



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

June 28, 2013

10 CFR 50.54(f)

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Browns Ferry Nuclear Plant, Unit 2
Facility Operating License No. DPR-52
NRC Docket No. 50-260

Subject: Tennessee Valley Authority - Supplemental Response to NRC Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding the Browns Ferry Nuclear Plant, Unit 2 Seismic Walkdown Results of Recommendation 2.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident

- References:
1. NRC 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 Dai-ichi Accident," dated March 12, 2012
 2. TVA Letter to NRC, "Tennessee Valley Authority (TVA) - Response to NRC Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding the Browns Ferry Nuclear Plant Seismic Walkdown Results for Recommendation 2.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated November 27, 2012

On March 12, 2012, the NRC issued Reference 1 to all power reactor licensees and holders of construction permits in active or deferred status. Enclosure 3 of Reference 1 contains specific Requested Actions, Requested Information, and Required Responses associated with Near Term Task Force (NTTF) Recommendation 2.3: Seismic.

In Reference 2, the Tennessee Valley Authority (TVA) provided the Browns Ferry Nuclear Plant (BFN) seismic walkdown reports in accordance with the NRC Request for Information (Reference 1). The BFN seismic walkdown reports documented the plant walkdowns performed to identify and address plant-specific vulnerabilities and verify the adequacies of

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U.S. Nuclear Regulatory Commission
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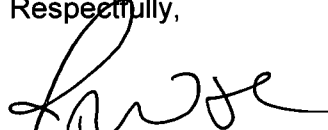
monitoring and maintenance procedures. In Section 5.1 of Enclosure 2 to Reference 2, TVA identified 4 pieces of BFN, Unit 2, equipment that could not be walked down due to being inaccessible during reactor power operations. TVA committed in Reference 2 to complete seismic walkdowns for these 4 pieces of equipment in the BFN, Unit 2, spring of 2013 refueling outage. TVA has completed these remaining seismic walkdowns.

The purpose of this letter is to provide the results of the completed BFN, Unit 2, walkdown inspections performed for the 4 pieces of equipment identified in Reference 2. Specifically, the Enclosure of this letter provides the updated Seismic Walkdown Report for BFN, Unit 2. Pages 3, 4, 10, 11, 14, 15, 110, 111, 113, 370 to 379, 550 to 559 and 907 of the Enclosure to this letter have been revised to include the results for these walkdowns and these pages supersede those pages submitted in Enclosure 2 to Reference 2. The remaining pages of the Enclosure to this letter (pages 2-1, 113-1, 714-1, and 847-1 to 847-16) are new and added to the report to document these additional walkdowns. There were no degraded, nonconforming, or unanalyzed conditions that required either immediate or follow-up actions identified as a result of these additional seismic walkdowns at BFN, Unit 2.

There are no new regulatory commitments contained in this letter. If you have questions regarding this matter, please contact Kevin Casey at (423) 751-8523.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 28th day of June 2013.

Respectfully,



J.W. Shea
Vice President, Nuclear Licensing

Enclosure:

Browns Ferry Nuclear Plant, Unit 2, Fukushima Near-Term Task Force
Recommendation 2.3: Seismic Response Report

cc (Enclosure):

NRC Regional Administrator - Region II
NRR Director - NRC Headquarters
NRR Project Manager - Browns Ferry Nuclear Plant
NRC Senior Resident Inspector - Browns Ferry Nuclear Plant

ENCLOSURE

**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-April-2013

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NTTF Recommendation 2.3: Seismic Response Report
Browns Ferry Unit 2

REV	DESCRIPTION	ORIG	REVIEW	WORLEY- PARSONS APPROVAL	DATE	CLIENT APPROVAL	DATE
1	BFN Unit 2 Seismic Walkdown Report	<i>J. Black</i> J. Black	<i>N. Pressler</i> N. Pressler	<i>J. Edgar</i> J. Edgar	18-Apr-13	<i>Steph Samaras</i> STEPHEN SAMARAS	04/23/2013

