN-2-ISV-067-0788, EMER SOUTH HDR SUPPLY
BFN-2-@SG-085-1078	BFN-2-@SG-085-1078, ROD 54-31 SELECTED AND DRIFT IND
BFN-2-PISV-003-9078H	BFN-2-PISV-003-9078H, HIGH SIDE PANEL ISOL VALVE TO 2-LT-3-58A
BFN-2-ISV-033-0784	BFN-2-ISV-033-0784, BRANCH SHUTOFF TO PRIMARY CONTAINMENT
BFN-2-FCV-078-0019	BFN-2-FCV-078-0019, FUEL POOL F/D B INFLUENT VLV
BFN-2-THV-044-0788	BFN-2-THV-044-0788, TB 2B HTG COIL OUTLET VLV
BFN-2-IL-078-0001E/GB	BFN-2-IL-078-0001E/GB, SKIMMER SURGE TANK LEVEL LOW LOW ISOL
BFN-2-SHV-002-0786	BFN-2-SHV-002-0786, CNDS BSTR PMP 2C H2 INJ ISOL VLV
BFN-2-BKR-078-0062	BFN-2-BKR-078-0062, 480V REAC MOV BD 2A (COMPT 4B)
BFN-2-ISV-067-0786	BFN-2-ISV-067-0786, EMER NORTH HDR SUPPLY
BFN-2-ISV-033-0786	BFN-2-ISV-033-0786, 1" SA SERVICE CONN VLV
BFN-2-ISV-026-0782	BFN-2-ISV-026-0782, TURBINE HEAD END SHUTOFF VLV
BFN-2-FU1-078-0042A	BFN-2-FU1-078-0042A, 19AF3
BFN-2-ZI-078-0033	BFN-2-ZI-078-0033, FUEL POOL F/D B HOLDING VLV
BFN-2-SHV-044-0782	BFN-2-SHV-044-0782, TB 2B HTG COIL OUTLET VLV
BFN-2-HS-078-0045	BFN-2-HS-078-0045, FUEL POOL F/D D UNIT2 INLET VLV--OUTLET VLV
BFN-2-HS-078-0066B	BFN-2-HS-078-0066B, F/D BYPASS ISOL VALVE A
BFN-2-BKR-078-0066	BFN-2-BKR-078-0066, F/D BYPASS ISOL VALVE A
BFN-2-TW-078-0008	BFN-2-TW-078-0008, SKIMMER SURGE TANK DISCHARGE TEMP
BFN-2-ZI-078-0068A	BFN-2-ZI-078-0068A, REACTOR WELL INFLUENT INBOARD VLV
BFN-2-PMP-078-0010	BFN-2-PMP-078-0010, FUEL POOL COOLING PUMP 2A
BFN-2-IL-078-0001AB	BFN-2-IL-078-0001AB, SKIMMER SURGE TANK LEVEL HIGH
BFN-2-@RP-085-0781/G3	BFN-2-@RP-085-0781/G3, GROUP 3 PILOT SCRAM VLV SOLENOID
BFN-2-@RM-090-0780/II	BFN-2-@RM-090-0780/II, 2-RE-90-141A, SIGNAL AND SUPPLY POWER
BFN-2-FU2-078-0063B	BFN-2-FU2-078-0063B, CONTROL CIRCUIT
BFN-2-JBOX-001-6078	BFN-2-JBOX-001-6078, JUNCTION BOX W/SPLICE
BFN-2-MISC-078	BFN-2-MISC-078, MISCELLANEOUS EQUIPMENT RECORD UNIT 2 SYSTEM 078
BFN-2-FU2-078-0063A	BFN-2-FU2-078-0063A, INDICATING LIGHT
BFN-2-DRIV-003-0078AL	BFN-2-DRIV-003-0078AL, 2-FT-3-78A LOW SIDE TEST CONN ISOL VALVE
BFN-2-IL-078-0001AA	BFN-2-IL-078-0001AA, SKIMMER SURGE TANK LEVEL HIGH
BFN-2-PMP-078-0015	BFN-2-PMP-078-0015, FUEL POOL COOLING PUMP 2B
BFN-2-TW-006-0078	BFN-2-TW-006-0078, MOISTURE SEP DRAINS TO HTR B2

BFN-2-TW-002-0078	BFN-2-TW-002-0078, CNDS FROM HEATER A4
BFN-2-TW-024-0078	BFN-2-TW-024-0078, RAW COOLING WATER TO RBCCW HT EXCH A
BFN-2-ZI-078-0068B	BFN-2-ZI-078-0068B, REACTOR WELL INFLUENT INBOARD VLV
BFN-2-XDV-027-0780	BFN-2-XDV-027-0780, CNDR INLET A2 DISTRIBUTOR VLV
BFN-2-PISV-023-9078L	BFN-2-PISV-023-9078L, LOW SIDE PNL ISOL VLV TO 2-FT-23-48
BFN-2-FU1-078-0007A	BFN-2-FU1-078-0007A, 19AF10
BFN-2-XDV-027-0788	BFN-2-XDV-027-0788, S CNDR INLET C1 DISTRIBUTOR VLV
BFN-2-XDV-027-0784	BFN-2-XDV-027-0784, N CNDR INLET B1 DISTRIBUTOR VLV
BFN-2-@V-078-2801	BFN-2-@V-078-2801, CABLE, FCV-78-67 CONTROL
BFN-2-FU1-078-25-015B	BFN-2-FU1-078-25-015B, 19AF8
BFN-2-CKV-078-0590	BFN-2-CKV-078-0590, FROM FUEL POOL DEMINS INBD CK VLV
BFN-2-FE-003-0078A	BFN-2-FE-003-0078A, RFW FLOW TO REACTOR LINE A
BFN-2-XDV-027-0782	BFN-2-XDV-027-0782, S CNDR INLET B1 DISTRIBUTOR VLV
BFN-2-@V-078-2803	BFN-2-@V-078-2803, CABLE, FCV -78-67 CONTROL
BFN-2-XDV-027-0786	BFN-2-XDV-027-0786, CNDR INLET B2 DISTRIBUTOR VLV
BFN-2-@V-078-2802	BFN-2-@V-078-2802, CABLE, FCV-78-67
BFN-2-XDV-027-0787	BFN-2-XDV-027-0787, N CNDR INLET B2 DISTRIBUTOR VLV
BFN-2-EQIV-003-0078B	BFN-2-EQIV-003-0078B, INSTR EQG VLV FOR FT-3-78B
BFN-2-ACC-078-0024	BFN-2-ACC-078-0024, VOLUME CHAMBER TO 2-FM-78-24A
BFN-2-XDV-027-0783	BFN-2-XDV-027-0783, CNDR INLET B1 DISTRIBUTOR VLV
BFN-2-FE-003-0078B	BFN-2-FE-003-0078B, RFW FLOW TO REACTOR LINE B
BFN-2-FSV-043-0078	BFN-2-FSV-043-0078, STEAM TO PREHEATER DRAIN VALVE
BFN-2-@V-078-2804	BFN-2-@V-078-2804, CABLE, FCV-78-67 CONTROL
BFN-2-XDV-027-0781	BFN-2-XDV-027-0781, N CNDR INLET A2 DISTRIBUTOR VLV
BFN-2-TRP-078-0754	BFN-2-TRP-078-0754, FUEL POOL RESIN TRAP
BFN-2-XDV-027-0789	BFN-2-XDV-027-0789, CNDR INLET C1 DISTRIBUTOR VLV
BFN-2-RLY-078-CR17B	BFN-2-RLY-078-CR17B, FPC DEMIN B HOLDING PMPCONTROL RLY
BFN-2-RTV-078-0206A	BFN-2-RTV-078-0206A, RT VLV TO PI-78-21B AND PDT-78-21L
BFN-2-@V-078-2800	BFN-2-@V-078-2800, CABLE, FCV-78-67 SUPPLY
BFN-2-XDV-027-0785	BFN-2-XDV-027-0785, S CNDR INLET B2 DISTRIBUTOR VLV
BFN-2-TE-085-0007-078	BFN-2-TE-085-0007-078, CRD TEMP AT DRIVE LOCATION 26-31
BFN-2-FU1-078-25-015A	BFN-2-FU1-078-25-015A, 19AF7
BFN-2-CKV-078-0591	BFN-2-CKV-078-0591, FROM FUEL POOL DEMINS OUTBD CK VLV

BFN-2-VTV-078-0009	BFN-2-VTV-078-0009, VENT VLV FOR 2-PS-78-9
BFN-2-TV-078-0561	BFN-2-TV-078-0561, CANAL DR TO FP SYS
BFN-2-SHV-078-0524	BFN-2-SHV-078-0524, POOL DIFFUSER A SHUTOFF VLV
BFN-2-TIS-078-0034	BFN-2-TIS-078-0034, FUEL POOL F/D B INFLUENT TEMP HIGH
BFN-2-#V-078-2874	BFN-2-#V-078-2874, CONDUIT
BFN-2-HS-078-0026A	BFN-2-HS-078-0026A, FUEL POOL F/D B EFFLUENT VLV
BFN-2-DRV-078-0529	BFN-2-DRV-078-0529, RHR TEST, PURGE & DR VLV
BFN-2-ZS-078-0028B	BFN-2-ZS-078-0028B, 2-FCV-78-28 CLOSED
BFN-2-RTV-075-0078AA	BFN-2-RTV-075-0078AA, PSC WTR HD TK HIGH-HIGH LS RT VLV
BFN-2-TV-078-0566	BFN-2-TV-078-0566, FUEL STRG LINER DR TO DRW TEST CONN VLV
BFN-2-HS-078-0026B	BFN-2-HS-078-0026B, FUEL POOL F/D B RET EFFLUENT VLV
BFN-2-SHV-078-0523	BFN-2-SHV-078-0523, STORAGE POOL SUPPLY SHUTOFF VLV
BFN-2-FIS-078-0005	BFN-2-FIS-078-0005, FUEL POOL GATE LEAKAGE EXCESSIVE
BFN-2-#V-078-2871	BFN-2-#V-078-2871, CONDUIT
BFN-2-RTV-075-0078AB	BFN-2-RTV-075-0078AB, PSC WTR HD TK HIGH-HIGH LS RT VLV
BFN-2-@PL-064-1078	BFN-2-@PL-064-1078, RF SUPPLY FAN 2B CONTROL
BFN-2-SHV-078-0525	BFN-2-SHV-078-0525, POOL DIFFUSER B SHUTOFF VLV
BFN-2-RTV-078-0210A	BFN-2-RTV-078-0210A, RT VLV TO FT-78-24L
BFN-2-ZS-078-0028A	BFN-2-ZS-078-0028A, 2-FCV-78-28 OPEN
BFN-2-HS-066-0078A	BFN-2-HS-066-0078A, RECOMBINER 2A DISCHARGE VALVE
BFN-2-PIPE-078-0003	BFN-2-PIPE-078-0003, 1"LINE- 6"PIPE TO 2- VLV-78-581
BFN-2-FT-003-0078B	BFN-2-FT-003-0078B, RFW FLOW TO REACTOR LINE B
BFN-2-@RP-085-0784/G3	BFN-2-@RP-085-0784/G3, GROUP 3 PILOT SCRAM VLV SOLENOID
BFN-2-PIPE-078-0005	BFN-2-PIPE-078-0005, 1"VENT LINE- 8"PIPE TO 2-VLV-78-583
BFN-2-PIPE-078-0001	BFN-2-PIPE-078-0001, 6"PIPE- 2-FCV-78-061 TO 2-FCV-78-062
BFN-2-LI-078-0004	BFN-2-LI-078-0004, REACTOR WELL LEVEL INDICATOR
BFN-2-FU1-078-25-035BA	BFN-2-FU1-078-25-035BA, UTILITY
BFN-2-CKV-078-0556	BFN-2-CKV-078-0556, REACTOR WELL DR CK VLV
BFN-2-PIPE-078-0004	BFN-2-PIPE-078-0004, 8"PIPE- 2-VLV-78-534 TO 2-HCV-74-091
BFN-2-FT-003-0078A	BFN-2-FT-003-0078A, RFW FLOW TO REACTOR LINE A
BFN-2-CKV-078-0552	BFN-2-CKV-078-0552, SEAL RUPTURE DR TO CNDR CK VLV
BFN-2-PIPE-078-0006	BFN-2-PIPE-078-0006, .75"TEST LINE- 8"PIP E TO 2-VLV-78-535
BFN-2-HS-066-0078B	BFN-2-HS-066-0078B, RECOMBINER A DISCHARGE
BFN-2-PIPE-078-0002	BFN-2-PIPE-078-0002, .75"LINE- 6"PIPE TO 2-VLV-78-529
BFN-2-HS-027-0078B	BFN-2-HS-027-0078B, COND C CCW OUTLET SO VALVE SS

BFN-2-ZI-078-0064B	BFN-2-ZI-078-0064B, FILTER DEMIN INFLUENT OUTBOARD ISOL VLV
BFN-2-STR-078-0062	BFN-2-STR-078-0062, 480 R MOV BD 2A COMPT 4B
BFN-2-FSV-078-0026	BFN-2-FSV-078-0026, FUEL POOL F/D B EFFLUENT VLV
BFN-2-STR-078-0066	BFN-2-STR-078-0066, FVR-S1/20A CB ASSY FCV-78-66 SYS 78
BFN-2-BYV-078-0508	BFN-2-BYV-078-0508, HX B BYPASS VLV
BFN-2-RTV-078-0226A	BFN-2-RTV-078-0226A, RT VLV TO PS-78-9
BFN-2-HS-027-0078D	BFN-2-HS-027-0078D, COND C CCW OUTLET SO VALVE SS
BFN-2-ZS-078-0048B	BFN-2-ZS-078-0048B, 2-FCV-78-48 CLOSED
BFN-2-FSV-078-0028	BFN-2-FSV-078-0028, FUEL POOL F/D B PRECOAT/BACKWASH VLV
BFN-2-STR-078-0064	BFN-2-STR-078-0064, FVR-S1/20A CB ASSY FCV-78-64 SYS 78
BFN-2-HS-078-0062B	BFN-2-HS-078-0062B, POOL MAKEUP FROM RHR OUTBOARD VALVE
BFN-2-STR-078-0068	BFN-2-STR-078-0068, FVR-S1/20A CB ASSY FCV-78-68
BFN-2-SHV-078-0045	BFN-2-SHV-078-0045, SHUTOFF VLV TO 2-FSV -078-0045
BFN-2-STR-078-0061	BFN-2-STR-078-0061, FVR-S1/20A CB ASSY FCV-78-61
BFN-2-ZI-078-0064A	BFN-2-ZI-078-0064A, FILTER DEMIN INFLUENT OUTBOARD ISOL VLV
BFN-2-PISV-003-0078BH	BFN-2-PISV-003-0078BH, LOW SIDE INSTR ISOL VLV TO FT-3-78B
BFN-2-SHV-078-0042	BFN-2-SHV-078-0042, SHUTOFF VLV TO 2-FSV -078-0042
BFN-2-FU1-078-0027A	BFN-2-FU1-078-0027A, 19AF11B
BFN-2-HS-027-0078A	BFN-2-HS-027-0078A, CNDR 2C SS CCW OUTL SHUTOFF VLV
BFN-2-STR-078-0065	BFN-2-STR-078-0065, FVR-S1/20A CB ASSY FCV-78-65 SYS 78
BFN-2-HS-027-0078C	BFN-2-HS-027-0078C, COND C CCW OUTLET SO VALVE SS
BFN-2-PISV-078-0022H	BFN-2-PISV-078-0022H, HIGH SIDE PANEL ISOL VLV TO 2-PDIS-78-22
BFN-2-STR-078-0063	BFN-2-STR-078-0063, FVR-S1/20A CB ASSY FCV-78-63 SYS 78
BFN-2-ZS-078-0048A	BFN-2-ZS-078-0048A, 2-FCV-78-48 OPEN
BFN-2-FSV-078-0027	BFN-2-FSV-078-0027, FUEL POOL F/D B RET BYPASS CNDS STG VLV
BFN-2-PISV-078-0022L	BFN-2-PISV-078-0022L, LOW SIDE PANEL ISOL VLV TO 2-PDIS-78-22
BFN-2-STR-078-0067	BFN-2-STR-078-0067, FVR-S1/20A CB ASSY FCV-78-67 SYS 78
BFN-2-BYV-078-0509	BFN-2-BYV-078-0509, HX A BYPASS VLV
BFN-2-FSV-078-0023	BFN-2-FSV-078-0023, FUEL POOL F/D B PRECOAT INLET VLV
BFN-2-MTR-078-0031	BFN-2-MTR-078-0031, FUEL POOL HOLDING PUMP B MOTOR
BFN-2-EQIV-078-0022	BFN-2-EQIV-078-0022, INSTR EQUALIZING VLV FOR 2-PDIS-78-22
BFN-2-@CR-003-0786	BFN-2-@CR-003-0786, RFP DISCHARGE HEADER PRESS (A2379)

BFN-2-IL-078-0031A	BFN-2-IL-078-0031A, FUEL POOL F/D B HOLDING PUMP
BFN-2-@LS-031-0785/B2	BFN-2-@LS-031-0785/B2, CB WATER CHILLER 3B
BFN-2-@CR-092-0078	BFN-2-@CR-092-0078, CABLE, LPRM 32-09B (A2578)
BFN-2-ZS-078-0036B	BFN-2-ZS-078-0036B, 2-FCV-78-36 CLOSED
BFN-2-DRV-078-0569	BFN-2-DRV-078-0569, DR VLV TO PUMP SUCT
BFN-2-IL-078-0015B	BFN-2-IL-078-0015B, FUEL POOL COOLING PUMP 2B
BFN-2-MVOP-078-0007	BFN-2-MVOP-078-0007, DRAIN VLV TO MAIN CONDENSER
BFN-2-SHV-078-0721	BFN-2-SHV-078-0721, BYPASS VLV TO CNDS STRG TK
BFN-2-SHV-078-0725	BFN-2-SHV-078-0725, B F/D EFFLUENT SAMPLE RT VLV
BFN-2-DRV-078-0565	BFN-2-DRV-078-0565, FUEL STRG LINER DR VLV TO DRW
BFN-2-RLY-078-LR6B	BFN-2-RLY-078-LR6B, FPC VESSEL B CYCLE SELECTION RELAY
BFN-2-FU2-078-0031B	BFN-2-FU2-078-0031B, CONT CKT
BFN-2-@CR-003-0784	BFN-2-@CR-003-0784, RFP B DISCHARGE PRESS (A2377)
BFN-2-TE-078-0013	BFN-2-TE-078-0013, FPC HX 2A OUTLET
BFN-2-EQIV-078-0024	BFN-2-EQIV-078-0024, INSTR EQUALIZING VLV FOR 2-FT-78-24
BFN-2-DRV-078-0562	BFN-2-DRV-078-0562, XFR CANAL DR VALVE TO CRW
BFN-2-@CR-003-0785	BFN-2-@CR-003-0785, RFP C DISCHARGE PRESS (A2378)
BFN-2-HS-078-0007	BFN-2-HS-078-0007, DRAIN VLV TO MAIN CONDENSER
BFN-2-#V-078-2799	BFN-2-#V-078-2799, CONDUIT
BFN-2-BKR-035-0781A	BFN-2-BKR-035-0781A, CONT PWR TO THERMOSTAT T206 DEMIN CAB/8Q
BFN-2-ZS-078-0036A	BFN-2-ZS-078-0036A, 2-FCV-78-36 OPEN
BFN-2-IL-078-0015C	BFN-2-IL-078-0015C, FUEL POOL COOLING PUMP 2B
BFN-2-@J-078-4111	BFN-2-@J-078-4111, CABLE, JUMPER BETWEEN SWITCHBOARDS
BFN-2-SHV-078-0724	BFN-2-SHV-078-0724, B F/D INFLUENT SAMPLE RT VLV
BFN-2-@CR-003-0787	BFN-2-@CR-003-0787, RFW PRESS TO REACTOR (A2380)
BFN-2-IL-078-0031B	BFN-2-IL-078-0031B, FUEL POOL F/D B HOLDING PUMP
BFN-2-DRIV-074-9078	BFN-2-DRIV-074-9078, INSTR DRAIN VALVE FOR 2-PS-74-42B
BFN-2-SHV-032-2078	BFN-2-SHV-032-2078, SHUTOFF VLV TO FSV-2-213AA
BFN-2-IL-078-0015A	BFN-2-IL-078-0015A, FUEL POOL COOLING PUMP 2B
BFN-2-DRV-078-0560	BFN-2-DRV-078-0560, DRYER/SEP STORAGE POOL DR VLV TO DR CRW
BFN-2-EQIV-078-0021	BFN-2-EQIV-078-0021, INSTR EQUALIZING VLV FOR 2-PDT-78-21
BFN-2-SHV-078-0720	BFN-2-SHV-078-0720, B F/D EFFLUENT SHUTOFF VLV
BFN-2-@CR-003-0783	BFN-2-@CR-003-0783, RFP A DISCHARGE PRESS (A2376)
BFN-2-RLY-078-TDR8B	BFN-2-RLY-078-TDR8B, FPC VESSEL B OFF DELAY RELAY
BFN-2-EQIV-068-9078	BFN-2-EQIV-068-9078, INSTR EQG VALVE FOR 2-PDT-68-52
BFN-2-TE-078-0018	BFN-2-TE-078-0018, FPC HX 2B OUTLET
BFN-2-HS-047-0078A	BFN-2-HS-047-0078A, OFF (SW 29)(OCP #1)

BFN-2-@V-078-2842	BFN-2-@V-078-2842, CABLE, FCV-78-66
BFN-2-HS-078-0010B	BFN-2-HS-078-0010B, FUEL POOL COOLING PUMP A
BFN-2-HS-047-0078C	BFN-2-HS-047-0078C, RAISE (SW 25)(OCP #1)
BFN-2-FU2-078-0067B	BFN-2-FU2-078-0067B, CONTROL TRANSF
BFN-2-@V-078-2840	BFN-2-@V-078-2840, CABLE, FCV-78-66 CONTROL
BFN-2-FU2-078-0067A	BFN-2-FU2-078-0067A, INDICATING LIGHT
BFN-2-HS-047-0078D	BFN-2-HS-047-0078D, CHESTWARMING (SW 31)(OCP #1)
BFN-2-HS-078-0010A	BFN-2-HS-078-0010A, FUEL POOL COOLING PUMP 2A
BFN-2-@V-078-2841	BFN-2-@V-078-2841, CABLE, FCV-78-66 CONTROL
BFN-2-HS-047-0078B	BFN-2-HS-047-0078B, LOWER (SW26)(OCP #1)
BFN-2-FU1-078-0001E	BFN-2-FU1-078-0001E, 19AF15B
BFN-2-FSV-078-0042	BFN-2-FSV-078-0042, FUEL POOL F/D D UNIT2 INLET VLV
BFN-2-@V-078-2861	BFN-2-@V-078-2861, CABLE, LS-78-1F CONTROL
BFN-2-ZI-078-0062B	BFN-2-ZI-078-0062B, FUEL POOL MAKEUP FROM RHR OUTBOARD VLV
BFN-2-@K-244-1078	BFN-2-@K-244-1078, CODE CALL BELL PWR
BFN-2-@NM-092-0078/IB	BFN-2-@NM-092-0078/IB, CABLE 2NM78-IB, ION CH BR HIGH-VOLTAGE SPLY
BFN-2-HS-078-0068B	BFN-2-HS-078-0068B, REACTOR WELL INFLUENT INBOARD VALVE
BFN-2-FSV-078-0048	BFN-2-FSV-078-0048, FUEL POOL F/D B AIR INLET VLV
BFN-2-PISV-003-0078AH	BFN-2-PISV-003-0078AH, HIGH SIDE INSTR ISOL VLV TO FT-3-78A
BFN-2-FU2-078-0065A	BFN-2-FU2-078-0065A, INDICATING LIGHT
BFN-2-@V-078-2862	BFN-2-@V-078-2862, CABLE, LS-78-1D CONTROL
BFN-2-ZI-078-0062A	BFN-2-ZI-078-0062A, POOL MAKEUP FROM RHR OUTBOARD VLV
BFN-2-VTV-075-0078	BFN-2-VTV-075-0078, PSC WATER HEAD TANK VENT VLV
BFN-2-FSV-078-0045	BFN-2-FSV-078-0045, FUEL POOL F/D D UNIT2 OUTLET VLV
BFN-2-PISV-078-0024L	BFN-2-PISV-078-0024L, LOW SIDE PANEL ISOL VLV 2-FT-78-24
BFN-2-HS-078-0068A	BFN-2-HS-078-0068A, REACTOR WELL RETURN INBD VLV
BFN-2-FU1-078-0001D	BFN-2-FU1-078-0001D, FUSE, SKIMMER SURGE TANK - LOW LEVEL (19AF15A)
BFN-2-@V-078-2860	BFN-2-@V-078-2860, CABLE, SKIMMER SURGE TANK LEVEL ISOLATION
BFN-2-VTV-024-0780	BFN-2-VTV-024-0780, RCW DISCH VENT VLV
BFN-2-VTV-044-0784	BFN-2-VTV-044-0784, TB 2B HTG COIL VENT
BFN-2-FU2-078-0065B	BFN-2-FU2-078-0065B, CONTROL TRANSF
BFN-2-PISV-078-0024H	BFN-2-PISV-078-0024H, HIGH SIDE PANEL ISOL VLV TO 2-FT-78-24
BFN-2-PI-078-0030	BFN-2-PI-078-0030, FUEL POOL F/D B HOLD PUMP SUCTION PRESS
BFN-2-PISV-003-0078BL	BFN-2-PISV-003-0078BL, LOW SIDE INSTR ISOL VLV TO FT-3-78B
BFN-2-VTV-078-0581	BFN-2-VTV-078-0581, RHR TO FUEL STRG POOL LINE VENT VLV

BFN-2-PI-078-0032	BFN-2-PI-078-0032, FUEL POOL F/D B HOLD PUMP DISCHARGE PRESS
BFN-2-SHV-078-0506	BFN-2-SHV-078-0506, HX A-INLET VLV
BFN-2-HS-078-0028	BFN-2-HS-078-0028, FUEL POOL F/D B PRECOAT/BACKWASH VLV
BFN-2-VTV-078-0583	BFN-2-VTV-078-0583, FPC TO RHR PUMP SUCT LINE VENT VLV
BFN-2-TW-078-0017	BFN-2-TW-078-0017, FUEL POOL COOL HTX B INLET TEMP
BFN-2-HS-078-0023	BFN-2-HS-078-0023, FUEL POOL F/D B PRECOAT INLET VLV
BFN-2-@R-001-0782	BFN-2-@R-001-0782, MSL D RELIEF VLV TEMP RCDR (TR-1-1)
BFN-2-VTV-078-0580	BFN-2-VTV-078-0580, FUEL STRG POOL SPLY LINE VENT VLV
BFN-2-74-076-0078	BFN-2-74-076-0078, ALARM RELAY FOR ANA-76-89
BFN-2-SHV-078-0507	BFN-2-SHV-078-0507, PUMP A&B CROSSTIE VLV
BFN-2-FI-003-0078A	BFN-2-FI-003-0078A, RFW FLOW LINE A
BFN-2-TW-078-0013	BFN-2-TW-078-0013, FUEL POOL COOL HTX A DISCHARGE TEMP
BFN-2-ZS-078-0027B	BFN-2-ZS-078-0027B, BFN-2-FCV-78-27 CLOSED
BFN-2-HS-078-0027	BFN-2-HS-078-0027, FUEL POOL F/D B RET BYPASS CNDS STG VLV
BFN-2-VTV-078-0582	BFN-2-VTV-078-0582, RX WELL DIFFUSER A SPLY VENT VLV
BFN-2-TB-078-4286	BFN-2-TB-078-4286, TERMINAL BLOCK (STRIP)
BFN-2-@R-001-0784	BFN-2-@R-001-0784, MSL C RELIEF VLV TEMP RCDR (TR-1-1)
BFN-2-SHV-078-0505	BFN-2-SHV-078-0505, HX B-INLET VLV
BFN-2-RTV-078-0212A	BFN-2-RTV-078-0212A, RT VLV TO PI-78-32
BFN-2-CKV-078-0522	BFN-2-CKV-078-0522, FROM FUEL POOL DEMINS CK VLV
BFN-2-FE-078-0024	BFN-2-FE-078-0024, FUEL POOL F/D B EFFLUENT FLOW
BFN-2-@RP-085-0786/G3	BFN-2-@RP-085-0786/G3, GROUP 3 PILOT SCRAM VLV SOLENOID
BFN-2-TV-078-0548	BFN-2-TV-078-0548, DRYER/SEP STORAGE LINER DR TEST CONN
BFN-2-CKV-078-0526	BFN-2-CKV-078-0526, TO POOL DIFFUSER A
BFN-2-TE-078-0034	BFN-2-TE-078-0034, FUEL POOL F/D B INFLUENT TEMP HIGH
BFN-2-@R-001-0788	BFN-2-@R-001-0788, MSL C RELIEF VLV TEMP RCDR (TR-1-1)
BFN-2-LS-078-0001B	BFN-2-LS-078-0001B, SKIMMER SURGE TANK LEVEL LOW SWITCH
BFN-2-VTV-078-0016	BFN-2-VTV-078-0016, VENT VLV FOR 2-PIS-78-16
BFN-2-FU2-078-0068A	BFN-2-FU2-078-0068A, INDICATING LIGHT
BFN-2-DRV-078-0584	BFN-2-DRV-078-0584, FPC PMP SUCT HDR DR VLV TO CRW
BFN-2-DRV-075-0078C	BFN-2-DRV-075-0078C, PSC WTR HD TK LOW LS DR VLV
BFN-2-SHV-078-0589	BFN-2-SHV-078-0589, 2-FS-78-51 SHUTOFF VALVE
BFN-2-FRC-078-0024	BFN-2-FRC-078-0024, FUEL POOL F/D EFFLUENT FLOW LOW
BFN-2-ISIV-078-0001B	BFN-2-ISIV-078-0001B, INSTR ISOL VLV FOR LS-78-1B

BFN-2-30X-078-0010	BFN-2-30X-078-0010, FPC PMP 2A CONT CKT AUX ANN RLY 30X
BFN-2-ISIV-078-0001F	BFN-2-ISIV-078-0001F, INSTR ISOL VLV FOR LS-78-1F
BFN-2-@PL-078-0705	BFN-2-@PL-078-0705, CABLE, FUEL POOL COOLING PMP 2B CONTROL
BFN-2-FSV-069-0078	BFN-2-FSV-069-0078, PRECOAT RECYCLE VLV
BFN-2-PIPE-078-0001/04	BFN-2-PIPE-078-0001/04, FROM 2-ISV-078-0534 TO 2-HCV-074-0091
BFN-2-LS-078-0001F	BFN-2-LS-078-0001F, SKIMMER SURGE TANK LEVEL LOW LOW ISOL
BFN-2-@RP-085-1078/G2	BFN-2-@RP-085-1078/G2, GROUP 2 PILOT SCRAM VLV SOLENOID
BFN-2-DRV-078-0588	BFN-2-DRV-078-0588, BULKHEAD DR VLV TO CRW
BFN-2-DRV-075-0078A	BFN-2-DRV-075-0078A, PSC WTR HD TK HIGH-HIGH LS DR LVL
BFN-2-PDA-078-0021B	BFN-2-PDA-078-0021B, FUEL POOL F/D B VESSEL D/P HIGH
BFN-2-THV-078-0015B	BFN-2-THV-078-0015B, FPC PMP 2B STUFFING BOX INL THROT VLV
BFN-2-ISIV-078-0001D	BFN-2-ISIV-078-0001D, INSTR ISOL VLV FOR LS-78-1D
BFN-2-@RP-085-0789/G3	BFN-2-@RP-085-0789/G3, GROUP 3 PILOT SCRAM VLV SOLENOID
BFN-2-@V-078-2811	BFN-2-@V-078-2811, CABLE, LS-78-1E CONTROL
BFN-2-LS-078-0001D	BFN-2-LS-078-0001D, SKIMMER SURGE TANK LEVEL LOW LOW ISOL
BFN-2-PIPE-078-0001/06	BFN-2-PIPE-078-0001/06, 8" PIPE TO 2-DRV-078-0535
BFN-2-ZI-078-0045	BFN-2-ZI-078-0045, FUEL POOL F/D D UNIT 2 OUTLET VLV
BFN-2-PISV-078-0021A	BFN-2-PISV-078-0021A, PANEL ISOL VLV TO 2-PI-78-21A
BFN-2-ZI-078-0067B	BFN-2-ZI-078-0067B, REACTOR WELL INFLUENT OUTBOARD VLV
BFN-2-PIPE-078-0001/02	BFN-2-PIPE-078-0001/02, 6" PIPE TO 2-DRV-078-0529
BFN-2-VTV-078-0014	BFN-2-VTV-078-0014, VENT VLV FOR 2-PS-78-14
BFN-2-DRV-078-0587	BFN-2-DRV-078-0587, BULKHEAD DR VLV TO CRW
BFN-2-@PL-078-0707	BFN-2-@PL-078-0707, CABLE, FUEL POOL COOLING PMP 2B CONTROL
BFN-2-FQ-078-0024	BFN-2-FQ-078-0024, FUEL POOL F/D B EFFLUENT FLOW
BFN-2-THV-078-0015A	BFN-2-THV-078-0015A, FPC PMP 2B STUFFING BOX INL THROT VLV
BFN-2-ISIV-078-0001G	BFN-2-ISIV-078-0001G, INSTR ISOL VLV FOR LS-78-1G
BFN-2-PI-032-0078	BFN-2-PI-032-0078, CONTROL AIR PREFILTER INLET
BFN-2-PI-035-0078	BFN-2-PI-035-0078, STATOR COOLING WATER DEIONIZER OUT PRESS IND.
BFN-2-@PL-078-0704	BFN-2-@PL-078-0704, CABLE, FUEL POOL CLG PMP 2B SPLY
BFN-2-RTV-078-0207A	BFN-2-RTV-078-0207A, RT VLV TO PDIS-78-22H
BFN-2-PISV-078-0021H	BFN-2-PISV-078-0021H, HIGH SIDE PANEL ISOL VLV TO 2-PDT-78-21
BFN-2-PIPE-078-0001/05	BFN-2-PIPE-078-0001/05, 8" PIPE TO 2-VTV-078-0583
BFN-2-LS-078-0001A	BFN-2-LS-078-0001A, SKIMMER SURGE TANK LEVEL HIGH SWITCH

