CONTAINS SUNSI – WITHHOLD FROM PUBLIC DISCLOSURE UNDER 2.390

Xcel Energy®

Monticello Nuclear Generating Plant
2807 W County Road 75
Monticello, MN 55362

September 16, 2013

L-MT-13-051
10 CFR 50.54(f)

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

Monticello Nuclear Generating Plant
Docket No. 50-263
Renewed Facility Operating License No. DPR-22

MNGP Updated Final Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding the Seismic Aspects 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, ADAMS Accession No. ML12053A340.

2. NSPM Letter to NRC, "MNGP Final Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding the Seismic Aspects of Recommendation 2.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated November 27, 2012, ADAMS Accession No. ML12342A025.

On March 12, 2012, the Nuclear Regulatory Commission (NRC) Staff issued a request for information regarding Near-Term Task Force (NTTF) insights from the Fukushima Dai-ichi accident, to all NRC power reactor licensees and holders of construction permits in active or deferred status (Reference 1). Enclosure 3 of the March 12, 2012 letter contains specific Requested Actions, Requested Information, and Required Responses associated with Near-Term Task Force (NTTF) Recommendation 2.3, Seismic. Northern States Power Company, a Minnesota corporation (NSPM), d/b/a Xcel Energy, on behalf of the Monticello Nuclear Generating Plant (MNGP), submitted the required response to the Requested Information for NTTF Recommendation 2.3, Seismic, in a letter dated November 27, 2012 (Reference 2). In Reference 2, NSPM committed to complete seismic walkdowns of inaccessible components during the spring Refueling Outage (RFO) 26. NSPM also committed to provide an updated

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seismic walkdown report with the results of the walkdowns of the inaccessible components 60 days following the completion of RFO 26. The purpose of this letter is to submit, as an enclosure, an updated seismic walkdown report with a summary of the results from the walkdowns of the inaccessible components.

Enclosure 1 provides the updated seismic walkdown report. It contains Sensitive Unclassified Non-Safeguards Information (SUNSI) of which the loss, issue, modification, or unauthorized access can reasonably be foreseen to harm the public interest, or the commercial or financial interests of NSPM. NSPM requests that this SUNSI information be withheld under 10 CFR 2.390(d)(1). Pages which contain SUNSI information have been marked with a header, and the sensitive information, such as locations and pictures of safety-related components, has been redacted. Enclosure 2 provides a redacted version of the updated seismic walkdown report for public disclosure.

During the performance of the inaccessible Seismic Walkdowns, it was determined that not all anchors were visible for electrical panel, C-03, due to numerous cables covering the anchors to the floor. This panel had been erroneously reported as complete in the Reference 2 report. This updated report addresses this error, and describes the substitute Seismic Walkdown that was completed for another similar panel, C-17, located in the Control Room.

If there are any questions, or if additional information is needed, please contact Ms. Jennie Wike, Licensing Engineer, at 612-330-5788.

Summary of Commitments

This report closes the commitments in Reference 2. This letter contains no new commitments and makes no revisions to existing commitments.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 16, 2013.

Karen D. Fili
Site Vice President, Monticello Nuclear Generating Plant
Northern States Power Company - Minnesota

Enclosures (2)

cc: Administrator, Region III, USNRC
Director, Office of Nuclear Reactor Regulation (NRR)
NRR Project Manager, Monticello Nuclear Generating Plant, USNRC
Senior Resident Inspector, Monticello Nuclear Generating Plant, USNRC

ENCLOSURE 2

MONTICELLO NUCLEAR GENERATING PLANT

NTTF RECOMMENDATION 2.3 - SEISMIC

UPDATED SEISMIC WALKDOWN REPORT (REDACTED)

(193 Pages Follow)

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Executive Summary

Following the accident at the Fukushima Dai-ichi nuclear power plant resulting from the March 11, 2011, Great Tohoku Earthquake and subsequent tsunami, the NRC established the Near-Term Task Force (NTTF) in response to Commission direction. The NTTF Charter, dated March 30, 2011, tasked the NTTF with conducting a systematic and methodical review of NRC processes and regulations and determining if the agency should make additional improvements to its regulatory system. Ultimately, a comprehensive set of recommendations contained in a report to the Commission (dated July 12, 2011, SECY-11-0093 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML111861807)) was developed.

On August 19, 2011, following issuance of the NTTF report, the Commission directed the NRC staff in a staff requirements memorandum (SRM) for SECY-11-0093 (ADAMS Accession No. ML112310021), in part, to determine which of the recommendations could and should be implemented without unnecessary delay. On September 9, 2011, the NRC staff provided a document to the Commission (ADAMS Accession No. ML11245A158) which identified those actions from the NTTF report that should be taken without unnecessary delay.

On March 12, 2012, the NRC issued a 10 CFR 50.54(f) letter that requested information to assure that these recommendations are addressed by all U.S. nuclear power plants (Reference 6). Every U.S. nuclear power plant is required 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. This report documents the seismic walkdowns performed at the Monticello Nuclear Generating Plant (MNGP) as required to address, in part, the 10 CFR 50.54(f) information request issued by the NRC.

The Nuclear Energy Institute (NEI) cooperated with the NRC to prepare guidance for conducting seismic walkdowns as requested in Enclosure 3 of Reference 6, titled, Recommendation 2.3: Seismic. The guidelines and procedures prepared by NEI and endorsed by the NRC were published through the Electric Power Research Institute (EPRI) as EPRI Technical Report 1025286, Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic, dated June 2012 (Reference 1). The Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, confirmed that the EPRI seismic walkdown guidance would be used as the basis for conducting the seismic walkdowns and developing the needed information at the MNGP in a letter dated July 9, 2012 (Reference 3).

NSPM performed walkdowns in accordance with the EPRI Seismic Walkdown Guidance (Reference 1) and submitted a summary of the results of these walkdowns in a letter dated November 27, 2012 (Reference 13). In Appendix D of Reference 13, NSPM identified components that could not be inspected during the 180 day period following the NRC's endorsement of the EPRI Report (Reference 1) due to being inaccessible. Inaccessibility of this equipment was either based on the location of the equipment (environment that posed personnel safety concerns while the unit is operating), or due to the timing of the issuance of the clarification on internal electrical cabinet inspections and the electrical safety hazards posed while the equipment is energized. In the

Reference 13 report, NSPM committed to completing these inaccessible walkdowns during Refueling Outage (RFO) 26 and submitting an updated Seismic Walkdown report 60 days following the end of the outage. The end of RFO 26 was on July 16, 2013.