Title: Browns ferry Nuclear Plant – Unit 2 Fukushima Near-Term Task Force Recommendation 2.3: Seismic Response Report		REVISION LOG
Revision No.	DESCRIPTION OF REVISION	Date Approved
0	Initial Issue	16-Nov-2012
1	<p>Revision to add additional walkdowns for inaccessible equipment that was identified in Rev. 0 of this report. Walkdowns performed during BFN Unit 2 refueling outage. Also, revision to Appendix G: Peer Review Report.</p> <p>Added page numbers: 2-1, 113-1, 714-1, and 847-1 through 847-16</p> <p>Revised page numbers: 3-4, 10-11, 14-15, 110-111, 113, 370-379, 550-559, and 907</p>	16-Apr-2013



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1) Executive Summary

As a result of the Fukushima Daiichi Nuclear Power Plant accident, the United States (U.S.) Nuclear Regulatory Commission (NRC) required all U.S. 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 (BFN), a total of 120 items, general Seismic Category 1, were selected from the original Individual Plant Examination for External Events (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 50 areas were included for area walk-bys. The equipment walkdowns and area walk-bys were performed by seven walkdown engineers organized in teams consisting of two walkdown engineers and operations personnel, between July 9, 2012 and March 25, 2013.

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

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2) Seismic Licensing Basis

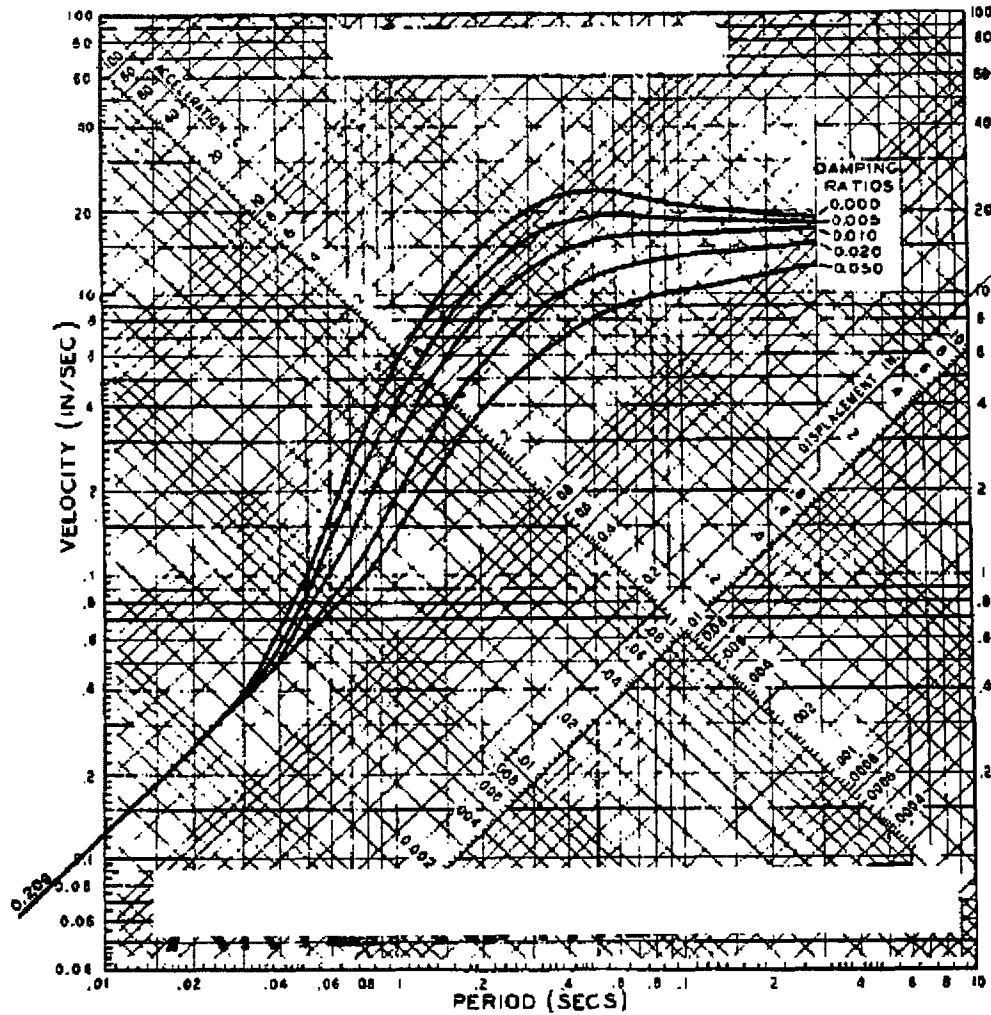
The seismic licensing basis for the BFN is derived from Reference 4 – *BFN FSAR*.