BFN-2-PDA-078-0021A	BFN-2-PDA-078-0021A, FUEL POOL F/D B VESSEL D/P HIGH
BFN-2-DRV-075-0078D	BFN-2-DRV-075-0078D, PSC WTR HD TK LOW-LOW LS DR VLV
BFN-2-FU2-078-0068B	BFN-2-FU2-078-0068B, CONTROL CIRCUIT
BFN-2-ZT-001-0078	BFN-2-ZT-001-0078, MAIN STEAM STOP VALVE NO. 2 POSITION NS
BFN-2-PISV-078-0021L	BFN-2-PISV-078-0021L, LOW SIDE PANEL ISOL VLV TO 2-PDT-78-21
BFN-2-ZI-078-0048	BFN-2-ZI-078-0048, FUEL POOL F/D B AIR INLET VLV
BFN-2-ISIV-078-0001C	BFN-2-ISIV-078-0001C, INSTR ISOL VLV FOR LS-78-1C
BFN-2-VTV-078-0011	BFN-2-VTV-078-0011, VENT VLV FOR 2-PIS-78-11
BFN-2-@V-078-2810	BFN-2-@V-078-2810, CABLE,SKIMMER SURGE TANK LEVEL ISOLATION
BFN-2-PIPE-078-0001/01	BFN-2-PIPE-078-0001/01, FROM 2-FCV-078-0061 TO 2-FCV-078-0062
BFN-2-LS-078-0001E	BFN-2-LS-078-0001E, SKIMMER SURGE TANK LEVEL LOW LOW ISOL
BFN-2-PIPE-078-0001/03	BFN-2-PIPE-078-0001/03, 6" PIPE TO 2-VTV-078-0581
BFN-2-LS-078-0001C	BFN-2-LS-078-0001C, SKIMMER SURGE TANK LEVEL LOW INTERLO
BFN-2-PISV-078-0021B	BFN-2-PISV-078-0021B, PANEL ISOL VLV TO 2-PI-78-21B
BFN-2-DRV-078-0585	BFN-2-DRV-078-0585, FPC TO CNDR HDR DR VLV
BFN-2-DEM-078-0751	BFN-2-DEM-078-0751, FUEL POOL FILTER DEMIN B
BFN-2-ISIV-003-0078BH	BFN-2-ISIV-003-0078BH, 2-FT-3-78B HIGH SIDE ISOL VLV (3 VLV MANIFOLD)
BFN-2-DRV-075-0078B	BFN-2-DRV-075-0078B, PSC WTR HD TK HIGH LS DR VLV
BFN-2-@PL-078-0706	BFN-2-@PL-078-0706, CABLE, FUEL POOL COOLING PMP 2B CONTROL
BFN-2-ISIV-078-0001A	BFN-2-ISIV-078-0001A, INSTR ISOL VLV FOR LS-78-1A
BFN-2-ISIV-078-0001E	BFN-2-ISIV-078-0001E, INSTR ISOL VLV FOR LS-78-1E
BFN-2-30X-078-0015	BFN-2-30X-078-0015, FPC PMP 2B CONT CKT AUX ANN RLY 30X
BFN-2-@V-078-2812	BFN-2-@V-078-2812, CABLE, LS-78-1G CONTROL
BFN-2-ZI-078-0042	BFN-2-ZI-078-0042, FUEL POOL F/D D UNIT 2 INLET VLV
BFN-2-ZS-001-0078F	BFN-2-ZS-001-0078F, MAIN STEAM STOP VALVE NO. 2 RPS SW
BFN-2-LS-078-0001G	BFN-2-LS-078-0001G, SKIMMER SURGE TANK LOW LEVEL SWITCH
BFN-2-HCV-069-0078	BFN-2-HCV-069-0078, PRECOAT RECYCLE CONTROL AIR
BFN-2-PIPE-078-0001/07	BFN-2-PIPE-078-0001/07, PIPING SECT PNTRG RB FROM 2-CKV-078-0586
BFN-2-ZI-078-0067A	BFN-2-ZI-078-0067A, REACTOR WELL INFLUENT OUTBOARD VLV
BFN-2-@PLR-078-1528	BFN-2-@PLR-078-1528, 2-FCV-78-27 CONTROL
BFN-2-BKR-078-0031B	BFN-2-BKR-078-0031B, FUEL POOL DEMIN HOLDING PMP B BKR
BFN-2-TTIV-078-0001C	BFN-2-TTIV-078-0001C, INSTR TEST VALVE FOR LS-78-1C
BFN-2-PISV-078-0016	BFN-2-PISV-078-0016, PANEL ISOL VLV TO 2-PIS-78-16

BFN-2-LA-075-0078	BFN-2-LA-075-0078, PRESS SUPPR CHBR HEAD TANK LEVEL HIGH
BFN-2-SHV-078-0532	BFN-2-SHV-078-0532, SURGE TANK CNDS SPLY SHUTOFF VLV
BFN-2-RLY-078-LR1B	BFN-2-RLY-078-LR1B, FPC VESSEL B PRECOAT CONTROL RELAY
BFN-2-DRV-078-0535	BFN-2-DRV-078-0535, RHR TEST, PURGE & DR VLV
BFN-2-SHV-085-0786	BFN-2-SHV-085-0786, CONTROL AIR SHUTOFF VLV
BFN-2-@RP-085-0787/G3	BFN-2-@RP-085-0787/G3, GROUP 3 PILOT SCRAM VLV SOLENOID
BFN-2-ISIV-003-0078AL	BFN-2-ISIV-003-0078AL, 2-FT-3-78A LOW SIDE ISOL VLV (3 VLV MANIFOLD)
BFN-2-HEX-078-0758	BFN-2-HEX-078-0758, FUEL POOL COOLING HEAT EXCHANGER A
BFN-2-SHV-032-0782	BFN-2-SHV-032-0782, HDR SHUTOFF VLV
BFN-2-SHV-026-0786	BFN-2-SHV-026-0786, EMER CONT MAIN TURB OIL SHUTOFF VLV
BFN-2-@V-078-2777	BFN-2-@V-078-2777, CABLE, FCV-78-62 CONTROL
BFN-2-IL-078-0016	BFN-2-IL-078-0016, FPC PUMP B DISCHARGE PRESS LOW
BFN-2-@V-078-2775	BFN-2-@V-078-2775, CABLE, FCV-78-62 SUPPLY
BFN-2-THV-078-0010A	BFN-2-THV-078-0010A, FPC PMP 2A STUFFING BOX INL THROT VLV
BFN-2-PISV-078-0014	BFN-2-PISV-078-0014, PANEL ISOL VLV TO 2-PS-78-14
BFN-2-SHV-032-0780	BFN-2-SHV-032-0780, HDR SHUTOFF VLV
BFN-2-SHV-078-0534	BFN-2-SHV-078-0534, FPC TO RHR SUCT VLV
BFN-2-TTIV-078-0001A	BFN-2-TTIV-078-0001A, INSTR TEST VALVE FOR LS-78-1A
BFN-2-FSV-078-0035A	BFN-2-FSV-078-0035A, FUEL POOL F/D B BACKWASH DRAIN VLV
BFN-2-SHV-078-0538	BFN-2-SHV-078-0538, PUMP B SUCTION VLV
BFN-2-SHV-085-0788	BFN-2-SHV-085-0788, CONTROL AIR SHUTOFF VLV
BFN-2-@V-078-2778	BFN-2-@V-078-2778, CABLE, FCV-78-62 CONTROL
BFN-2-SHV-085-0789	BFN-2-SHV-085-0789, CONTROL AIR SHUTOFF VLV
BFN-2-JBOX-078-4108	BFN-2-JBOX-078-4108, JUNCTION BOX W/TB
BFN-2-VTV-078-0022H	BFN-2-VTV-078-0022H, VENT VLV FOR 2-PDIS-78-22 HIGH SIDE
BFN-2-SHV-078-0539	BFN-2-SHV-078-0539, PUMP A SUCT VLV
BFN-2-FCV-069-0078	BFN-2-FCV-069-0078, PRECOAT RECYCLE VLV
BFN-2-RLY-078-0R7B	BFN-2-RLY-078-0R7B, FPC VESSEL B PRECOAT/CLEANING RELAY
BFN-2-IL-078-0011	BFN-2-IL-078-0011, FPC PUMP 2A DISCHARGE PRESS LOW
BFN-2-SHV-032-0781	BFN-2-SHV-032-0781, HDR SHUTOFF VLV
BFN-2-VTV-078-0022L	BFN-2-VTV-078-0022L, VENT VLV FOR 2-PDIS-78-22 LOW SIDE
BFN-2-TB-078-4111	BFN-2-TB-078-4111, TERMINAL BLOCK (STRIP)
BFN-2-DRV-078-0530	BFN-2-DRV-078-0530, RHR TEST, PURGE & DR VLV
BFN-2-RTV-078-0211A	BFN-2-RTV-078-0211A, RT VLV TO PI-78-30
BFN-2-RTV-003-6078	BFN-2-RTV-003-6078, ROOT VALVE FOR 2-PS-3-109B
BFN-2-TTIV-078-0001B	BFN-2-TTIV-078-0001B, INSTR TEST VALVE FOR LS-78-1B

BFN-2-PISV-078-0011	BFN-2-PISV-078-0011, PANEL ISOL VLV TO 2-PIS-78-11
BFN-2-THV-078-0010B	BFN-2-THV-078-0010B, FPC PMP 2A STUFFING BOX INL THROT VLV
BFN-2-DRV-078-0536	BFN-2-DRV-078-0536, RHR TEST, PURGE & DR VLV
BFN-2-SHV-078-0537	BFN-2-SHV-078-0537, FPC PUMP SPLY SHUTOFF VLV
BFN-2-SHV-085-0787	BFN-2-SHV-085-0787, CONTROL AIR SHUTOFF VALVE
BFN-2-HEX-078-0759	BFN-2-HEX-078-0759, FUEL POOL COOLING HEAT EXCHANGER B
BFN-2-@V-078-2776	BFN-2-@V-078-2776, CABLE, FCV-78-62 CONTROL
BFN-2-RTV-078-0208A	BFN-2-RTV-078-0208A, RT VLV TO PDIS-78-22L
BFN-2-MVOP-078-0065	BFN-2-MVOP-078-0065, F/D BYPASS ISOL VALVE B
BFN-2-MTR-078-0015	BFN-2-MTR-078-0015, FUEL POOL COOLING & CLEAN-UP PUMP B
BFN-2-ZS-078-0042A	BFN-2-ZS-078-0042A, BFN-2-FCV-78-42 OPEN
BFN-2-PI-078-0021B	BFN-2-PI-078-0021B, FUEL POOL F/D B VESSEL EFFLUENT PRESS
BFN-2-ZI-078-0026A	BFN-2-ZI-078-0026A, FUEL POOL F/D B EFFLUENT VLV
BFN-2-DRIV-078-0021A	BFN-2-DRIV-078-0021A, INSTR DRAIN VLV FOR 2-PI-78-21A
BFN-2-DRV-078-0547	BFN-2-DRV-078-0547, DRYER/SEP STORAGE LINER LKG DRV
BFN-2-FCV-078-0036	BFN-2-FCV-078-0036, FUEL POOL F/D VESSEL VENT VLV
BFN-2-HS-078-0064A	BFN-2-HS-078-0064A, FILTER DEMIN OUTBD ISOL VALVE
BFN-2-MVOP-078-0061	BFN-2-MVOP-078-0061, POOL MAKEUP FROM RHR INBOARD VALVE
BFN-2-ZS-078-0007B	BFN-2-ZS-078-0007B, LIMIT SW, DR VLV TO MAIN CNDR CLOSE
BFN-2-PDT-078-0021	BFN-2-PDT-078-0021, FUEL POOL F/D B VESSEL D/P
BFN-2-FI-078-0024A	BFN-2-FI-078-0024A, FUEL POOL F/D B EFFLUENT FLOW
BFN-2-CKV-078-0567	BFN-2-CKV-078-0567, REFUELING DR HDR CK VLV
BFN-2-DRV-074-0787B	BFN-2-DRV-074-0787B, RHR DRAIN PMP B DISCH DRAIN VLV
BFN-2-@ES-074-3078/II	BFN-2-@ES-074-3078/II, CABLE, 2-FCV-074-0025
BFN-2-RLY-078-0R3B	BFN-2-RLY-078-0R3B, FPC VESSEL B FLOW LOW
BFN-2-MVOP-078-0063	BFN-2-MVOP-078-0063, F/D INFLUENT INBOARD ISOL VLV
BFN-2-TW-003-0078B	BFN-2-TW-003-0078B, RFW TEMP TO REACTOR LINE B
BFN-2-LS-078-0002B	BFN-2-LS-078-0002B, FUEL STORAGE POOL LEVEL LOW SWITCH
BFN-2-IL-078-0001D/FB	BFN-2-IL-078-0001D/FB, SKIMMER SURGE TANK LEVEL LOW LOW ISOL
BFN-2-FCV-078-0038	BFN-2-FCV-078-0038, FUEL POOL F/D B HEAD VENT VLV
BFN-2-MVOP-078-0067	BFN-2-MVOP-078-0067, REACTOR WELL INFLUENT OUTBOARD VALVE
BFN-2-DRV-078-0549	BFN-2-DRV-078-0549, RX WELL LINER LEAKAGE DR VLV
BFN-2-MVOP-001-0078	BFN-2-MVOP-001-0078, MAIN STEAM STOP VALVE NO. 2 CONTROL CYL
BFN-2-MVOP-066-0078	BFN-2-MVOP-066-0078, MTR OPR FOR 2FCV66-78, DISCH A CAT RECOMD
BFN-2-ZS-078-0023A	BFN-2-ZS-078-0023A, 2-FCV-78-23 OPEN

BFN-2-MVOP-027-0078	BFN-2-MVOP-027-0078, CNDR 2C CCW OUTLET SOV SS
BFN-2-ISIV-078-0032	BFN-2-ISIV-078-0032, INSTR ISOL VLV TO 2-PI-78-32
BFN-2-DRIV-078-0032	BFN-2-DRIV-078-0032, PI-78-32 DRAIN VLV
BFN-2-PI-078-0021A	BFN-2-PI-078-0021A, FUEL POOL F/D B VESSEL INFLUENT PRESS
BFN-2-RTV-078-0228A	BFN-2-RTV-078-0228A, RT VLV TO PS-78-14
BFN-2-MTR-078-0010	BFN-2-MTR-078-0010, FUEL POOL COOLING & CLEAN-UP PUMP 2A V DCN40671A
BFN-2-MVOP-078-0066	BFN-2-MVOP-078-0066, F/D BYPASS ISOL VALVE A
BFN-2-RLY-078-19A-K4	BFN-2-RLY-078-19A-K4, GATE SEAL OR RX WELL SEAL LEAKAGE
BFN-2-DRV-074-0787A	BFN-2-DRV-074-0787A, RHR DRAIN PMP A DISCH DRAIN VLV
BFN-2-@A-078-2269	BFN-2-@A-078-2269, FUEL POOL SYSTEM ABNORMAL
BFN-2-FI-078-0024B	BFN-2-FI-078-0024B, FUEL POOL F/D B EFFLUENT FLOW
BFN-2-TTIV-078-0021	BFN-2-TTIV-078-0021, INSTR TEST VLV FOR 2-PDM-78-21
BFN-2-STN-075-0078	BFN-2-STN-075-0078, PSC HEAD TANK VENT STRAINER
BFN-2-ZS-078-0007A	BFN-2-ZS-078-0007A, LIMIT SW, DR VLV TO MAIN CNDR OPEN
BFN-2-MVOP-078-0062	BFN-2-MVOP-078-0062, POOL MAKEUP FROM RHR OUTBOARD VALVE
BFN-2-ZS-078-0023B	BFN-2-ZS-078-0023B, 2-FCV-78-23 CLOSED
BFN-2-DRIV-078-0021B	BFN-2-DRIV-078-0021B, INSTR DRAIN VLV FOR 2-PI-78-21B
BFN-2-FCV-078-0035	BFN-2-FCV-078-0035, FUEL POOL F/D B BACKWASH DRAIN VLV
BFN-2-IL-078-0001D/FA	BFN-2-IL-078-0001D/FA, SKIMMER SURGE TANK LEVEL LOW LOW ISOL
BFN-2-MVOP-078-0064	BFN-2-MVOP-078-0064, F/D INFLUENT OUTBOARD ISOL VLV
BFN-2-TW-003-0078A	BFN-2-TW-003-0078A, RFW TEMP TO REACTOR LINE A
BFN-2-DRIV-078-0021L	BFN-2-DRIV-078-0021L, LOW SIDE INSTR DRAIN VLV FOR 2-PDT-78-21
BFN-2-LS-078-0002A	BFN-2-LS-078-0002A, FUEL STORAGE POOL LEVEL HIGH SWITCH
BFN-2-DRIV-078-0030	BFN-2-DRIV-078-0030, PI-78-30 DRAIN VLV
BFN-2-PDA-078-0022	BFN-2-PDA-078-0022, FUEL POOL F/D B RESIN TRAP D/P HIGH
BFN-2-FCV-078-0033	BFN-2-FCV-078-0033, FUEL POOL F/D B HOLDING VLV
BFN-2-HS-078-0064B	BFN-2-HS-078-0064B, F/D INFLUENT OUTBOARD ISOL VLV
BFN-2-ISIV-078-0030	BFN-2-ISIV-078-0030, INSTR ISOL VLV TO 2-PI-78-30
BFN-2-PS-078-0009	BFN-2-PS-078-0009, FUEL POOL COOL PUMP A NPSH LOW INTERLOCK
BFN-2-RLY-046-0078	BFN-2-RLY-046-0078, RFPT 2C BACKUP OVERSPEED TRIP RELAY DURING TST
BFN-2-PDM-078-0021	BFN-2-PDM-078-0021, FUEL POOL F/D B VESSEL D/P P/E
BFN-2-@RP-085-0780/G3	BFN-2-@RP-085-0780/G3, GROUP 3 PILOT SCRAM VLV SOLENOID
BFN-2-ZS-078-0042B	BFN-2-ZS-078-0042B, BFN-2-FCV-78-42 CLOSED

BFN-2-MVOP-078-0068	BFN-2-MVOP-078-0068, REACTOR WELL INFLUENT INBOARD VALVE
BFN-2-DRIV-078-0021H	BFN-2-DRIV-078-0021H, HIGH SIDE INSTR DRAIN VLV FOR 2-PDT-78-21
BFN-2-ZI-078-0026B	BFN-2-ZI-078-0026B, FUEL POOL F/D B EFFLUENT VLV
BFN-2-TE-068-0078	BFN-2-TE-068-0078, RECIRC PUMP B DISCH TEMP
BFN-2-FSV-078-0038	BFN-2-FSV-078-0038, FUEL POOL F/D B HEAD VENT VLV
BFN-2-IL-078-0002	BFN-2-IL-078-0002, FUEL POOL HIGH/LOW LEVEL
BFN-2-FCV-066-0078	BFN-2-FCV-066-0078, RECOMBINER A DISCHARGE
BFN-2-FCV-027-0078	BFN-2-FCV-027-0078, COND C CCW OUTLET SO VALVE SS
BFN-2-JBOX-078-4111	BFN-2-JBOX-078-4111, JUNCTION BOX WITH TB & HS-78-61B
BFN-2-@V-078-2788	BFN-2-@V-078-2788, CABLE, FCV-78-65 SUPPLY
BFN-2-FCV-078-0067	BFN-2-FCV-078-0067, REACTOR WELL INFLUENT OUTBOARD VALVE
BFN-2-ZI-078-0007	BFN-2-ZI-078-0007, DRAIN VLV TO MAIN CONDENSER
BFN-2-FCV-001-0078	BFN-2-FCV-001-0078, MAIN STEAM STOP VALVE NO. 2
BFN-2-CKV-078-0533	BFN-2-CKV-078-0533, SURGE TANK CNDS SPLY CKVLV
BFN-2-ZI-047-0078	BFN-2-ZI-047-0078, MSV-2 PILOT POSITION (IND6) (OCP #1)
BFN-2-ZI-001-0078	BFN-2-ZI-001-0078, STOP VALVE POSITION MSV-2 (IND26)(OCP #3)
BFN-2-JBOX-064-8078	BFN-2-JBOX-064-8078, JB SERVICING 2-PT-064-160A
BFN-2-@R-078-1873	BFN-2-@R-078-1873, TR-74-80 TO TE-78-18, FP CLG HX B DISCH TEMP
BFN-2-TW-078-0020	BFN-2-TW-078-0020, FUEL POOL F/D INFLUENT TEMP
BFN-2-ZS-078-0026A	BFN-2-ZS-078-0026A, 2-FCV-78-26 OPEN
BFN-2-ISIV-078-0021A	BFN-2-ISIV-078-0021A, INSTR ISOL VLV TO 2-PDT-78-21
BFN-2-DRV-078-0554	BFN-2-DRV-078-0554, GATE SLOT DR VLV TO 2-FIS-78-5
BFN-2-@V-078-2784	BFN-2-@V-078-2784, CABLE, FCV-78-64 CONTROL
BFN-2-FCV-078-0063	BFN-2-FCV-078-0063, F/D INFLUENT INBOARD ISOL VLV
BFN-2-HS-078-0061B	BFN-2-HS-078-0061B, POOL MAKEUP FROM RHR INBOARD VALVE
BFN-2-FCV-078-0061	BFN-2-FCV-078-0061, SYSTEM ISOLATION MOTOR OPERATED VA
BFN-2-FU2-078-0010B	BFN-2-FU2-078-0010B, 7C CL CKT
BFN-2-RTV-078-0227A	BFN-2-RTV-078-0227A, RT VLV TO PIS-78-11
BFN-2-@R-078-1871	BFN-2-@R-078-1871, TR-74-80 TO TE-78-8, SKIMMER SURGE TANK DISCH
BFN-2-@V-078-2782	BFN-2-@V-078-2782, CABLE, FCV-78-64 CONTROL
BFN-2-ISIV-078-0021C	BFN-2-ISIV-078-0021C, INSTR ISOL VLV FOR 2-PDS-78-21
BFN-2-DRIV-003-0078BL	BFN-2-DRIV-003-0078BL, LOW SIDE INSTR DRAIN VLV FOR GT-3-78B
BFN-2-FSV-078-0036	BFN-2-FSV-078-0036, FUEL POOL F/D B VESSEL VENT VLV
BFN-2-FCV-078-0065	BFN-2-FCV-078-0065, F/D BYPASS ISOL VALVE B
BFN-2-VTV-078-0574	BFN-2-VTV-078-0574, A HX INLET VENT VLV
BFN-2-FU2-078-0061B	BFN-2-FU2-078-0061B, CONTROL CIRCUIT
BFN-2-IL-076-0078	BFN-2-IL-076-0078, H2 ANALYZER 2A LOSS OF FLOW

BFN-2-VTV-078-0575	BFN-2-VTV-078-0575, HX BYPASS VENT VLV
BFN-2-ISIV-078-0021B	BFN-2-ISIV-078-0021B, INSTR ISOL VLV TO 2-PDM-78-21
BFN-2-@J-078-4286	BFN-2-@J-078-4286, CABLE, JUMPER BETWEEN SWITCHBOARDS
BFN-2-@RM-090-0781/I	BFN-2-@RM-090-0781/I, 2-RE-90-140B SIGNAL AND SUPPLY POWER
BFN-2-@R-078-1874	BFN-2-@R-078-1874, TR-74-80 TO TE-78-20, FP F/D INFLUENT TEMP
BFN-2-@V-078-2785	BFN-2-@V-078-2785, CABLE, FCV-78-64 CONTROL
BFN-2-FS-078-0051	BFN-2-FS-078-0051, REFUELING BELLOWS LEAKAGE EXCESSIVE
BFN-2-FU2-078-0010A	BFN-2-FU2-078-0010A, 7C TR CKT
BFN-2-FCV-078-0062	BFN-2-FCV-078-0062, SYSTEM ISOLATION MOTOR OPERATED VLV
BFN-2-HS-078-0061A	BFN-2-HS-078-0061A, POOL MAKEUP FROM RHR INBOARD VLV
BFN-2-FCV-078-0066	BFN-2-FCV-078-0066, F/D BYPASS ISOL VALVE A
BFN-2-@V-078-2789	BFN-2-@V-078-2789, CABLE, FCV-78-65 CONTOL
BFN-2-FSV-078-0033	BFN-2-FSV-078-0033, FUEL POOL F/D B HOLDING VLV
BFN-2-ISV-043-1078	BFN-2-ISV-043-1078, CDI SMPL SHUTOFF VLV
BFN-2-FU2-078-0061A	BFN-2-FU2-078-0061A, INDICATING LIGHT
BFN-2-@V-078-2781	BFN-2-@V-078-2781, CABLE, FCV-78-64 SUPPLY
BFN-2-ZS-078-0026B	BFN-2-ZS-078-0026B, 2-FCV-78-26 CLOSED
BFN-2-ISIV-078-0021L	BFN-2-ISIV-078-0021L, LOW SIDE MANIFOLD ISOL VLV TO 2-PDT-78-21
BFN-2-FCV-078-0064	BFN-2-FCV-078-0064, F/D INFLUENT OUTBOARD ISOL VLV
BFN-2-ISIV-078-0021D	BFN-2-ISIV-078-0021D, INSTR ISOL VLV FOR 2-PDI-78-21
BFN-2-ISIV-078-0021H	BFN-2-ISIV-078-0021H, HIGH SIDE MANIFOLD ISOL VLV TO 2-PDT-78-21
BFN-2-@V-078-2783	BFN-2-@V-078-2783, CABLE, FCV-78-64 CONTROL
BFN-2-FCV-078-0068	BFN-2-FCV-078-0068, REACTOR WELL INFLUENT INBOARD VALVE
BFN-2-@R-078-1872	BFN-2-@R-078-1872, TR-74-80 TO TE-78-13 FP CLG HX A DISCH TEMP
BFN-2-ISIV-003-0078AH	BFN-2-ISIV-003-0078AH, 2-FT-3-78A HIGH SIDE ISOL VLV (3 VLV MANIFOLD)
BFN-2-IL-078-0005	BFN-2-IL-078-0005, FUEL POOL GATE LEAKAGE EXCESSIVE
BFN-2-VTV-078-0573	BFN-2-VTV-078-0573, B HX INLET VENT VLV
BFN-2-DRV-078-0571	BFN-2-DRV-078-0571, PUMP B DISCH DR VLV TO CRW
BFN-2-@PL-078-0693	BFN-2-@PL-078-0693, CABLE, FUEL POOL COOLING PMP 2A CONTROL
BFN-2-ZS-078-0038A	BFN-2-ZS-078-0038A, 2-FCV-78-38 OPEN
BFN-2-DRV-078-0579	BFN-2-DRV-078-0579, DEMIN SPLY DR VLV TO CRW
BFN-2-@A-078-5652	BFN-2-@A-078-5652, PANEL 2-25-37 ANNUNCIATION
BFN-2-RTV-075-0078DA	BFN-2-RTV-075-0078DA, PSC WTR HD TK LOW-LOW LS RT VLV
BFN-2-ZI-078-0019A	BFN-2-ZI-078-0019A, FUEL POOL F/D B INFLUENT VLV
BFN-2-ZI-078-0066B	BFN-2-ZI-078-0066B, FILTER DEMIN BYPASS A VALVE

BFN-2-MBIV-078-0024	BFN-2-MBIV-078-0024, MULTI BRANCH ISOL VLV 2-FI-78-24B, 2-FS-78-24
BFN-2-XA-078-0051	BFN-2-XA-078-0051, FUEL POOL SYSTEM ABNORMAL
BFN-2-@V-078-2825	BFN-2-@V-078-2825, CABLE, FCV-78-61 SUPPLY
BFN-2-ZS-078-0035B	BFN-2-ZS-078-0035B, 2-FCV-78-35 CLOSED
BFN-2-FLV-090-0784	BFN-2-FLV-090-0784, DCN, WILL REPLACE BFN-0-FLV-090-0784
BFN-2-#V-078-2846	BFN-2-#V-078-2846, CONDUIT
BFN-2-FE-026-0078	BFN-2-FE-026-0078, RB EL 565 HI PRESS FIRE PROT WTR TEST
BFN-2-FG-078-0029	BFN-2-FG-078-0029, FUEL POOL F/D CHEMICAL FLOW GLA
BFN-2-VTV-078-0542	BFN-2-VTV-078-0542, PUMP B VENT VLV
BFN-2-$ES-073-4078	BFN-2-$ES-073-4078, CBL SPLCD C/S LDS JB111 PDT-73-1B 90-09316-01
BFN-2-PISV-001-9078	BFN-2-PISV-001-9078, PNL ISOL VLV SPARE
BFN-2-FA-078-0024B	BFN-2-FA-078-0024B, FUEL POOL F/D B EFFLUENT FLOW LOW
BFN-2-DRV-078-0577	BFN-2-DRV-078-0577, A HX OUTL DR VLV TO CRW
BFN-2-@PL-078-0691	BFN-2-@PL-078-0691, CABLE, FUEL DOOR CLNG PMP 2A SPLY
BFN-2-SMV-078-0516	BFN-2-SMV-078-0516, HX OUTL SMPL CONN
BFN-2-@V-078-2827	BFN-2-@V-078-2827, CABLE, FCV-78-61 CONTROL
BFN-2-@A-078-5650	BFN-2-@A-078-5650, PANEL 2-25-15 ANNUNCIATION
BFN-2-DRIV-078-0022H	BFN-2-DRIV-078-0022H, HIGH SIDE INSTR DRAIN FOR 2-PDIS-78-22
BFN-2-IL-078-0051	BFN-2-IL-078-0051, REFUELING BELLOWS LEAKAGE EXCESSIVE
BFN-2-@V-078-2826	BFN-2-@V-078-2826, CABLE, FCV-78-61 CONTROL
BFN-2-#V-078-2845	BFN-2-#V-078-2845, CONDUIT
BFN-2-ZI-078-0066A	BFN-2-ZI-078-0066A, FILTER DEMIN BYPASS A VALVE
BFN-2-MBIV-078-0021	BFN-2-MBIV-078-0021, MULTI BRANCH ISOL VLV 2-PDS-78-21, 2-PDI-78-21
BFN-2-DRIV-078-0022L	BFN-2-DRIV-078-0022L, LOW SIDE INSTR DRAIN VLV FOR 2-PDIS-78-22
BFN-2-RTV-075-0078DB	BFN-2-RTV-075-0078DB, PSC WTR HD TK LOW-LOW LS RT VLV
BFN-2-DRV-078-0578	BFN-2-DRV-078-0578, DEMIN BYP DR VLV
BFN-2-TE-078-0020	BFN-2-TE-078-0020, FPC FILTER DEMIN INLET
BFN-2-FLV-026-0781	BFN-2-FLV-026-0781, FLUSH TO DISCH CULVERT TURB HD END
BFN-2-@PL-078-0692	BFN-2-@PL-078-0692, CABLE, FUEL POOL COOLING PMP 2A CONTROL
BFN-2-DRV-078-0570	BFN-2-DRV-078-0570, DR VLV TO CONDENSER
BFN-2-VTV-078-0543	BFN-2-VTV-078-0543, PUMP A VENT VLV
BFN-2-DRV-078-0576	BFN-2-DRV-078-0576, B HX OUTLET DR VLV TO CRW
BFN-2-ZI-078-0019B	BFN-2-ZI-078-0019B, FUEL POOL F/D B INFLUENT VLV
BFN-2-ZS-078-0035A	BFN-2-ZS-078-0035A, 2-FCV-78-35 OPEN
BFN-2-@V-078-2828	BFN-2-@V-078-2828, CABLE, FCV-78-61 CONTROL
BFN-2-@A-078-5651	BFN-2-@A-078-5651, PANEL 2-25-15 ANNUNCIATION
BFN-2-PDS-078-0021	BFN-2-PDS-078-0021, FUEL POOL F/D B VESSEL D/P

BFN-2-FLV-026-0783	BFN-2-FLV-026-0783, FLUSH TO DISCH CULVERT TURB HD END
BFN-2-DRV-078-0572	BFN-2-DRV-078-0572, PUMP A DISCH DR TO CRW
BFN-2-FSV-078-0007	BFN-2-FSV-078-0007, DRAIN VLV TO MAIN CONDENSER
BFN-2-ZS-078-0038B	BFN-2-ZS-078-0038B, 2-FCV-78-38 CLOSED
BFN-2-FA-078-0024A	BFN-2-FA-078-0024A, FUEL POOL F/D B EFFLUENT FLOW LOW
BFN-2-@PL-078-0694	BFN-2-@PL-078-0694, CABLE, FUEL POOL COOLING PMP 2A CONTROL
BFN-2-LS-075-0078B	BFN-2-LS-075-0078B, PRESS SUPPR CHBR HEAD TANK LEVEL
BFN-2-FU2-078-0064B	BFN-2-FU2-078-0064B, CONTROL TRANSF
BFN-2-@V-078-2854	BFN-2-@V-078-2854, CABLE, FCV-78-68 CONTROL
BFN-2-ZS-078-0019A	BFN-2-ZS-078-0019A, 2-FCV-78-19 0PEN
BFN-2-PISV-003-0078AL	BFN-2-PISV-003-0078AL, LOW SIDE INSTR ISOL VLV TO GT-3-78A
BFN-2-@ES-073-4078/II	BFN-2-@ES-073-4078/II, CABLE, HPCI STM FLOW
BFN-2-@V-078-2850	BFN-2-@V-078-2850, CABLE, FCV-78-68 SUPPLY
BFN-2-TE-003-0078B	BFN-2-TE-003-0078B, RFW FLOW TO REACTOR LINE B
BFN-2-LS-075-0078D	BFN-2-LS-075-0078D, PRESS SUPPR CHBR HEAD TANK LEVEL
BFN-2-RTV-075-0078CA	BFN-2-RTV-075-0078CA, PSC WTR HD TK LOW LS RT VLV
BFN-2-ZI-078-0063A	BFN-2-ZI-078-0063A, FILTER DEMIN INFLUENT INBOARD ISOL VLV
BFN-2-@FE-026-0780	BFN-2-@FE-026-0780, 120 VAC SUPPLY FOR PNL-25-333
BFN-2-@V-078-2852	BFN-2-@V-078-2852, CABLE, FCV-78-68 CONTROL
BFN-2-@V-078-2851	BFN-2-@V-078-2851, CABLE, FCV-78-68 CONTROL
BFN-2-FU2-078-0031A	BFN-2-FU2-078-0031A, RUN LIGHT
BFN-2-LS-075-0078A	BFN-2-LS-075-0078A, PRESS SUPPR CHBR HEAD TANK LEVEL
BFN-2-ISIV-078-0022H	BFN-2-ISIV-078-0022H, HIGH SIDE MANIFOLD ISOL VLV TO 2-PDIS-78-22
BFN-2-@RP-085-0783/G3	BFN-2-@RP-085-0783/G3, GROUP 3 PILOT SCRAM VLV SOLENOID
BFN-2-@FE-026-0781	BFN-2-@FE-026-0781, AFFF SUPPLY VALVE
BFN-2-ISIV-078-0022L	BFN-2-ISIV-078-0022L, LOW SIDE MANIFOLD ISOL VLV TO 2-PDIS-78-22
BFN-2-ZI-078-0063B	BFN-2-ZI-078-0063B, FILTER DEMIN INFLUENT INBOARD ISOL VLV
BFN-2-RTV-075-0078CB	BFN-2-RTV-075-0078CB, PSC WTR HD TK LOW LS RT VLV
BFN-2-LS-075-0078C	BFN-2-LS-075-0078C, PRESS SUPPR CHBR HEAD TANK LEVEL
BFN-2-TI-024-0078	BFN-2-TI-024-0078, TCW TO RBCCW HT EXCH A
BFN-2-TE-003-0078A	BFN-2-TE-003-0078A, RFW LINE A TEMP
BFN-2-@V-078-2853	BFN-2-@V-078-2853, CABLE, FCV-78-68 CONTROL
BFN-2-ZS-078-0019B	BFN-2-ZS-078-0019B, 2-FCV-78-19 CLOSED
BFN-2-@RM-090-0782/II	BFN-2-@RM-090-0782/II, 2-RE-90-141B SIGNAL ANDSUPPLY POWER
BFN-2-FU2-078-0064A	BFN-2-FU2-078-0064A, INDICATING LIGHT