This updated Seismic Walkdown report provides the results of the deferred Seismic Walkdowns and Area Walk-Bys performed at MNGP after November 27, 2012. All required Seismic Walkdowns and Area Walk-Bys are complete. This report also documents any new discrepancies or potential seismic issues identified as a result of the deferred Seismic Walkdowns. Results from the Seismic Walkdowns completed prior to November 27, 2012, and any potential discrepancies or potential seismic issues, were submitted in the Reference 13 report. This report provides a status update of the corrective actions previously identified in Tables 5-2 and 5-3 of the Reference 13 report. No adverse seismic conditions were identified at the MNGP as a result of the initial or deferred walkdowns. Corrective Action Program Action Requests (CAPs) were entered into the site's 10 CFR 50 Appendix B qualified corrective action program.

The EPRI Seismic Walkdown Guidance (Reference 1) was used for the engineering walkdowns and evaluations described in this report. In accordance with the guidance in Reference 1, the following topics are addressed in the subsequent sections of this updated report:

- Seismic Licensing Basis
- Personnel Qualifications
- Selection of Systems, Structures , and Components (SSC)
- Seismic Walkdowns and Area Walk-Bys
- Seismic Licensing Basis Evaluations
- Independent Plant Examinations of External Events (IPEEE) Vulnerabilities Resolution Report
- Peer Reviews

A majority of the information previously provided in the Reference 13 report on the seismic licensing basis, selection of SSCs, IPEEE vulnerabilities resolution report, and the methodology used for completing the Seismic Walkdowns and Area Walk-Bys has not changed since November 27, 2012. However, this information is repeated in this report for reference, and to re-iterate the process that has been used for the initial and deferred Seismic Walkdowns.

This report closes the commitments in Reference 13, and provides the supplemental information required for the final response to the Requested Information for NTTF Recommendation 2.3, Seismic (Reference 6). No additional Seismic Walkdowns are required.

1 Introduction

1.1 BACKGROUND

In response to NTTF Recommendation 2.3, the Nuclear Regulatory Commission (NRC) issued a 10 CFR 50.54(f) letter on March 12, 2012 requesting that all licensees perform Seismic Walkdowns to identify and address plant-specific degraded, nonconforming, or unanalyzed conditions (through the corrective action program) and verify the adequacy of monitoring and maintenance for protective features, and inform the NRC staff of the results of the walkdowns and corrective actions taken or planned. The Nuclear Energy Institute (NEI), with EPRI, prepared industry guidance to assist licensees in responding to this NRC request. The industry guidance document, EPRI Technical Report 1025286, Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic, dated June 2012 (Reference 1), was endorsed by the NRC on May 31, 2012 (Reference 4). NSPM confirmed that the EPRI Seismic Walkdown guidance would be used as the basis for conducting the Seismic Walkdowns and developing the needed information at the MNGP in a letter dated July 9, 2012 (Reference 3).

1.2 PLANT OVERVIEW

The Monticello Nuclear Generating Plant (MNGP) is located within the city limits of Monticello, Minnesota on the south bank of the Mississippi River. The plant and approximately 2150 acres of land at the plant site are owned by NSPM. NSPM is a wholly owned utility operating subsidiary of Xcel Energy Corporation (Xcel Energy). The current MNGP renewed operating license (Renewed Facility Operating License No. DPR-22) expires at midnight on September 8, 2030.

1.3 APPROACH

The EPRI Seismic Walkdown Guidance (Reference 1) was used for the MNGP engineering walkdowns and evaluations described in this report. In accordance with Reference 1, the following topics are addressed in the subsequent sections of this report:

- Seismic Licensing Basis (Section 2)
- Personnel Qualifications (Section 3)
- Selection of SSCs (Section 4)
- Seismic Walkdowns and Area Walk-Bys (Section 5)
- Licensing Basis Evaluations (Section 6)
- IPEEE Vulnerabilities Resolution Report (Section 7)
- Peer Review (Section 8)

2 Seismic Licensing Basis

2.1 Overview

This section of the report summarizes the seismic licensing basis for the Monticello Nuclear Generating Plant. The safe shutdown earthquake and a summary of the codes, standards, and methods used in the design of Seismic Category I structures, systems, and components (SSC) are presented. This section does not establish or change the seismic licensing basis of the facility and is intended to provide a fundamental understanding of the seismic licensing basis of the facility.

2.2 Safe Shutdown Earthquake (SSE)

The maximum horizontal ground acceleration at the foundation level is 0.12g for the safe shutdown earthquake (SSE) (Reference 2, Section 1.3.1.6). The vertical acceleration is 0.08g for the SSE (Reference 2, Section 12.2.1.9).

2.3 Design of Seismic Category I SSCs

A full description of the SSE along with the codes, standards, and methods used in the design of the Seismic Category I SSCs for meeting the seismic licensing basis requirements is provided in the following MNGP Updated Safety Analysis Report (USAR) (Reference 2) sections:

- USAR Section 1.3.1.6, Seismology and Design Response Spectra
- USAR Section 2.5, Geology and Soil Investigation
- USAR Section 2.6, Seismology
- USAR Section 7.10, Seismic and Transient Performance Instrumentation Systems
- USAR Section 12.2, Plant Principal Structures and Foundations
- USAR Appendix A, Seismic Design Criteria
- USAR Appendix F, Containment Vessel Design Summary Design

These USAR sections should be referred to for a detailed understanding of the seismic licensing basis.

2.3.1 Summary of Seismic Design for Class I SSCs

The seismic design for critical structures and equipment for this plant is based on dynamic analysis of acceleration or velocity response spectrum curves which are based on a horizontal ground acceleration of 0.06g (Reference 2, Section 1.3.1.6).

The natural periods of vibration are calculated for buildings and equipment which are vital to the safety of the plant. Damping factors are based upon the materials and methods of construction used. Earthquake design is based on ordinary allowable stress as set forth in the applicable codes and is very conservative because the usual one-third increase in allowable working stresses due to loadings from the operating basis earthquake is not used. As an additional requirement, the design is such that a safe shutdown can be made following a safe shutdown earthquake assuming a horizontal ground acceleration of 0.12g (Reference 2, Section 1.3.1.6).