2.1 General Plant Description

The BFN 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 OBE and Figure 2 shows the DBE input spectra with various damping.



BROWNS FERRY NUCLEAR PLANT
FINAL SAFETY
ANALYSIS REPORT

SITE DESIGN SPECTRUM
DESIGN BASIS EARTHQUAKE
HORIZONTAL

FIGURE 2.5-9

AMENDMENT 16

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:

- OBE considered a horizontal ground acceleration of 0.10g.
- 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 American Society of Mechanical Engineers (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

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 DBE. This includes equipment made by 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 Institute of Electrical and Electronics Engineers (IEEE)-344-71 requirements.

In addition, BFN 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 Unresolved Safety Issue (USI) A-46 resolution (Reference 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, Reference 9).

2.5 Seismic Spatial System Interactions

The BFN 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 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 Senior Reactor Operator (SRO) from BFN 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, Engineer in Training (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.
- Josh Best - - Project Mechanical Engineer with 5 years engineering experience, including 4 years in the nuclear power industry.

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3.3 Licensing Basis Reviewer

The personnel involved in performing the licensing basis reviews:

- Steve Samaras, Site engineer at BFN with extensive experience providing engineering support for the operating site.



3.4 IPEEE Reviewers

The personnel involved in reviewing IPEEE vulnerabilities are:

- Josh Best
- Jason Black

| R1

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 EPRI Seismic Walkdown Guidance*. The SWELs and list of corresponding Area Walk-Bys for BFN Unit 2 can be found in Appendix D of this document.

4.1 SWEL Selection

The development of SWEL 1 began with the integrated SSEL that was developed for the resolution of USI A-46 program and the implementation of IPEEE program for BFN Units 2 and 3 (References 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 Systems, Structures and Components (SSC) 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.

The SWEL 1 represents the full list of equipment that was selected from Base List 1 and from the Category 1 equipment list. The 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 BFN Unit 2 consists of 120 items of equipment. The SWEL for BFN 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 BFN 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*.

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 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 twenty (120) out of one hundred and twenty (120) Seismic Walkdown Checklists (SWCs) were completed at BFN Unit 2. The SWCs completed at BFN 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:

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- 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

Fifty (50) Area Walk-By Checklists (AWCs) were completed at BFN 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:

| R1

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



Anchorage configuration for 50 items of equipment in BFN Unit 2 was verified by drawings, calculations, and/or the A-46 Screening Evaluation Worksheets (SEWs).

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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 BFN Unit 2 are summarized below:

- 117 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
- 50 AWCs resulted in a YES status

R1

R1



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 BFN 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 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 assess 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, is a corollary program to the Individual Plant Examination (IPE) which focuses on the vulnerabilities associated with the occurrence of external events. The BFN was designated as a 0.3g focused scope plant for the seismic IPEEE.

7.2 IPEEE Findings and Vulnerabilities

The IPEEE Report for the BFN 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 21 st 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

Brown Ferry Unit 2 Seismic Walkdown Equipment List				Created By: <i>Jason Block via telcom</i>			Approved By: <i>Steve Gray per telcom RAM 11-21-12</i>								
Item #	Equip. Class (0-21)	UNID	Description	Unit	Bldg.	Elev.	Room	Sys.	Safety Function	RISK RANKINGS	CDF Rank	LERF Rank	How 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	1,3,4,5	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-BATS-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-BOAA-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-BOAA-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-BDDC-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	13	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
2051	10	BFN-0-FCO-030-0068B	INLET DAMPER FOR FAN "A" IN DG ROOM "C"	0	DG	583	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	RHR SW PUMP C2	0	INTAKE	565	C	023	4,5	NO	-	-	-	NO	018
2035	6	BFN-0-PMP-023-0088	RHR SW 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-086-0637D	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
2037	1	BFN-2-BDBB-268-0002C	480V RMOV BD 2C	2	RB	565	RCA - 1/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 - 1/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/R6	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
2028	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-001-002E	MSIV "B" INBOARD ISOLATION VALVE	2	RB	565	DRY WELL	001	2	NO	-	-	-	NO	130
2114	7	BFN-2-FCV-001-003B	MSIV "C" OUTBOARD ISOLATION VALVE	2	RB	565	MSIV VAULT	001	2	NO	-	-	-	NO	131