BFN-2-DRV-026-0788	BFN-2-DRV-026-0788, DRAIN TO TB FLOOR DRAIN SUMP MAIN TURB OIL
BFN-2-DRV-026-0780	BFN-2-DRV-026-0780, STNR DRAIN TO DISCH CULVERT TURB HD END
BFN-2-TNK-078-0757	BFN-2-TNK-078-0757, SKIMMER SURGE TANK B
BFN-2-IL-078-0001B/CA	BFN-2-IL-078-0001B/CA, SKIMMER SURGE TANK LEVEL LOW
BFN-2-RLY-078-19A-K6A	BFN-2-RLY-078-19A-K6A, LOW SURGE TNK LEVEL ISOLATION RELAY
BFN-2-CKV-078-0545	BFN-2-CKV-078-0545, RX WELL DIFFUSER A SPLYCK VLV
BFN-2-@SG-085-0789	BFN-2-@SG-085-0789, ROD SELECT CIRCUIT
BFN-2-RTV-075-0078BB	BFN-2-RTV-075-0078BB, PSC WTR HD TK HIGH LS RT VLV
BFN-2-DRV-002-0782	BFN-2-DRV-002-0782, 2B CONDENSATE BOOSTER PUMP CASING DRAIN
BFN-2-HS-078-0019B	BFN-2-HS-078-0019B, FUEL POOL F/D B INFLUENT VLV
BFN-2-DRV-024-0786	BFN-2-DRV-024-0786, RCW DISCH FROM RECIRC HEAT EXCHANGER DRAIN VLV
BFN-2-@ES-001-0078/IS1	BFN-2-@ES-001-0078/IS1, MAIN STM LINE B RELIEF VALVE PCV-1-22
BFN-2-DRV-044-0786	BFN-2-DRV-044-0786, TB 2B RTN DR VLV
BFN-2-TNK-078-0756	BFN-2-TNK-078-0756, SKIMMER SURGE TANK A
BFN-2-RTV-075-0078BA	BFN-2-RTV-075-0078BA, PSC WTR HD TK HIGH LS RT VLV
BFN-2-TNK-075-0078	BFN-2-TNK-075-0078, PSC WATER HEAD TANK
BFN-2-RLY-078-19A-K6B	BFN-2-RLY-078-19A-K6B, RELAY SURGE TNK LEVEL ISOLATION RELAY
BFN-2-IL-078-0001B/CB	BFN-2-IL-078-0001B/CB, SKIMMER SURGE TANK LEVEL LOW
BFN-2-@RP-085-0788/G3	BFN-2-@RP-085-0788/G3, GROUP 3 PILOT SCRAM VLV SOLENOID
BFN-2-#V-078-2824	BFN-2-#V-078-2824, CONDUIT
BFN-2-DRV-044-0783	BFN-2-DRV-044-0783, TB 2B HTG COIL DR VLV
BFN-2-DRV-002-0783	BFN-2-DRV-002-0783, CNDS BSTR PMP 2C CASING DRAIN VLV
BFN-2-DRV-002-0781	BFN-2-DRV-002-0781, CNDS BSTR PMP 2A CASING DRAIN VLV
BFN-2-DRV-026-0789	BFN-2-DRV-026-0789, DRAIN TO TB FLOOR DRAIN SUMP MAIN TURB OIL
BFN-2-CKV-078-0546	BFN-2-CKV-078-0546, RX WELL DIFFUSER B SPLYCK VLV
BFN-2-DRV-044-0789	BFN-2-DRV-044-0789, TB 2B HTG COIL DR VLV
BFN-2-DRV-044-0785	BFN-2-DRV-044-0785, TB 2B SPLY DR VLV
BFN-2-HS-078-0019A	BFN-2-HS-078-0019A, FUEL POOL F/D B INFLUENT VLV
BFN-2-VTV-078-0032	BFN-2-VTV-078-0032, VTV VLV FOR 2-PI-78-32
BFN-2-@V-078-2833	BFN-2-@V-078-2833, CABLE, FCV-78-63 CONTROL
BFN-2-IL-078-0066	BFN-2-IL-078-0066, FILTER DEMIN BYPASS A VALVE
BFN-2-FG-078-0039	BFN-2-FG-078-0039, FUEL POOL F/D HEAD VENT FLOW
BFN-2-HS-078-0063B	BFN-2-HS-078-0063B, F/D INFLUENT INBOARD ISOL VLV
BFN-2-IL-078-0062	BFN-2-IL-078-0062, FUEL POOL MAKEUP FROM RHR OUTBOARD VLV
BFN-2-FCV-078-0045	BFN-2-FCV-078-0045, FUEL POOL F/D D UNIT2 OUTLET VLV

BFN-2-IL-078-0068	BFN-2-IL-078-0068, REACTOR WELL INFLUENT INBOARD VLV
BFN-2-@V-078-2835	BFN-2-@V-078-2835, CABLE, FCV-78-63 CONTROL
BFN-2-ZI-078-0065B	BFN-2-ZI-078-0065B, FILTER DEMIN BYPASS B VALVE
BFN-2-FM-078-0024B	BFN-2-FM-078-0024B, FUEL POOL F/D B EFFLUENT FLOW LOW E/P
BFN-2-IL-078-0064	BFN-2-IL-078-0064, FILTER DEMIN INFLUENT OUTBOARD ISOL VLV
BFN-2-VTV-078-0030	BFN-2-VTV-078-0030, VTV VLV FOR 2-PI-78-30
BFN-2-@V-078-2831	BFN-2-@V-078-2831, CABLE, FCV-78-63 SUPPLY
BFN-2-@V-078-2839	BFN-2-@V-078-2839, CABLE, FCV-78-66 CONTROL
BFN-2-FG-078-0037	BFN-2-FG-078-0037, FUEL POOL F/D VESSEL VENT FLOW
BFN-2-@V-078-2838	BFN-2-@V-078-2838, CABLE, FCV-78-66 SUPPLY
BFN-2-IL-078-0063	BFN-2-IL-078-0063, FILTER DEMIN INFLUENT INBOARD ISOL VLV
BFN-2-HS-078-0063A	BFN-2-HS-078-0063A, FILTER DEMIN INBD ISOL VALVE
BFN-2-FU1-078-25-016A	BFN-2-FU1-078-25-016A, 19AF9
BFN-2-@V-078-2834	BFN-2-@V-078-2834, CABLE, FCV-78-63 CONTROL
BFN-2-FM-078-0024C	BFN-2-FM-078-0024C, FUEL POOL F/D EFFLUENT FLOW LOWP/E
BFN-2-FCV-078-0042	BFN-2-FCV-078-0042, FUEL POOL F/D D UNIT2 INLET VLV
BFN-2-RTV-078-0205A	BFN-2-RTV-078-0205A, RT VLV TO PI-78-21A ANDPDT-78-21H
BFN-2-IL-078-0067	BFN-2-IL-078-0067, REACTOR WELL INFLUENT OUTBOARD VLV
BFN-2-@V-078-2832	BFN-2-@V-078-2832, CABLE, FCV-78-63 CONTROL
BFN-2-IL-078-0065	BFN-2-IL-078-0065, FILTER DEMIN BYPASS B VALVE
BFN-2-FCV-078-0048	BFN-2-FCV-078-0048, FUEL POOL F/D B AIR INLET VLV
BFN-2-PDI-078-0021	BFN-2-PDI-078-0021, FUEL POOL F/D B VESSEL D/P
BFN-2-FM-078-0024A	BFN-2-FM-078-0024A, FUEL POOL F/D B EFFLUENT FLOW SQ RT
BFN-2-ZI-078-0065A	BFN-2-ZI-078-0065A, FILTER DEMIN BYPASS B VALVE
BFN-2-IL-078-0061	BFN-2-IL-078-0061, FUEL POOL MAKEUP FROM RHR INBOARD VLV
BFN-2-FSV-078-0019	BFN-2-FSV-078-0019, FUEL POOL F/D B INFLUENT VLV
BFN-2-DRV-078-0555	BFN-2-DRV-078-0555, REACTOR WELL DR VLV
BFN-2-TE-002-0078	BFN-2-TE-002-0078, CNDS FROM HEATER A4
BFN-2-TE-006-0078	BFN-2-TE-006-0078, MOISTURE SEP DRAINS TO HTR B2
BFN-2-SHV-078-0715	BFN-2-SHV-078-0715, B HOLDING PUMP SUCT SHUTOFF VLV
BFN-2-RLY-078-0R2B	BFN-2-RLY-078-0R2B, FPC VESSEL B DRAIN RELAY
BFN-2-PS-078-0014	BFN-2-PS-078-0014, FUEL POOL COOL PUMP B NPSH LOW INTERLOCK
BFN-2-DRV-078-0714	BFN-2-DRV-078-0714, B F/D EFFLUENT CHEM DR VLV
BFN-2-@A-078-2272	BFN-2-@A-078-2272, P/O FUEL POOL SYSTEM ABNORMAL
BFN-2-DRV-078-0551	BFN-2-DRV-078-0551, SEAL RUPTURE DR VLV TO CNDR
BFN-2-HS-069-0078	BFN-2-HS-069-0078, PRECOAT RECYCLE VLV
BFN-2-DRV-078-0559	BFN-2-DRV-078-0559, DRYER/SEP STORAGE POOL DR TO DR HDR

BFN-2-PMP-078-0031	BFN-2-PMP-078-0031, FUEL POOL HOLDING PUMP B
BFN-2-BKR-078-0015	BFN-2-BKR-078-0015, FUEL POOL COOLING & CLEAN-UP PUMP 2B
BFN-2-SHV-078-0717	BFN-2-SHV-078-0717, B F/D EFFLUENT SHUTOFF VLV
BFN-2-@A-078-2270	BFN-2-@A-078-2270, FUEL POOL SYSTEM ABNORMAL
BFN-2-DRV-078-0557	BFN-2-DRV-078-0557, GATE SLOT DRAIN VLV TO DR HDR
BFN-2-@A-078-2274	BFN-2-@A-078-2274, SUPPLY FOR FS-78-51
BFN-2-DRV-078-0553	BFN-2-DRV-078-0553, RX WELL DR VLV TO CRW
BFN-2-RLY-078-TDR9B	BFN-2-RLY-078-TDR9B, FPC DEMIN B HOLDING PMP OFF DELAY RLY
BFN-2-DRV-078-0558	BFN-2-DRV-078-0558, RX WELL AND GATE SLOT DR VLV TO DR HDR
BFN-2-TE-078-0008	BFN-2-TE-078-0008, FPC HX SKIMMER SURGE TK
BFN-2-SHV-078-0718	BFN-2-SHV-078-0718, B RESIN TRAP BW CNDS SHUTOFF VLV
BFN-2-DRIV-078-0024	BFN-2-DRIV-078-0024, INSTR DRAIN VLV FOR 2-FQ-78-24
BFN-2-DRV-078-0713	BFN-2-DRV-078-0713, B F/D INFLUENT CHEM DR VLV
BFN-2-@C-094-0078	BFN-2-@C-094-0078, TIP CH D, 28V DC, DIGITAL BUS (C2833, C2834)
BFN-2-DRV-078-0719	BFN-2-DRV-078-0719, B RESIN TRAP DR SHUTOFF VLV
BFN-2-BKR-078-0010	BFN-2-BKR-078-0010, FUEL POOL COOLING & CLEAN-UP PUMP 2A
BFN-2-RTV-078-0229A	BFN-2-RTV-078-0229A, RT VLV TO PIS-78-16
BFN-2-@A-078-2271	BFN-2-@A-078-2271, FUEL POOL SYSTEM ABNORMAL
BFN-2-@V-078-2792	BFN-2-@V-078-2792, CABLE, FCV-78-65 CONTROL
BFN-2-BKR-035-0780	BFN-2-BKR-035-0780, PCB 224 AUXILIARY HEATERS 480V TMOV 2A/7D1
BFN-2-FU2-078-0066B	BFN-2-FU2-078-0066B, CONTROL CIRCUIT
BFN-2-PIS-078-0016	BFN-2-PIS-078-0016, FUEL POOL COOL PUMP B DISCHARGE PRESS. LOW
BFN-2-TW-078-0034	BFN-2-TW-078-0034, FUEL POOL F/D B INFLUENT TEMP HIGH
BFN-2-@V-078-2790	BFN-2-@V-078-2790, CABLE, FCV-78-65 CONTROL
BFN-2-PDIS-078-0022	BFN-2-PDIS-078-0022, FUEL POOL F/D B RESIN TRAP D/P HIGH
BFN-2-PDIS-078-0021	BFN-2-PDIS-078-0021, FUEL POOL F/D B VESSEL D/P
BFN-2-@V-078-2791	BFN-2-@V-078-2791, CABLE, FCV-78-65 CONTROL
BFN-2-FU2-078-0066A	BFN-2-FU2-078-0066A, INDICATING LIGHT
BFN-2-PIS-078-0011	BFN-2-PIS-078-0011, FUEL POOL COOL PUMP A DISCHARGE PRESS. LOW
BFN-2-HS-078-0031B	BFN-2-HS-078-0031B, FUEL POOL F/D B HOLDING PUMP
BFN-2-FU2-078-0015A	BFN-2-FU2-078-0015A, 7C TR CKT
BFN-2-HS-078-0015A	BFN-2-HS-078-0015A, FUEL POOL COOLING PUMP 2B
BFN-2-FU1-001-0078B	BFN-2-FU1-001-0078B, 5AF10D
BFN-2-CKV-078-0586	BFN-2-CKV-078-0586, FPC TO COND HDR CK VLV
BFN-2-@PL-063-0785	BFN-2-@PL-063-0785, SLC INBD VALVE ISV-63-12
BFN-2-ZI-078-0061B	BFN-2-ZI-078-0061B, FUEL POOL MAKEUP FROM RHR INBOARD VLV
BFN-2-$ES-001-0078B	BFN-2-$ES-001-0078B, SLICE (2ES78/IS1) AT PENE EC

BFN-2-HS-078-0031A	BFN-2-HS-078-0031A, FUEL POOL F/D B HOLDING PUMP
BFN-2-FU2-078-0015B	BFN-2-FU2-078-0015B, 7C CL CKT
BFN-2-@PL-063-0786	BFN-2-@PL-063-0786, SLC INBD VALVE ISV-63-12
BFN-2-$ES-001-0078A	BFN-2-$ES-001-0078A, SPLICE IN JB 8715 FOR 2-PSV-1-22
BFN-2-FU1-001-0078A	BFN-2-FU1-001-0078A, 5AF10E
BFN-2-ZI-078-0061A	BFN-2-ZI-078-0061A, FUEL POOL MAKEUP FROM RHR INBOARD VLV
BFN-2-@PL-063-0780	BFN-2-@PL-063-0780, CABLE FOR 2-HCV-63-14
BFN-2-FS-078-0024	BFN-2-FS-078-0024, FUEL POOL F/D EFFLUENT FLOW LOWSWITCH
BFN-2-HS-078-0015B	BFN-2-HS-078-0015B, FUEL POOL COOLING PUMP B
BFN-2-#V-078-2868	BFN-2-#V-078-2868, CONDUIT
BFN-2-@A-078-2236	BFN-2-@A-078-2236, FUEL POOL SYSTEM ABNORMAL
BFN-2-HS-078-0038	BFN-2-HS-078-0038, FUEL POOL F/D B HEAD VENT VLV
BFN-2-DRV-078-0519	BFN-2-DRV-078-0519, DEMIN EFFL TO DRW DR VLV
BFN-2-VTV-075-0078D	BFN-2-VTV-075-0078D, PSC WTR HEAD TK LOW-LOW LVL SWITCH VENT VLV
BFN-2-@RP-085-0782/G3	BFN-2-@RP-085-0782/G3, GROUP 3 PILOT SCRAM VLV SOLENOID
BFN-2-SHV-078-0510	BFN-2-SHV-078-0510, HX B-OUTLET VLV
BFN-2-CKV-033-0785	BFN-2-CKV-033-0785, PRI CONTAINMENT CHECKDIP BY DCN 50063A
BFN-2-$A-078-2274A	BFN-2-$A-078-2274A, SPLICE AT TEE FITTING NEAR FS-78-51
BFN-2-DRV-078-0513	BFN-2-DRV-078-0513, HX B-CRW DR VLV
BFN-2-@R-074-4078	BFN-2-@R-074-4078, CABLE, RHR SYS II FLOW (A5171)
BFN-2-VTV-075-0078B	BFN-2-VTV-075-0078B, PSC WTR HEAD TK HIGH LVL SWITCH VENT VLV
BFN-2-HS-078-0036	BFN-2-HS-078-0036, FUEL POOL F/D B VESSEL VENT VLV
BFN-2-ZS-078-0045A	BFN-2-ZS-078-0045A, BFN-2-FCV-78-45 OPEN
BFN-2-DRIV-003-0078BH	BFN-2-DRIV-003-0078BH, 2-FT-3-78B HIGH SIDE TEST CONN ISOL VALVE
BFN-2-HS-078-0035	BFN-2-HS-078-0035, FUEL POOL F/D B BACKWASH DRAIN VLV
BFN-2-TV-078-0550	BFN-2-TV-078-0550, RX LINER LKG DR TEST CONN VLV
BFN-2-ZS-078-0045B	BFN-2-ZS-078-0045B, BFN-2-FCV-78-45 CLOSED
BFN-2-SHV-078-0511	BFN-2-SHV-078-0511, HX A-OUTLET VLV
BFN-2-DRV-078-0514	BFN-2-DRV-078-0514, HX A-CRW DR VLV
BFN-2-#V-078-2869	BFN-2-#V-078-2869, CONDUIT
BFN-2-VTV-075-0078A	BFN-2-VTV-075-0078A, PSC WTR HEAD TK HIGH-HIGH LVL SWITCH VENT VLV
BFN-2-VTV-075-0078C	BFN-2-VTV-075-0078C, PSC WTR HEAD TK LOW LVL SWITCH VENT VLV
BFN-2-@CR-261-2078	BFN-2-@CR-261-2078, CABLE, ICS MULTIPLEXER POWER
BFN-2-#V-078-2867	BFN-2-#V-078-2867, CONDUIT
BFN-2-HS-078-0033	BFN-2-HS-078-0033, FUEL POOL F/D B HOLDING VLV
BFN-2-ISIV-078-0024G	BFN-2-ISIV-078-0024G, INSTR ISOL VLV FOR 2-FQ-78-24
BFN-2-CKV-078-0501	BFN-2-CKV-078-0501, PUMP B DISCH CK VLV

BFN-2-ISIV-003-0078BL	BFN-2-ISIV-003-0078BL, LOW SIDE INSTR ISOL VLV TO FT-3-78B
BFN-2-TV-074-0788	BFN-2-TV-074-0788, RHR PMP 2A/C SUCT XTIE U-1 TEST LN SOV
BFN-2-DRIV-003-0078AH	BFN-2-DRIV-003-0078AH, 2-FT-3-78A HIGH SIDE TEST CONN ISOL VALVE
BFN-2-ISIV-078-0024C	BFN-2-ISIV-078-0024C, INSTR ISOL VLV FOR 2-FM-78-24C
BFN-2-DRV-078-0592	BFN-2-DRV-078-0592, DR VLV TO FIS-78-5
BFN-2-FU2-078-0062B	BFN-2-FU2-078-0062B, CONTROL TRANSF
BFN-2-63-078-0010	BFN-2-63-078-0010, FPC PMP 2A CONT CKT PRESS RLY 63
BFN-2-FU2-066-0078B	BFN-2-FU2-066-0078B, CONT XFMR
BFN-2-ISIV-078-0024A	BFN-2-ISIV-078-0024A, INSTR ISOL VLV FOR 2-FM-78-24A
BFN-2-TW-068-0078	BFN-2-TW-068-0078, RECIRC PUMP B DISCH TEMP
BFN-2-ISIV-078-0024E	BFN-2-ISIV-078-0024E, INSTR ISOL VLV FOR 2-FS-78-24
BFN-2-ISIV-078-0024L	BFN-2-ISIV-078-0024L, LOW SIDE MANIFOLD ISOL VLV TO 2-FT-78-24
BFN-2-ISIV-078-0024D	BFN-2-ISIV-078-0024D, INSTR ISOL VLV TO 2-FT-78-24
BFN-2-FU2-066-0078A	BFN-2-FU2-066-0078A, RUN LIGHT
BFN-2-63-078-0015	BFN-2-63-078-0015, FPC PMP 2B CONT CKT PRESS RLY 63
BFN-2-TV-074-0789	BFN-2-TV-074-0789, U1-2 XTIE HDR TEST VLV
BFN-2-JBOX-073-2078	BFN-2-JBOX-073-2078, BETWEEN 250V DC REAC MOV BD 2A AND FCV-27 & 40
BFN-2-ISIV-078-0024H	BFN-2-ISIV-078-0024H, HIGH SIDE MANIFOLD ISOL VLV TO 2-FT-78-24
BFN-2-ISIV-078-0024F	BFN-2-ISIV-078-0024F, INSTR ISOL VLV FOR 2-FI-78-24B
BFN-2-FU2-078-0062A	BFN-2-FU2-078-0062A, INDICATING LIGHT
BFN-2-ISIV-078-0024B	BFN-2-ISIV-078-0024B, INSTR ISOL VLV FOR 2-FM-78-24A
BFN-2-@RP-085-0785/G3	BFN-2-@RP-085-0785/G3, GROUP 3 PILOT SCRAM VLV SOLENOID
BFN-2-CKV-078-0502	BFN-2-CKV-078-0502, PUMP A DISCH CK VLV
BFN-2-DRIV-078-0024L	BFN-2-DRIV-078-0024L, LOW SIDE INSTR DRAIN VLV 2-FT-78-24
BFN-2-VTV-078-0512	BFN-2-VTV-078-0512, HX B-VENT
BFN-2-MTR-078-0062	BFN-2-MTR-078-0062, POOL MAKEUP FROM RHR OUTBD VLV MTR
BFN-2-PISV-078-0004	BFN-2-PISV-078-0004, PANEL ISOL VLV TO 2-LI-78-4
BFN-2-HS-078-0067B	BFN-2-HS-078-0067B, REACTOR WELL INFLUENT OUTBOARD VALVE
BFN-2-ZI-078-0023	BFN-2-ZI-078-0023, FUEL POOL F/D B PRECOAT INLET VLV
BFN-2-ZI-078-0027	BFN-2-ZI-078-0027, FUEL POOL F/D B RET BYPASS VLV TO CNDS STG
BFN-2-THV-078-0024	BFN-2-THV-078-0024, THROTTLE VLV TO 2-FM-78-24A
BFN-2-MTR-078-0066	BFN-2-MTR-078-0066, F/D BYPASS ISOL VALVE A MTR
BFN-2-FCV-078-0007	BFN-2-FCV-078-0007, DRAIN VLV TO MAIN CONDENSER
BFN-2-DRIV-078-0024H	BFN-2-DRIV-078-0024H, HIGH SIDE INSTR DRAIN VLV FOR 2-FT-78-24

BFN-2-TTIV-078-0011	BFN-2-TTIV-078-0011, INSTR TEST VLV FOR 2-PIS-78-11
BFN-2-MTR-078-0064	BFN-2-MTR-078-0064, F/D INFLUENT OUTBOARD ISOL VLV MTR
BFN-2-ZS-078-0033A	BFN-2-ZS-078-0033A, 2-FCV-78-33 OPEN
BFN-2-MTR-078-0068	BFN-2-MTR-078-0068, REACTOR WELL INFLUENT INBOARD VLV MTR
BFN-2-FU2-027-0078A	BFN-2-FU2-027-0078A, RUN LIGHT
BFN-2-RTV-078-0225A	BFN-2-RTV-078-0225A, RT VLV TO LI-78-4
BFN-2-TV-075-0078A	BFN-2-TV-075-0078A, PSC WATER HEAD TANK TEST VLV
BFN-2-HS-078-0067A	BFN-2-HS-078-0067A, REACTOR WELL RETURN OUTBD VLV
BFN-2-MTR-078-0061	BFN-2-MTR-078-0061, POOL MAKEUP FROM RHR INBD VLV MTR
BFN-2-ZI-078-0028	BFN-2-ZI-078-0028, FUEL POOL F/D B PRECOAT/BACKWASH VLV
BFN-2-PISV-078-0009	BFN-2-PISV-078-0009, PANEL ISOL VLV TO 2-PS-78-9
BFN-2-TTIV-078-0014	BFN-2-TTIV-078-0014, INSTR TEST VLV FOR 2-PS-78-14
BFN-2-TTIV-078-0024A	BFN-2-TTIV-078-0024A, INSTR TEST VLV FOR 2-FM-78-24A
BFN-2-RTV-078-0209A	BFN-2-RTV-078-0209A, RT VLV TO FT-78-24H
BFN-2-TV-075-0078B	BFN-2-TV-075-0078B, PSC WATER HEAD TANK TEST VLV
BFN-2-VTV-078-0515	BFN-2-VTV-078-0515, HX A-VENT
BFN-2-ZS-078-0033B	BFN-2-ZS-078-0033B, 2-FCV-78-33 CLOSED
BFN-2-MTR-078-0065	BFN-2-MTR-078-0065, F/D BYPASS ISOL VALVE B MTR
BFN-2-TA-078-0034	BFN-2-TA-078-0034, FUEL POOL F/D B INFLUENT TEMP HIGH
BFN-2-MTR-078-0063	BFN-2-MTR-078-0063, F/D INFLUENT INBOARD ISOL VLV MTR
BFN-2-MTR-078-0067	BFN-2-MTR-078-0067, REACTOR WELL INFLUENT OUTBOARD VLV MTR
BFN-2-FT-078-0024	BFN-2-FT-078-0024, FUEL POOL F/D B EFFLUENT FLOW
BFN-2-FU2-027-0078B	BFN-2-FU2-027-0078B, CONT XFMR
BFN-2-@ES-075-0786/I	BFN-2-@ES-075-0786/I, CORE SPRAY PUMP 2A CONTROL
BFN-2-TTIV-078-0024C	BFN-2-TTIV-078-0024C, INSTR TEST FOR VLV FOR 2-FM-78-24C
BFN-2-TTIV-078-0016	BFN-2-TTIV-078-0016, INSTR TEST VLV FOR 2-PIS-78-16
BFN-2-CKV-078-0716	BFN-2-CKV-078-0716, B HOLDING PUMP DISCH CK VLV
BFN-2-IL-078-0010B	BFN-2-IL-078-0010B, FUEL POOL COOLING PUMP 2A
BFN-2-FCV-078-0028	BFN-2-FCV-078-0028, FUEL POOL F/D B PRECOAT/BACKWASH VLV
BFN-2-VTV-078-0021L	BFN-2-VTV-078-0021L, VENT FOR 2-PI-78-21B & 2-PDT-78-21 LOW SIDE
BFN-2-VTV-078-0021H	BFN-2-VTV-078-0021H, VENT FOR 2-PI-78-21A & 2-PDT-78-21 HIGH SIDE
BFN-2-LA-078-0001A	BFN-2-LA-078-0001A, SURGE TANK LEVEL HIGH
BFN-2-FI-066-0078	BFN-2-FI-066-0078, RECOMBINER A DISCH VLV SEAL AIR
BFN-2-HS-078-0065A	BFN-2-HS-078-0065A, FILTER DEMIN BYPASS B VALVE
BFN-2-FCV-078-0026	BFN-2-FCV-078-0026, FUEL POOL F/D B EFFLUENT VLV
BFN-2-FCV-078-0027	BFN-2-FCV-078-0027, FUEL POOL F/D B RET BYPASS CNDS STG VLV

BFN-2-LA-078-0001B	BFN-2-LA-078-0001B, SURGE TANK LEVEL LOW/LOW-LOW
BFN-2-IL-078-0010A	BFN-2-IL-078-0010A, FUEL POOL COOLING PUMP 2A
BFN-2-HS-078-0065B	BFN-2-HS-078-0065B, F/D BYPASS ISOL VALVE B
BFN-2-FCV-078-0023	BFN-2-FCV-078-0023, FUEL POOL F/D B PRECOAT INLET VLV
BFN-2-PISV-078-0024	BFN-2-PISV-078-0024, PANEL ISOL VLV TO 2-FQ-78-24
BFN-2-IL-078-0010C	BFN-2-IL-078-0010C, FUEL POOL COOLING PUMP 2A
BFN-2-@R-001-0785	BFN-2-@R-001-0785, MSL C RELIEF VLV TEMP RCDR (TR-1-1)
BFN-2-@ES-075-0787/I	BFN-2-@ES-075-0787/I, CORE SPRAY PUMP 2C CONTROL
BFN-2-TW-078-0012	BFN-2-TW-078-0012, FUEL POOL COOL HTX A INLET TEMP
BFN-2-@R-001-0781	BFN-2-@R-001-0781, MSL D RELIEF VLV TEMP RCDR (TR-1-1)
BFN-2-CKV-078-0521	BFN-2-CKV-078-0521, TO FUEL POOL DEMINS CK VLV
BFN-2-FI-003-0078B	BFN-2-FI-003-0078B, RFW FLOW LINE B
BFN-2-@R-001-0787	BFN-2-@R-001-0787, MSL C RELIEF VLV TEMP RCDR (TR-1-1)
BFN-2-CKV-078-0527	BFN-2-CKV-078-0527, TO POOL DIFUSSER B
BFN-2-TW-078-0018	BFN-2-TW-078-0018, FUEL POOL COOL HTX B DISCHARGE TEMP
BFN-2-ZS-078-0027A	BFN-2-ZS-078-0027A, BFN-2-FCV-78-27 OPEN
BFN-2-FE-078-0758	BFN-2-FE-078-0758, FUEL POOL COOL HEX A FLOW ELEMENT
BFN-2-TV-078-0758A	BFN-2-TV-078-0758A, 2-FE-78-758 HI SIDE TEST VENT VALVE
BFN-2-TV-078-0758B	BFN-2-TV-078-0758B, 2-FE-78-758 LO SIDE TEST VENT VALVE
BFN-2-FE-078-0759	BFN-2-FE-078-0759, FUEL POOL COOL HEX B FLOW ELEMENT
BFN-2-TV-078-0759A	BFN-2-TV-078-0759A, 2-FE-78-759 HI SIDE TEST VENT VALVE
BFN-2-TV-078-0759B	BFN-2-TV-078-0759B, 2-FE-78-759 LO SIDE TEST VENT VALVE
BFN-2-TV-078-0760A	BFN-2-TV-078-0760A, 2-FE-78-760 HI SIDE TEST VENT VALVE
BFN-2-TV-078-0760B	BFN-2-TV-078-0760B, 2-FE-78-760 LO SIDE TEST VENT VALVE
BFN-2-FE-078-0760	BFN-2-FE-078-0760, FUEL POOL COOL HEX BYPASS FLOW ELEMENT
BFN-2-OR-078-0761	BFN-2-OR-078-0761, FUEL POOL COOL DEMIN BYPASS FLOW REDUCING ORIFICE
BFN-2-LGT-247-CB01078	BFN-2-LGT-247-CB01078, TO BE DELETED AT CLOSURE BY W.O. 03-016289-001SPREADER RM "B" EMERGENCY LIGHT REMOTE LAMP FIXTUREUNIT-2 CB 606 R11 1/3 N 1/2
BFN-2-RES-066-1078	BFN-2-RES-066-1078, OFFGAS PANEL ANNUNCIATOR RESITOR
BFN-2-ZM-001-0078	BFN-2-ZM-001-0078, LVDT CONDITIONER (1LVDT8)
BFN-2-HS-047-0078E	BFN-2-HS-047-0078E, SHELL WARMING (SW 30)(OCP #1)

BFN-2-SNUB-001-5078	BFN-2-SNUB-001-5078, DRWELL STEAM DECK, ELEV. 606, AZ 72, PSA 10
BFN-2-LOV-078-0061	BFN-2-LOV-078-0061, FUEL POOL MAKEUP FROM RHR INBOARD VALVE LOV
BFN-2-SHV-074-0786A	BFN-2-SHV-074-0786A, RHR DR PMP 2A DISCH TO MN CNDR/RW SOV
BFN-2-SHV-074-0786B	BFN-2-SHV-074-0786B, RHR DR PMP 2B DISCH TO MN CNDR/RW SOV
BFN-2-WBOX-027-0078	BFN-2-WBOX-027-0078, 2C1 CCW Waterbox Outlet
BFN-2-FUPG-043-2078	BFN-2-FUPG-043-2078, WTR SMPL RECIRC/RWCU CHLR FUSIBLE PLUG VENT FOR 2-RVR-43-2079