The 0.12g design criteria are for critical items only; that is, for Class I items (Reference 2, Section 1.3.1.6). For the design of Class I structures and equipment the maximum horizontal acceleration and the maximum vertical acceleration were considered simultaneously. Where applicable, the resulting seismic stresses for the two motions were combined linearly (Reference 2, Section 12.2.1.9). All Class I structures and equipment were analyzed to assure that a safe shutdown can be made during horizontal ground accelerations of 0.06g (operating basis earthquake) and 0.12g (design basis or maximum earthquake) (Reference 2, Section 12.2.1.4). Seismic loads were based upon the seismic investigation and data developed by John A. Blume & Associates, Engineers. The design earthquake established for the MNGP site is the North 69° West Component of the 1952 Taft earthquake, normalized to a maximum ground acceleration of 0.06g (Reference 2, Section 12.2.1.9).

2.3.2 Methods of Analysis for Class 1 SSCs

A. Equipment

All rigid Class I equipment was analyzed using accelerations derived from the results of the analysis for the supporting structure at the appropriate elevation. Amplification factors were applied for the seismic analysis of non-rigidly mounted equipment. Typical amplification factors were 2.7 for the Reactor Pressure Vessel and 1.5 for the Recirculating Pump. The amplification factors were determined by using the results of the dynamic analysis; i.e., referring to Sheet No. 4, Earthquake Analysis, Reactor Pressure Vessel, in USAR Appendix A of Reference 2, the maximum acceleration of the top of the reactor vessel is 0.16 g, since ground acceleration is 0.06 g, the amplification factor is 2.7. The other amplification factors were calculated in a similar manner (Reference 2, Section 12.2.1.9).

B. Piping

Class I piping seismic analyses were performed for both operating basis and design basis (maximum) earthquakes as follows:

- Mode superposition using a floor response spectra.

- A static analysis was made using conservative static seismic coefficients. These static coefficients were determined in the following manner:

    1. Horizontal static coefficients were determined by using the average of the peak values from the unsmoothed ground spectral curve of the normalized earthquake.

    2. This average acceleration was then multiplied by the ratio of the building response acceleration at the installed elevation of the piping to maximum ground acceleration.

- A vertical coefficient was taken at a constant value equal to two-thirds of the maximum base ground acceleration or 0.04 g.

For the response spectrum analysis of piping systems, the floor spectra near the points of pipe lateral restraint were considered. The spectrum usually selected to be used in the analysis was the one located nearest the point of lateral support of the majority of the mass of the pipe. For the recirculation lines, the spectrum used was the one occurring just above the elevation of the header, or about half way between the upper and lower elevation of the pipe. Most of the seismic restraints fall below this elevation, and the selection of the point was considered to be realistic for the seismic analysis.

When a static analysis was made, all piping systems above the 935 foot elevation used a horizontal static coefficient, 0.82g, and below this elevation a value of 0.53g was used. These values represent an amplification factor of 13 and 9, respectively (Reference 2, Section 12.2.1.10).

C. Devices

All types of Class I devices (relays, switches, amplifiers, power supplies, sensors, etc.) which make up the Class I systems were tested for proper performance under the simulated seismic accelerations of the Design Basis Earthquake. Each device tested is energized and, as applicable, has a simulated input signal applied; and has its output monitored during and after the test (Reference 2, Section 7.10.1.4).

D. Racks and Panels

Class I racks and panels complete with all internal wiring and devices mounted were vibrated at low accelerations over the DBE frequency range and measurements made to determine the presence of resonances. If resonances were present which affect Class I devices, steps were taken to shift their frequencies out of the band of interest or dampen them to an acceptable level. Once this was accomplished, the panel can be considered a rigid body and analyzed statically (Reference 2, Section 7.10.1.4).

Addition of new systems or re-evaluation of existing systems is done using current methods of analysis and component qualification. See Section 12.2.1.10 of Reference 2.

2.3.3 Summary of Codes and Standards

This section summarizes the codes, specifications, standards of practice, and other accepted industry guidelines, which are adopted to the extent applicable, in the design and construction of the Seismic Category I SSCs for meeting the plant-specific seismic

licensing basis requirements. All of the applicable codes, standards, and specifications for Seismic Category I SSCs are listed in Table 2-1 below. These codes, standards, and specifications are also described in MNGP USAR Section 12.2.

Table 2-1: List of Codes, Standards, and Specifications

Specification or Standard Designation	Title
American Concrete Institute (ACI)-318-63	Building Code Requirements for Reinforced Concrete, 1963 Edition
American Institute of Steel Construction (AISC)	Specification for the Design, Fabrication and Erection of Structural Steel for Buildings – Sixth Edition
American Welding Society (AWS) D1.0	Standard Code for Arc and Gas Welding in Building Construction, 8th Edition
American Society of Mechanical Engineers (ASME)	Boiler & Pressure Vessel Code, Section III, VIII, IX, and XI
American Petroleum Institute, Specification No. 620	Recommended Rules for Design and Construction of Large, Welded, Low Pressure Storage Tanks
ACI 505-54	Specification for the Design and Construction of Reinforced Concrete Chimneys
USA Standard Code for Pressure Piping, USAS B31.1.0 - 1967	Power Piping
American National Standard Code, ANSI B31.1 - 1977	Power Piping
American Society of Civil Engineers (ASCE) Transactions, Paper 3269	Wind Forces on Structures

3 Personnel Qualifications

3.1 OVERVIEW

This section of the report identifies the personnel that participated in the initial NTTF Recommendation 2.3 Seismic Walkdown efforts, as well as those personnel that participated in the deferred walkdown effort after November 27, 2012. This section also describes the qualifications of these personnel. A description of the responsibilities and minimum qualifications of each Seismic Walkdown participant's role(s) is provided in Section 2, *Personnel Qualifications*, of Reference 1.

3.2 WALKDOWN PERSONNEL

Table 3-1 below summarizes the names and corresponding roles of personnel who participated in the initial NTTF Recommendation 2.3 Seismic Walkdown effort prior to November 27, 2012. The names and corresponding roles of personnel who participated in the NTTF Recommendation 2.3 Seismic Walkdown effort after November 27, 2012 are provided in Table 3-2.

Table 3-1: Personnel Roles – Initial Seismic Walkdown Effort*

Name	Equipment Selection	Plant Operations	Seismic Walkdown Engineer (SWE)	IPEEE Reviewer	Peer Reviewer
B. Lory	X		X		
W. Djordjevic			X		
D. Zercher					X
S. Kaas			X		
S. Luckiesh			X		
J. Kindred		X**			X*
R. Walstrom	X	X			
T. Parker	X	X			
D. Moore				X	

* No personnel listed as licensing basis reviewers because no licensing basis evaluations were performed.
** Peer Review Team Leader.