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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-5/R9&13	085	1	NO	-	-		NO	011
2043	7	BFN-2-FCV-085-39A/0227	CRD SCRAM INLET VALVE	2	RB	565	P-5/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 ISOL	2	RB	639	RCA	078	SWEL 2	NO	-	-		NO	099
2110	20	BFN-2-LS-078-0001E	SKIMMER SURGE TANK LEVEL LOW ISOL	2	RB	639	RCA	078	SWEL 2	NO	-	-		NO	099
2111	20	BFN-2-LS-078-0001F	SKIMMER SURGE TANK LEVEL 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	158
2116	7	BFN-2-PCV-001-0034	MS/MAIN STEAM SAFETY RELIEF VALVE	2	RB	585	DRY WELL	001	2	NO	-	-		NO	153
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 SMPLRN 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

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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	RHR SW Pump Room B	7/25/2012
018	0-YD-EL565-018	0	Intake	565	RHR SW 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
130	2-RB-EL565-130	2	RB	565	UNIT 2 DRYWELL	3/25/2013
131	2-RB-EL565-131	2	RB	565	UNIT 2 STEAM VAULT	3/25/2013
132	2-RB-EL585-132	2	RB	585	UNIT 2 DRYWELL	3/25/2013
133	2-RB-EL585-133	2	RB	585	UNIT 2 DRYWELL	3/25/2013
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

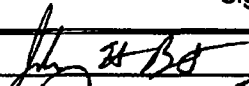
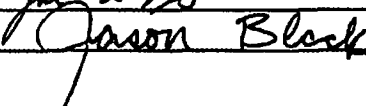
R1



Appendix E: SWCs

The following signatures are provided for the engineers responsible for the Seismic Walkdown Checklists that were performed during the Unit 2 outage March 25, 2013. The equipment walked down during the outage include:

- BFN-2-FCV-001-0026
- BFN-2-FCV-001-0038
- BFN-2-PCV-001-0019
- BFN-2-PCV-001-0034

Name	Signature	Date
Josh Best		4-3-2013
Jason Black		4-3-2013

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-001-0026** Equipment Class³ 7

Equipment Description MSIV "B" Inboard Isolation Valve

Location: Bldg. U2 RB Floor El. 565 Room, Area 130, Drywell

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

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

Anchorage

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

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

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-001-0026** Equipment Class³ 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 Class³ 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 Class³ 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 Class³ 7

Equipment Description MSIV "B" Inboard Isolation Valve

Comments (Additional pages may be added as necessary)

Evaluated by: Josh Best

Date:3/25/2013

Jason Black

3/25/2013

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-001-0038** Equipment Class³ Z

Equipment Description MSIV "C" Outboard Isolation Valve

Location: Bldg. U2-RB Floor El. 565 Room, Area 131, Steam Vault

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

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-FCV-001-0038** Equipment Class³ Z

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 Class³ 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 Class³ 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 Class³ 7

Equipment Description MSIV "C" Outboard Isolation Valve

Comments (Additional pages may be added as necessary)

Evaluated by: Josh Best

Date:3/25/2013

Jason Black

3/25/2013

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PCV-001-0019** Equipment Class³ Z

Equipment Description MSRV

Location: Bldg. U2 RB Floor El. 585 Room, Area 132, Drywell

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

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

Anchorage

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

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

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PCV-001-0019** Equipment Class³ 7

Equipment Description MSRV

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 Class³ Z

Equipment Description MSRV

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 Class³ Z

Equipment Description MSRV

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 Class³ Z

Equipment Description MSRV

Comments (Additional pages may be added as necessary)

Evaluated by: Josh Best

Date:3/25/2013

Jason Black

3/25/2013

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PCV-001-0034** Equipment Class³ Z

Equipment Description MSRV

Location: Bldg. U2 RB Floor El. 585 Room, Area 133, Drywell

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

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

Anchorage

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

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

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. **BFN-2-PCV-001-0034** Equipment Class³ Z

Equipment Description MSRV

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 Class³ Z

Equipment Description MSRV

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 Class³ 7

Equipment Description MSRV

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 Class³ Z

Equipment Description MSRV

Comments (Additional pages may be added as necessary)