Appendix D: SWELs and Areas

Brown Ferry Unit 2 Seismic Walkdown Equipment List				Created By: [signature] for Jason Blade via telecon					Approved By: Steve Gray per telecon RAM 11-21-12						
Item #	Equip. Class (0 - 21)	UNID	Description	Unit	Bldg.	Elev.	Room	Sys.	Safety Function	RISK RANKINGS	CDF Rank	LERF Rank	New or Replaced	Anch. Verified	AWC
2062	10	BFN-0-AHU-031-0082	U1 & U2 EL 617 MCR AHU 1B	0	CB	617	MECH EQUIP RM	031	2,3,4,5	NO	-	-		NO	001
2063	10	BFN-0-AHU-031-0089	U1 & U2 EL 593 AHU 1B	0	CB	593	MECH EQUIP RM R3 & P LINE	031	2,3,4,5	NO	-	-		NO	002
2075	15	BFN-0-BATA-248-0002	250V MAIN BATTERY 2	0	CB	593	P/R9, Door 468	248	1,2,3,4,5	NO	-	-		NO	090
2076	15	BFN-0-BATB-254-0000C	125 VDC DIESEL SYSTEM BATTERY C	0	DG	565	DG C	254	1,2,3,4,5	NO	-	-		YES	007
2077	15	BFN-0-BATB-254-0000D	125 VDC DIESEL SYSTEM BATTERY D	0	DG	565	DG D	254	1,2,3,4,5	NO	-	-		YES	008
2020	3	BFN-0-BDAA-211-000C	4KV SHUTDOWN BOARD C	0	CB	617	2A 4kV SDBD RM C	211	1,2,3,4,5	YES	199	-		NO	067
2019	3	BFN-0-BDAA-211-000D	4KV SHUTDOWN BOARD D	0	RB	593	2B 4kV SDBD RM D	211	1,2,3,4,5	YES	19	23		NO	021
2009	1	BFN-0-BDBB-219-0000A	480V DSL AUX BD A	0	DG	583	480V AUX BD	219	1,2,3,4,5	YES	7	4		YES	115
2010	1	BFN-0-BDBB-219-0000B	480V DSL AUX BD B	0	DG	583	480V AUX BD	219	1,2,3,4,5	NO	-	-		YES	115
2068	14	BFN-0-BDDD-280-0002	250-V DC BATTERY BOARD 2	0	CB	593	BATT BD RM 2	280	1,2,3,4,5	NO	-	-		NO	091
2072	14	BFN-0-BDGG-254-0000C	125 VDC DSL SYS BAT BOARD C	0	DG	565	DG C	254	1,2,3,4,5	NO	-	-		YES	007
2071	14	BFN-0-BDGG-254-0000D	125 VDC DSL SYS BAT BOARD D	0	DG	565	DG D	254	1,2,3,4,5	NO	-	-		YES	008
2080	16	BFN-0-CHGB-254-0000CA	DGC 125 VDC DSL SYS BTRY CHGR A	0	DG	565	DG HALLWAY	254	1,2,3,4,5	NO	-	-		NO	006
2081	16	BFN-0-CHGB-254-0000CB	DGC 125 VDC DSL SYS BTRY CHGR B	0	DG	565	DG C	254	1,2,3,4,5	NO	-	-		YES	007
2082	16	BFN-0-CHGB-254-0000DA	DGD 125 VDC DSL SYS BTRY CHGR A	0	DG	565	DG HALLWAY	254	1,2,3,4,5	NO	-	-		NO	006
2083	16	BFN-0-CHGB-254-0000DB	DGD 125 VDC DSL SYS BTRY CHGR B	0	DG	565	DG D	254	1,2,3,4,5	NO	-	-		YES	008
2106	11	BFN-0-CHR-031-2200	CONTROL BAY WATER CHILLER B	0	CB	595	ROOF OF DG BUILDING	031	2,3,4,5	YES	201	-		YES	069
2053	9	BFN-0-FAN-030-0068	DIESEL GEN RM C EXH FAN A	0	DG	583	DG C	030	3,4,5	NO	-	-		YES	020
2054	9	BFN-0-FAN-030-0069	DIESEL GEN RM C EXH FAN B	0	DG	583	DG C	030	3,4,5	NO	-	-		YES	020
2055	9	BFN-0-FAN-030-0070	DIESEL GEN RM D EXH FAN A	0	DG	583	DG D	030	3,4,5	NO	-	-		YES	019
2056	9	BFN-0-FAN-030-0071	DIESEL GEN RM D EXH FAN B	0	DG	583	DG D	030	3,4,5	NO	-	-		YES	019
2061	10	BFN-0-FCO-030-0068B	INLET DAMPER FOR FAN "A" IN DG ROOM "C"	0	DG	565	DG C	030	3,4,5	NO	-	-		NO	007
2060	10	BFN-0-FCO-030-0069A	OUTLET DAMPER FOR FAN "B" IN DG ROOM "C"	0	DG	583	DG C	030	3,4,5	NO	-	-		NO	020
2084	17	BFN-0-GEN-082-000C	DIESEL GENERATOR C	0	DG	565	DG C	082	3,4,5	YES	111	-		YES	007
2085	17	BFN-0-GEN-082-000D	DIESEL GENERATOR D	0	DG	565	DG D	082	3,4,5	YES	95	-		YES	008
2032	6	BFN-0-PMP-023-0012	RHRSW PUMP C2	0	INTAKE	565	C	023	4,5	NO	-	-		NO	018
2035	6	BFN-0-PMP-023-0088	RHRSW PUMP B3	0	INTAKE	565	B	023	4,5	NO	-	-		NO	017
2069	14	BFN-0-PNLA-248-0000C	250V DISTRIBUTION PANEL SB-C	0	CB	617	2A 250V SDBD RM C	248	1,2,3,4,5	YES	137	-		YES	067
2070	14	BFN-0-PNLA-248-0000D	250V DISTRIBUTION PANEL SB-D	0	CB	617	2A 250V SDBD RM C	248	1,2,3,4,5	YES	52	-		YES	067
2004	0	BFN-0-STN-067-0926	B EECW PUMP DISCHARGE STRAINER	0	INTAKE	565	B	067	3,4,5	YES	-	57		NO	017
2003	0	BFN-0-STN-067-0927	C EECW PUMP DISCHARGE STRAINER	0	INTAKE	565	C	067	3,4,5	YES	-	61		NO	018
2105	21	BFN-0-TNK-084-0636	BFN-0-TNK-084-0636, NITROGEN STRG TNK B	0	YARD	565	YARD	084	5	NO	-	-		NO	016
2104	21	BFN-0-TNK-086-0657D	DSL GEN D RIGHT BANK STARTING AIR TANK	0	DG	565	DG D	086	3,4,5	NO	-	-		YES	008
2005	0	BFN-0-VPR-084-0639	CAD/N2 TANK "A" VAPORIZER	0	YARD	565	YARD	084	5	NO	-	-		NO	015
2006	0	BFN-0-VPR-084-0640	CAD/N2 TANK "B" VAPORIZER	0	YARD	565	YARD	084	5	NO	-	-		NO	016
2107	4	BFN-0-XFA-219-TDB	4KV/480V XFMR TDB	0	DG	583	SOUTHEAST CORNER	032	3,4,5	NO	-	-		YES	115
2017	2	BFN-2-BDBB-231-0002A	480V SHUTDOWN BOARD 2A	2	RB	621	2A 480V SDBD RM C	231	1,2,3,4,5	YES	2	13		NO	118
2018	2	BFN-2-BDBB-231-0002B	480V SHUTDOWN BOARD 2B	2	RB	593	2B 480V SDBD RM C	231	1,2,3,4,5	YES	1	10		NO	119
2014	1	BFN-2-BDBB-268-0002A	480V RMOV BD 2A	2	CB	617	2A 4kV SDBD RM C	268	1,2,3,4,5	YES	13	12		NO	067
2011	1	BFN-2-BDBB-268-0002B	480V RMOV BD 2B	2	RB	593	2B 4kV SDBD RM D	268	1,2,3,4,5	YES	20	33		NO	021
2007	1	BFN-2-BDBB-268-0002C	480V RMOV BD 2C	2	RB	565	RCA - T/R13	268	1,2,3,4,5	YES	55	47		NO	109
2012	1	BFN-2-BDBB-268-0002D	480V REAC MOV BD 2D	2	RB	593	RCA - T/R11	268	1,2,3,4,5	YES	164	-		NO	108
2015	1	BFN-2-BDBB-268-0002E	480V REACTOR MOV BD 2E	2	RB	621	RCA - U/R8	268	1,2,3,4,5	YES	200	-		NO	110
2016	1	BFN-2-BDDD-281-0002A	250V REACTOR MOV BD 2A	2	CB	617	2A 4kV SDBD RM C	281	1,2,3,4,5	YES	11	-		YES	067
2013	1	BFN-2-BDDD-281-0002B	250V REACTOR MOV BD 2B	2	RB	593	2B 4kV SDBD RM D	281	1,2,3,4,5	YES	12	-		YES	021
2008	1	BFN-2-BDDD-281-0002C	250V REACTOR MOV BD 2C	2	RB	565	RCA - Q/R8	281	1,2,3,4,5	YES	152	-		YES	035
2078	16	BFN-2-CHGA-248-0002A	250V BATTERY CHARGER 2A	2	CB	593	BATT BD RM 2	248	1,2,3,4,5	NO	-	-		NO	091
2057	10	BFN-2-CLR-067-068	EECW/RHR PUMP 2A ROOM COOLER	2	RB	541	SW CORNER	067	3,4,5	NO	-	-		NO	096
2059	10	BFN-2-CLR-067-070	EECW/RHR PUMP 2C ROOM COOLER	2	RB	541	SW CORNER	067	3,4,5	NO	-	-		NO	096
2058	10	BFN-2-CLR-067-072	EECW/CS PUMP 2A ROOM COOLER	2	RB	519	NW CORNER	067	3,4,5	NO	-	-		YES	037
2052	9	BFN-2-FAN-071-0601	PANEL 2-9-81 COOLING FAN	2	CB	593	U2 AIR	071	3	YES	50	-		NO	089
2113	7	BFN-2-FCV-001-0026	MSIV "B" INBOARD ISOLATION VALVE	2	RB	565	DRY WELL	001	2	NO	-	-		NO	
2114	7	BFN-2-FCV-001-0038	MSIV "C" OUTBOARD ISOLATION VALVE	2	RB	565	MSIV VAULT	001	2	NO	-	-		NO	

Item #	Equip. Class (0 - 21)	UNID	Description	Unit	Bldg.	Elev.	Room	Sys.	Safety Function	RISK RANKINGS	CDF Rank	LERF Rank	New or Replaced	Anch. Verified	AWC
2049	8	BFN-2-FCV-023-0034	RHR HTX 2A COOL WATER OUTLET	2	RB	565	U/R9	023	4,5	NO	-	-		NO	041
2046	8	BFN-2-FCV-023-0040	RHR HTX 2C COOL WATER OUTLET	2	RB	565	U/R9	023	4,5	NO	-	-		NO	041
2001	0	BFN-2-FCV-063-0008A	2A SLC SQUIB VLV (GE-11-14A)	2	RB	639	SLC AREA	063	1	NO	-	-		NO	004
2002	0	BFN-2-FCV-063-0008B	2B SLC SQUIB VLV (GE-11-14B)	2	RB	639	SLC AREA	063	1	NO	-	-		NO	004
2038	7	BFN-2-FCV-064-0020	SUPPRESSION CHAMBER VAC RLF VLV	2	RB	565	SE CORNER	064	5	NO	-	-		NO	009
2039	7	BFN-2-FCV-064-0021	SUPP CHAMBER VAC RLF VLV	2	RB	565	R/2T	064	5	NO	-	-		NO	009
2040	7	BFN-2-FCV-064-0032	SUPP CHAMBER EXHAUST INBD ISOL VLV	2	RB	565	R12/Q	064	5	NO	-	-		NO	010
2041	7	BFN-2-FCV-064-0033	SUPP CHAMBER EXHAUST OUTBD ISOL VLV	2	RB	565	R9/P	064	5	NO	-	-		NO	010
2044	7	BFN-2-FCV-067-0050	EECW SYSTEM NORTH HEADER BACKUP TO RBCCW	2	RB	593	P/R13	067	3,4,5	NO	-	-		NO	039
2045	8	BFN-2-FCV-074-0001	RHR PMP A SUPP POOL SUCTION VALVE	2	RB	519	SW CORNER	074	3,4	NO	-	-		NO	012
2051	8	BFN-2-FCV-075-0022	SYS 1 TEST BYPASS VLV OPERATOR	2	RB	519	NW CORNER	075	3	NO	-	-		NO	037
2050	8	BFN-2-FCV-075-0037	CS/PUMP 2B & 2D MINI-FLOW VALVE	2	RB	541	NE CORNER	075	3	NO	-	-		NO	038
2108	8	BFN-2-FCV-078-0062	SYSTEM ISOLATION MOTOR OPERATED VLV	2	RB	639	RCA	078	SWEL 2	NO	-	-		NO	104
2042	7	BFN-2-FCV-085-39A/0219	CRD SCRAM INLET VALVE	2	RB	565	P-S/R9&13	085	1	NO	-	-		NO	011
2043	7	BFN-2-FCV-085-39A/0227	CRD SCRAM INLET VALVE	2	RB	565	P-S/R9&13	085	1	NO	-	-		NO	011
2047	8	BFN-2-FSV-085-0037A	CRD\SCRAM DUMP VALVE	2	RB	565	N/R12	085	1	NO	-	-		NO	040
2048	8	BFN-2-FSV-085-0037B	CRD\SCRAM DUMP VALVE	2	RB	565	N/R12	085	1	NO	-	-		NO	040
2064	13	BFN-2-GEN-268-0002DA	LPCI MG 2DA GENERATOR	2	RB	639	U/R14	268	3	NO	-	-		YES	005
2065	13	BFN-2-GEN-268-0002DN	LPCI MG 2DN GENERATOR	2	RB	621	U/R13	268	3	NO	-	-		YES	003
2066	13	BFN-2-GEN-268-0002EA	LPCI MG 2EA GENERATOR	2	RB	621	U/R14	268	3	NO	-	-		YES	003
2067	13	BFN-2-GEN-268-0002EN	LPCI MG 2EN GENERATOR	2	RB	639	U/R14	268	3	NO	-	-		YES	005
2079	16	BFN-2-INV-256-0001	DIV I ECCS ATU INVERTER	2	RB	593	2B 4kV SDBD RM D	256	1,2,3,4,5	NO	-	-		YES	021
2086	18	BFN-2-LPNL-925-0001	PANEL 25-0001	2	RB	519	NW CORNER	925	3	NO	-	-		NO	037
2088	18	BFN-2-LPNL-925-0005A	LOCAL PANEL 25-5A	2	RB	593	S/R10	925	1,2	NO	-	-		YES	036
2089	18	BFN-2-LPNL-925-0005B	LOCAL PANEL 25-5B	2	RB	593	S/R10	925	1,2	NO	-	-		YES	036
2090	18	BFN-2-LPNL-925-0005D	LOCAL PANEL 25-5D	2	RB	593	S/R10	925	1,2	NO	-	-		YES	036
2091	18	BFN-2-LPNL-925-0006A	LOCAL PANEL 25-6A	2	RB	593	P/R12	925	1,2	NO	-	-		YES	039
2092	18	BFN-2-LPNL-925-0006D	LOCAL PANEL 25-6D	2	RB	593	P/R12	925	1,2	NO	-	-		YES	039
2087	18	BFN-2-LPNL-925-0060	PANEL 25-60 FOR CS PMP	2	RB	519	NE CORNER	925	3	NO	-	-		NO	014
2093	18	BFN-2-LPNL-925-0223	LOCAL PANEL 2-25-223	2	RB	593	Q/R12	925	1,2	NO	-	-		YES	039
2109	20	BFN-2-LS-078-0001D	SKIMMER SURGE TANK LEVEL LOW LOW ISOL	2	RB	639	RCA	078	SWEL 2	NO	-	-		NO	099
2110	20	BFN-2-LS-078-0001E	SKIMMER SURGE TANK LEVEL LOW LOW ISOL	2	RB	639	RCA	078	SWEL 2	NO	-	-		NO	099
2111	20	BFN-2-LS-078-0001F	SKIMMER SURGE TANK LEVEL LOW LOW ISOL	2	RB	639	RCA	078	SWEL 2	NO	-	-		NO	099
2112	20	BFN-2-LS-078-0001G	SKIMMER SURGE TANK LOW LEVEL SWITCH	2	RB	639	RCA	078	SWEL 2	NO	-	-		NO	099
2115	7	BFN-2-PCV-001-0019	MS/MAIN STEAM SAFETY RELIEF VALVE	2	RB	585	DRY WELL	001	2	NO	-	-		NO	
2116	7	BFN-2-PCV-001-0034	MS/MAIN STEAM SAFETY RELIEF VALVE	2	RB	585	DRY WELL	001	2	NO				NO	
2029	5	BFN-2-PMP-063-0006A	2A SLC PUMP (GE-11-2A)	2	RB	639	SLC AREA	063	1	NO	-	-		YES	004
2030	5	BFN-2-PMP-063-0006B	2B SLC PUMP (GE-11-2B)	2	RB	639	SLC AREA	063	1	NO	-	-		YES	004
2031	5	BFN-2-PMP-073-0029	HPCI BOOSTER PUMP	2	RB	519	HPCI ROOM	073	3	NO	-	-		NO	013
2028	5	BFN-2-PMP-073-0047	HPCI TURBINE AUXILIARY OIL PUMP	2	RB	519	HPCI ROOM	073	3	NO	-	-		NO	013
2033	6	BFN-2-PMP-074-0005	RESIDUAL HEAT REMOVAL PUMP 2A	2	RB	519	SW CORNER	074	3,4	NO	-	-		YES	012
2034	6	BFN-2-PMP-074-0016	RESIDUAL HEAT REMOVAL PUMP 2C	2	RB	519	SW CORNER	074	3,4	NO	-	-		YES	012
2036	6	BFN-2-PMP-075-0033	CORE SPRAY PUMP 2B	2	RB	519	NE CORNER	075	3	NO	-	-		YES	014
2037	6	BFN-2-PMP-075-0042	CORE SPRAY PUMP 2D	2	RB	519	NE CORNER	075	3	NO	-	-		YES	014
2027	5	BFN-2-PMP-076-0110	CNTMT ATM MON SYS ANLZR 2A SMPLRTN PMP	2	RB	565	SCRAM VALVE AREA	076	5	NO	-	-	YES	NO	035
2098	20	BFN-2-PNLA-009-0003A	REACTOR SHUTDOWN & CONTAINMENT COOLING	2	CB	617	U2 MCR	009	2,3	NO	-	-		YES	120
2099	20	BFN-2-PNLA-009-0005	REACTOR CONTROL PANEL	2	CB	617	U2 MCR	009	1	NO	-	-		YES	120
2100	20	BFN-2-PNLA-009-0006	FEEDWATER DTM & CONDS PNL	2	CB	617	U2 MCR	009	1	NO	-	-		YES	120
2094	20	BFN-2-PNLA-009-0009	CONTROL PNLA 9-9	2	CB	617	U2 MCR	009	1,2,3,4,5	YES	193	-		YES	120
2095	20	BFN-2-PNLA-009-0015	PNL 9-15 AUX INSTR RM	2	CB	593	U2 AIR	009	1	NO	-	-		YES	089
2096	20	BFN-2-PNLA-009-0017	PNL 9-17 AUX INSTR RM UT-2	2	CB	593	U2 AIR	009	1	NO	-	-		YES	089
2097	20	BFN-2-PNLA-009-0032	CS&HPCI (CHA) PNLA 9-32	2	CB	593	U2 AIR	009	3	NO	-	-		YES	089
2073	20	BFN-2-PNLA-009-0081	PANEL 9-81 AUX INSTR ROOM	2	CB	593	U2 AIR	009	2,3,4,5	NO	-	-		NO	089
2117	19	BFN-2-TE-064-0161B	TORUS WATER TEMP ELEMENT	2	RB	519	TORUS	064	5	NO				NO	126
2118	19	BFN-2-TE-064-0161C	TORUS WATER TEMP ELEMENT	2	RB	519	TORUS	064	5	NO				NO	126

Item #	Equip. Class (0 - 21)	UNID	Description	Unit	Bldg.	Elev.	Room	Sys.	Safety Function	RISK RANKINGS	CDF Rank	LERF Rank	New or Replaced	Anch. Verified	AWC
2120	19	BFN-2-TE-064-0162B	TORUS WATER TEMP ELEMENT	2	RB	519	TORUS	064	5	NO				NO	126
2119	19	BFN-2-TE-064-0162C	TORUS WATER TEMP ELEMENT	2	RB	519	TORUS	064	5	NO				NO	126
2101	21	BFN-2-TNK-063-0583	STANDBY LIQUID CONTROL STORAGE TANK	2	RB	639	SLC AREA	063	1	YES	140	41		YES	004
2102	21	BFN-2-TNK-085-0901	SCRAM DISCHARGE INSTRUMENT VOLUME (WEST)	2	RB	565	WEST SCRAM VALVE AREA	085	1	NO	-	-		NO	035
2103	21	BFN-2-TNK-085-0902	SCRAM DISCHARGE INSTRUMENT VOLUME (EAST)	2	RB	565	P/R13	085	1	NO	-	-		NO	011
2025	4	BFN-2-XFA-231-TS2A	4KV/480V XFMR TS2A	2	RB	621	T/R13	231	1,2,3,4,5	YES	45	50		NO	003
2026	4	BFN-2-XFA-231-TS2B	4KV/480V XFMR TS2B	2	RB	621	T/R14	231	1,2,3,4,5	YES	23	34		NO	003
2021	4	BFN-2-XFA-253-0002A1	I&C BUS 2A 480/208-120V TRANSFORMER	2	RB	621	P/R13	253	1,2,3,4,5	NO	-	-		YES	022
2023	4	BFN-2-XFA-253-0002A2	I&C BUS 2A REGULATING TRANSFORMER	2	RB	621	P/R13	253	1,2,3,4,5	NO	-	-		NO	022
2022	4	BFN-2-XFA-253-0002B1	I&C BUS 2B 480/208-120V TRANSFORMER	2	RB	593	P/R13	253	1,2,3,4,5	NO	-	-		YES	021
2024	4	BFN-2-XFA-253-0002B2	I&C BUS 2B REGULATING TRANSFORMER	2	RB	593	P/R163	253	1,2,3,4,5	NO	-	-		NO	021
2074	14	BFN-2-XSW-248-0002A	250V MAIN BATT CHGR OUTPUT XFR SW 2A	0	CB	593	250V BATT BD RM 2, SOUTH WALL	248	1,2,3,4,5	NO	-	-		NO	066

No.	AWC No.	Unit	Building	Elevation	Location	Walkdown Date
002	0-CB-EL593-002	0	CB	593	Mech Equip Room	7/17/2012
069	0-CB-EL595-069	0	CB	595	Roof Chiller A & B Area	8/3/2012
001	0-CB-EL617-001	0	CB	617	Mech Equip Room	7/17/2012
120	0-CB-EL617-120	1/2	CB	617	Unit 1 & 2 Main Control Room	8/14/2012
006	0-DG-EL565-006	0	DG	565	Electrical Tunnel	7/19/2012
007	0-DG-EL565-007	0	DG	565	Diesel Generator Room C	7/19/2012
008	0-DG-EL565-008	0	DG	565	Diesel Generator Room D	7/19/2012
019	0-DG-EL583-019	0	DG	583	Fan Room D	7/25/2012
020	0-DG-EL583-020	0	DG	583	Fan Room C	7/25/2012
115	0-DG-EL583-115	0	DG	583	Diesel Aux Board Room	8/13/2012
015	0-YD-EL565-015	0	YD	565	Vaporizer Tank A Area	7/25/2012
016	0-YD-EL565-016	0	YD	565	Vaporizer Tank B Area	7/25/2012
017	0-YD-EL565-017	0	Intake	565	RHRSW Pump Room B	7/25/2012
018	0-YD-EL565-018	0	Intake	565	RHRSW Pump Room C	7/25/2012
066	2-CB-EL593-066	2	CB	593	Battery Board Room 2	8/3/2012
089	2-CB-EL593-089	2	CB	593	Aux Instrument Room	7/19/2012
090	2-CB-EL593-090	2	CB	593	Battery Room	7/19/2012
091	2-CB-EL593-091	2	CB	593	Battery Board Room	7/19/2012
067	2-CB-EL617-067	2	CB	617	250V Shutdown Board Room C	8/3/2012
012	2-RB-EL519-012	2	RB	519	RHR Pump Area	7/20/2012
013	2-RB-EL519-013	2	RB	519	HPCI Room	7/20/2012
014	2-RB-EL519-014	2	RB	519	NE Quad	7/20/2012
037	2-RB-EL519-037	2	RB	519	NW Quad	7/30/2012
126	2-RB-EL519-126	2	RB	519	Unit 2 Under Torus	10/18/2012
038	2-RB-EL541-038	2	RB	541	NE Quad	7/30/2012
096	2-RB-EL541-096	2	RB	541	SW Quad	8/9/2012
009	2-RB-EL565-009	2	RB	565	SE Quad	7/20/2012
010	2-RB-EL565-010	2	RB	565	NW Quad	7/20/2012
011	2-RB-EL565-011	2	RB	565	Scram Valve Area East Side	7/20/2012
035	2-RB-EL565-035	2	RB	565	Scram Valve Area West Side	7/30/2012
040	2-RB-EL565-040	2	RB	565	Scram Dump Valves N/R12	7/30/2012
041	2-RB-EL565-041	2	RB	565	Elevator/Stairs Door Area	7/30/2012
109	2-RB-EL565-109	2	RB	565	R14-R12, R-U	8/10/2012
021	2-RB-EL593-021	2	RB	593	Electrical Board Room 2B	7/19/2012
036	2-RB-EL593-036	2	RB	593	Column Lines R9 to R11, U to S	7/30/2012
039	2-RB-EL593-039	2	RB	593	RBCCW Heat Exchanger Area	7/30/2012
108	2-RB-EL593-108	2	RB	593	R11-R13, S-U	8/10/2012
119	2-RB-EL593-119	2	RB	593	480V Shutdown Board Room 2B	8/13/2012
003	2-RB-EL621-003	2	RB	621	LPCI Generator Area	7/18/2012
022	2-RB-EL621-022	2	RB	621	Electrical Board Room 2A	7/19/2012
110	2-RB-EL621-110	2	RB	621	S-U, R8-R10	8/10/2012
118	2-RB-EL621-118	2	RB	621	480V Shutdown Board Room 2A	8/13/2012
004	2-RB-EL639-004	2	RB	639	SLC Area	7/18/2012
005	2-RB-EL639-005	2	RB	639	LPCI Generator Area	7/18/2012
099	2-RB-EL639-099	2	RB	639	SLC Area (By Stairs)	8/9/2012
104	2-RB-EL639-104	2	RB	639	S-U, R8-R11	8/9/2012

Appendix E: SWCs

The following signatures are provided for the engineers responsible for the Seismic Walkdown Checklists in Browns Ferry Unit 2.

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-AHU-031-0082** Equipment Class[3] 10

Equipment Description U1 & U2 MCR Air Handling Unit El 617

Location: Bldg. U2-CB Floor El. 617 Room, Area 001, Mech Equip Rm, El 617

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 ☐

Front right bolts have a gap between the bolt and washer.
It has been determined that the bolts are tight and are only subjected to shear loads due to low center of gravity and lateral restraint provided by attached chilled water piping.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-AHU-031-0082** Equipment Class[3] 10

Equipment Description U1 & U2 MCR Air Handling Unit El 617

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-AHU-031-0082** Equipment Class[3] 10

Equipment Description U1 & U2 MCR Air Handling Unit El 617

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-AHU-031-0082** Equipment Class[3] 10

Equipment Description U1 & U2 MCR Air Handling Unit El 617

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-AHU-031-0082** Equipment Class[3] 10

Equipment Description U1 & U2 MCR Air Handling Unit El 617

Comments (Additional pages may be added as necessary)

Anchorage is only visible on three sides, by calculation CDQ0031894620 anchorage has been qualified as adequate to be anchored on only three sides.

Evaluated by: George Bongart Date:7/17/2012

Patrick McCarraher 7/17/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-AHU-031-0089** Equipment Class[3] 10

Equipment Description U1 & U2 Air Handling Unit 1B

Location: Bldg. U2 CB Floor El. 593 Room, Area 002, Mechanical Equipment Room

Manufacturer, Model, Etc. (optional but recommended) American Standard

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-AHU-031-0089** Equipment Class[3] 10

Equipment Description U1 & U2 Air Handling Unit 1B

Anchorage (Continued)

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

Moderate amount of corrosion/rust on bolt heads. Some of them are worse than others and range from mild to moderate. Although surface corrosion is present, there does not appear to be any loss of material and all bolts are fully engaged.

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-AHU-031-0089** Equipment Class[3] 10

Equipment Description U1 & U2 Air Handling Unit 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 ☐

Toggle switch is encased by a cage. No exposed (external) soft targets on equipment.

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 ☐

Wall # 22 is a hollow core reinforced masonry wall that has been modified from a cantilever to a propped cantilever. Wall #22 is qualified for the seismic design basis load and the tornado depressurization load.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-AHU-031-0089** Equipment Class[3] 10

Equipment Description U1 & U2 Air Handling Unit 1B

Interaction Effects (Continued)

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

The conduit attachment configuration is essentially rigid. Both the AHU and the ceiling mounted tube steel conduit support would have minimal displacement, thus seismic interaction and flexibility issue is not a concern.

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☐

Overall condition of the room is wet from equipment leaks. Chilled water piping connected to the unit is rusted mild to moderately but still appears to maintain it's integrity as a pressure containing system and is experiencing no leaks.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-AHU-031-0089** Equipment Class[3] 10

Equipment Description U1 & U2 Air Handling Unit 1B

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:07/18/2012

Avinash Chunduri 07/18/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-BATA-248-0002** Equipment Class[3] 15

Equipment Description 250V MAIN BATTERY 2

Location: Bldg. CB Floor El. 593 Room, Area 090, Unit 2 Battery 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-BATA-248-0002** Equipment Class[3] 15

Equipment Description 250V MAIN BATTERY 2

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-BATA-248-0002** Equipment Class[3] 15

Equipment Description 250V MAIN BATTERY 2

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 verified as seismicly qualified by SEWS A-46 SSEL 9138.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-BATA-248-0002** Equipment Class[3] 15

Equipment Description 250V MAIN BATTERY 2

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☐

Two bolts are missing on left side of lower rack. Bolts connect an angle to battery rack securing the bottom of the batteries. It was determined that the Batteries are firmly secured by the bands around the center of the batteries and the lower band is not essential. In addition if the brace were to fall it would not impact another battery and is therefore determined to not be an adverse seismic condition.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-BATA-248-0002** Equipment Class[3] 15

Equipment Description 250V MAIN BATTERY 2

Comments (Additional pages may be added as necessary)

Evaluated by: Nicholas Pressler Date:07/19/2012

Jason Black 07/19/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

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

Equipment Description 125VDC DIESEL SYSTEM BATTERY C

Location: Bldg. U1/2-DG Floor El. 565 Room, Area 007, Diesel Gen Room C

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 piece of equipment has been selected to have its anchorage verified.

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-254-0000C** Equipment Class[3] 15

Equipment Description 125VDC DIESEL SYSTEM BATTERY 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 ☐

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 per A-46 SEWS Number 9142. The current configuration matches the above referenced documentation..

Seismic Walkdown Checklist (SWC)

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

Equipment Description 125VDC DIESEL SYSTEM BATTERY 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-0-BATB-254-0000C** Equipment Class[3] 15

Equipment Description 125VDC DIESEL SYSTEM BATTERY 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-0-BATB-254-0000C** Equipment Class[3] 15

Equipment Description 125VDC DIESEL SYSTEM BATTERY C

Comments (Additional pages may be added as necessary)

Batteries production date is less than two years old.

Evaluated by: Patrick McCarraher Date:07/19/2012

George Bongart 07/19/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

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

Equipment Description 125 VDC DIESEL SYSTEM BATTERY D

Location: Bldg. U1/2-DG Floor El. 565 Room, Area 008, Unit 0 Diesel Generator Room D

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 to have its anchorage verified.

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-254-0000D** Equipment Class[3] 15

Equipment Description 125 VDC DIESEL SYSTEM BATTERY D

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 9142.
The current configuration matches the reference material..

Seismic Walkdown Checklist (SWC)

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

Equipment Description 125 VDC DIESEL SYSTEM BATTERY D

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-254-0000D** Equipment Class[3] 15

Equipment Description 125 VDC DIESEL SYSTEM BATTERY D

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-BATB-254-0000D** Equipment Class[3] 15

Equipment Description 125 VDC DIESEL SYSTEM BATTERY D

Comments (Additional pages may be added as necessary)

Batteries are less than two years old.

Evaluated by: Patrick McCarraher Date:07/19/2012

George Bongart 07/19/2012

Seismic Walkdown Checklist (SWC)

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

Equipment Description 4KV SHUTDOWN BOARD C

Location: Bldg. U2-CB Floor El. 617 Room, Area 067, Electric Board Room 2A

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 were observed on the back of the cabinets to be consistent with A-46 documentation. Bays could not be opened to verify presence of plug welds at front of cabinet bases.

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

Seismic Walkdown Checklist (SWC)

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

Equipment Description 4KV SHUTDOWN BOARD 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 ☐

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-211-000C** Equipment Class[3] 3

Equipment Description 4KV SHUTDOWN BOARD 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 ☐

Block walls have been verified via drawing 41N1202-1 R3.

Seismic Walkdown Checklist (SWC)

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

Equipment Description 4KV SHUTDOWN BOARD 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-0-BDAA-211-000C** Equipment Class[3] 3

Equipment Description 4KV SHUTDOWN BOARD C

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-0-BDAA-211-000D** Equipment Class[3] 3

Equipment Description 4 KV SHUTDOWN BOARD D

Location: Bldg. U2-RB Floor El. 593 Room, Area 021, Electrical Board Room 2B

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 ☐

Per A-46 SEWS (SSEL #s 9015, 9012, 9013) each panel is anchored to the embed plate by two (2) ~1/2" plugwelds in the front and two (2) 3" fillet welds in the back. Of the 22 bays in the board, 39 welds were clearly visible in the back of the board - others may be present but are hard to verify since they are ground flush & painted. Welds in the front of the board are not visible unless breaker has been racked out. From inspection of one bay w/o a breaker, one plug weld was clear and the other wasn't, judged to be ground & painted. Given observed environment and conditions noted in A-46 documentation, no further inspection is required..