Table 3-2: Personnel Roles – Post November 27, 2012 Walkdown Effort*				
Name	**Equipment Selection**	**Plant Operations**	**Seismic Walkdown Engineer (SWE)**	**Peer Reviewer**
B. Lory	X		X	
D. Zercher			X	
S. Kaas			X	
S. Luckiesh				X
J. Kindred		X**		X
R. Walstrom	X	X		
T. Parker	X	X		

* No personnel listed as licensing basis reviewers because no licensing basis evaluations were performed. The IPEEE Review was completed prior to November 27, 2012.
**Peer Review Team Leader.

3.3 PERSONNEL QUALIFICATIONS

Summarized below are the qualifications for the personnel who participated in the NTTF Recommendation 2.3 Seismic Walkdown efforts. The personnel qualifications include applicable seismic training, education, and professional experience.

Bruce M. Lory

- Activities Performed: Equipment Selection, SWE
- Seismic Training Completed: Instructor for the Fundamentals of Equipment Seismic Qualification Training and EPRI NTTF Recommendation 2.3 - Plant Seismic Walkdowns Training
- Education: Bachelors of Science in Mechanical Engineering from the State University of New York at Buffalo
- Professional Experience: Over 30 years of experience in the commercial nuclear industry. Worked over 18 years in Seismic Qualification of equipment and components, and over 15 years of Environmental Qualification experience, in consulting services and in utility positions. Currently works as a senior consultant for Stevenson and Associates with specialization in Seismic and Environmental Qualification, as well as Single Failure-Proof crane design verification.

Dennis Zercher

- Activities Performed: Peer Reviewer (initial Seismic Walkdowns), SWE (post November 27, 2012 Seismic Walkdowns)
- Seismic Training Completed: EPRI SQUG Training and Seismic Evaluation Training Course
- Education: Bachelors of Science in Civil Engineering from Michigan Technological University
- Professional Experience: Over 28 years of experience in the commercial nuclear industry. A registered Professional Engineer in Minnesota and Wisconsin. Worked as a Structural Engineer at FluiDyne Engineering and PaR Systems. Recently retired after working at the MNGP as a Design Engineer.

Steve Kaas

- Activities Performed: SWE
- Seismic Training Completed: EPRI NTTF Recommendation 2.3 - Plant Seismic Walkdowns Training
- Education: Bachelors of Science in Civil Engineering from North Dakota State University
- Professional Experience: A registered Professional Engineer in Minnesota, Iowa, and Michigan. Currently works as a Senior Civil Engineer at NSPM. President of Kaas Technical Services, Inc. Previously worked as Engineering Manager of Hanson Structural Precast, and a Field Engineer at Wells Concrete Products Company.

Scott Luckiesh

- Activities Performed: SWE (initial Seismic Walkdowns), Peer Reviewer (post November 27, 2012 Seismic Walkdowns)
- Seismic Training Completed: EPRI NTTF Recommendation 2.3 - Plant Seismic Walkdowns Training
- Education: Bachelors of Science in Architectural Engineering from Oklahoma State University, and a Masters of Science in Structural Engineering from University of Texas – Austin.
- Professional Experience: A registered Professional Engineer in Minnesota, and was formerly a registered Professional Engineer in Wisconsin, Oklahoma, and Florida. Over 17 years of experience with structural engineering at various companies. Currently works as a Design Engineer for NSPM at MNGP, in the areas of external flooding and structural/seismic design.

Jason Kindred

- Activities Performed: Peer Reviewer, Plant Operations
- Seismic Training Completed: N/A
- Education: Bachelors of Science in Mechanical Engineering from University of Wisconsin - Madison
- Professional Experience: Over 12 years of experience in the commercial nuclear industry. Spent over 11 years in the United States Navy as a Naval Nuclear Officer. Started in the commercial nuclear industry at the MNGP. Obtained Senior Reactor Operator (SRO) license at the MNGP. Worked as a Shift Support Specialist, Control Room Supervisor, Operations Department Training Supervisor, Operations Shift Manager, and Operations Support Manager. Currently works as the Engineering Plant and Systems Manager at MNGP.

Robert (Bob) Walstrom

- Activities Performed: Equipment Selection, Plant Operations
- Seismic Training Completed: N/A
- Education: Bachelors of Science in Physics from Winona State University
- Professional Experience: Over 34 years in Plant Operations at the MNGP. Maintained continuous active Reactor Operator (RO) or SRO license for 30 years. Worked as a non-licensed operator, a control room operator, shift supervisor and shift manager/shift technical advisor. Two years temporary assignment as Initial License Training class mentor/supervisor. Currently retired and supporting Fukushima lessons learned activities.

Thomas (Tom) Parker

- Activities Performed: Equipment Selection, Plant Operations
- Seismic Training Completed: N/A
- Education: Masters of Science in Nuclear Engineering from Iowa State University
- Professional Experience: Over 34 years of experience working in the nuclear industry. Spent four years in the United States Navy as a teacher at the Nuclear Power School. Started in the commercial nuclear industry at Zion nuclear plant. After five years at Zion nuclear plant, started working for NSPM and has spent the remainder of career with NSPM at the corporate offices and MNGP. Obtained SRO at the MNGP and was also an RO at the UTR-10 reactor at Iowa State University. Currently retired and supporting Fukushima lessons learned activities.

David L. Moore

- Activities Performed: IPEEE Reviewer
- Seismic Training Completed: EPRI SQUG Training and Seismic Evaluation Training Course
- Education: Bachelor of Science in Physics from University of Texas; Masters of Science in Civil/Structural Engineering from University of Washington
- Professional Experience: Over 30 years of seismic PRA and SMA experience for the nuclear industry and NRC. Manager, Systems Task Leader, or Peer Reviewer for over 30 seismic PRAs, SMAs, or USI A-46 assessments. Tasks included development of seismic success paths and seismic equipment lists, performance of seismic walkdowns, quantification of seismic CDF and LERF, and performance of uncertainty and sensitivity analyses. Currently works as a Consultant for several seismic PRA projects, including NRC sponsored research project on treatment of seismic correlation.