Evaluated by: Josh Best

Date:3/25/2013

Jason Black

3/25/2013

NTTF Recommendation 2.3: Seismic Response Report
Browns Ferry Unit 2

Appendix F: AWCs

The following signatures are provided for the engineers responsible for the Area Walk-By Checklists that were performed during the Unit 2 outage March 25, 2013. The walk-bys performed during the outage include:

- 2-RB-EL565-130
- 2-RB-EL565-131
- 2-RB-EL585-132
- 2-RB-EL585-133

Name	Signature	Date
Jason Black	<i>Jason Black</i>	3/28/2013
Josh Best	<i>Josh Best</i>	4/1/2013

2-RB-EL565-130

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 565 Area⁴ Drywell

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y N U N/A

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y N U N/A

⁴If 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-EL565-130

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 565 Area⁴ Drywell

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y N U N/A

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y N U N/A

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y N U N/A

2-RB-EL565-130

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 565 Area⁴ Drywell

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y N U N/A

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y N U N/A

Temporary outage scaffolding was located above and below the MSIV. This scaffolding must be removed prior to Unit 2 outage completion. The scaffolds have been inspected and seismically braced in accordance with plant procedures. No potentially adverse seismic interactions are associated with the MSIV.

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-EL565-130

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 565 Area⁴ Drywell

Comments (Additional pages may be added as necessary)

Equipment associated with this AWC:

BFN-2-FCV-001-0026

Evaluated by: Josh Best

Date: 3/25/2013

Jason Black

3/25/2013

2-RB-EL565-131

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 565 Area⁴ Steam Vault

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-EL565-131

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 565 Area⁴ Steam Vault

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

Temporary outage scaffolding was located above the MSIV. This scaffolding must be removed prior to Unit 2 outage completion. The scaffolds have been inspected and seismically braced in accordance with plant procedures. No potentially adverse seismic interactions are associated with the MSIV.

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-EL565-131

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 565 Area⁴ Steam Vault

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-by Checklist:

BFN-2-FCV-001-0038

Evaluated by: Josh Best

Date: 3/25/2013

Jason Black

3/25/2013

2-RB-EL585-132

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 585 Area⁴ Drywell

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y N U N/A

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y N U N/A

⁴If 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-EL585-132

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 585 Area⁴ Drywell

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y N U N/A

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y N U N/A

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y N U N/A

2-RB-EL585-132

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 585 Area⁴ Drywell

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y N U N/A

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y N U N/A

Temporary outage scaffolding was located above and below the MSR.V. This scaffolding must be removed prior to Unit 2 outage completion. The scaffolds have been inspected and seismically braced in accordance with plant procedures. No potentially adverse seismic interactions are associated with the MSR.V.

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-EL585-132

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 585 Area⁴ Drywell

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-By Checklist:

BFN-2-PCV-001-0019

Evaluated by: Josh Best

Date: 3/25/2013

Jason Black

3/25/2013

2-RB-EL585-133

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 585 Area⁴ Drywell

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.
Note: Y = Yes, N = No, U = Unknown, N/A = Not Applicable

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y N U N/A

2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y N U N/A

⁴If 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-EL585-133

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 585 Area⁴ Drywell

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y N U N/A

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y N U N/A

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y N U N/A

2-RB-EL585-133

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 585 Area⁴ Drywell

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y N U N/A

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y N U N/A

Temporary outage scaffolding was located above and below the MSR.V. This scaffolding must be removed prior to Unit 2 outage completion. The scaffolds have been inspected and seismically braced in accordance with plant procedures. No potentially adverse seismic interactions are associated with the MSR.V.

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-EL585-133

Area Walk-By Checklist (AWC)

Location: Bldg. U2 RB Floor El. 585 Area⁴ Drywell

Comments (Additional pages may be added as necessary)

Equipment associated with this Area Walk-By Checklist:

BFN-2-PCV-001-0034

Evaluated by: Josh Best

Date: 3/25/2013

Jason Black

3/25/2013

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

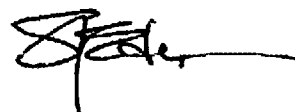
The peer review team has reviewed the BFN2 submittal report in detail, including the additional walkdown evaluations performed during the March refueling outage, and we are in full concurrence with the documented observations and findings. The report is in compliance with the guidance in EPRI Report 1025286, and meets the requirements and objectives of the NRC 50.54 (f) letter. R1

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