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

Seismic Walkdown Checklist (SWC)

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

Equipment Description 4 KV SHUTDOWN BOARD D

Anchorage (Continued)

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

Welds along front and back are painted - no oxidation/corrosion was observed.

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

Concrete in area was inspected but no cracks were observed.

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-211-000D** Equipment Class[3] 3

Equipment Description 4 KV SHUTDOWN BOARD D

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 ☐

Fluorescent light fixtures in room have compression fittings. These were judged to be adequate in the A-46 walkdown since they were far enough away to not cause a seismic interaction concern.

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-211-000D** Equipment Class[3] 3

Equipment Description 4 KV SHUTDOWN BOARD D

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-BDAA-211-000D** Equipment Class[3] 3

Equipment Description 4 KV SHUTDOWN BOARD D

Comments (Additional pages may be added as necessary)

Outlier from A-46 resolved - breaker wrench removed from bay 2 cabinet.

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-0-BDBB-219-0000A** Equipment Class[3] 1

Equipment Description 480V DSL AUX BD A

Location: Bldg. U1/2-DG Floor El. 583 Room, Area 115, Diesel Aux Board Room

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 ☐

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-BDBB-219-0000A** Equipment Class[3] 1

Equipment Description 480V DSL AUX BD 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 has been verified against A-46 SEWS (SSEL # 9031).
The current anchorage configuration matches plant documentation.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-BDBB-219-0000A** Equipment Class[3] 1

Equipment Description 480V DSL AUX BD 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-BDBB-219-0000A** Equipment Class[3] 1

Equipment Description 480V DSL AUX BD 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-BDBB-219-0000A** Equipment Class[3] 1

Equipment Description 480V DSL AUX BD A

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:08/13/2012

George Bongart 08/13/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-BDBB-219-0000B** Equipment Class[3] 1

Equipment Description 480V DSL AUX BD B

Location: Bldg. U1/2-DG Floor El. 583 Room, Area 115, Diesel Aux Board Room

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 ☐

This equipment has been selected as part of the 50% anchorage verification program.

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-BDBB-219-0000B** Equipment Class[3] 1

Equipment Description 480V DSL AUX BD 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 has been verified against A-46 SEWS (SSEL # 9032). The current anchorage configuration matches the reference documentation.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-BDBB-219-0000B** Equipment Class[3] 1

Equipment Description 480V DSL AUX BD 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-BDBB-219-0000B** Equipment Class[3] 1

Equipment Description 480V DSL AUX BD 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-BDBB-219-0000B** Equipment Class[3] 1

Equipment Description 480V DSL AUX BD B

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:08/13/2012

George Bongart 08/13/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-BDDD-280-0002** Equipment Class[3] 14

Equipment Description 250V DC BATTERY BOARD 2

Location: Bldg. U2-CB Floor El. 593 Room, Area 091, Battery 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 ☐

Per A-46 SEWS (SSEL # 9038), four (4) bolts should be present in each cabinet (1 per corner) anchoring the panel to the sill channel which is welded to the embed plate. Anchorage was observed in cabinets 1-7 but 8-10 were inaccessible. 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-BDDD-280-0002** Equipment Class[3] 14

Equipment Description 250V DC BATTERY BOARD 2

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-280-0002** Equipment Class[3] 14

Equipment Description 250V DC BATTERY BOARD 2

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-280-0002** Equipment Class[3] 14

Equipment Description 250V DC BATTERY BOARD 2

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-BDDD-280-0002** Equipment Class[3] 14

Equipment Description 250V DC BATTERY BOARD 2

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-0-BDGG-254-0000C** Equipment Class[3] 14

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD C

Location: Bldg. DG Floor El. 565 Room, Area 007, Diesel Generator Room C

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 item is part of the 50% anchorage verification program.

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-254-0000C** Equipment Class[3] 14

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD 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 ☐

Cabinet is mounted flush to the concrete wall. The surrounding concrete is in excellent condition. No cracks were observed around 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 ☐

Per A-46 SEWS Number 9146 the current anchorage configuration is consistent with this reference documentation.

Seismic Walkdown Checklist (SWC)

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

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD 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-0-BDGG-254-0000C** Equipment Class[3] 14

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD 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-0-BDGG-254-0000C** Equipment Class[3] 14

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD C

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:07/25/2012

Patrick McCarraher 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

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

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD D

Location: Bldg. U1/2-DG Floor El. 565 Room, Area 008, Unit 0 Diesel Generator Room D

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-254-0000D** Equipment Class[3] 14

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD D

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 ☐

Cabinet is mounted flush to the wall, given the condition of the surrounding concrete it can be assumed that there are no cracks near the anchors for 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 ☐

Anchorage has been verified per A-46 SEWS (SSEL # 9146). The current anchorage configuration matches the reference documentation..

Seismic Walkdown Checklist (SWC)

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

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD D

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 components are sufficiently protected by the cabinet.

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-254-0000D** Equipment Class[3] 14

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD D

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-BDGG-254-0000D** Equipment Class[3] 14

Equipment Description 125 VDC DIESEL SYSTEM BATTERY BOARD D

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:07/25/2012

Patrick McCarraher 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

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

Equipment Description DGC 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 ☒

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-CHGB-254-0000CA** Equipment Class[3] 16

Equipment Description DGC 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 ☒

Seismic Walkdown Checklist (SWC)

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

Equipment Description DGC 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-254-0000CA** Equipment Class[3] 16

Equipment Description DGC 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-254-0000CA** Equipment Class[3] 16

Equipment Description DGC 125 VDC DSL SYS BTRY CHGR A

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:07/19/2012

George Bongart 07/19/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

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

Equipment Description DGC 125 VDC DSL SYS BTRY CHGR B

Location: Bldg. U1/2-DG Floor El. 565 Room, Area 007, Diesel Generator Room C

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-CHGB-254-0000CB** Equipment Class[3] 16

Equipment Description DGC 125 VDC DSL SYS BTRY CHGR 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 was verified against calculation CD-Q0254-931006 drawing. The current anchorage matches that shown on the drawing.

Seismic Walkdown Checklist (SWC)

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

Equipment Description DGC 125 VDC DSL SYS BTRY CHGR 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-CHGB-254-0000CB** Equipment Class[3] 16

Equipment Description DGC 125 VDC DSL SYS BTRY CHGR 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-CHGB-254-0000CB** Equipment Class[3] 16

Equipment Description DGC 125 VDC DSL SYS BTRY CHGR B

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:07/19/2012

George Bongart 07/19/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

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

Equipment Description DGD 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 ☒

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-CHGB-254-0000DA** Equipment Class[3] 16

Equipment Description DGD 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 ☒

Seismic Walkdown Checklist (SWC)

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

Equipment Description DGD 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-254-0000DA** Equipment Class[3] 16

Equipment Description DGD 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-254-0000DA** Equipment Class[3] 16

Equipment Description DGD 125 VDC DSL SYS BTRY CHGR A

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:07/19/2012

George Bongart 07/19/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

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

Equipment Description DGD 125 VDC DSL; SYS BTRY CHGR B

Location: Bldg. Unit1/2-DG Floor El. 565 Room, Area 008, Diesel Generator Room D

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-CHGB-254-0000DB** Equipment Class[3] 16

Equipment Description DGD 125 VDC DSL; SYS BTRY CHGR 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 has been verified against Design Calculation CD-Q0254-931006. The current configuration matches the reference doucmentation.

Seismic Walkdown Checklist (SWC)

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

Equipment Description DGD 125 VDC DSL; SYS BTRY CHGR 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-CHGB-254-0000DB** Equipment Class[3] 16

Equipment Description DGD 125 VDC DSL; SYS BTRY CHGR 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-CHGB-254-0000DB** Equipment Class[3] 16

Equipment Description DGD 125 VDC DSL; SYS BTRY CHGR B

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:07/19/2012

George Bongart 07/19/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-CHR-031-2200** Equipment Class[3] 11

Equipment Description CONTROL BAY WATER CHILLER B

Location: Bldg. U2-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-031-2200** Equipment Class[3] 11

Equipment Description CONTROL BAY WATER CHILLER B

Anchorage (Continued)

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

Dirt/debris by bolts and nuts. The bolts and nuts are in good condition.

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

Previous minor cracks have been filled and are in good condition. New minor cracking in grouting, not of significance.

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 drawing 0-48N891-1. The current anchorage configuration matches the drawing

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-CHR-031-2200** Equipment Class[3] 11

Equipment Description CONTROL BAY WATER CHILLER 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 ☒

No overhead equipment or objects of interest due to the location of the chiller being outside on the roof of the diesel generator building.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-CHR-031-2200** Equipment Class[3] 11

Equipment Description CONTROL BAY WATER CHILLER 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-CHR-031-2200** Equipment Class[3] 11

Equipment Description CONTROL BAY WATER CHILLER B

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:08/03/2012

George Bongart 08/03/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-FAN-030-0068** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM C EXHAUST FAN A

Location: Bldg. DG Floor El. 583 Room, Area 020, Fan Room C

Manufacturer, Model, Etc. (optional but recommended) PEERLESS ELECTRIC PROD. DIV., P365

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-030-0068** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM C 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 verified per A-46 SEWS (SSEL # 7015)

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-FAN-030-0068** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM C 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-030-0068** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM C 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☐

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-030-0068** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM C EXHAUST FAN A

Comments (Additional pages may be added as necessary)

Missing Bolt on fan rotor cage guard. This does NOT present a potential adverse seismic adverse condition.

Evaluated by: Avinash Chunduri Date:07/25/2012

Jeff Lawrence 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-FAN-030-0069** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM C EXHAUST FAN B

Location: Bldg. DG Floor El. 583 Room, Area 020, Fan Room C

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-030-0069** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM C 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 verified per A-46 SEWS (SSEL # 7015)

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-FAN-030-0069** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM C 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-030-0069** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM C 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☐

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-030-0069** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM C EXHAUST FAN B

Comments (Additional pages may be added as necessary)

Evaluated by: Avinash Chunduri Date:07/25/2012

Jeff Lawrence 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-FAN-030-0070** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM D EXHAUST FAN A

Location: Bldg. DG Floor El. 583 Room, Area 019, Fan Room D

Manufacturer, Model, Etc. (optional but recommended) BARRY BLOWER CO., AF-365-DWDI

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-030-0070** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM D 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 verified per A-46 SEWS (SSEL # 7015)

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-FAN-030-0070** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM D 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-030-0070** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM D 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☐

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-030-0070** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM D EXHAUST FAN A

Comments (Additional pages may be added as necessary)

Evaluated by: Avinash Chunduri Date:07/25/2012

Jeff Lawrence 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-FAN-030-0071** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM D EXHAUST FAN B

Location: Bldg. DG Floor El. 583 Room, Area 019, Fan Room D

Manufacturer, Model, Etc. (optional but recommended) BARRY BLOWER CO. AF-365-DWDI

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-030-0071** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM D 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 verified per A-46 SEWS (SSEL # 7015)

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-FAN-030-0071** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM D 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 ☐

Soft Targets are clear of potential impacts; Nothing overhead of motor power conduit, no lateral falling/tripping hazards present.

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 ☐

Screw-in type lighting; Ducting in area is rod hung and laterally supported to concrete wall.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-FAN-030-0071** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM D 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☐

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-030-0071** Equipment Class[3] 9

Equipment Description DIESEL GENERATOR ROOM D EXHAUST FAN B

Comments (Additional pages may be added as necessary)

Loose nut/bolt in fan rotor cage guard - there are many bolts present to keep the guard attached to the fan rotor. This condition does not present a seismic or safety concern.

Evaluated by: Avinash Chunduri Date:07/25/2012

Jeff Lawrence 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-FCO-030-0069A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "B" IN DG ROOM C

Location: Bldg. DG Floor El. 583 Room, Area 020, Fan Room C

Manufacturer, Model, Etc. (optional but recommended) HONEYWELL INC. H260

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-030-0069A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "B" IN DG ROOM 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 ☒

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-030-0069A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "B" IN DG ROOM 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-0-FCO-030-0069A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "B" IN DG ROOM 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-0-FCO-030-0069A** Equipment Class[3] 10

Equipment Description OUTLET DAMPER FOR FAN "B" IN DG ROOM C

Comments (Additional pages may be added as necessary)

Evaluated by: Avinash Chunduri Date:07/25/2012

Jeff Lawrence 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-FCO-030-0068B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM C

Location: Bldg. DG Floor El. 565 Room, Area 007, Diesel Generator Room C

Manufacturer, Model, Etc. (optional but recommended) HONEYWELL INC. H260

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-030-0068B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM 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 ☐

No visible cracks detected in the floor level.

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-030-0068B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM 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 ☐

The only soft targets noted are damper motor operator and respective power conduit. This area is free of possible falling hazards that would impact these 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 ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-FCO-030-0068B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM 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-0-FCO-030-0068B** Equipment Class[3] 10

Equipment Description INLET DAMPER FOR FAN "A" IN DG ROOM C

Comments (Additional pages may be added as necessary)

Dampers are bolted inside the steel box frame and the box frame is bolted to the concrete slab of ceiling via angle brackets which are secured by bolted connections. The side of the damper/frame closest to the wall (side w/motor operator for damper) is inaccessible and anchorage can NOT be confirmed for this side.

Evaluated by: Avinash Chunduri Date:07/25/2012

Jeff Lawrence 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-GEN-082-000C** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR C

Location: Bldg. U1/2-DG Floor El. 565 Room, Area 007, Diesel Generator Room C

Manufacturer, Model, Etc. (optional but recommended) GENERAL MOTORS, A20

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-GEN-082-000C** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR 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 ☐

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 drawing 41N577-1.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-GEN-082-000C** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR 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-0-GEN-082-000C** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR 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-0-GEN-082-000C** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR C

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:07/25/2012

George Bongart 07/25/2012

Jeff Lawrence 11/2/2012

Jason Black 11/2/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-GEN-082-000D** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR D

Location: Bldg. U1/2-DG Floor El. 565 Room, Area 008, Diesel Generator Room D

Manufacturer, Model, Etc. (optional but recommended) Gneral Motors, A20

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-GEN-082-000D** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR D

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 drawing 41N577-1.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-GEN-082-000D** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR D

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-082-000D** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR D

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-GEN-082-000D** Equipment Class[3] 17

Equipment Description DIESEL GENERATOR D

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:07/25/2012

Patrick McCarraher 07/25/2012

Jeff Lawrence 11/2/2012

Jason Black 11/2/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-PMP-023-0012** Equipment Class[3] 6

Equipment Description RHRSW PUMP C2

Location: Bldg. INTAKE Floor El. 565 Room, Area 018, RHRSW Pump Room C

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-PMP-023-0012** Equipment Class[3] 6

Equipment Description RHRSW PUMP C2

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-PMP-023-0012** Equipment Class[3] 6

Equipment Description RHRSW PUMP C2

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 ☐

Grating overhead is properly secured

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-PMP-023-0012** Equipment Class[3] 6

Equipment Description RHRSW PUMP C2

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-PMP-023-0012** Equipment Class[3] 6

Equipment Description RHRSW PUMP C2

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:07/25/2012

Avinash Chunduri 07/25/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-PMP-023-0088** Equipment Class[3] 6

Equipment Description RHRSW PUMP B3

Location: Bldg. INTAKE Floor El. 565 Room, Area 017, RHRSW Pump 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-PMP-023-0088** Equipment Class[3] 6

Equipment Description RHRSW PUMP B3

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 anchorage configuration verification is required.) Y ☐ N ☐ U ☐ N/A ☒

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-PMP-023-0088** Equipment Class[3] 6

Equipment Description RHRSW PUMP B3

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 properly secured.

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-PMP-023-0088** Equipment Class[3] 6

Equipment Description RHRSW PUMP B3

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-PMP-023-0088** Equipment Class[3] 6

Equipment Description RHRSW PUMP B3

Comments (Additional pages may be added as necessary)

Evaluated by: Avinash Chunduri Date:07/25/2012

Nick Pressler Date:07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-PNLA-248-0000C** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-C

Location: Bldg. U2-CB Floor El. 617 Room, Area 067, 250V Shutdown Board Room C

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-248-0000C** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-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 ☐

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 SEWS (SSEL # 9126). The anchorage configuration matches the reference documentation.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-PNLA-248-0000C** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-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 ☐

Block wall has been qualified per IEB 80-11 program. Refer to drawing 41N1201-1 wall number 62.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-PNLA-248-0000C** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-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-0-PNLA-248-0000C** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-C

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:08/03/2012

George Bongart 08/03/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-PNLA-248-0000D** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-D

Location: Bldg. U2-CB Floor El. 617 Room, Area 067, 250V Shutdown Board Room C

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-248-0000D** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-D

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 has been verified against A-46 SEWS (SSEL # 9129). The current anchorage configuration matches the reference documentation.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-PNLA-248-0000D** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-D

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 walls have been qualified per IEB 80-11 program. Refer to Drawing 41N1201-1 wall number 62.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-PNLA-248-0000D** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-D

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-PNLA-248-0000D** Equipment Class[3] 14

Equipment Description 250V DISTRIBUTION PANEL SB-D

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:08/03/2012

Patrick McCarraher 08/03/2012

Status: Y ☐ N ☒ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-STN-067-0926** Equipment Class[3] 0

Equipment Description B EECW DISCHARGE STRAINER

Location: Bldg. INTAKE Floor El. 565 Room, Area 017, RHRSW Pump Room B

Manufacturer, Model, Etc. (optional but recommended) Minnotte MFG Corp

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-067-0926** Equipment Class[3] 0

Equipment Description B EECW DISCHARGE STRAINER

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 ☐

Significant crack in concrete structure supporting one (1) of the anchors. Evaluation of calculation of anchorage indicates that the anchors are loaded to 10% of capacity and have available margin.

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-067-0926** Equipment Class[3] 0

Equipment Description B EECW DISCHARGE STRAINER

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 ☐

Grating overhead is properly secured

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-STN-067-0926** Equipment Class[3] 0

Equipment Description B EECW DISCHARGE STRAINER

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-STN-067-0926** Equipment Class[3] 0

Equipment Description B EECW DISCHARGE STRAINER

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:07/25/2012

Patrick McCarraher 07/25/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-STN-067-0927** Equipment Class[3] 0

Equipment Description C EECW DISCHARGE STRAINER

Location: Bldg. INTAKE Floor El. 565 Room, Area 018, RHRSW Pump Room C

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-067-0927** Equipment Class[3] 0

Equipment Description C EECW DISCHARGE STRAINER

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 ☐

Concrete edge is spalled at conduit penetration - will not affect anchorage.

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-067-0927** Equipment Class[3] 0

Equipment Description C EECW DISCHARGE STRAINER

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-067-0927** Equipment Class[3] 0

Equipment Description C EECW DISCHARGE STRAINER

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☐

Missing insulation with exposed and spliced wiring - does not result in potential adverse seismic condition.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-STN-067-0927** Equipment Class[3] 0

Equipment Description C EECW DISCHARGE STRAINER

Comments (Additional pages may be added as necessary)

Evaluated by: Nick Pressler Date:07/25/2012

Patrick McCarraher 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-TNK-084-0636** Equipment Class[3] 21

Equipment Description NITROGEN STORAGE TANK B

Location: Bldg. YARD Floor El. 565 Room, Area 016, Vaporizer Tank 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 ☒

All the bolts are not accessible. (below grade)

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

Some of the anchorage below grade and not visible. The anchors which are visible are weather coated and bolt heads not visible. Anchorage inaccessible because extensive disassembly is required to observe anchorage. The equipment 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-TNK-084-0636** Equipment Class[3] 21

Equipment Description NITROGEN STORAGE TANK 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 ☒

4 out of 8 anchor bolts have been verified with A46 documentation. The rest of the bolts are below grade and not accesible.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-TNK-084-0636** Equipment Class[3] 21

Equipment Description NITROGEN STORAGE TANK 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-TNK-084-0636** Equipment Class[3] 21

Equipment Description NITROGEN STORAGE TANK 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-TNK-084-0636** Equipment Class[3] 21

Equipment Description NITROGEN STORAGE TANK B

Comments (Additional pages may be added as necessary)

Tank protected externally by Jersey barriers (concrete barriers)

Even though four of the eight anchor bolts are not visible, the status of this piece of equipment is checked Y (yes), rather than U (unknown). It would do no good to perform a follow up inspection, since four of the anchor bolts are covered in backfill and the other four are covered in a weather protective paste.

Evaluated by: Avinash Chunduri Date:07/25/2012

Patrick McCarraher 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-TNK-086-0657D** Equipment Class[3] 21

Equipment Description DIESEL GENERATOR RIGHT BANK STARTING AIR TANK

Location: Bldg. U1/2-DG Floor El. 565 Room, Area 008, Diesel Generator Room D

Manufacturer, Model, Etc. (optional but recommended) MORRISON-KNUDSON COMPANY INC.

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 have been painted; paint and 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-TNK-086-0657D** Equipment Class[3] 21

Equipment Description DIESEL GENERATOR RIGHT BANK STARTING AIR 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 ☐

Anchorage has been verified against A-46 SEWS Number 7078. The current anchorage configuration matches the reference documentation.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-TNK-086-0657D** Equipment Class[3] 21

Equipment Description DIESEL GENERATOR RIGHT BANK STARTING AIR TANK

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-TNK-086-0657D** Equipment Class[3] 21

Equipment Description DIESEL GENERATOR RIGHT BANK STARTING AIR 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☐

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-TNK-086-0657D** Equipment Class[3] 21

Equipment Description DIESEL GENERATOR RIGHT BANK STARTING AIR TANK

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:07/25/2012

George Bongart 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-VPR-084-0639** Equipment Class[3] 0

Equipment Description CAD/N2 TANK "A" VAPORIZER

Location: Bldg. YARD Floor El. 565 Room, Area 015, Vaporizer Tank A 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 ☐

Steel angle connecting the vaporizer pipes to the unit is welded to the tank.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-VPR-084-0639** Equipment Class[3] 0

Equipment Description CAD/N2 TANK "A" VAPORIZER

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-VPR-084-0639** Equipment Class[3] 0

Equipment Description CAD/N2 TANK "A" VAPORIZER

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-VPR-084-0639** Equipment Class[3] 0

Equipment Description CAD/N2 TANK "A" VAPORIZER

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-VPR-084-0639** Equipment Class[3] 0

Equipment Description CAD/N2 TANK "A" VAPORIZER

Comments (Additional pages may be added as necessary)

Evaluated by: Avinash Chunduri Date:07/25/2012

Patrick McCarraher 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-VPR-084-0640** Equipment Class[3] 0

Equipment Description CAD/N2 TANK "B" VAPORIZER

Location: Bldg. YARD Floor El. 565 Room, Area 016, Vaporizer Tank 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 ☐

Steel angle connecting the vaporizer pipes to the unit is welded to tank

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-VPR-084-0640** Equipment Class[3] 0

Equipment Description CAD/N2 TANK "B" VAPORIZER

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-VPR-084-0640** Equipment Class[3] 0

Equipment Description CAD/N2 TANK "B" VAPORIZER

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-VPR-084-0640** Equipment Class[3] 0

Equipment Description CAD/N2 TANK "B" VAPORIZER

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-VPR-084-0640** Equipment Class[3] 0

Equipment Description CAD/N2 TANK "B" VAPORIZER

Comments (Additional pages may be added as necessary)

Evaluated by: Avinash Chunduri Date:07/25/2012

Patrick McCarraher 07/25/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-XFA-219-TDB** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TDB

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-TDB** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TDB

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 verified per A-46 SEWS (SSEL # 9004, 9005).

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-0-XFA-219-TDB** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TDB

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-TDB** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TDB

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-XFA-219-TDB** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TDB

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:08/13/2012

Jason Black 08/13/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDBB-231-0002A** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 2A

Location: Bldg. U2-RB Floor El. 621 Room, Area 118, 480V Shutdown Board Room 2A

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 not visible. 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-2-BDBB-231-0002A** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 2A

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-2-BDBB-231-0002A** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 2A

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 ☐

Block walls are verified per dwg. 41N1202-1 R3

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDBB-231-0002A** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 2A

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-2-BDBB-231-0002A** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 2A

Comments (Additional pages may be added as necessary)

OSVS-9018-02 resolved by installation of a pin to restrain breaker lifting device.

Evaluated by: Jeff Lawrence Date:08/13/2012

Jason Black 08/13/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDBB-231-0002B** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 2B

Location: Bldg. U2-RB Floor El. 593 Room, Area 119, 480V Shutdown Board Room 2B

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 not visible without opening panel doors and racking out the breakers. 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-2-BDBB-231-0002B** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 2B

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-2-BDBB-231-0002B** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 2B

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-2-BDBB-231-0002B** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 2B

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-2-BDBB-231-0002B** Equipment Class[3] 2

Equipment Description 480V SHUTDOWN BOARD 2B

Comments (Additional pages may be added as necessary)

Outlier has been resolved, overhead crane for removing breakers has been secured to wall.

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-2-BDBB-268-0002A** Equipment Class[3] 1

Equipment Description 480V RMOV BD 2A

Location: Bldg. U2-CB Floor El. 617 Room, Area 067, 250V Shutdown Board Room C

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 ☐

Bay 1 missing screw on front left corner but is qualified per calculation CD-Q0999-96091. Back left screw on bay 9 not visible due to obstruction. Back right screw on bay 14 not visible due to obstruction. Back left screw on bay 7 has 3/8" gap. Gap in screw will still resist shear and top bracing will assist in the resistance of both shear & moment applied by seismic event, therefore, it is judged to be seismically adequate. Internal anchorage not visible is 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-2-BDBB-268-0002A** Equipment Class[3] 1

Equipment Description 480V RMOV BD 2A

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-2-BDBB-268-0002A** Equipment Class[3] 1

Equipment Description 480V RMOV BD 2A

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 ☐

Block wall verified per dwg. 41N1202-1 R3

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDBB-268-0002A** Equipment Class[3] 1

Equipment Description 480V RMOV BD 2A

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-2-BDBB-268-0002A** Equipment Class[3] 1

Equipment Description 480V RMOV BD 2A

Comments (Additional pages may be added as necessary)

Outlier OSVS-9025-1
Bolts on bays 1-6 have been tightened resolving the outlier. 4 top braces have been installed. Braces are tube steel anchored to wall with 2 bolts per brace. Braces are attached to bays 19, 13, 8, 2. Bay 1 missing bolt on front left bay but is qualified as acceptable per TVA calculation CD-Q0999-960091.

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-2-BDBB-268-0002B** Equipment Class[3] 1

Equipment Description 480V RMOV Board 2B

Location: Bldg. U2-RB Floor El. 593 Room, Area 021,Electric Board Room 2B

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 ☐

External welds from Sill Channel to Embed plate are verified. One Sill Channel (1) screw is bent in bay 19 but is only required to resist shear. This is due to the rigid conduits which penetrate the ceiling and connect to the top of the cabinet which resists overturn of the cabinet. The bent screw will properly resist shear and is judged to be seismically adequate. Screws in the back of cabinets 3, 9 and 10 are not visible due to obstruction in view. Internal anchorage that is not visible is 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-2-BDBB-268-0002B** Equipment Class[3] 1

Equipment Description 480V RMOV Board 2B

Anchorage (Continued)

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

One Sill Channel(1) screw in bay 3 is has mild surface corrosion but does not result in a potential adverse seismic condition. The bolt appears to be fully engaged and providing proper anchorage to the corner of the bay.

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

Concrete is painted in room but no concrete cracks were observed.

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-2-BDBB-268-0002B** Equipment Class[3] 1

Equipment Description 480V RMOV Board 2B

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

Gaps (~1/8") exist between sill channel screw heads and washers for 6 screws (1 in bay 5, 8, 13, 15, 17, 18). Since seismic event won't subject board to uplift or overturn moment, all bolts are only required to resist shear. These gaps do not present an adverse seismic condition.

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 ☐

Overhead fluorescent light fixtures are fitted with compression fittings and have been judged to be adequate in the A-46 walkdown since they were far enough away to not cause a seismic interaction concern.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDBB-268-0002B** Equipment Class[3] 1

Equipment Description 480V RMOV Board 2B

Interaction Effects (Continued)

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

Three (3) conduits running from the top of the board are flexible type 4" and have little slack. Each bay has several rigid conduits running from the top of the cabinet through the ceiling ~ 2-1/2 ft up. The conduits add enough rigidity to the anchorage of the RMOV board to ensure the top of the board will have little displacement in a seismic event. The conduits will not present a credible seismic concern.

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-2-BDBB-268-0002B** Equipment Class[3] 1

Equipment Description 480V RMOV Board 2B

Comments (Additional pages may be added as necessary)

Screws are not visible in back of cabinets 9, 10 and 3 due to obstruction in view.

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-2-BDBB-268-0002C** Equipment Class[3] 1

Equipment Description 480V RMOV BOARD 2C

Location: Bldg. U2-RB Floor El. 565 Room, Area 109, Column Lines R14-R12, R-U

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 ☐

All bays are bolted together. Each bay is anchored to channel by (4) 1/4" screws in 4 corners. All screws were observed to be present. The front left screw in bay 9 has approximately a 3/16" gap between screw head and washer. Cabinet not subjected to overturning due to bracing provided by approximately 50 conduits entering top of panel. Due to all anchorage being present and conduits bracing top of cabinet loose screw only requred to resist shear. Therefore, the screw is not considered an adverse condition.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDBB-268-0002C** Equipment Class[3] 1

Equipment Description 480V RMOV BOARD 2C

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-2-BDBB-268-0002C** Equipment Class[3] 1

Equipment Description 480V RMOV BOARD 2C

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-2-BDBB-268-0002C** Equipment Class[3] 1

Equipment Description 480V RMOV BOARD 2C

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-2-BDBB-268-0002C** Equipment Class[3] 1

Equipment Description 480V RMOV BOARD 2C

Comments (Additional pages may be added as necessary)

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-2-BDBB-268-0002D** Equipment Class[3] 3

Equipment Description 480V REAC MOV BD 2D

Location: Bldg. U2-RB Floor El. 593 Room, Area 108, Column Lines R11-R13, S-U

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 ☐

RMOV Board contains 5 bays all bolted/screwed down by 4 screws into the channel, per A-46 SEWS (SSEL #9027). Back bolts in bays 3,4, 5, and the right bolt on 2 are not visible due to cable blocking view. Anchorage determined acceptable due to condition of visible anchorage and A-46 (SEWS 9027) documentation. Internal anchorage that is not visible is 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-2-BDBB-268-0002D** Equipment Class[3] 3

Equipment Description 480V REAC MOV BD 2D

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-2-BDBB-268-0002D** Equipment Class[3] 3

Equipment Description 480V REAC MOV BD 2D

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 ☐

HVAC duct overhead of equipment is supported well to wall by rugged steel supports.

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-2-BDBB-268-0002D** Equipment Class[3] 3

Equipment Description 480V REAC MOV BD 2D

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-2-BDBB-268-0002D** Equipment Class[3] 3

Equipment Description 480V REAC MOV BD 2D

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:8/10/2012

Jason Black 8/10/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDBB-268-0002E** Equipment Class[3] 2

Equipment Description 480V REACTOR MOV BD 2E

Location: Bldg. U2-RB Floor El. 621 Room, Area 110, Column Lines R8-R10, S-U

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 bays of the RMOV Board are all screwed down by 4 screws into the channel, per A-46 SEWS (SSEL #9027). Bays 3 and 4 are missing one (1) screw. Bay 3 is missing the back right and Bay 4 is missing the back left. Per the calculation performed in A-46 SEWS which assumes all screws are present, approximately 40% margin exists in the interation ratios of these screws. The (18) remaining screws are well within their acceptable load limits. The Anchorage is determined acceptable due to condition of visible anchorage and A-46 (SEWS 9027) documentation.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDBB-268-0002E** Equipment Class[3] 2

Equipment Description 480V REACTOR MOV BD 2E

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 SEWS (SSEL 9027) all 5 bays are secured to channel by 4 screws, 1 in each corner.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDBB-268-0002E** Equipment Class[3] 2

Equipment Description 480V REACTOR MOV BD 2E

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-2-BDBB-268-0002E** Equipment Class[3] 2

Equipment Description 480V REACTOR MOV BD 2E

Interaction Effects (Continued)

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

Several flex conduits are attached to the top of the cabinet. There is adequate flexibility in the conduits.There is also 1 metal conduit attached to bay 4. There is about 15 feet of vertical run and 2 ft of horizontal run to account for requred flexibility.

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-2-BDBB-268-0002E** Equipment Class[3] 2

Equipment Description 480V REACTOR MOV BD 2E

Comments (Additional pages may be added as necessary)

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-2-BDDD-281-0002A** Equipment Class[3] 1

Equipment Description 250V REACTOR MOV BD 2A

Location: Bldg. U2-CB Floor El. 617 Room, Area 067, Electrical Board Room 2A

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 ☐

Verified per A-46 SEWS (SSEL # 9034)

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

Bay 11, back right screw 3/8" gap. Front left screw on bay 7 is missing.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDDD-281-0002A** Equipment Class[3] 1

Equipment Description 250V REACTOR MOV BD 2A

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 ☐

1 screw missing, loose screw in bay 11 was noted on A-46 SEWS. Top of MCC is braced to the wall allowing screws at base of cabinet to only resist shear loads. The configuration with the missing screw is judged to be seismically adequate.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDDD-281-0002A** Equipment Class[3] 1

Equipment Description 250V REACTOR MOV BD 2A

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-2-BDDD-281-0002A** Equipment Class[3] 1

Equipment Description 250V REACTOR MOV BD 2A

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-2-BDDD-281-0002A** Equipment Class[3] 1

Equipment Description 250V REACTOR MOV BD 2A

Comments (Additional pages may be added as necessary)

Outlier 9034 has been resolved by adding top bracing. The bracing is anchored to the wall.

Evaluated by: Jeff Lawrence Date:8/13/2012

Jason Black 8/13/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDBB-281-0002B** Equipment Class[3] 1

Equipment Description 250V RMOV Board 2B

Location: Bldg. U2-RB Floor El. 593 Room, Area 021, Electrical Board Room 2B

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 ☐

See Item 5 for details.