Walter (Wally) Djordjevic

- Activities Performed: SWE
- Seismic Training Completed: EPRI SQUG training and EPRI NTTF Recommendation 2.3 - Plant Seismic Walkdowns Training
- Education: Masters of Science in Structural Engineering from the Massachusetts Institute of Technology
- Professional Experience: Over 37 years of seismic experience serving the nuclear industry. Managed and led seismic walkdowns and fragility analyses of structures and components for use in probabilistic risk assessments. Performed more than twenty USI A-46 and IPEEE projects in response to the requirements of Generic Letters 87-02 and 88-20. Currently works as a senior Consultant and serves as President of Stevenson and Associates with specialization in the dynamic analysis and design of structures and equipment for seismic, blast, fluid, and wind loads.

4 Selection of SSCs

4.1 OVERVIEW

This section of the report describes the process used to select SSCs that were included in the Seismic Walkdown Equipment List (SWEL). The actual equipment lists that were developed in this process are found in Appendix A of this report and are as follows:

- Table A-1, Monticello Base List 1
- Table A-2, Monticello SWEL 1

4.2 SWEL DEVELOPMENT

The selection of SSCs process described in EPRI Technical Report 1025286, *Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic*, dated June 2012 (Reference 1), was utilized to develop the SWEL for the MNGP.

The SWEL is comprised of two groups of items:

- SWEL 1 is a sample of items required to safely shut down the reactor and maintain containment integrity.
- SWEL 2 is a list of spent fuel pool related items.

4.2.1 SWEL 1 – Sample of Required Items for the Five Safety Functions

The process for selecting a sample of SSCs for shutting down the reactor and maintaining containment integrity began with the safe shutdown equipment list (SSEL) utilized for the Seismic Qualification Utility Group (SQUG) effort completed as part of NSPM's resolution of USI A-46 (Reference 12). The SQUG SSEL was then subjected to the following four screenings to identify the items to be included on the Seismic Walkdown Equipment List 1 (SWEL 1):

1. **Screen #1 – Seismic Category 1**

   As described in Section 3 of Reference 1, Screen #1 narrows the scope of SSCs in the plant to those that are classified as Seismic Category (SC) I, because only such items have a defined seismic licensing basis against which to evaluate the as-installed configuration. Each item on the MNGP SQUG equipment list was reviewed to determine if it had a defined seismic licensing basis. All items identified as Safety Class 1, as defined in Section 12 of the MNGP USAR (Reference 2), were identified as being SC I. Electrical enclosures containing Class 1E devices were identified as SC I.

2. Screen #2 – Equipment or Systems

As described in Section 3 of Reference 1, this screen narrowed the scope of items to include only those that do not regularly undergo inspections to confirm that their configuration is consistent with the plant licensing basis. This screen further reduced the SWEL 1 by screening out any Safety Related SC I structures, containment penetrations, SC I piping systems, cable/conduit raceways and HVAC ductwork.

3. Screen #3 – Support for the 5 Safety Functions

This screen narrowed the scope of items included on the SWEL 1 to only those associated with maintaining the following five safety functions:

A. Reactor Reactivity Control

B. Reactor Coolant Pressure Control

C. Reactor Coolant Inventory Control

D. Decay Heat Removal

E. Containment Function

These five safety functions were defined in Section 3 of Reference 1. The first four functions are associated with bringing the reactor to a safe shutdown condition. The fifth function is associated with maintaining containment integrity.

Utilizing the information in Appendix E of Reference 1, the safety function for each item on the SQUG SSEL was identified. Equipment that did not serve or support one of the five safety functions listed above were excluded from the SWEL 1. Plant Operations staff was involved with the development of SWEL 1, and identified additional systems not included on the SQUG SSEL which were associated with maintaining the five safety functions above. Based on the reviews by Plant Operations, equipment for the Standby Liquid Control, Primary Containment Hard Pipe Vent, Control Room Ventilation, and Emergency Filtration Train systems were added to SWEL 1. The results of this screen are provided in Appendix A of this report as Table A-1.

4. Screen #4 – Sample Considerations

This screen is intended to result in a SWEL 1 that sufficiently represents a broad population of plant SC I equipment and systems to meet the objectives of the NRC 10 CFR 50.54(f) Letter (Reference 6). The final SWEL 1 for MNGP is presented in Appendix A of this report as Table A-2. The following attributes were considered in the selection process for items included on SWEL 1:

A. A variety of types of systems

The system is identified for each item on SWEL 1. The equipment included on SWEL 1 is a representative sample of 29 systems in the plant that perform one or multiple safety functions.

B. Major new and replacement equipment

The equipment included on SWEL 1 includes several items that have been modified or replaced over the past several years. Each item on SWEL 1 that is new or replaced is identified.

C. A variety of types of equipment

The equipment class is identified for each item on SWEL 1. The equipment included on SWEL 1 is a representative sample from 19 of the 21 classes of equipment listed in Appendix B, Classes of Equipment, of Reference 1. Where appropriate, at least one piece of equipment from each class is included on SWEL 1.

Screens #1, #2, and #3 resulted in no equipment in equipment class number 13 for motor generators and class number 2 for low voltage switchgear and breaker panels. There were no motor generators in the plant which performed one of the five safety functions defined in Reference 1. As for the low voltage switchgear, no planned out-of-service maintenance was scheduled in the last refueling outage for Class I load centers to allow inspection.

D. A variety of environments

The equipment included on SWEL 1 is a representative sample from a variety of environments (locations) in the station. To ensure an adequate sampling of equipment was selected to represent the Reactor Core Isolation Cooling (RCIC), and High Pressure Coolant Injection (HPCI) systems, additional equipment from these two systems was added to the SWEL 1.

Equipment was also reviewed for accessibility. Equipment that is inaccessible without the use of scaffolding or portable ladders was excluded from SWEL 1. Also, equipment located in high radiation areas was also excluded from SWEL 1 with the exception of three components in the Steam Chase and the Dry Well. These items were walked down during the last refueling outage.

E. Equipment enhanced due to vulnerabilities identified during the IPEEE program

The equipment included on SWEL 1 includes items that were enhanced as a result of the IPEEE program. Each item on SWEL 1 that was enhanced to correct a vulnerability from IPEEE is identified.

F. Contribution to risk

To determine the relative risk significance of equipment for inclusion on SWEL 1, the Risk Achievement Worth (RAW) and Fussell-Vesely importance from the internal plant Probabilistic Risk Assessment (PRA) models were used to create a list of the top forty risk-significant components. Initiating events, maintenance events and human error events were not considered in the generation of this list.