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-2-BDBB-281-0002B** Equipment Class[3] 1

Equipment Description 250V RMOV Board 2B

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 ☐

Concrete in area is painted but no cracks were observed during walkdown

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 # 9035, 39031,9031). Each bay of the board has four (4) 1/4" screws in (1 in each corner) securing the cabinet to the sill channel that is welded to the embed plate. All visible welds are present and in good condition. All bays are bolted together per A-46. The bottom bolts were observed where the lower kick-plates were removed for inspection

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDBB-281-0002B** Equipment Class[3] 1

Equipment Description 250V RMOV Board 2B

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

All 4 bolts in each bay are present and are free from 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 ☐

Overhead fluorescent light fixtures are fitted with compression fittings and have been judged to be adequate in the A-46 walkdown since they were far enough away to not cause a seismic interaction concern.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDBB-281-0002B** Equipment Class[3] 1

Equipment Description 250V RMOV Board 2B

Interaction Effects (Continued)

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

One (1) conduit running from top of second bay is flexible type 4" and has very little slack. Each bay has several rigid conduits running from the top of the cabinet through the ceiling ~2-1/2' up. The conduits add enough rigidity to the anchorage of the RMOV board to ensure the top of the board will have little displacement in a seismic event. The conduit will not present a credible seismic concern.

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-2-BDBB-281-0002B** Equipment Class[3] 1

Equipment Description 250V RMOV Board 2B

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-2-BDDD-281-0002C** Equipment Class[3] 1

Equipment Description 250V RMOV BOARD 2C

Location: Bldg. U2-RB Floor El. 565 Room, Area 035, Scram Valve Area West Side

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-2-BDDD-281-0002C** Equipment Class[3] 1

Equipment Description 250V RMOV BOARD 2C

Anchorage (Continued)

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

No corrosion found to be present on the anchorage.

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 (SSEL # 9036).

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDDD-281-0002C** Equipment Class[3] 1

Equipment Description 250V RMOV BOARD 2C

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

Based on field observations and the comments to this section's questions it has been determined that 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-2-BDDD-281-0002C** Equipment Class[3] 1

Equipment Description 250V RMOV BOARD 2C

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 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☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-BDDD-281-0002C** Equipment Class[3] 1

Equipment Description 250V RMOV BOARD 2C

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-2-CHGA-248-0002A** Equipment Class[3] 16

Equipment Description 250V BATTERY CHARGER 2A

Location: Bldg. CB Floor El. 593 Room, Area 091, Battery 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 ☐

Welds and bolts visible through lower grating. No adverse condition found.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-CHGA-248-0002A** Equipment Class[3] 16

Equipment Description 250V BATTERY CHARGER 2A

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-2-CHGA-248-0002A** Equipment Class[3] 16

Equipment Description 250V BATTERY CHARGER 2A

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 ☐

SEWS outlier complete, charger 2B bolted to 2A.

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 is seismic per SEWS; verified by IEB 80-11 program (ref DWG 41N1202-1).

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-CHGA-248-0002A** Equipment Class[3] 16

Equipment Description 250V BATTERY CHARGER 2A

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☐

Overhead flourescent lights were questioned to have potential adverse condition by impacting switches on charger. Per SEWS SSEL 9135 flourescent lights with compression fitting were judged to be ok and not likely to fall.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-CHGA-248-0002A** Equipment Class[3] 16

Equipment Description 250V BATTERY CHARGER 2A

Comments (Additional pages may be added as necessary)

Evaluated by: Nicholas Pressler Date:07/19/2012

Jason Black 07/19/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-CLR-067-068** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 2A ROOM COOLER

Location: Bldg. U2-RB Floor El. 541 Room, Area 096, 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 ☒

Anchorage verified per A-46 SEWS. Cooler is attached to channels that are bolted to structure by 6 bolts. Based on limited accessibility only 5 bolts were observed.

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-2-CLR-067-068** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 2A 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-2-CLR-067-068** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 2A 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 ☐

No block walls observed in area

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-CLR-067-068** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 2A 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☐

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-2-CLR-067-068** Equipment Class[3] 10

Equipment Description EECW/RHR PUMP 2A ROOM COOLER

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-2-CLR-067-070** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 2C ROOM COOLER

Location: Bldg. U2-RB Floor El. 541 Room, Area 096, 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 ☐

Only 2 of 6 anchors could be observed based on accessibility.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-CLR-067-070** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 2C 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-2-CLR-067-070** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 2C 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 ☐

Belt drives are protected by guards, nothing overhead presents a falling impact hazard to 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 ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-CLR-067-070** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 2C 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☐

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-2-CLR-067-070** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 2C ROOM COOLER

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-2-CLR-067-072** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 2A ROOM COOLER

Location: Bldg. U2-RB Floor El. 519 Room, Area 037, 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 A-46 SEWS. Cooler is bolted to channel which is attached to structural steel via six (6) bolts. Three (3) bolts were verified above elvation 541 at the unit and the other three (3) were verified below (at el. 541) through the steel flange. It was verified this way due to accessibility of one side of the unit

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-2-CLR-067-072** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 2A 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-2-CLR-067-072** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 2A 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-2-CLR-067-072** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 2A 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☐

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-2-CLR-067-072** Equipment Class[3] 10

Equipment Description EECW/CS PUMP 2A ROOM COOLER

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-2-FAN-071-0601** Equipment Class[3] 9

Equipment Description PANEL 2-9-81-COOLING FAN

Location: Bldg. CB Floor El. 593 Room, Area 089, Unit 2 Aux Inst Room

Manufacturer, Model, Etc. (optional but recommended) McLean Engineering

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-2-FAN-071-0601** Equipment Class[3] 9

Equipment Description PANEL 2-9-81-COOLING FAN

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 ☒

Fan is attached to inside of Panel Door for BFN-2-PNLA-009-0081 see walkdown of panel for concrete condition.

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-2-FAN-071-0601** Equipment Class[3] 9

Equipment Description PANEL 2-9-81-COOLING FAN

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-2-FAN-071-0601** Equipment Class[3] 9

Equipment Description PANEL 2-9-81-COOLING FAN

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-2-FAN-071-0601** Equipment Class[3] 9

Equipment Description PANEL 2-9-81-COOLING FAN

Comments (Additional pages may be added as necessary)

Evaluated by: Nicholas Pressler Date:07/19/2012

Jason Black 07/19/2012

Status: Y ☐ N ☐ U ☒

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-001-0026** Equipment Class[3] 7

Equipment Description MSIV "B" INBOARD ISOLATION VALVE

Location: Bldg. U2-RB Floor El. 565 Room, 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-2-FCV-001-0026** Equipment Class[3] 7

Equipment Description MSIV "B" 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-2-FCV-001-0026** Equipment Class[3] 7

Equipment Description MSIV "B" 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-2-FCV-001-0026** Equipment Class[3] 7

Equipment Description MSIV "B" 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☒

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-2-FCV-001-0026** Equipment Class[3] 7

Equipment Description MSIV "B" INBOARD ISOLATION VALVE

Comments (Additional pages may be added as necessary)

Evaluated by: Date:

Status: Y ☐ N ☐ U ☒

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-001-0038** Equipment Class[3] 7

Equipment Description MSIV "C" OUTBOARD ISOLATION VALVE

Location: Bldg. U2 RB Floor El. 565 Room, 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-2-FCV-001-0038** Equipment Class[3] 7

Equipment Description MSIV "C" OUTBOARD 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-2-FCV-001-0038** Equipment Class[3] 7

Equipment Description MSIV "C" OUTBOARD 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-2-FCV-001-0038** Equipment Class[3] 7

Equipment Description MSIV "C" OUTBOARD 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☒

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-2-FCV-001-0038** Equipment Class[3] 7

Equipment Description MSIV "C" OUTBOARD ISOLATION VALVE

Comments (Additional pages may be added as necessary)

Evaluated by: Date:

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-023-0034** Equipment Class[3] 8

Equipment Description RHR HTX 2A COOL WATER OUTLET

Location: Bldg. U2-RB Floor El. 565 Room, Area 041, Elevator/Stairs Door 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, purple protective jacket is covering flange bolts. The jacket is in good repair. Support bolts into concrete area also in good repair.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-023-0034** Equipment Class[3] 8

Equipment Description RHR HTX 2A COOL WATER OUTLET

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-2-FCV-023-0034** Equipment Class[3] 8

Equipment Description RHR HTX 2A COOL WATER OUTLET

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-2-FCV-023-0034** Equipment Class[3] 8

Equipment Description RHR HTX 2A COOL WATER OUTLET

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-2-FCV-023-0034** Equipment Class[3] 8

Equipment Description RHR HTX 2A COOL WATER OUTLET

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-2-FCV-023-0040** Equipment Class[3] 8

Equipment Description RHR HTX 2C COOL WATER OUTLET

Location: Bldg. U2-RB Floor El. 565 Room, Area 041, Elevator/Stairs Door 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 ☐

In-line valve, flange bolts are hidden by protective purple jacket. The jacket in good condition. Support bolts in concrete in good repair.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-023-0040** Equipment Class[3] 8

Equipment Description RHR HTX 2C COOL WATER OUTLET

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-2-FCV-023-0040** Equipment Class[3] 8

Equipment Description RHR HTX 2C COOL WATER OUTLET

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-2-FCV-023-0040** Equipment Class[3] 8

Equipment Description RHR HTX 2C COOL WATER OUTLET

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-2-FCV-023-0040** Equipment Class[3] 8

Equipment Description RHR HTX 2C COOL WATER OUTLET

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-2-FCV-063-0008A** Equipment Class[3] 8

Equipment Description 2A SLC SQUIB VLV (GE-11-14A)

Location: Bldg. RB-U2 Floor El. 639 Room, Area 004, Unit 2 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-2-FCV-063-0008A** Equipment Class[3] 8

Equipment Description 2A SLC SQUIB VLV (GE-11-14A)

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-2-FCV-063-0008A** Equipment Class[3] 8

Equipment Description 2A SLC SQUIB VLV (GE-11-14A)

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-2-FCV-063-0008A** Equipment Class[3] 8

Equipment Description 2A SLC SQUIB VLV (GE-11-14A)

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-2-FCV-063-0008A** Equipment Class[3] 8

Equipment Description 2A SLC SQUIB VLV (GE-11-14A)

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:07/18/2012

Avinash Chunduri 07/18/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-063-0008B** Equipment Class[3] 8

Equipment Description 2B SLC SQUIB VLV (GE-11-14B)

Location: Bldg. RB-U2 Floor El. 639 Room, Area 004, Unit 2 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-2-FCV-063-0008B** Equipment Class[3] 8

Equipment Description 2B SLC SQUIB VLV (GE-11-14B)

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-2-FCV-063-0008B** Equipment Class[3] 8

Equipment Description 2B SLC SQUIB VLV (GE-11-14B)

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-2-FCV-063-0008B** Equipment Class[3] 8

Equipment Description 2B SLC SQUIB VLV (GE-11-14B)

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-2-FCV-063-0008B** Equipment Class[3] 8

Equipment Description 2B SLC SQUIB VLV (GE-11-14B)

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:07/18/2012

Avinash Chunduri 07/18/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-064-0020** Equipment Class[3] 7

Equipment Description SUPPRESION CHAMBER VACUUM RELIEF VALVE

Location: Bldg. U2-RB Floor El. 565 Room, Area 009, Southeast 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 ☒

The valve is in-line; anchorage not available. Flange bolts in good repair

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-064-0020** Equipment Class[3] 7

Equipment Description SUPPRESION CHAMBER VACUUM 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-2-FCV-064-0020** Equipment Class[3] 7

Equipment Description SUPPRESION CHAMBER VACUUM 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-2-FCV-064-0020** Equipment Class[3] 7

Equipment Description SUPPRESION CHAMBER VACUUM 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-2-FCV-064-0020** Equipment Class[3] 7

Equipment Description SUPPRESION CHAMBER VACUUM RELIEF VALVE

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/20/2012

Patrick McCarraher 7/20/2012

Browns Ferry Nuclear Plant

Enclosure 2 continued

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-064-0021** Equipment Class[3] 7

Equipment Description Suppresion Chamber Vacuum Relief Valve

Location: Bldg. U2-RB Floor El. 565 Room, Area 009, Southeast 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 ☒

The valve is in-line no anchor bolts present. Flange bolts in good condition.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-064-0021** Equipment Class[3] 7

Equipment Description Suppresion Chamber Vacuum 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 ☒

Not applicable because the valve is in-line

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-2-FCV-064-0021** Equipment Class[3] 7

Equipment Description Suppresion Chamber Vacuum 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-2-FCV-064-0021** Equipment Class[3] 7

Equipment Description Suppresion Chamber Vacuum 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-2-FCV-064-0021** Equipment Class[3] 7

Equipment Description Suppresion Chamber Vacuum Relief Valve

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/20/2012

Patrick McCarraher 7/20/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-064-0032** Equipment Class[3] 5

Equipment Description Suppression Chamber Exhaust Inboard Isolation Valve

Location: Bldg. U2 RB Floor El. 565' Room, Area 010, Northwest 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 ☒

Inline Valve Component

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-2-FCV-064-0032** Equipment Class[3] 5

Equipment Description Suppression Chamber Exhaust 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 ☐

Item is not anchored to any concrete structures

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-2-FCV-064-0032**Equipment Class[3] 5

Equipment Description Suppression Chamber Exhaust 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 ☐

No suspended ceiling in area, no block walls w/in the zone of influence, bulbs in area are screw-in type and pose no threat under seismic event

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-064-0032** Equipment Class[3] 5

Equipment Description Suppression Chamber Exhaust Inboard Isolation Valve

Interaction Effects (Continued)

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

Plenty of slack is present in flexible conduit attached to valve.

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-2-FCV-064-0032** Equipment Class[3] 5

Equipment Description Suppression Chamber Exhaust Inboard Isolation Valve

Comments (Additional pages may be added as necessary)

Valve is mounted to 2 bolts of nearby flanged connection in piping. Flanges are used to secure expansion joint in ~18" line.

Evaluated by: Jeff Lawrence Date:7/20/2012

Jason Black 7/20/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-064-0033** Equipment Class[3] 5

Equipment Description Suppression Chamber Exhaust Outboard Isolation Valve

Location: Bldg. U2 RB Floor El. 565 Room, Area 010, Northwest 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 ☒

Inline Valve Component

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-2-FCV-064-0033** Equipment Class[3] 5

Equipment Description Suppression Chamber Exhaust Outboard 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 ☐

Item is not anchored to any concrete structures

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-2-FCV-064-0033** Equipment Class[3] 5

Equipment Description Suppression Chamber Exhaust Outboard 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 ☐

No suspended ceiling in area, no block walls w/in the zone of influence, bulbs in area are screw-in type and pose no threat under seismic event

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-064-0033** Equipment Class[3] 5

Equipment Description Suppression Chamber Exhaust Outboard Isolation Valve

Interaction Effects (Continued)

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

Plenty of slack is present in flexible conduit attached to valve.

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-2-FCV-064-0033** Equipment Class[3] 5

Equipment Description Suppression Chamber Exhaust Outboard Isolation Valve

Comments (Additional pages may be added as necessary)

Valve is mounted to 2 bolts of nearby flanged connection in piping. Flanges are used to secure expansion joint in ~18" line.

Evaluated by: Jeff Lawrence Date:7/20/2012

Jason Black 7/20/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-067-0050** Equipment Class[3] 7

Equipment Description EECW SYSTEM NORTH HEADER BACKUP TO RBCCW

Location: Bldg. U2-RB Floor El. 593 Room, Area 039, RBCCW Heat Exchanger 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-2-FCV-067-0050** Equipment Class[3] 7

Equipment Description EECW SYSTEM NORTH HEADER BACKUP TO RBCCW

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-2-FCV-067-0050** Equipment Class[3] 7

Equipment Description EECW SYSTEM NORTH HEADER BACKUP TO RBCCW

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 actuator is in close proximity to cable tray running vertically but will not create a significant adverse condition during 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 ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-067-0050** Equipment Class[3] 7

Equipment Description EECW SYSTEM NORTH HEADER BACKUP TO RBCCW

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-2-FCV-067-0050** Equipment Class[3] 7

Equipment Description EECW SYSTEM NORTH HEADER BACKUP TO RBCCW

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:7/30/2012

Jason Black 7/30/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-074-0001** Equipment Class[3] 8

Equipment Description RHR PMP A SUPP POOL SUCTION VALVE

Location: Bldg. U2-RB Floor El. 519 Room, Area 012, RHR Pump 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 component with no snubber or rod support attached.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-074-0001** Equipment Class[3] 8

Equipment Description RHR PMP A SUPP POOL 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 ☒

No attachment 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-2-FCV-074-0001** Equipment Class[3] 8

Equipment Description RHR PMP A SUPP POOL 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 ☐

No block walls observed in area.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-074-0001** Equipment Class[3] 8

Equipment Description RHR PMP A SUPP POOL 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☐

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-2-FCV-074-0001** Equipment Class[3] 8

Equipment Description RHR PMP A SUPP POOL SUCTION VALVE

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:8/09/2012

Jason Black 8/09/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-075-0022** Equipment Class[3] 8

Equipment Description SYS 1 TEST BYPASS VLV OPERATOR

Location: Bldg. U2-RB Floor El. 519 Room, Area 037, 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-2-FCV-075-0022** Equipment Class[3] 8

Equipment Description SYS 1 TEST BYPASS VLV OPERATOR

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-2-FCV-075-0022** Equipment Class[3] 8

Equipment Description SYS 1 TEST BYPASS VLV OPERATOR

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 ☐

Hand rail in close proximity to valve actuator but will not adversely interact during 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 ☐

Everything supported/secured properly overhead

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-075-0022** Equipment Class[3] 8

Equipment Description SYS 1 TEST BYPASS VLV OPERATOR

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-2-FCV-075-0022** Equipment Class[3] 8

Equipment Description SYS 1 TEST BYPASS VLV OPERATOR

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:07/30/2012

Jason Black 07/30/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-075-0037** Equipment Class[3] 8

Equipment Description CS/PUMP 2B & 2D MINI-FLOW VALVE

Location: Bldg. U2-RB Floor El. 541 Room, Area 038, NE 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-2-FCV-075-0037** Equipment Class[3] 8

Equipment Description CS/PUMP 2B & 2D MINI-FLOW 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-2-FCV-075-0037** Equipment Class[3] 8

Equipment Description CS/PUMP 2B & 2D MINI-FLOW 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 ☐

Actuator is in close proximity (w/in 1-2 inches) to platform steel at elevation 540'. The line in which the valve is installed is laterally restrained within 18 inches of the valve which will limit its deflection during a seismic event. The motor actuator is encased by a rugged enclosure that will resist impact caused by a potential interaction w/ the platform. Based on the relative low seismic accelerations associated with the low equipment elevation, the pipe support system, and the ruggedness of the motor, no potentially adverse seismic condition exists.

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-2-FCV-075-0037** Equipment Class[3] 8

Equipment Description CS/PUMP 2B & 2D MINI-FLOW 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-2-FCV-075-0037** Equipment Class[3] 8

Equipment Description CS/PUMP 2B & 2D MINI-FLOW VALVE

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:7/30/2012

Jason Black 7/30/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-078-0062** Equipment Class[3] 8

Equipment Description SYSTEM ISOLATION MOTOR OPERATED VLV

Location: Bldg. U2-RB Floor El. 639 Room, Area 104, Column Lines S-U, R8-R11

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 ☒

No hardware/anchorage to evaluate

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-078-0062** Equipment Class[3] 8

Equipment Description SYSTEM ISOLATION MOTOR OPERATED 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-2-FCV-078-0062** Equipment Class[3] 8

Equipment Description SYSTEM ISOLATION MOTOR OPERATED 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 ☐

Nothing in area has the potential to impact soft targets on this equipment

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 ☐

Lighting in area is screw-in type and presents no adverse condition in seismic event

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-078-0062** Equipment Class[3] 8

Equipment Description SYSTEM ISOLATION MOTOR OPERATED 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-2-FCV-078-0062** Equipment Class[3] 8

Equipment Description SYSTEM ISOLATION MOTOR OPERATED VLV

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-2-FCV-085-39A/0219** Equipment Class[3] 7

Equipment Description CRD SCRAM INLET VALVE

Location: Bldg. U2-RB Floor El. 565 Room, Area 011, Scram Valve Area East Side

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 with no anchorage, valve hardware in good condition.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-085-39A/0219** Equipment Class[3] 7

Equipment Description CRD SCRAM INLET 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-2-FCV-085-39A/0219** Equipment Class[3] 7

Equipment Description CRD SCRAM INLET 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-2-FCV-085-39A/0219** Equipment Class[3] 7

Equipment Description CRD SCRAM INLET 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-2-FCV-085-39A/0219** Equipment Class[3] 7

Equipment Description CRD SCRAM INLET VALVE

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-2-FCV-085-39A/0227** Equipment Class[3] 7

Equipment Description CRD Scram Inlet Valve

Location: Bldg. U2-RB Floor El. 565 Room, Area 011, Scram Valve Area East Side

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, flange bolts in good condition.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-085-39A/0227** Equipment Class[3] 7

Equipment Description CRD Scram Inlet 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-2-FCV-085-39A/0227** Equipment Class[3] 7

Equipment Description CRD Scram Inlet 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-2-FCV-085-39A/0227** Equipment Class[3] 7

Equipment Description CRD Scram Inlet 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-2-FCV-085-39A/0227** Equipment Class[3] 7

Equipment Description CRD Scram Inlet Valve

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/20/2012

Patrick McCarraher 7/20/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FSV-085-0037B** Equipment Class[3] 8

Equipment Description CRD/SCRAM DUMP VALVE

Location: Bldg. U2-RB Floor El. 565 Room, Area 040, N / R12

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 not anchored to concrete. Flange bolts in good condition.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FSV-085-0037B** Equipment Class[3] 8

Equipment Description CRD/SCRAM DUMP 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-2-FSV-085-0037B** Equipment Class[3] 8

Equipment Description CRD/SCRAM DUMP 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-2-FSV-085-0037B** Equipment Class[3] 8

Equipment Description CRD/SCRAM DUMP 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-2-FSV-085-0037B** Equipment Class[3] 8

Equipment Description CRD/SCRAM DUMP VALVE

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-2-FSV-085-0037A** Equipment Class[3] 8

Equipment Description CRD/SCRAM DUMP VALVE

Location: Bldg. U2-RB Floor El. 565 Room, Area 040, N / R12

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, no anchorage hardware present. Valve hardware in good condition.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FSV-085-0037A** Equipment Class[3] 8

Equipment Description CRD/SCRAM DUMP 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-2-FSV-085-0037A** Equipment Class[3] 8

Equipment Description CRD/SCRAM DUMP 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-2-FSV-085-0037A** Equipment Class[3] 8

Equipment Description CRD/SCRAM DUMP 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-2-FSV-085-0037A** Equipment Class[3] 8

Equipment Description CRD/SCRAM DUMP VALVE

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-2-GEN-268-0002DA** Equipment Class[3] 13

Equipment Description LPCI MG Set 2DA Generator

Location: Bldg. U2-RB Floor El. 639 Room, Area 005, LPCI Generator 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-2-GEN-268-0002DA** Equipment Class[3] 13

Equipment Description LPCI MG Set 2DA Generator

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 TVA drawing 48N1244-1. Also, A-46 SEWS (SSEL # 9141, 9283) were used for reference.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-GEN-268-0002DA** Equipment Class[3] 13

Equipment Description LPCI MG Set 2DA Generator

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 caged properly

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-2-GEN-268-0002DA** Equipment Class[3] 13

Equipment Description LPCI MG Set 2DA Generator

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-2-GEN-268-0002DA** Equipment Class[3] 13

Equipment Description LPCI MG Set 2DA Generator

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-2-GEN-268-0002DN** Equipment Class[3] 13

Equipment Description LPCI MG 2DN Generator

Location: Bldg. U2-RB Floor El. 621 Room, Area 003, LPCI Generator 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-2-GEN-268-0002DN** Equipment Class[3] 13

Equipment Description LPCI MG 2DN Generator

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 using drawing 48N1244-1. Also, A-46 SEWS Numbers 9141 and 9140 were used for reference. The current anchorage matches the reference materials.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-GEN-268-0002DN** Equipment Class[3] 13

Equipment Description LPCI MG 2DN Generator

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-2-GEN-268-0002DN** Equipment Class[3] 13

Equipment Description LPCI MG 2DN Generator

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-2-GEN-268-0002DN** Equipment Class[3] 13

Equipment Description LPCI MG 2DN Generator

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/18/2012

Patrick McCarraher 7/18/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-GEN-268-0002EA** Equipment Class[3] 13

Equipment Description LPCI MG 2EA Generator

Location: Bldg. U2-RB Floor El. 621 Room, Area 003, LPCI Generator 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-2-GEN-268-0002EA** Equipment Class[3] 13

Equipment Description LPCI MG 2EA Generator

Anchorage (Continued)

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

Bolts have been painted. Paint in good condition

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

Minor surface chip approximately three inches from the bolt

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 using drawing 48N1244-1. Also, A-46 SEWS Numbers 9141 and 9287 were used for reference. The current anchorage matches the reference materials.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-GEN-268-0002EA** Equipment Class[3] 13

Equipment Description LPCI MG 2EA Generator

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-2-GEN-268-0002EA** Equipment Class[3] 13

Equipment Description LPCI MG 2EA Generator

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-2-GEN-268-0002EA** Equipment Class[3] 13

Equipment Description LPCI MG 2EA Generator

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/18/2012

Patrick McCarraher 7/18/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-GEN-268-0002EN** Equipment Class[3] 13

Equipment Description LPCI MG 2 EN GENERATOR

Location: Bldg. RB-2 Floor El. 639' Room, Area 005, LPCI Generator 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-2-GEN-268-0002EN** Equipment Class[3] 13

Equipment Description LPCI MG 2 EN GENERATOR

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 TVA drawing 48N1244-1. Also, A-46 SEWS (SSEL # 9141) were used for reference.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-GEN-268-0002EN** Equipment Class[3] 13

Equipment Description LPCI MG 2 EN GENERATOR

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 found to be properly secured.

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-2-GEN-268-0002EN** Equipment Class[3] 13

Equipment Description LPCI MG 2 EN GENERATOR

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-2-GEN-268-0002EN** Equipment Class[3] 13

Equipment Description LPCI MG 2 EN GENERATOR

Comments (Additional pages may be added as necessary)

Evaluated by: Avinash Chunduri Date:07/19/12

Jeff Lawrence 07/19/12

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-INV-256-0001** Equipment Class[3] 16

Equipment Description DIV I ECCS ATU INVERTER

Location: Bldg. U2 RB Floor El. 593 Room, Area 021, Electrical Board Room 2B

Manufacturer, Model, Etc. (optional but recommended) HDR Power Systems

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-2-INV-256-0001** Equipment Class[3] 16

Equipment Description DIV I 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 verified per calculation CD-Q2256-871489.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-INV-256-0001** Equipment Class[3] 16

Equipment Description DIV I 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 ☐

Soft targets are found to be properly secured.

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-2-INV-256-0001** Equipment Class[3] 16

Equipment Description DIV I 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-2-INV-256-0001** Equipment Class[3] 16

Equipment Description DIV I ECCS ATU INVERTER

Comments (Additional pages may be added as necessary)

Evaluated by: Avinash Chunduri Date:07/19/2012

Jeff Lawrence 11/2/2012

Jason Black 11/2/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0001** Equipment Class[3] 18

Equipment Description PANEL 25-0001

Location: Bldg. U2-RB Floor El. 519 Room, Area 037, NW Corner

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-2-LPNL-925-0001** Equipment Class[3] 18

Equipment Description PANEL 25-0001

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-2-LPNL-925-0001** Equipment Class[3] 18

Equipment Description PANEL 25-0001

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 ☐

Panel is directly under grating protecting panel from impact

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 ☐

No drop ceiling, screw in lights, no block walls.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0001** Equipment Class[3] 18

Equipment Description PANEL 25-0001

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-2-LPNL-925-0001** Equipment Class[3] 18

Equipment Description PANEL 25-0001

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-2-LPNL-925-0005A** Equipment Class[3] 18

Equipment Description PANEL 25-5A

Location: Bldg. U2-RB Floor El. 593 Room, Area 036, S / R10

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-2-LPNL-925-0005A** Equipment Class[3] 18

Equipment Description PANEL 25-5A

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 # 9184)

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0005A** Equipment Class[3] 18

Equipment Description PANEL 25-5A

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-2-LPNL-925-0005A** Equipment Class[3] 18

Equipment Description PANEL 25-5A

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-2-LPNL-925-0005A** Equipment Class[3] 18

Equipment Description PANEL 25-5A

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:07/30/2012

Jason Black 07/30/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0005B** Equipment Class[3] 18

Equipment Description PANEL 25-5B

Location: Bldg. U2-RB Floor El. 593 Room, Area 036, S / R10

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-2-LPNL-925-0005B** Equipment Class[3] 18

Equipment Description PANEL 25-5B

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 verified per A-46 SEWS (SSEL # 9185).

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0005B** Equipment Class[3] 18

Equipment Description PANEL 25-5B

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-2-LPNL-925-0005B** Equipment Class[3] 18

Equipment Description PANEL 25-5B

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-2-LPNL-925-0005B** Equipment Class[3] 18

Equipment Description PANEL 25-5B

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:07/30/2012

Jason Black 07/30/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0005D** Equipment Class[3] 18

Equipment Description PANEL 25-5D

Location: Bldg. U2-RB Floor El. 593 Room, Area 036, S / R10

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-2-LPNL-925-0005D** Equipment Class[3] 18

Equipment Description PANEL 25-5D

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 verified per A-46 SEWS (SSEL # 9186, 9188)

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0005D** Equipment Class[3] 18

Equipment Description PANEL 25-5D

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-2-LPNL-925-0005D** Equipment Class[3] 18

Equipment Description PANEL 25-5D

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-2-LPNL-925-0005D** Equipment Class[3] 18

Equipment Description PANEL 25-5D

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:07/30/2012

Jason Black 07/30/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0006A** Equipment Class[3] 18

Equipment Description PANEL 25-6A

Location: Bldg. U2-RB Floor El. 593 Room, Area 039, RBCCW Heat Exchanger 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-2-LPNL-925-0006A** Equipment Class[3] 18

Equipment Description PANEL 25-6A

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 #9187

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0006A** Equipment Class[3] 18

Equipment Description PANEL 25-6A

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 ☐

Sensitive instruments are free from potential impacts

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 ☐

Scaffolding overhead is properly secured to building column.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0006A** Equipment Class[3] 18

Equipment Description PANEL 25-6A

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-2-LPNL-925-0006A** Equipment Class[3] 18

Equipment Description PANEL 25-6A

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:11/02/2012

Jason Black 11/02/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0006D** Equipment Class[3] 18

Equipment Description PANEL 25-6D

Location: Bldg. U2-RB Floor El. 593 Room, Area 039, RBCCW Heat Exchanger 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-2-LPNL-925-0006D** Equipment Class[3] 18

Equipment Description PANEL 25-6D

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 verified per A-46 SEWS (SSEL # 9188)

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0006D** Equipment Class[3] 18

Equipment Description PANEL 25-6D

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 ☐

Scaffolding overhead is properly braced to columns

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-2-LPNL-925-0006D** Equipment Class[3] 18

Equipment Description PANEL 25-6D

Interaction Effects (Continued)

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

All conduits attached to panel are flexible type, instrument air tubing is flexible.

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-2-LPNL-925-0006D** Equipment Class[3] 18

Equipment Description PANEL 25-6D

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:7/30/2012

Jason Black 7/30/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0060** Equipment Class[3] 18

Equipment Description PANEL 25-60 FOR CS PUMP

Location: Bldg. U2-RB Floor El. 519 Room, Area 014, NE Corner

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-2-LPNL-925-0060** Equipment Class[3] 18

Equipment Description PANEL 25-60 FOR CS 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-2-LPNL-925-0060** Equipment Class[3] 18

Equipment Description PANEL 25-60 FOR CS 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 ☐

Panel is located directly under platform. Platform prohibits anything from falling on panel

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 ☐

Under platform, no block walls, screw in lights only in the area.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0060** Equipment Class[3] 18

Equipment Description PANEL 25-60 FOR CS PUMP

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-2-LPNL-925-0060** Equipment Class[3] 18

Equipment Description PANEL 25-60 FOR CS PUMP

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-2-LPNL-925-0223** Equipment Class[3] 18

Equipment Description LOCAL PANEL 2-25-223

Location: Bldg. U2-RB Floor El. 593 Room, Area 039, RBCCW Heat Exchanger 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-2-LPNL-925-0223** Equipment Class[3] 18

Equipment Description LOCAL PANEL 2-25-223

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 verified per A-46 SEWS (SSEL # 9319, 39237)

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LPNL-925-0223** Equipment Class[3] 18

Equipment Description LOCAL PANEL 2-25-223

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-2-LPNL-925-0223** Equipment Class[3] 18

Equipment Description LOCAL PANEL 2-25-223

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-2-LPNL-925-0223** Equipment Class[3] 18

Equipment Description LOCAL PANEL 2-25-223

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:07/30/2012

Jason Black 07/30/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LS-078-0001D** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL ISOL

Location: Bldg. U2-RB Floor El. 639 Room, Area 099, SLC AREA BY STAIRS

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

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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-2-LS-078-0001D** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL ISOL

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 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-2-LS-078-0001D** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL 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 ☐

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-2-LS-078-0001D** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL ISOL

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-2-LS-078-0001D** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL ISOL

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:08/09/2012

George Bongart 08/09/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LS-078-0001E** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL ISOL

Location: Bldg. U2-RB Floor El. 639 Room, Area 099, SLC AREA BY STAIRS

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

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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-2-LS-078-0001E** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL ISOL

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-2-LS-078-0001E** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL 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 ☐

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-2-LS-078-0001E** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL ISOL

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-2-LS-078-0001E** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL ISOL

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:08/09/2012

George Bongart 08/09/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LS-078-0001F** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL ISOL

Location: Bldg. U2-RB Floor El. 639 Room, Area 099, 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-2-LS-078-0001F** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL ISOL

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-2-LS-078-0001F** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL 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 ☐

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-2-LS-078-0001F** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL ISOL

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-2-LS-078-0001F** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL ISOL

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:08/09/2012

George Bongart 08/09/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-LS-078-0001G** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL SWITCH

Location: Bldg. U2-RB Floor El. 639 Room, Area 099, 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-2-LS-078-0001G** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL SWITCH

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-2-LS-078-0001G** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL SWITCH

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-2-LS-078-0001G** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL SWITCH

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-2-LS-078-0001G** Equipment Class[3] 20

Equipment Description SKIMMER SURGE TANK LOW LEVEL SWITCH

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:08/09/2012

George Bongart 08/09/2012

Status: Y ☐ N ☐ U ☒

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PCV-001-0019** Equipment Class[3] 7

Equipment Description MS/MAIN STEAM SAFETY RELIEF VALVE

Location: Bldg. U2 RB Floor El. 585 Room, 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-2-PCV-001-0019** Equipment Class[3] 7

Equipment Description MS/MAIN STEAM SAFETY 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-2-PCV-001-0019** Equipment Class[3] 7

Equipment Description MS/MAIN STEAM SAFETY 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-2-PCV-001-0019** Equipment Class[3] 7

Equipment Description MS/MAIN STEAM SAFETY 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-2-PCV-001-0019** Equipment Class[3] 7

Equipment Description MS/MAIN STEAM SAFETY RELIEF VALVE

Comments (Additional pages may be added as necessary)

Evaluated by: Date:

Status: Y ☐ N ☐ U ☒

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PCV-001-0034** Equipment Class[3] 7

Equipment Description MS/MAIN STEAM SAFETY RELIEF VALVE

Location: Bldg. U2 RB Floor El. 585 Room, 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-2-PCV-001-0034** Equipment Class[3] 7

Equipment Description MS/MAIN STEAM SAFETY 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-2-PCV-001-0034** Equipment Class[3] 7

Equipment Description MS/MAIN STEAM SAFETY 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-2-PCV-001-0034** Equipment Class[3] 7

Equipment Description MS/MAIN STEAM SAFETY 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-2-PCV-001-0034** Equipment Class[3] 7

Equipment Description MS/MAIN STEAM SAFETY RELIEF VALVE

Comments (Additional pages may be added as necessary)

Evaluated by: Date:

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-063-0006A** Equipment Class[3] 5

Equipment Description 2A SLC PUMP (GE-11-2A)

Location: Bldg. RB-U2 Floor El. 639 Room, Area 004, SLC Area

Manufacturer, Model, Etc. (optional but recommended) Union Pump 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 ☐

Anchorage missing washers under nuts in several instances but does not present a potential adverse seismic concern.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-063-0006A** Equipment Class[3] 5

Equipment Description 2A SLC PUMP (GE-11-2A)

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 drawing 41N803 (detail B2).

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-063-0006A** Equipment Class[3] 5

Equipment Description 2A SLC PUMP (GE-11-2A)

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-2-PMP-063-0006A** Equipment Class[3] 5

Equipment Description 2A SLC PUMP (GE-11-2A)

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-2-PMP-063-0006A** Equipment Class[3] 5

Equipment Description 2A SLC PUMP (GE-11-2A)

Comments (Additional pages may be added as necessary)

Per drawing 41N803 (detail B2), the pump foundation has six (6) anchor bolts and the extra threaded holes are for temporary rigging.

Evaluated by: Jeff Lawrence Date:11/02/2012

Avinash Chunduri 07/18/2012

Jason Black 11/02/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-063-0006B** Equipment Class[3] 5

Equipment Description 2B SLC PUMP (GE-11-2B)

Location: Bldg. RB-U2 Floor El. 639 Room, Area 004, SLC Area

Manufacturer, Model, Etc. (optional but recommended) Union Pump 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 ☐

Anchorage missing washers under nuts in several instances but does not present a potential adverse seismic concern.

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-063-0006B** Equipment Class[3] 5

Equipment Description 2B SLC PUMP (GE-11-2B)

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 drawing 41N803 (detail B2).

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-063-0006B** Equipment Class[3] 5

Equipment Description 2B SLC PUMP (GE-11-2B)

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-2-PMP-063-0006B** Equipment Class[3] 5

Equipment Description 2B SLC PUMP (GE-11-2B)

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-2-PMP-063-0006B** Equipment Class[3] 5

Equipment Description 2B SLC PUMP (GE-11-2B)

Comments (Additional pages may be added as necessary)

Per drawing 41N803 (detail B2), the pump foundation has six (6) anchor bolts and the extra threaded holes are for temporary rigging.

Evaluated by: Jeff Lawrence Date:11/02/2012

Avinash Chunduri 07/18/2012

Jason Black 11/02/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-073-0029** Equipment Class[3] 5

Equipment Description HPCI Booster Pump

Location: Bldg. U2 RB Floor El. 519 Room, Area 013, HPCI Room

Manufacturer, Model, Etc. (optional but recommended) Byron Jackson

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-2-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-2-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 ☐

No block walls in area, screw-in type bulbs in overhead lighting

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-073-0029** Equipment Class[3] 5

Equipment Description HPCI Booster Pump

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-2-PMP-073-0029** Equipment Class[3] 5

Equipment Description HPCI Booster Pump

Comments (Additional pages may be added as necessary)

Evaluated by: Jason Black Date:07/20/2012

Jeff Lawrence 07/20/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-073-0047** Equipment Class[3] 5

Equipment Description HPCI Turbine Auxiliary Oil Pump

Location: Bldg. U2 RB Floor El. 519 Room, Area 013, 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 ☐

4 bolts secured to skid, skid secured to concrete block

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-073-0047** Equipment Class[3] 5

Equipment Description HPCI Turbine Auxiliary Oil 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-2-PMP-073-0047** Equipment Class[3] 5

Equipment Description HPCI Turbine Auxiliary Oil 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-2-PMP-073-0047** Equipment Class[3] 5

Equipment Description HPCI Turbine Auxiliary Oil Pump

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-2-PMP-073-0047** Equipment Class[3] 5

Equipment Description HPCI Turbine Auxiliary Oil Pump

Comments (Additional pages may be added as necessary)

Evaluated by: Jason Black Date:07/20/2012

Jeff Lawrence 07/20/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-074-0005** Equipment Class[3] 6

Equipment Description Residual Heat Removal Pump 2A

Location: Bldg. U2-RB Floor El. 519 Room, Area 012, RHR Pump 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-2-PMP-074-0005** Equipment Class[3] 6

Equipment Description Residual Heat Removal Pump 2A

Anchorage (Continued)

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

Minor surface oxidation present on all bolts.

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 CD-Q0074-884199.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-074-0005** Equipment Class[3] 6

Equipment Description Residual Heat Removal Pump 2A

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-2-PMP-074-0005** Equipment Class[3] 6

Equipment Description Residual Heat Removal Pump 2A

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-2-PMP-074-0005** Equipment Class[3] 6

Equipment Description Residual Heat Removal Pump 2A

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:07/20/2012

Patrick McCarraher 07/20/2012

Jeff Lawrence 11/02/2012

Jason Black 11/02/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-074-0016** Equipment Class[3] 6

Equipment Description Residual Heat Removal Pump 2C

Location: Bldg. U2-RB Floor El. 519 Room, Area 012, RHR Pump 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-2-PMP-074-0016** Equipment Class[3] 6

Equipment Description Residual Heat Removal Pump 2C

Anchorage (Continued)

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

Mild surface oxidation present on bolts.

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 CD-Q0074-884199.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-074-0016** Equipment Class[3] 6

Equipment Description Residual Heat Removal Pump 2C

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-2-PMP-074-0016** Equipment Class[3] 6

Equipment Description Residual Heat Removal Pump 2C

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-2-PMP-074-0016** Equipment Class[3] 6

Equipment Description Residual Heat Removal Pump 2C

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/20/2012

Patrick McCarraher 7/20/2012

Jeff Lawrence 11/02/2012

Jason Black 11/02/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-075-0033** Equipment Class[3] 6

Equipment Description Core Spray Pump 2B

Location: Bldg. U2-RB Floor El. 519 Room, Area 014, NE Corner

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-2-PMP-075-0033** Equipment Class[3] 6

Equipment Description Core Spray Pump 2B

Anchorage (Continued)

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

All bolts have mild surface corrosion

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 (SSEL 5016). The current anchorage configuration matches the reference documentation.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-075-0033** Equipment Class[3] 6

Equipment Description Core Spray Pump 2B

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-2-PMP-075-0033** Equipment Class[3] 6

Equipment Description Core Spray Pump 2B

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-2-PMP-075-0033** Equipment Class[3] 6

Equipment Description Core Spray Pump 2B

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:7/20/2012

Patrick McCarraher 7/20/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-075-0042** Equipment Class[3] 6

Equipment Description Core Spray Pump 2D

Location: Bldg. U2-RB Floor El. 519 Room, Area 014, NE Corner

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-2-PMP-075-0042** Equipment Class[3] 6

Equipment Description Core Spray Pump 2D

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 drawing 41N734. The current anchorage matches the drawing.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-075-0042** Equipment Class[3] 6

Equipment Description Core Spray Pump 2D

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-2-PMP-075-0042** Equipment Class[3] 6

Equipment Description Core Spray Pump 2D

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-2-PMP-075-0042** Equipment Class[3] 6

Equipment Description Core Spray Pump 2D

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:07/20/2012

Patrick McCarraher 07/20/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PMP-076-0110** Equipment Class[3] 5

Equipment Description CNTMT ATM MON SYS ANLZR 2A SMPL RETURN PUMP

Location: Bldg. U2-RB Floor El. 565 Room, Area 035, SCRAM VALVE AREA WEST SIDE

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-2-PMP-076-0110** Equipment Class[3] 5

Equipment Description CNTMT ATM MON SYS ANLZR 2A SMPL RETURN 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-2-PMP-076-0110** Equipment Class[3] 5

Equipment Description CNTMT ATM MON SYS ANLZR 2A SMPL RETURN 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 ☐

Soft Targets are protected by the cabinet.

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-2-PMP-076-0110** Equipment Class[3] 5

Equipment Description CNTMT ATM MON SYS ANLZR 2A SMPL RETURN PUMP

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-2-PMP-076-0110** Equipment Class[3] 5

Equipment Description CNTMT ATM MON SYS ANLZR 2A SMPL RETURN PUMP

Comments (Additional pages may be added as necessary)

This system has been recently modified by DCN 69445, the following changes have been made to the system:
-The following pumps have been removed by DCN 69445: 2-PMP-076-0093C, 2-PMP-076-0094C
-The following pump has been renamed to the pump referenced in this walkdown: 2-PMP-076-0094D.

Evaluated by: George Bongart Date:07/30/2012

Patrick McCarraher 07/30/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0003A** Equipment Class[3] 20

Equipment Description REACTOR SHUTDOWN & CONTAINMENT COOLING

Location: Bldg. U2-CB Floor El. 617 Room, Area 120, U2 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 ☐

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0003A** Equipment Class[3] 20

Equipment Description REACTOR SHUTDOWN & CONTAINMENT COOLING

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 ☐

Cannot see concrete near the anchors because the carpet is in the way. However, there appears to be no sign of cracks in any visible 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 ☐

Anchorage configuration has been verified per drawings 48N933 and 0-48N934.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0003A** Equipment Class[3] 20

Equipment Description REACTOR SHUTDOWN & CONTAINMENT COOLING

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-2-PNLA-009-0003A** Equipment Class[3] 20

Equipment Description REACTOR SHUTDOWN & CONTAINMENT COOLING

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.

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-2-PNLA-009-0003A** Equipment Class[3] 20

Equipment Description REACTOR SHUTDOWN & CONTAINMENT COOLING

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:08/14/2012

George Bongart 08/14/2012

Status: Y ☐ N ☒ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0005** Equipment Class[3] 20

Equipment Description REACTOR CONTROL PANEL

Location: Bldg. U2-CB Floor El. 617 Room, Area 120, U2 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 ☐

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0005** Equipment Class[3] 20

Equipment Description REACTOR CONTROL PANEL

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 ☐

Cannot see concrete near the anchors because the carpet is in the way However visible concrete appears to be free of 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 ☐

Anchorage configuration verified per drawings 48N933 and 0-48N934.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0005** Equipment Class[3] 20

Equipment Description REACTOR CONTROL PANEL

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 ☐

Missing light cage in Bay 1.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0005** Equipment Class[3] 20

Equipment Description REACTOR CONTROL PANEL

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 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☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0005** Equipment Class[3] 20

Equipment Description REACTOR CONTROL PANEL

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:08/14/2012

Patrick McCarraher 08/14/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0006** Equipment Class[3] 20

Equipment Description FEED WATER DTM & CONDS PNL

Location: Bldg. U2-CB Floor El. 617 Room, Area 120, U2 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 ☐

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0006** Equipment Class[3] 20

Equipment Description FEED WATER DTM & CONDS 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 ☐

Cannot see concrete near the anchors because the carpet is in the way, from visible concrete there appear to be no cracks present.

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 verified per drawings 48N933 and 0-48N934.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0006** Equipment Class[3] 20

Equipment Description FEED WATER DTM & CONDS 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-2-PNLA-009-0006** Equipment Class[3] 20

Equipment Description FEED WATER DTM & CONDS 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 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☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0006** Equipment Class[3] 20

Equipment Description FEED WATER DTM & CONDS PNL

Comments (Additional pages may be added as necessary)

Evaluated by: Patrick McCarraher Date:08/14/2012

George Bongart 08/14/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0009** Equipment Class[3] 20

Equipment Description CONTROL PANEL 9-9

Location: Bldg. U2-CB Floor El. 617 Room, Area 120, U2 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 ☐

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0009** Equipment Class[3] 20

Equipment Description CONTROL PANEL 9-9

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 ☐

Cannot see concrete near the anchors because the carpet is in the way, from the visible concrete there appear to be no cracks in the 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 ☐

Anchorage configuration has been verified per A-46 SEWS Number 9045. The current anchorage configuration matches the reference documentation.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0009** Equipment Class[3] 20

Equipment Description CONTROL PANEL 9-9

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-2-PNLA-009-0009** Equipment Class[3] 20

Equipment Description CONTROL PANEL 9-9

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☐

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.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0009** Equipment Class[3] 20

Equipment Description CONTROL PANEL 9-9

Comments (Additional pages may be added as necessary)

OSVS-9045 has been resolved "as-is" from an informal memo dated September 9,1996 stating the cabinet contains no essential relays. However a latch has been installed to secure the entry door.

Evaluated by: Patrick McCarraher Date:08/14/2012

George Bongart 08/14/2012

Status: Y ☐ N ☒ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0015** Equipment Class[3] 20

Equipment Description PNL 9-15 AUX INSTR RM

Location: Bldg. U2-CB Floor El. 593 Room, Area 089, Unit 2 Auxiliary 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-2-PNLA-009-0015** Equipment Class[3] 20

Equipment Description PNL 9-15 AUX INSTR RM

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 # 9046). Cabinet has three (3) bays which all have four (4) welds anchoring the cabinets to the sill channel which is welded to embedded steel plates. All four (4) welds in all three (3) bays were observed during the walkdown.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0015** Equipment Class[3] 20

Equipment Description PNL 9-15 AUX INSTR RM

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 cage installed on interior light for fluorescent fixture in bay 2. The current condition has been evaluated. Per the evaluation, the potential falling of the bulb does not pose a significant threat to any relays or wiring connections as they are protected by metal features inside the cabinet.

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-2-PNLA-009-0015** Equipment Class[3] 20

Equipment Description PNL 9-15 AUX INSTR RM

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 is one (1) rugged unit with multiple bay doors. The panel is bolted to adjacent panels which will prohibit bays from interacting with each other in 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-2-PNLA-009-0015** Equipment Class[3] 20

Equipment Description PNL 9-15 AUX INSTR RM

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-2-PNLA-009-0017** Equipment Class[3] 20

Equipment Description PNL 9-17 AUX INSTR RM

Location: Bldg. U2-CB Floor El. 593 Room, Area 089, U2 Auxiliary 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-2-PNLA-009-0017** Equipment Class[3] 20

Equipment Description PNL 9-17 AUX INSTR RM

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 # 9047, 9046).

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0017** Equipment Class[3] 20

Equipment Description PNL 9-17 AUX INSTR RM

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-2-PNLA-009-0017** Equipment Class[3] 20

Equipment Description PNL 9-17 AUX INSTR RM

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 ofmultiple bays that are all adequately bolted together which will prevent the bays from interacting with each other in 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-2-PNLA-009-0017** Equipment Class[3] 20

Equipment Description PNL 9-17 AUX INSTR RM

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-2-PNLA-009-0032** Equipment Class[3] 20

Equipment Description CS & HPCI (CHA) PNLA 9-32

Location: Bldg. U2-CB Floor El. 593 Room, Area 089, U2 Auxiliary 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-2-PNLA-009-0032** Equipment Class[3] 20

Equipment Description CS & HPCI (CHA) PNLA 9-32

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 # 9046, 9059)

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PNLA-009-0032** Equipment Class[3] 20

Equipment Description CS & HPCI (CHA) PNLA 9-32

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-2-PNLA-009-0032** Equipment Class[3] 20

Equipment Description CS & HPCI (CHA) PNLA 9-32

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-2-PNLA-009-0032** Equipment Class[3] 20

Equipment Description CS & HPCI (CHA) PNLA 9-32

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-2-PNLA-009-0081** Equipment Class[3] 20

Equipment Description BFN-2-PNLA-009-0081, PANEL 9-81-AUX INSTR ROOM

Location: Bldg. U2 CB Floor El. 593 Room, Area 089, Unit 2 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 ☒

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-2-PNLA-009-0081** Equipment Class[3] 20

Equipment Description BFN-2-PNLA-009-0081, PANEL 9-81-AUX INSTR ROOM

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-2-PNLA-009-0081** Equipment Class[3] 20

Equipment Description BFN-2-PNLA-009-0081, PANEL 9-81-AUX INSTR ROOM

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 ☐

Another cabinet is nearby the panel however distance between cabinets was judged to be sufficient to avoid seismic interaction.

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-2-PNLA-009-0081** Equipment Class[3] 20

Equipment Description BFN-2-PNLA-009-0081, PANEL 9-81-AUX INSTR ROOM

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-2-PNLA-009-0081** Equipment Class[3] 20

Equipment Description BFN-2-PNLA-009-0081, PANEL 9-81-AUX INSTR ROOM

Comments (Additional pages may be added as necessary)

Evaluated by: Nicholas Pressler Date:07/19/2012

Jason Black 07/19/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-TE-064-0161B** Equipment Class[3] 19

Equipment Description BFN-2-TE-064-0161B, TORUS WATER TEMP ELEMENT

Location: Bldg. U2 RB Floor El. 519 Room, Area 126, UNIT 2 UNDER 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-2-TE-064-0161B** Equipment Class[3] 19

Equipment Description BFN-2-TE-064-0161B, TORUS WATER TEMP ELEMENT

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-2-TE-064-0161B** Equipment Class[3] 19

Equipment Description BFN-2-TE-064-0161B, TORUS WATER TEMP ELEMENT

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-2-TE-064-0161B** Equipment Class[3] 19

Equipment Description BFN-2-TE-064-0161B, TORUS WATER TEMP ELEMENT

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-2-TE-064-0161B** Equipment Class[3] 19

Equipment Description BFN-2-TE-064-0161B, TORUS WATER TEMP ELEMENT

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:10/18/2012

Jason Black 10/18/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-TE-064-0161C** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

Location: Bldg. U2-RB Floor El. 519 Room, Area 126, UNIT 2 UNDER 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-2-TE-064-0161C** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

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-2-TE-064-0161C** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

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-2-TE-064-0161C** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

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-2-TE-064-0161C** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:10/18/2012

Jason Black 10/18/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-TE-064-0162B** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

Location: Bldg. U2-RB Floor El. 519 Room, Area 126, UNIT 2 UNDER 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-2-TE-064-0162B** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

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-2-TE-064-0162B** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

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-2-TE-064-0162B** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

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-2-TE-064-0162B** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

Comments (Additional pages may be added as necessary)

Evaluated by: Jeff Lawrence Date:10/18/2012

Jason Black 10/18/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-TE-064-0162C** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

Location: Bldg. U2-RB Floor El. 519 Room, Area 126, UNIT 2 UNDER TORUS

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

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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-2-TE-064-0162C** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

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-2-TE-064-0162C** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

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-2-TE-064-0162C** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

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-2-TE-064-0162C** Equipment Class[3] 19

Equipment Description TORUS WATER TEMP ELEMENT

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-2-TNK-063-0583** Equipment Class[3] 21

Equipment Description Standby Liquid Control Storage Tank

Location: Bldg. RB-U2 Floor El. 639 Room, Area 004, 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-2-TNK-063-0583** Equipment Class[3] 21

Equipment Description Standby Liquid Control Storage 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 ☐

Anchorage verified per drawing 41N1063 RA.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-TNK-063-0583** Equipment Class[3] 21

Equipment Description Standby Liquid Control Storage Tank

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-2-TNK-063-0583** Equipment Class[3] 21

Equipment Description Standby Liquid Control Storage 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☐

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-2-TNK-063-0583** Equipment Class[3] 21

Equipment Description Standby Liquid Control Storage Tank

Comments (Additional pages may be added as necessary)

No tag present on tank. The tank has been recognized by the name print "SLC Storage Tank" on the shell of the tank. Location Verified by drawing 0-47W600-56.

Evaluated by: Jeff Lawrence Date:07/18/2012

Avinash Chunduri 07/18/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-TNK-085-0901** Equipment Class[3] 21

Equipment Description SCRAM DISCHARGE INSTRUMENT VOLUME (WEST)

Location: Bldg. U2-RB Floor El. 565 Room, Area 035, Scram Valve Area West Bank

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-2-TNK-085-0901** Equipment Class[3] 21

Equipment Description SCRAM DISCHARGE 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 ☒

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-TNK-085-0901** Equipment Class[3] 21

Equipment Description SCRAM DISCHARGE 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-2-TNK-085-0901** Equipment Class[3] 21

Equipment Description SCRAM DISCHARGE 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☐

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-2-TNK-085-0901** Equipment Class[3] 21

Equipment Description SCRAM DISCHARGE INSTRUMENT VOLUME (WEST)

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:07/30/2012

Patrick McCarraher 07/30/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-TNK-085-0902** Equipment Class[3] 21

Equipment Description SCRAM DISCHARGE INSTRUMENT VOLUME (EAST)

Location: Bldg. U2-RB Floor El. 565 Room, Area 011, Scram Valve Area East Side

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-2-TNK-085-0902** Equipment Class[3] 21

Equipment Description SCRAM DISCHARGE 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 ☒

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-TNK-085-0902** Equipment Class[3] 21

Equipment Description SCRAM DISCHARGE 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-2-TNK-085-0902** Equipment Class[3] 21

Equipment Description SCRAM DISCHARGE 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☐

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-2-TNK-085-0902** Equipment Class[3] 21

Equipment Description SCRAM DISCHARGE INSTRUMENT VOLUME (EAST)

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:07/30/2012

Patrick McCarraher 07/30/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-231-TS2A** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TS2A

Location: Bldg. U2-RB Floor El. 621 Room, Area 003, LPCI Generator Area

Manufacturer, Model, Etc. (optional but recommended) BBC Brown Boverii

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-2-XFA-231-TS2A** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TS2A

Anchorage (Continued)

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

Bolts have been painted. Paint in good condition

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-2-XFA-231-TS2A** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TS2A

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 located to approximately three feet to the right of the transformer is in good repair with no visible cracks or signs of degradation. A-46 has been consulted, masonry wall has been determined to be adequate, refer to drawing 41N1201-1.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-231-TS2A** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TS2A

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-2-XFA-231-TS2A** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TS2A

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:07/18/2012

Patrick McCarraher 07/18/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-231-TS2B** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TS2B

Location: Bldg. U2-RB Floor El. 621 Room, Area 003, LPCI Generator Area

Manufacturer, Model, Etc. (optional but recommended) BBC Brown Boveri

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-2-XFA-231-TS2B** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TS2B

Anchorage (Continued)

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

Bolts have been painted. Paint in good condition

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-2-XFA-231-TS2B** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TS2B

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 located approximately three feet to the left is in good repair with no visible cracks or signs of degradation. A-46 was consulted, masonry wall has been determined to be seismically adequate per drawing 41N1201-1.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-231-TS2B** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TS2B

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-2-XFA-231-TS2B** Equipment Class[3] 4

Equipment Description 4KV/480V XFMR TS2B

Comments (Additional pages may be added as necessary)

Evaluated by: George Bongart Date:07/18/2012

Patrick McCarraher 07/18/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-253-0002A1** Equipment Class[3] 4

Equipment Description I&C BUS 2A 480/208-120V TRANSFORMER

Location: Bldg. U2 RB Floor El. 621 Room, Area 022, Electrical Board Room 2A

Manufacturer, Model, Etc. (optional but recommended) Square D Company (Sorgel Transformers)

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-2-XFA-253-0002A1** Equipment Class[3] 4

Equipment Description I&C BUS 2A 480/208-120V TRANSFORMER

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 verified per A-46 SEWS (SSEL # 9006) and Sorgel Transformers Vendor Drawing Number A-111117

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-253-0002A1** Equipment Class[3] 4

Equipment Description I&C BUS 2A 480/208-120V TRANSFORMER

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 ☐

Overhead ceiling lights may fall on transformer during a seismic event but this is not a potential seismic concern based on the fact that the equipment is not sensitive.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-253-0002A1** Equipment Class[3] 4

Equipment Description I&C BUS 2A 480/208-120V TRANSFORMER

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-2-XFA-253-0002A1** Equipment Class[3] 4

Equipment Description I&C BUS 2A 480/208-120V TRANSFORMER

Comments (Additional pages may be added as necessary)

Equipment tag was not available and equipment was confirmed using plant documentation.

Evaluated by: Avinash Chunduri Date:07/19/2012

Jeff Lawrence 07/19/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-253-0002A2** Equipment Class[3] 4

Equipment Description I&C BUS 2A REGULATING TRANSFORMER

Location: Bldg. U2 RB Floor El. 621 Room, Area 022, Electrical Board Room 2A

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-2-XFA-253-0002A2** Equipment Class[3] 4

Equipment Description I&C BUS 2A REGULATING TRANSFORMER

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-2-XFA-253-0002A2** Equipment Class[3] 4

Equipment Description I&C BUS 2A REGULATING TRANSFORMER

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 ☐

Overhead ceiling lights may fall on the transformer during a seismic event but this is not a potential seismic concern based on the fact that equipment is not sensitive.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-253-0002A2** Equipment Class[3] 4

Equipment Description I&C BUS 2A REGULATING TRANSFORMER

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-2-XFA-253-0002A2** Equipment Class[3] 4

Equipment Description I&C BUS 2A REGULATING TRANSFORMER

Comments (Additional pages may be added as necessary)

Evaluated by: Avinash Chunduri Date:07/19/2012

Jeff Lawrence 07/19/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-253-0002B1** Equipment Class[3] 4

Equipment Description I&C BUS 1B 480/208-120V TRANSFORMER

Location: Bldg. U2 RB Floor El. 593' Room, Area 021, Electrical Board Room 2B

Manufacturer, Model, Etc. (optional but recommended) Square D Company (Sorgel Transformers)

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-2-XFA-253-0002B1** Equipment Class[3] 4

Equipment Description I&C BUS 1B 480/208-120V TRANSFORMER

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 verified per A-46 SEWS (SSEL # 9006, 9008) and Sorgel Transformers Vendor Drawing Number A-111117.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-253-0002B1** Equipment Class[3] 4

Equipment Description I&C BUS 1B 480/208-120V TRANSFORMER

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 ☐

Overhead ceiling lights may fall on transformer during a seismic event but this is not a potential concern based on the fact that equipment is not sensitive. .

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-253-0002B1** Equipment Class[3] 4

Equipment Description I&C BUS 1B 480/208-120V TRANSFORMER

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-2-XFA-253-0002B1** Equipment Class[3] 4

Equipment Description I&C BUS 1B 480/208-120V TRANSFORMER

Comments (Additional pages may be added as necessary)

Equipment tag not found. The transformer was identified based of the information from plant documentation & manufacturers information.

Evaluated by: Avinash Chunduri Date:07/19/2012

Jeff Lawrence 07/19/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-253-0002B2** Equipment Class[3] 4

Equipment Description I&C BUS 2B REGULATING TRANSFORMER

Location: Bldg. U2 RB Floor El. 593' Room, Area 021, Electrical Board Room 2B

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-2-XFA-253-0002B2** Equipment Class[3] 4

Equipment Description I&C BUS 2B REGULATING TRANSFORMER

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-2-XFA-253-0002B2** Equipment Class[3] 4

Equipment Description I&C BUS 2B REGULATING TRANSFORMER

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 ☐

Overhead ceiling lights may fall on transformer during a seismic event but this is not a potential seismic concern based on the fact that the equipment is not sensitive.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XFA-253-0002B2** Equipment Class[3] 4

Equipment Description I&C BUS 2B REGULATING TRANSFORMER

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-2-XFA-253-0002B2** Equipment Class[3] 4

Equipment Description I&C BUS 2B REGULATING TRANSFORMER

Comments (Additional pages may be added as necessary)

Evaluated by: Avinash Chunduri Date:07/19/2012

Jeff Lawrence 07/19/2012

Status: Y ☒ N ☐ U ☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XSW-248-0002A** Equipment Class[3] 14

Equipment Description 250V MAIN BATTERY CHARGER OUTPUT XFR SW 2A

Location: Bldg. U2-CB Floor El. 593 Room, Area 066, BATT BOARD RM 2, SOUTH WALL

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 verify if there are any problems.Internal anchorage inaccessible because extensive disassembly is required to enter the charger. the charger 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-2-XSW-248-0002A** Equipment Class[3] 14

Equipment Description 250V MAIN BATTERY CHARGER OUTPUT XFR SW 2A

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-2-XSW-248-0002A** Equipment Class[3] 14

Equipment Description 250V MAIN BATTERY CHARGER OUTPUT XFR SW 2A

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 ☐

Loose cart in front of the switch panel can move easily, this is not a concern because the soft targets are located above where the cart can make contact.

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. Reference drawing 41N201-1 walls 9 and 10.

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-XSW-248-0002A** Equipment Class[3] 14

Equipment Description 250V MAIN BATTERY CHARGER OUTPUT XFR SW 2A

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-2-XSW-248-0002A** Equipment Class[3] 14

Equipment Description 250V MAIN BATTERY CHARGER OUTPUT XFR SW 2A

Comments (Additional pages may be added as necessary)

TVA AUO called appropriate parties to have cart moved immediately after inspection..

Evaluated by: Patrick McCarraher Date:08/03/2012

George Bongart 08/03/2012

Appendix F: AWCs

The following signatures are provided for the engineers responsible for the Area Walk-By Checklists in Browns Ferry Unit 2.

Name	Signature	Date
Jason Black	Jason Black	11-15-12
George Bongart	George Bongart	11-14-12
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 ☐

0-CB-EL593-002

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593' Area[4] Mechanical Equipment 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 ☐

In general, environment in mechanical equipment room is wet and mild surface corrossion exists on several anchors in area; however, no potential adverse seismic conditions exist. Found broken anchor bolt on floor (~ 1/2" size) but the purpose of the anchor is unknown.

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-EL593-002

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593' Area[4] Mechanical Equipment 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-EL593-002

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593' Area[4] Mechanical Equipment 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 ☐

General housekeeping concerns exist. Equipment lagging, tools, drinking cups present in area. Portable eyewash station located in area and is not bolted down or secured by any means. Eyewash station is in close proximity (~2-3 feet) to electrical equipment. Engineering has been notified and the eyewash station was moved to a different location. .

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-EL593-002

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593' Area[4] Mechanical Equipment Room

Comments (Additional pages may be added as necessary)

Two main issues were documented and have proven not to be potential seismic conditions. The pipe from the air compressor tank was connected to the wall (rigid), but since the piping is interconnected the differential movements between the pipe and the valve will not be expected. Also, the tank appears to be anchored to the floor. The nozzle of the tank provides a rigid anchor point for the piping which would limit the movement.
This area walk-by was performed for the following pieces of equipment:
BFN-0-AHU-031-0089

Evaluated by:Avinash Chundurii Date:07/18/2012

Jeff Lawrence 07/18/2012

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-EL617-001

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 617 Area[4] Mechanical Equipment 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-EL617-001

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 617 Area[4] Mechanical Equipment 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-EL617-001

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 617 Area[4] Mechanical Equipment 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-CB-EL617-001

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 617 Area[4] Mechanical Equipment Room

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-by Checklist:

BFN-0-AHU-031-0082

Evaluated by:George Bongart Date:7/17/2012

Patrick McCarraher 7/17/2012

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-EL565-007

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 565 Area[4] Diesel Generator Room C

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-EL565-007

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 565 Area[4] Diesel Generator Room C

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-EL565-007

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 565 Area[4] Diesel Generator Room C

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-EL565-007

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 565 Area[4] Diesel Generator Room C

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-by Checklist:
BFN-0-BATB-254-0000C
BFN-0-BDGG-254-0000C
BFN-0-CHGB-254-0000CB
BFN-0-GEN-082-000C

UPDATE 7/25/2012: The area was revisted for components BFN-0-GEN-082-000C & BFN-0-BDGG-254-0000C; there were no new adverse conditions to report.

Evaluated by:George Bongart Date:7/19/2012

Patrick McCarraher 7/19/2012

Status: Y ☒ N ☐ U ☐

0-DG-EL565-008

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 565 Area[4] Diesel Generator Room D

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-EL565-008

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 565 Area[4] Diesel Generator Room D

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-EL565-008

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 565 Area[4] Diesel Generator Room D

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-EL565-008

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 565 Area[4] Diesel Generator Room D

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-by Checklist:
BFN-0-BATB-254-0000D
BFN-0-CHGB-254-0000DB
BFN-0-GEN-082-000D
BFN-0-BDGG-254-0000D
BFN-0-TNK-086-0657D

UPDATE 7/25/2012: The area was revisted for components BFN-0-BDGG-254-0000D & BFN-0-GEN-082-000D; no adverse seismic conditions were found during the revisit.

Evaluated by:George Bongart Date:7/19/2012

Patrick McCarraher 7/19/2012

Status: Y ☒ N ☐ U ☐

0-DG-EL583-019

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 583' Area[4] Fan Room D

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-EL583-019

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 583' Area[4] Fan Room D

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 ☐

Duct overhead (from outlet of battery exhaust hood fan) is supported by rod hangers and is laterally braced from concrete walls

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 ☐

No fire protection or other liquid service lines in area

0-DG-EL583-019

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 583' Area[4] Fan Room D

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-EL583-019

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 583' Area[4] Fan Room D

Comments (Additional pages may be added as necessary)

This Area Walk-by was performed for the following UNIDs:
BFN-0-FAN-030-0070
BFN-0-FAN-030-0071

Evaluated by:Jeff Lawrence Date:7/25/2012

Avinash Chunduri 7/25/2012

Status: Y ☒ N ☐ U ☐

0-DG-EL583-020

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 583' Area[4] Fan Room C

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-EL583-020

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 583' Area[4] Fan Room C

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 ☐

Duct overhead (from outlet of battery exhaust hood fan) is supported by rod hangers and is laterally braced from concrete walls

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 ☐

No fire protection or other liquid service lines in area

0-DG-EL583-020

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 583' Area[4] Fan Room C

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-EL583-020

Area Walk-By Checklist (AWC)

Location: Bldg. DG Floor El. 583' Area[4] Fan Room C

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following UNIDs:
BFN-0-FAN-030-0068
BFN-0-FAN-030-0069
BFN-0-FCO-030-0069A

Evaluated by:Jeff Lawrence Date:7/25/2012

Avinash Chunduri 7/25/2012

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-EL565-015 Status: Y ☒ N ☐ U ☐

Area Walk-By Checklist (AWC)

Location: Bldg. YD Floor El. 565 Area[4] Vaporizer Tank A 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. YD Floor El. 565 Area[4] Vaporizer Tank A 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. YD Floor El. 565 Area[4] Vaporizer Tank A 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 ☐

No flamable material near Nitrogen tank.