In selecting equipment for SWEL 1 that met the above attributes, the equipment in the draft SWEL 1 had to first pass through Screens 1 through 4 before being assessed for being risk significant. Then risk significant equipment was identified based on the above criteria, and a subset of the more risk-significant equipment was selected to be on the final SWEL 1. Additionally, the list of risk-significant equipment from internal plant PRA was compared with the draft SWEL 1 to confirm that a reasonable sample of risk-significant equipment (relevant for a seismic event) was included on SWEL 1.

4.2.2 SWEL 2 – Spent Fuel Pool Related Items

The process for selecting a sample of SSCs associated with the spent fuel pool (SFP) began with a review of the station design and licensing basis documentation for the SFP and the interconnecting SFP cooling system. The following four screens narrowed the scope of SSCs to be included on the second Seismic Walkdown Equipment List (SWEL 2):

1. Screen #1 - Seismic Category 1

Only those items identified as Class 1 (SC I) are to be included on SWEL 2 with exception to the SFP structure. As described in Reference 1, the adequacy of the SFP structure is assessed by analysis as a SC 1 structure. Therefore, the SFP structure is assumed to be seismically adequate for the purposes of this program and is not included in the scope of items included on SWEL 2. Within the SFP system, MNGP identified several manual valves and check valves classified as Class 1 equipment.

2. Screen #2 – Equipment or Systems

This screen considers only those items associated with the SFP that are appropriate for an equipment walkdown process. Appendix B of Reference 1 lists the classes of equipment that are appropriate for the equipment walkdown process. All of the Class 1 SFP equipment identified in Screen #1 was determined not to be suitable for the Seismic Walkdown process. The equipment identified in Screen #1 included manual valves and check valves which are not listed as classes of equipment appropriate for the walkdowns in the EPRI Report (Reference 1).

3. Screen #3 – Sample Considerations

This screen is similar to Screen #4 used for SWEL 1. It represents a process that is intended to result in a SWEL 2 that sufficiently represents a broad population of

SFP Seismic Category 1 equipment and systems to meet the objectives of the NRC 10 CFR 50.54(f) Letter. All of the Class 1 equipment identified for the SFP was determined not to be appropriate for an equipment walkdown process in Screen #2. Therefore, Screen #3 was not necessary for MNGP.

4. Screen #4 – Rapid Drain-Down

This screen identifies items that could allow the spent fuel pool to drain rapidly. Consistent with Reference 1, the scope of items included in this screen is limited to the hydraulic lines connected to the SFP and the equipment connected to those lines. For the purposes of this program it is assumed the SFP gates are installed and the SFP cooling system is in its normal alignment for power operations. The SFP gates are passive devices that are integral to the SFP. As such, they are considered capable of withstanding a design basis earthquake without failure and do not allow for a rapid drain-down of the SFP.

The SSCs identified in this screen are not limited to Class 1 (SC I) items, but is limited to those items that could allow rapid drain-down of the SFP. Rapid drain-down is defined as lowering of the water level to the top of the fuel assemblies within 72 hours after the earthquake.

The design and licensing basis for the SFP and its cooling system was reviewed, and it was determined that there are no penetrations below ten feet above the top of the fuel assemblies in the SFP. Additionally, the spent fuel storage pool has been designed to withstand earthquake loadings as a Class I structure. It is a reinforced concrete structure, completely lined with seam-welded, stainless steel plates welded to reinforcing members (channels, I-beams, etc.) embedded in concrete. The stainless steel liner prevents leakage even in the event the concrete develops cracks. To avoid unintentional draining of the pool, there are no penetrations that would permit the pool to be drained below a safe storage level and all lines extending below this level are equipped with valves to prevent syphon backflow. The passage between the spent fuel storage pool and the refueling cavity above the reactor vessel is provided with two double-sealed gates with a monitored drain between the gates (Reference 2, Section 10.2.1.2). Therefore, no items which could rapidly drain-down the SFP were included on SWEL 2 for MNGP.

4.2.3 SWEL 2 Development Conclusion

MNGP identified several manual valves and check valves within the SFP system that are classified as Class 1 equipment. However, these components are not listed in Reference 1 as classes of equipment appropriate for the walkdowns. Additionally, there are no penetrations below ten feet above the top of the fuel assemblies in the SFP which could rapidly drain-down the SFP. Therefore, no items were identified for SWEL 2 for the Monticello Nuclear Generating Plant.

4.3 Changes to the Final SWEL 1

After the November 27, 2012 report (Reference 13), a few changes were made to the final SWEL 1. A description and justification for the changes made to SWEL 1 since the Reference 13 report are described in the following paragraphs.

The seismic walkdown team questioned whether or not all of the anchors for SWEL 1 item C-03 had been visually inspected. As a result of these questions, SWEL 1 item C-03 was re-inspected during the refueling outage and it was determined that not all anchors were visible due to numerous cables covering the anchorage to the floor. This panel had been erroneously reported as complete in the Reference 13 report. This error has been entered into the Corrective Action Program (CAP) under action request 01385442. Even though some of the anchors were not visible, a sufficient number of anchors and structural supports were visible for the team to conclude that the control board was well anchored and posed no seismic concern. Item C-03 was deleted from the SWEL 1 list provided in Table A-2 of the Reference 13 report, because not all of the anchors were visible to perform a complete inspection. A similar panel located in the Control Room, C-17, was added to the SWEL 1 list to replace C-03. The seismic walkdown team was able to inspect all of the anchorage for C-17, and no seismic concerns were identified.

In addition to item C-03, two deferred items (C-93 and G31) were removed from the SWEL 1 list originally provided in Table A-2 of the Reference 13 report. These items were not inspected because anchorages for these items were not visible. Therefore, Table A-2 of this report has 98 items rather than the 100 items reported in Table A-2 of the Reference 13 report. Deletion of these two items did not impact the diversity and variety of the systems, equipment, and environments represented in SWEL 1. Additionally, the number of components selected for inspection continues to meet the minimum requirements specified in Reference 1. A representative sampling of affected components has been achieved; and therefore, the intent of the Reference 1 guidance has been met.

5 Seismic Walkdowns and Area Walk-Bys

5.1 OVERVIEW

Seismic Walkdowns and Area Walk-Bys were conducted by two-person teams of trained Seismic Walkdown Engineers (SWE), in accordance with Reference 1. The Seismic Walkdowns and Area Walk-Bys are discussed in more detail in the following sections.

Consistent with Section 4, Seismic Walkdowns and Area Walk-Bys, of Reference 1 the Seismic Walkdown Engineers used their engineering judgment, based on their experience and training, to identify potentially adverse seismic conditions. Where needed, the engineers were provided the latitude to rely upon new or existing analyses to inform their judgment.

The Seismic Walkdown Engineers conducted the Seismic Walkdowns and Area Walk-Bys together as a team, in accordance with Reference 1. During these evaluations, the Seismic Walkdown Engineers actively discussed their observations and judgments with each other. The results of the Seismic Walkdowns and Area Walk-Bys reported herein are based on the comprehensive and consensus agreement of the Seismic Walkdown Engineers.

5.2 SEISMIC WALKDOWNS

The Seismic Walkdowns focused on the seismic adequacy of the items in SWEL 1, provided in Table A-2 of Appendix A in this report. The Seismic Walkdowns also evaluated the potential for nearby SSCs to cause adverse seismic interactions with the SWEL items. The Seismic Walkdown teams focused on the following adverse seismic conditions associated with the subject item of equipment:

- Adverse anchorage conditions
- Adverse seismic spatial interactions
- Other adverse seismic conditions

The results of the Seismic Walkdowns have been documented on the Seismic Walkdown Checklists (SWCs) and Area Walk-by Checklists (AWCs). The results of all of the 98 Seismic Walkdowns were documented on Seismic Walkdown Checklists. The Seismic Walkdown Checklists (SWCs) completed before November 27, 2012 were submitted in Appendix B of Reference 13. Those completed after November 27, 2012 are provided in Appendix B of this document. Photos have been included with most Seismic Walkdown Checklists to provide a visual record of the item along with any comments noted on the Seismic Walkdown Checklist. Drawings and other plant records are cited in some of the Seismic Walkdown Checklists, but are not included with the

Seismic Walkdown Checklists because they are readily retrievable documents through the station's document management system.

The following subsections describe the approach followed by the Seismic Walkdown Engineers to identify potentially adverse anchorage conditions, adverse seismic interactions, and other adverse seismic conditions during the Seismic Walkdowns.

5.2.1 *Adverse Anchorage Conditions*

Guidance for identifying anchorage that could be degraded, non-conforming, or unanalyzed relied on visual inspections of the anchorage and verification of anchorage configuration. Details for these two types of evaluations are provided in the following two subsections.

The evaluation of potentially adverse anchorage conditions described in this subsection applies to the anchorage connections that attach the identified item of equipment to the civil structure on which it is mounted. For example, the welded connections that secure the base of a Motor Control Center (MCC) to the concrete floor would be evaluated in this subsection. Evaluation of the connections that secure components within the MCC is covered later in the subsection "Other Adverse Seismic Conditions."

Visual Inspections

The purpose of the visual inspections was to identify whether any of the following potentially adverse anchorage conditions were present:

- Bent, broken, missing, or loose hardware
- Corrosion that is more than mild surface oxidation
- Visible cracks in the concrete near the anchors
- Other potentially adverse seismic conditions

Based on the results of the visual inspection, the SWEs judged whether the anchorage was potentially degraded, non-conforming, or unanalyzed. The results of the visual inspection were documented on the SWC, as appropriate. If there was clearly no evidence of degraded, nonconforming, or unanalyzed conditions, then it was indicated on the checklist. However, when it was not possible to judge whether the anchorage was degraded, nonconforming, or unanalyzed, then the condition was evaluated and entered into the Corrective Action Program to determine if there was a potentially adverse seismic condition.

5.2.2 *Configuration Verification*

In addition to the visual inspections of the anchorage as described above, the configuration of the installed anchorage was verified to be consistent with existing plant documentation for at least 50% of the items on the SWEL, per the guidance in Section 4 of Reference 1.

Line-mounted equipment (e.g., valves mounted on pipelines without separate anchorage) were not evaluated for anchorage adequacy and were not counted in establishing the 50% sample size, per the guidance in Section 4 of Reference 1.

Examples of documentation that were considered to verify that the anchorage installation configurations were consistent with the plant documentation include the following:

- Design drawings
- IPEEE or USI A-46 program documentation, as applicable

Table B-1 in Appendix B documents which deferred SWCs had anchorage confirmation performed. Additionally, Table 5-1 below shows the final count of the 50% anchorage configuration verifications.

Table 5-1: Anchorage Configuration Verification

SWEL List	No. of SWEL Items (A)	Line-Mounted Items (B)	Required to Verify? (A-B)/2	Anchorages Verified
1	98	18	40	44

5.2.3 Adverse Seismic Spatial Interactions

An adverse seismic spatial interaction is the physical interaction between the SWEL item and a nearby SSC caused by relative motion between the two during an earthquake. An inspection was performed in the area adjacent to and surrounding the SWEL item to identify any seismic interaction conditions that could adversely affect the capability of that SWEL item to perform its intended safety-related functions.

The three types of seismic spatial interaction effects that were considered are as follows:

- Proximity
- Failure and falling of SSCs
- Flexibility of attached lines and cables

Detailed guidance for evaluating each of these types of seismic spatial interactions is described in Appendix D, Seismic Spatial Interaction, of Reference 1.

The Seismic Walkdown Engineers exercised their judgment to identify seismic interaction hazards. Section 5.2.5 provides a summary of issues identified during the Seismic Walkdowns.

5.2.4 Other Adverse Seismic Conditions

In addition to adverse anchorage conditions and adverse seismic interactions, described above, other potentially adverse seismic conditions that could challenge the seismic

adequacy of a SWEL item could have been present. Examples of the types of conditions that could pose potentially adverse seismic conditions include the following:

- Degraded conditions
- Loose or missing fasteners that secure internal or external components to equipment
- Large, heavy components mounted on a cabinet that are not typically included by the original equipment manufacturer
- Cabinet doors or panels that are not latched or fastened
- Other adverse conditions

Any other adverse seismic conditions that were identified during the Seismic Walkdowns are documented on the items' SWCs in Appendix B and Table 5-2, as applicable.

In September 2012, a revised position from the NRC Staff in regards to Seismic Walkdowns of electrical cabinets or panels was sent to all licensees by the Nuclear Energy Institute (NEI). In this document from NEI, it was communicated that it is expected that all electrical cabinets on the SWEL that can be reasonably opened without undue safety or operational hazard will be opened during the walkdown, whether or not it is necessary to look inside to check the anchorages. The NRC Staff described the visual inspection that should be made while viewing the interior of the cabinet through the door opening as including the following checks:

- Visually check whether there is evidence that internal components are not adequately secured to the cabinet,
- Check whether fasteners that secure adjacent cabinets together are in place, if such fasteners are needed to prevent potentially adverse seismic interaction between the cabinets, and
- Look for "Other Adverse Seismic Conditions," as described on page 4-4 of the Seismic Walkdown Guidance (Reference 1).