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. YD Floor El. 565 Area[4] Vaporizer Tank A Area

Comments (Additional pages may be added as necessary)

South access building CMU wall is in close proximity to the tank, but this will not create a potentially adverse seismic condition.

Equipment associated with this AWC:

BFN-0-VPR-084-0639
BFN-0-TNK-084-0635.

Evaluated by:Avinash Chunduri Date:07/25/2012

Patrick McCarraher 07/25/2012

0-YD-EL565-016 Status: Y ☒ N ☐ U ☐

Area Walk-By Checklist (AWC)

Location: Bldg. YD Floor El. 565 Area[4] Vaporizer Tank 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 ☒

[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. YD Floor El. 565 Area[4] Vaporizer Tank 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 ☐

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. YD Floor El. 565 Area[4] Vaporizer Tank 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 ☐

No flamable material near Nitrogen tank.

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. YD Floor El. 565 Area[4] Vaporizer Tank B Area

Comments (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-0-VPR-084-0640
BFN-0-TNK-084-0636

Evaluated by:Avinash Chunduri Date:07/25/2012

Patrick McCarraher 07/25/2012

0-YD-EL565-017 Status: Y ☒ N ☐ U ☐

Area Walk-By Checklist (AWC)

Location: Bldg. Intake Floor El. 565 Area[4] RHRSW Pump 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 ☐

The concrete foundation for strainer 0-STN-067-0926 is found to be cracked. Based on loading of anchorage & existing conditions, this does not present a potential adverse seismic condition. Refer to the SWC for 0-STN-067-0926.

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

Mild corrosion 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.

Area Walk-By Checklist (AWC)

Location: Bldg. Intake Floor El. 565 Area[4] RHRSW Pump 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. Intake Floor El. 565 Area[4] RHRSW Pump 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. Intake Floor El. 565 Area[4] RHRSW Pump Room B

Comments (Additional pages may be added as necessary)

Strainer foundation cracks observed. See #1.

Equipment associated with this AWC:

BFN-0-STN-067-0926
BFN-0-PMP-023-0088

Evaluated by:Avinash Chunduri Date:07/25/2012

Nick Pressler 07/25/2012

0-YD-EL565-018 Status: Y ☒ N ☐ U ☐

Area Walk-By Checklist (AWC)

Location: Bldg. Intake Floor El. 565 Area[4] RHRSW Pump Room C

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 ☐

A loose grout pad and empty base plate were noted on the pipe support confirguration for the discharge pipe of pump C3. It was discussed with BFN engineering, and determined that the piping is Cat 1; as such it is outside the scope of this program due to its regular inspection. Also, supports and anchorage are severely corroded for heat trace system 0-TS-23-72A-5, 0-TS-23-72B-5. The heat trace system has been verified to be not safety related & not seismic Cat I and engineering has been made aware of the condition of the equipment - this does not result in a potentially adverse seismic condition.

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

Cracks in grout of platform that is bolted by 6 legs into concrete. Crack is credible but not significant based on 4 legs being anchored properly and relatively light weight of platform structure (~500 lbs).

[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 Pump Room C

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 Pump Room C

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 ☐

Insulation missing on piping and heat trace is exposed, not a seismic concern.

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 Pump Room C

Comments (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-0-STN-067-0927
BFN-0-PMP-023-0012

Evaluated by:Jeff Lawrence Date:07/25/2012

Nick Pressler 07/25/2012

Status: Y ☒ N ☐ U ☐

2-CB-EL593-066

Area Walk-By Checklist (AWC)

Location: Bldg. U2-CB Floor El. 593 Room, Area[4] BATTERY BOARD ROOM 2

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.

2-CB-EL593-066

Area Walk-By Checklist (AWC)

Location: Bldg. U2-CB Floor El. 593 Room, Area[4]BATTERY BOARD ROOM 2

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 ☐

2-CB-EL593-066

Area Walk-By Checklist (AWC)

Location: Bldg. U2-CB Floor El. 593 Room, Area[4]BATTERY BOARD ROOM 2

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 ☐

Unsecured cart present in front of transfer switch panel, this cart cannot do any damage to the switch if a collision occured.

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 ☐

2-CB-EL593-066

Area Walk-By Checklist (AWC)

Location: Bldg. U2-CB Floor El. 593 Room, Area[4] BATTERY BOARD ROOM 2

Comments (Additional pages may be added as necessary)

TVA AUO informed appropriate parties about the cart who were going to come out right away to move and secure the cart.

Equipment Associated with this Area Walk-by Checklist:
BFN-0-XSW-248-0002A

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

Patrick McCarraher 8/3/2012

Status: Y ☒ N ☐ U ☐

2-CB-EL593-089

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593 Area[4] AUX INSTRUMENT ROOM

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.

2-CB-EL593-089

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 ☐

There is a coil of what appears to be spare cable resting on a cable tray above panel. tray system is well supported and braced, coil may be zipped to tray unable to verify from ground. No adverse condition present.

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 ☐

2-CB-EL593-089

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 ☐

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 ☐

2-CB-EL593-089

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593 Area[4] AUX INSTRUMENT ROOM

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following pieces of equipment. BFN-2-FAN-071-0601, BFN-2-PNLA-009-0081

Evaluated by:Nicholas Pressler Date:7/19/2012

Jason Black 7/19/2012

Status: Y ☒ N ☐ U ☐

2-CB-EL593-090

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593 Area[4] BATTERY 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.

2-CB-EL593-090

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593 Area[4] BATTERY 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 ☐

2-CB-EL593-090

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593 Area[4] BATTERY 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 ☐

2-CB-EL593-090

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593 Area[4] BATTERY ROOM

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following pieces of equipment. BFN-0-BATA-248-0002

Evaluated by:Nicholas Pressler Date:7/19/2012

Jason Black 7/19/2012

Status: Y ☒ N ☐ U ☐

2-CB-EL593-091

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593 Area[4] BATTERY 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.

2-CB-EL593-091

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593 Area[4] BATTERY 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 ☐

2-CB-EL593-091

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593 Area[4] BATTERY 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 ☐

2-CB-EL593-091

Area Walk-By Checklist (AWC)

Location: Bldg. CB Floor El. 593 Area[4] BATTERY BOARD ROOM

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following pieces of equipment.
BFN-2-CHGA-248-0002A
BFN-0-BDDD-280-0002

Evaluated by:Nicholas Pressler Date:7/19/2012

Jason Black 7/19/2012

Status: Y ☒ N ☐ U ☐

2-CB-EL617-067

Area Walk-By Checklist (AWC)

Location: Bldg. U2-CB Floor El. 617 Room, Area[4] Electric Board Room 2A

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.

2-CB-EL617-067

Area Walk-By Checklist (AWC)

Location: Bldg. U2-CB Floor El. 617 Room, Area[4]Electric Board Room 2A

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 ☐

2-CB-EL617-067

Area Walk-By Checklist (AWC)

Location: Bldg. U2-CB Floor El. 617 Room, Area[4]Electric Board Room 2A

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 ☐

2-CB-EL617-067

Area Walk-By Checklist (AWC)

Location: Bldg. U2-CB Floor El. 617 Room, Area[4] Electric Board Room 2A

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-by Checklist:
BFN-2-PNLA-248-0000C
BFN-2-PNLA-248-0000D
BFN-2-BDBB-268-0002A

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

Patrick McCarraher 8/3/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL519-012

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] RHR Pump 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 ☐

Minor chipped paint and surface corrosion present on a base plate.

[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.

2-RB-EL519-012

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] RHR Pump 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 ☐

2-RB-EL519-012

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] RHR Pump 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 anchored to wall securely at three points.

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 ☐

2-RB-EL519-012

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] RHR Pump Area

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-by Checklist:
BFN-2-PMP-074-0005
BFN-2-PMP-074-0016
BFN-2-FCV-074-0001

Evaluated by:George Bongart Date:7/20/2012

Patrick McCarraher 7/20/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL519-013

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] 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 ☐

Dry area. Anchorage in good condition.

[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.

2-RB-EL519-013

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] 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 ☐

Raceways and HVAC in good condition.

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 ☐

2-RB-EL519-013

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] 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 ☐

Few rags in the area and some insulation is present up against the wall. These items do not present a fire hazard.

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 are secured properly, insulation in corner, rags against wall. Metal pipe in floor and is not connected to anything. Pipe should be secured or removed from area; however, does not present a potentially adverse seismic 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 ☐

2-RB-EL519-013

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] HPCI Room

Comments (Additional pages may be added as necessary)

This area walk-by includes the following equipment: BFN-2-PMP-073-0029, BFN-2-PMP-073-0047

Evaluated by:Jason Black Date:7/20/2012

Jeff Lawrence 7/20/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL519-014

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] NE 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 ☐

Grating clipped down on platform, anchorage not missing

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

Anchorage in good condition

[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.

2-RB-EL519-014

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] NE 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 ☐

2-RB-EL519-014

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] NE 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 ☐

Found contaminated material bags under stairs. Bucket w/ water near phone. None result in potential adverse seismic 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 ☐

2-RB-EL519-014

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] NE Quad

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following UNIDs:
BFN-2-PMP-075-0033
BFN-2-PMP-075-0042
BFB-2-LPNL-925-0060

Evaluated by:Jason Black Date:7/20/2012

Jeff Lawrence 7/20/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL519-037

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.

2-RB-EL519-037

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 ☐

Duct supported well in area. Concuit properly supported by rod hangers & lateral 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 ☐

2-RB-EL519-037

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 ☐

Ladder in area properly tied off, pipe in area properly chained to wall

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 ☐

2-RB-EL519-037

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] NW QUAD

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following pieces of equipment:
BFN-2-FCV-075-0022
BFN-2-LPNL-925-0001

Evaluated by:Jeff Lawrence Date:07/30/2012

Jason Black 07/30/2012

2-RB-EL519-126 Status: Y ☒ N ☐ U ☐

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 519 Area[4] UNIT 2 UNDER 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] UNIT 2 UNDER 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] UNIT 2 UNDER 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] UNIT 2 UNDER TORUS

Comments (Additional pages may be added as necessary)

EQUIPMENT ASSOCIATED WITH THIS AWC

BFN-2-TE-064-0161B
BFN-2-TE-064-0161C
BFN-2-TE-064-0162B
BFN-2-TE-064-0162C

Evaluated by:Jeff Lawrence Date:10/18/2012

Jason Black 10/18/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL541-038

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 541 Area[4] NE 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.

2-RB-EL541-038

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 541 Area[4] NE 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 ☐

2-RB-EL541-038

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 541 Area[4] NE 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 ☐

2-RB-EL541-038

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 541 Area[4] NE QUAD

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following pieces of equipment:
BFN-2-FCV-075-0037

Evaluated by:Jeff Lawrence Date:7/30/2012

Jason Black 7/30/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL541-096

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 541 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.

2-RB-EL541-096

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 541 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 ☐

No raceways, HVAC supported

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, lights have screw in bulbs.

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 ☐

2-RB-EL541-096

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 541 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 ☐

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 ☐

2-RB-EL541-096

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 541 Area[4] SW QUAD

Comments (Additional pages may be added as necessary)

Area walk-by performed for the following equipment:
BFN-2-CLR-064-070
BFN-2-CLR-064-068

Evaluated by:Jeff Lawrence Date:8/9/2012

Jason Black 8/9/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL565-009

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 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.

2-RB-EL565-009

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 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 ☐

Swinging jib crane could hit the equipment in the area, however it is chained to an anchored support with a lock to prevent swinging.

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 ☐

2-RB-EL565-009

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 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 ☐

2-RB-EL565-009

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] SE Quad

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-by Checklist:
BFN-2-FCV-064-0020
BFN-2-FCV-064-0021

Evaluated by:George Bongart Date:7/20/2012

Patrick McCarraher 7/20/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL565-010

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 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.

2-RB-EL565-010

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 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 ☐

Cable trays in area have available margin in fill capacity

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 ☐

Overhead lighting is screw-in type, no ceiling tiles present in building 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 ☐

2-RB-EL565-010

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 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 ☐

Ladders are secured properly to scaffold hooks. Flashlight left in area approximately 5 ft above finished floor - no potential seismic concerns, no soft targets in area. Gas cylinders & temporary stairs properly secured to wall.

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 ☐

2-RB-EL565-010

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] NW Quad

Comments (Additional pages may be added as necessary)

Limits of area walkby extend from Column R-9, R line to Reactor Building wall (R-9, N-line). This area walk-by includes the following equipment: BFN-2-FCV-064-0032, BFN-2-FCV-064-0033

Evaluated by:.Jeff Lawrence Date:7/20/2012

Jason Black 7/20/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL565-011

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Scram Valve Area East Side

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.

2-RB-EL565-011

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Scram Valve Area East Side

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 ☐

2-RB-EL565-011

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Scram Valve Area East Side

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 ☐

Extension chord present with incorporated GFI.

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 ☐

2-RB-EL565-011

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Scram Valve Area East Side

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-by Checklist:
BFN-2-FCV-085-39A-0219
BFN-2-FCV-085-39A-0227
BFN-2-TNK-085-0902

UPDATE 7/30/2012:
This site was revisted for another set of seismic walkdowns, the area is in the same condition before with no new notes.

Evaluated by:George Bongart Date:7/20/2012

Patrick McCarraher 7/20/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL565-035

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Scram Valve Area West Side

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.

2-RB-EL565-035

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Scram Valve Area West Side

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 ☐

2-RB-EL565-035

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Scram Valve Area West Side

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 ☐

2-RB-EL565-035

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Scram Valve Area West Side

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-by Checklist:
BFN-2-PMP-076-0110
BFN-2-TNK-085-0901
BFN-2-BDDD-281-0002C

Evaluated by:Patrick McCarraher Date:7/30/2012

George Bongart 7/30/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL565-040

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Scram Dump Valves N/R12

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.

2-RB-EL565-040

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Scram Dump Valves N/R12

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 ☐

2-RB-EL565-040

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Scram Dump Valves N/R12

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 ☐

2-RB-EL565-040

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Scram Dump Valves N/R12

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-by Checklist:
BFN-2-FSV-085-0037A
BFN-2 -FSV-085-0037B

Evaluated by:Patrick McCarraher Date:7/30/2012

George Bongart 7/30/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL565-041

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Elevator/Stairs Door 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.

2-RB-EL565-041

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Elevator/Stairs Door 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 ☐

Camera located above valve 2-FCV-023-0034, no soft targets in swing path.

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 ☐

2-RB-EL565-041

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Elevator/Stairs Door 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 ☐

2-RB-EL565-041

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] Elevator/Stairs Door Area

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-by Checklist:
BFN-2-FCV-023-0034
BFN-2-FCV-023-0040

Evaluated by:George Bongart Date:7/30/2012

Patrick McCarraher 7/30/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL565-109

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] R14-R12, R-U

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.

2-RB-EL565-109

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] R14-R12, R-U

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 ☐

2-RB-EL565-109

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] R14-R12, R-U

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 ☐

2-RB-EL565-109

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 565 Area[4] R14-R12, R-U

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following pieces of equipment. 2-BDBB-268-0002C

Evaluated by:Jeff Lawrence Date:8/10/2012

Jason Black 8/10/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL593-021

Area Walk-By Checklist (AWC):

Location: Bldg. RB Floor El. 593' Area[4] Electrical Board Room 2B

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 ☐

Very dry environment. No adverse conditions observed for anchorage in room.

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.

2-RB-EL593-021

Area Walk-By Checklist (AWC):

Location: Bldg. RB Floor El. 593' Area[4] Electrical Board Room 2B

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 duct in close proximity to the 4kV electrical shutdown board synchronizing panel. Ductwork is braced with steel to prevent lateral movement and ductwork is wrapped with soft insulation. Impact between panel and ductwork to be very minor and not a credible seismic concern..

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 ☐

Fluorescent light fixtures in room have compression fittings. These were judged to be adequate in the A-46 walkdown since they were far enough away to not cause a seismic interaction concern.

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 ☐

2-RB-EL593-021

Area Walk-By Checklist (AWC):

Location: Bldg. RB Floor El. 593' Area[4] Electrical Board Room 2B

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 ☐

2-RB-EL593-021

Area Walk-By Checklist (AWC):

Location: Bldg. RB Floor El. 593' Area[4] Electrical Board Room 2B

Comments (Additional pages may be added as necessary)

"Associated UNID: BFN-2-XFA-253-0002B2; BFN-2-XFA-253-0002B1; BFN-2-INV-256-0001; BFN-2-BDBB-268-0002B; BFN-2-BDBB-281-0002B; BFN-0-BDAA-211-000D.

Evaluated by:Avinash Chunduri Date:7/19/2012

Jeff Lawrence 7/19/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL593-036

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Room, Area[4] COLUMN LINES R-9 to R-11, S to U

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 ☐

Overall very dry and clean environment, no sign of corrosion

[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.

2-RB-EL593-036

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Room, Area[4] COLUMN LINES R-9 to R-11, S to U

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 ☐

2-RB-EL593-036

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Room, Area[4] COLUMN LINES R-9 to R-11, S to U

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 ☐

2-RB-EL593-036

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Room, Area[4] COLUMN LINES R-9 to R-11, S to U

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following pieces of equipment:
BFN-2-LPNL-925-0005A
BFN-2-LPNL-925-0005B
BFN-2-LPNL-925-0005D

Evaluated by:Jeff Lawrence Date:07/30/2012

Jason Black 07/30/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL593-039

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Area[4] RBCCW Heat Exchanger 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 ☐

Fire Protection Pipe support has bolt that is mildly bent. Near 2-26-1129 (A. in P.). Piping and equipment in area is abandonded therefore there is no potentially adverse 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.

2-RB-EL593-039

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Area[4] RBCCW Heat Exchanger 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 ☐

Scaffolding in area is secured to bldg. columns, no potential interactions

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 ☐

2-RB-EL593-039

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Area[4] RBCCW Heat Exchanger 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 ☐

2-RB-EL593-039

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Area[4] RBCCW Heat Exchanger Area

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following UNIDs:
BFN-2-LPNL-925-0006A
BFN-2-LPNL-925-0006D
BFN-2-LPNL-925-0223
BFN-2-FCV-067-0050

Evaluated by:Jeff Lawrence Date:7/30/2012

Jason Black 7/30/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL593-108

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Area[4] R11-R13, S-U

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.

2-RB-EL593-108

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Area[4] R11-R13, S-U

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 ☐

2-RB-EL593-108

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Area[4] R11-R13, S-U

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 ☐

2-RB-EL593-108

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Area[4] R11-R13, S-U

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following pieces of equipment. 2-BDBB-268-0002D

Evaluated by:Jeff Lawrence Date:8/10/2012

Jason Black 8/10/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL593-119

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Area[4] Electric Board Room 2B

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.

2-RB-EL593-119

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Area[4] Electric Board Room 2B

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 ☐

2-RB-EL593-119

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Area[4] Electric Board Room 2B

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 ☐

2-RB-EL593-119

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 593 Area[4] Electric Board Room 2B

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following pieces of equipment:
BFN-2-BDBB-231-0002B

Evaluated by:Jeff Lawrence Date:8/13/2012

Jason Black 8/13/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL621-003

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Room, Area[4] LPCI Generator 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.

2-RB-EL621-003

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Room, Area[4] LPCI Generator 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 ☐

2-RB-EL621-003

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Room, Area[4] LPCI Generator 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 ☐

2-RB-EL621-003

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Room, Area[4] LPCI Generator Area

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-by Checklist:
BFN-2-XFA-231-TS2A
BFN-2-XFA-231-TS2B
BFN-2-GEN-268-0002DN
BFN-2-GEN-268-0002EA

Evaluated by:George Bongart Date:7/18/2012

Patrick McCarraher 7/18/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL621-022

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Room, Area[4] Electrical Board Room 2A

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 ☐

Lot of electrical cabinets in the area. All of them are anchored properly.

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.

2-RB-EL621-022

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Room, Area[4]Electrical Board Room 2A

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 ☐

Overhead ceiling lights near soft targets. These may pose a concern during a seismic event. TVA engineering team will verify if this will be a concern. Lights are not a potentially adverse seismic condition.

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 ☐

Lots of overhead components; Seismic interactions possible but may not be significant. Per TVA calculation CDQ0303882760, the CMU wall # 104 is hollow core and reinforced. This wall is seismically qualified.

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 ☐

2-RB-EL621-022

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Room, Area[4]Electrical Board Room 2A

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 ☐

All temporary equipment and tools are chained properly.

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 ☐

2-RB-EL621-022

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Room, Area[4] Electrical Board Room 2A

Comments (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-2-XFA-253-0002A2
BFN-2-XFA-253-0002A1

Evaluated by:Avinash Chunduri Date:7/19/2012

Jeffrey Lawrence 7/19/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL621-110

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Area[4] S-U, R8-R10

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.

2-RB-EL621-110

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Area[4] S-U, R8-R10

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 ☐

2-RB-EL621-110

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Area[4] S-U, R8-R10

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 ☐

2-RB-EL621-110

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Area[4] S-U, R8-R10

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following pieces of equipment. 2-BDBB-268-0002E

Evaluated by:Jeff lawrence Date:8/10/2012

Jason Black 8/10/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL621-118

Area Walk-By Checklist (AWC):

Location: Bldg. RB Floor El. 621 Area[4] 480 V Shutdown Board Room 2A

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.

2-RB-EL621-118

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Area[4] 480 V Shutdown Board Room 2A

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 ☐

2-RB-EL621-118

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Area[4] 480 V Shutdown Board Room 2A

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 ☐

Breaker is racked out and against the wall. It is located far enough away to not interact with shutdown board. Operations has been notified to remove breaker from 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 ☐

2-RB-EL621-118

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 621 Area[4] 480 V Shutdown Board Room 2A

Comments (Additional pages may be added as necessary)

This area walk-by includes the following equipment: BFN-2-BDBB-231-0002A

Evaluated by:Jeff Lawrence Date:08/13/2012

Jason Black 08/13/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL639-004

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 ☐

Scaffolding in area secured properly to the wall

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.

2-RB-EL639-004

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 ☐

2-RB-EL639-004

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 ☐

All temporary equipment stored properly

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 ☐

2-RB-EL639-004

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 639' Area[4] SLC AREA

Comments (Additional pages may be added as necessary)

Room heater not tied back directly to the wall but this is not a potential seismic concern
This area walk-by was performed for the following equipment:
BFN-2-PMP-063-0006A
BFN-2-PMP-063-0006B
BFN-2-TNK-063-0583
BFN-2-FCV-063-0008A
BFB-2-FCV-063-0008B

Evaluated by:Jeff Lawrence Date:07/18/2012

Avinash Chunduri 07/18/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL639-005

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 639 Area[4] LPC Generator 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.

2-RB-EL639-005

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 639 Area[4] LPC Generator 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 ☐

2-RB-EL639-005

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 639 Area[4] LPC Generator 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 ☐

2-RB-EL639-005

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 639 Area[4] LPC Generator Area

Comments (Additional pages may be added as necessary)

This area walk-by was performed for the following pieces of equipment:
BFN-2-GEN-268-0002DA
BFN-2-GEN-268-0002EN

Evaluated by:George Bongart Date:7/18/2012

Patrick McCarraher 7/18/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL639-099

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.

2-RB-EL639-099

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 ☐

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 ☐

2-RB-EL639-099

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 ☐

2-RB-EL639-099

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 associated with this Area Walk-by Checklist:
BFN-2-LS-078-0001D
BFN-2-LS-078-0001E
BFN-2-LS-078-0001F
BFN-2-LS-078-0001G

Evaluated by:Patrick McCarraher Date:8/9/2012

George Bongart 8/9/2012

Status: Y ☒ N ☐ U ☐

2-RB-EL639-104

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 639 Area[4] S-U, R8-R11

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 ☐

Lube oil piping is supported from the wall between the lube oil pump skid and motor generator set and consists of knee braces that are bolted to the wall with 2 bolts and a U-bolt attaching the pipe to the support. One support is missing one of the bolts between the support and the wall. Considering that there are 1) proper supports ~ 12 ft up/down stream of the support missing the bolt 2) this system is abandoned and dead load does not include a fluid-filled system 3) there is nothing safety related in the area adjacent to the piping system, this condition has been judged seismically adequate. However, BFN engineering has been made aware of the condition of the pipe support.

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y ☒ N ☐ U ☐ N/A ☐

No degradation 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.

2-RB-EL639-104

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 639 Area[4] S-U, R8-R11

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 were 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 ☐

2-RB-EL639-104

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 639 Area[4] S-U, R8-R11

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 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 ☐

2-RB-EL639-104

Area Walk-By Checklist (AWC)

Location: Bldg. RB Floor El. 639 Area[4] S-U, R8-R11

Comments (Additional pages may be added as necessary)

This area walk-by includes the following equipment: 2-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-02
November 5, 2012

PEER REVIEW REPORT
Browns Ferry Nuclear Plant Unit 2
Near-Term Task Force 2.3 Seismic Walkdowns

A peer review of the Tennessee Valley Authority (TVA) Browns Ferry Nuclear Plant - Unit 2 (BFN2) 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 BFN2 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 BFN2 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 BFN2 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 BFN2 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 BFN2 was used as a starting point for SWEL 1. No seismic PRA has been performed for BFN2 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 BFN2 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 class was made, such as that of equipment class 00 - Others. 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 for all of 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 BFN2 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 BFN2 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. On 250V Reactor MOV Board 2A, the walkdown team noted one missing screw and one loose screw for the sill channel bolts. These potential concerns were previously documented in the USI A-46 Screening Evaluation Work Sheet (SEWS) and seismically verified as-is by calculation, noting that the unit is top braced and that the base sill channel bolts are only required to resist shear loads. A similar assessment was made for 480V Reactor MOV Boards 2B and 2C.
- On the U1 & U2 Main Control Room Air Handling Unit at floor elevation 617 ft., the walkdown team noted that the front right bolts have a slight gap between the bolt and washer. This was discussed at length and evaluated, and the configuration was accepted on the basis that the bolts are tight and are only subjected to shear loads due to low center of gravity and lateral restraint provided by attached chilled water piping. Also on this component, the walkdown team was only able to identify anchor bolts on 3 sides of the equipment base. After considerable deliberation, it was found that the as-is configuration is qualified by an existing design calculation.
- Instances of missing bolts were identified by the walkdown and reviewed and discussed in detail. On the 250V Main Battery 2 rack, the team identified 2 missing bolts on a lower restraint strap. It was determined that the batteries are firmly secured by the upper straps and that the lower strap was not a falling hazard, so the configuration was judged to be acceptable. On the Diesel Generator Room C Exhaust Fan A, one guard cage bolt was noted to be missing but determined to not be significant in regards to seismic capacity due to the many other bolts present. A similar condition of a loose guard cage bolt was accepted on DG Room D Exhaust Fan B.
- During the area walkby on floor elevation 639 ft. of the Reactor Building between column lines S-U and R8-R11, a missing anchor bolt was observed on a pipe support for an abandoned system. This was accepted on the basis that the pipe is empty and there are no safety related equipment items in the area. Similarly in the area walkby on floor elevation 593 ft. in the RBCCW heat exchanger area, the walkdown team observed a slightly bent bolt on a fire protection pipe support. This was accepted as is because all of the piping and equipment in the immediate area is abandoned.
- On the EECW Discharge Strainer B, concrete cracking was noted by the walkdown team near one of the base anchor bolts. Review of the design calculation revealed that the anchor bolt demand loads were less than 10% of the bolt design capacity, so this did not represent a potential adverse seismic condition. A Service Request was issued was so

that the crack would be repaired. On the C Strainer, a spalled concrete edge at a conduit penetration was deemed to be insignificant.

During the area walkby for the Intake Pumping Station floor elevation 565 ft. RHRSW Pump Room C, the walkdown team observed cracking in grout for the base of a lightweight platform. The configuration was accepted on the basis that 4 of the platform legs appeared to be free of any cracks and that the total weight was about only 500 lbs. We concur with these assessments.

- The walkdown team noted instances of visible corrosion and each case was discussed and evaluated in more detail. For the U1 & U2 Mechanical Equipment Room Air Handling Unit, some surface corrosion was noted on bolt heads but this was determined to not represent any significant loss of material or bolt capacity. Similarly, on Residual Heat Removal Pumps 2A and 2C, the mild surface rust observed on the anchor bolts were determined to be insignificant.

  During the area walkby for the Diesel Generator Building Roof Chiller A and B Area, the surface rust observed on the anchor bolts of pump B1 for Chiller B was determined to be minor and of no significance. The walkdown team also observed that the general area of the Mechanical Equipment Room at floor elevation 593 ft. was damp and that there were several bolts with minor surface rust, but no significant corrosion was observed.

  In RHRSW Pump Room C, severe corrosion was noted on supports and anchors for the heat trace system. The system is not safety related and configuration did not result in a seismic interaction hazard, so it was judged that this does not represent a potential adverse seismic condition. The team notified site engineering about the issue. We concur with these assessments.

- The walkdown team addressed adequacy of slack for piping and conduit attached to equipment. Rigid or very stiff conduit exiting the top of electrical panels was found to be adequate in all cases based on the stiffness of the panels and also the evaluations in the USI A-46 SEWS for those items. On the U1 & U2 Mechanical Equipment Room Air Handling Unit, stiff conduit interfacing with the unit were judged to be acceptable because both the AHU and the ceiling mounted tube steel conduit support would have minimal displacement. We concur with these assessments.

- The walkdown teams were alert for potential seismic proximity interactions involving vulnerable targets. The clearance between the actuator for EECW North HDR Supply Valve 2-FCV-067-0050 and the adjacent cable tray riser was determined to be acceptable based on relative stiffness. The clearance between the actuator for Core Spray System Test Flow Control Valve 2-FCV-075-0022 and an adjacent handrail was similarly accepted. The clearance between Auxiliary Instrument Room Panel 9-81and an adjacent panel was determined to be acceptable based on panel stiffness and prior USI A-46 reviews. We concur with these assessments.

- The walkdown teams diligently reviewed overhead lighting as potential seismic interaction falling sources. Fluorescent lights held in place with only compression fittings were accepted for items of equipment and in areas where the zone of influence did not contain sensitive safety-related targets. Examples include 4kV Shutdown Board D, 480V RMOV Board 2B, 250V RMOV Board 2B, and in the RB floor elevation 593 ft., Electrical Board Room 2B.

In other cases for fluorescent lights held in place with only compression fittings, the items of equipment were judged to not be vulnerable, consistent with the USI A-46 reviews. Examples include the I&C Bus 2A & 2B 480/208-120V Transformers and Regulating Transformers, 250V Battery Charger 2A, Main Control Room Reactor Control Panel 9-5, and Auxiliary Instrument Panel 9-15. Service requests were conservatively issued for the replacement of light cages on the Main Control Room Reactor Control Panel 9-5, and Auxiliary Instrument Panel 9-15.

- During the equipment walkdowns and area walkbys, the teams diligently identified and assessed miscellaneous items and temporary equipment as possible seismic interaction sources. A loose cart was judged to be acceptable near the 250V Main Battery Charger Output Transfer Switch 2A because vulnerable components could not be impacted. In the Mechanical Equipment Room at floor elevation 593 ft., the walkdown team noted several general housekeeping concerns including various tools and an unrestrained eyewash station. No imminent hazards were observed. Site engineering was notified and the eyewash station was moved to a different location.

  In the DG Battery Board Room 2, the walkdown team identified an unsecured cart in front of a transfer switch panel. It was concluded that the lightweight cart could not cause any significant damage to the switch, so no potential adverse seismic condition was documented. In the HPCI Pump Room, the walkdown team noted a loose pipe and insulation on the floor and concluded that it was not a potential adverse seismic condition.

  In the Reactor Building floor elevation 565 ft., Elevator/Stairs Door Area at column lines U/R9, a camera was judged to be adequate because there were no sensitive items in its swing path. In the Reactor Building floor elevation 621 ft. 480 V Shutdown Board Room 2A, the walkdown team noted that a racked out breaker against the wall. It was judged to be located far enough away to not interact with shutdown board, however operations was conservatively notified to remove breaker from area. In the Diesel Generator Building Electrical Tunnel, various unrestrained temporary items were observed and determined to not be seismically significant. We concur with these assessments.

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 BFN2 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 BFN2 Seismic Response Report.

Comments regarding the individual potential adverse seismic conditions for BFN1 include the following:

- Potentially Adverse Seismic Condition 1 addresses cracking of the concrete base pad for strainer 0-STN-067-0926. Based on the configuration including attached piping as well as other anchors and pedestal, it was judged that there was sufficient margin for the strainer to withstand a design basis earthquake. The walkdown team noted this as a potential adverse seismic condition and entered it into the CAP. A work order was initiated to repair the crack so that no further damage will occur to the concrete.
- Potentially Adverse Seismic Condition 2 addresses a missing safety cage for an interior light for 2-PNLA-009-0015. The walkdown team determined that the florescent light bulb could dislodge during a seismic event and impact soft targets inside the panel. This does not appear to be credible due to the interfering cabling and other components inside of the panel. The walkdown team conservatively noted this as a potential adverse seismic condition and entered it into the CAP. A work order was initiated to reinstall the missing cage.
- Potentially Adverse Seismic Condition 3 addresses a missing safety cage for an interior light for 2-PNLA-009-0005. The walkdown team determined that the florescent light bulb could dislodge during a seismic event and impact soft targets inside the panel. This does not appear to be credible due to the interfering cabling and other components inside of the panel. The walkdown team conservatively noted this as a potential adverse seismic condition and entered it into the CAP. A work order was initiated to reinstall the missing cage.

SUBMITTAL REPORT

The peer review team has reviewed the BFN2 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 BFN2. 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