Prior to the issuance of the revised NRC position on internal cabinet inspections, NSPM had completed and signed seismic walkdown checklists (SWC) for some of the SWEL 1 electrical cabinets and panels. NSPM completed SWCs for the following electrical cabinets and panels prior to the revised position on internal cabinet inspections:

- C-253D
- D-11
- MCC-134
- MCC-312
- MCC-313
- N3346A
- N3347
- N4301A
- P-73A

Instead of re-performing the external visual inspections of the cabinets and panels for these components, NSPM completed a second seismic walkdown checklist (SWC) to document the results of the internal cabinet inspections performed during the refueling outage. These electrical cabinets and panels have two seismic walkdown checklists (SWC) in Appendix B of this report. The first SWC documents the results of the initial external visual inspection completed prior to November 27, 2012. The second SWC documents the results of the internal inspection completed during the refueling outage. The results of the internal cabinet inspections for these components are documented in the Comments section of the second SWC.

5.2.5 Issues Identified during Seismic Walkdowns

Table 5-2 at the end of this section provides a summary of issues identified during all the equipment Seismic Walkdowns. The table includes an update on the status of the corrective actions for the issues previously identified in the Reference 13 report. One additional concern, a missing fuse holder screw in a Bus 15 cubicle, was identified in completion of the deferred Seismic Walkdowns. Therefore, the equipment Seismic Walkdowns resulted in a total of ten concerns. The new concern was assessed for operability and it was concluded that the missing fuse holder screw would not prevent the associated equipment from performing its safety-related function(s). None of the concerns identified by the SWEs during the equipment Seismic Walkdowns were judged to be potentially adverse seismic conditions that could affect the safety-related functions of equipment.

5.3 AREA WALK-BYS

The purpose of the Area Walk-Bys is to identify potentially adverse seismic conditions associated with other SSCs located in the vicinity of the SWEL items. Vicinity is generally defined as the room containing the SWEL item. If the room is very large (e.g., Turbine Hall), then the vicinity is identified based on judgment, e.g., on the order of about 35 feet from the SWEL item. Three Area Walk-Bys were completed after November 27, 2012. Therefore, a total of 39 Area Walk-bys were performed for MNGP. The Area Walk-By Checklists (AWC) completed before November 27, 2012 were submitted in Appendix C of Reference 13. The three completed after November 27, 2012 are provided in Appendix C of this document.

The key examination factors that were considered during Area Walk-Bys include the following:

- Anchorage conditions (if visible without opening equipment)
- Significantly degraded equipment in the area
- A visual assessment (from the floor) of cable/conduit raceways and HVAC ducting (e.g., condition of supports or fill conditions of cable trays)
- Potentially adverse seismic interactions including those that could cause flooding, spray, and fires in the area

- Other housekeeping items that could cause adverse seismic interaction (including temporary installations and equipment storage)
- Seismic housekeeping was examined to meet site procedure (Reference 7).
- Scaffold construction was inspected to meet site procedure (Reference 8).

The Area Walk-Bys are intended to identify adverse seismic conditions that are readily identified by visual inspection, without necessarily stopping to open cabinets or taking an extended look. If a potentially adverse seismic condition was identified during the Area Walk-By, then additional time was taken, as necessary, to evaluate adequately whether there was an adverse condition and to document any findings on the AWCs.

A separate AWC was filled out for each area inspected. The three AWCs completed during the refueling outage are provided in Appendix C of this report.

Additional details for evaluating the potential for adverse seismic interactions that could cause flooding, spray, or fire in the area are provided in the following two subsections.

5.3.1 Seismically-Induced Flooding/Spray Interactions

Seismically-induced flooding/spray interactions are the effect of possible ruptures of vessels or piping systems that could spray, flood or cascade water into the area where SWEL items are located. This type of seismic interaction was considered during the IPEEE program. Those prior evaluations were considered, as applicable, as information for the Area Walk-Bys.

Examples where seismically-induced flooding/spray interactions could occur include the following:

- Fire protection piping with inadequate clearance around fusible-link sprinkler heads
- Non-ductile mechanical and threaded piping couplings can fail and lead to flooding or spray of equipment
- Long, unsupported spans of threaded fire protection piping
- Flexible headers with stiffly supported branch lines
- Non-Seismic Category I tanks

The SWEs exercised their judgment to identify only those seismically-induced interactions that could lead to flooding or spray. Any seismically-induced flooding/spray interactions that were identified during the Area Walk-Bys are documented in Table 5-3 below, as applicable. No new seismically-induced flooding/spray interactions were identified during the Area Walk-bys completed during the refueling outage.

5.3.2 Seismically-Induced Fire Interactions

Seismically-induced fire interactions can occur when equipment or systems containing hazardous/flammable material fail or rupture. This type of seismic interaction was considered during the IPEEE program. Those prior evaluations were considered, as applicable, as information for the Area Walk-Bys.

Examples where seismically-induced fire interactions could occur include the following:

- Hazardous/flammable material stored in inadequately anchored drums, inadequately anchored shelves, or unlocked cabinets
- Natural gas lines and their attachment to equipment or buildings
- Bottles containing acetylene or similar flammable chemicals
- Hydrogen lines and bottles

Another example where seismically-induced fire interaction could occur is when there is relative motion between a high voltage item of equipment (e.g., 4160 volt transformer) and an adjacent support structure when they have different foundations. This relative motion can cause high voltage busbars, which pass between the two, to short out against the grounded bus duct surrounding the busbars and cause a fire.

The Seismic Walkdown Engineers exercised their judgment to identify only those seismically-induced interactions that could lead to fires. Any seismically-induced fire interactions that were identified during the Area Walk-bys are documented in Table 5-3 below, as applicable. No new seismically-induced fire interactions were identified during the Area Walk-bys completed during the refueling outage.

5.3.3 Issues Identified during Area Walk-bys

Table 5-3 at the end of this section provides a summary of the issues identified during the Area Walk-Bys. The table includes an update on the status of the corrective actions for the issues previously identified in the Reference 13 report. No new issues were identified as a result of the deferred Area Walk-Bys. Therefore, 16 issues were identified in total during the Area Walk-Bys and entered into the site's CAP. All of the previously identified concerns were assessed for operability and it was concluded that the issue would not prevent the associated equipment from performing its safety-related function(s). None of the concerns identified by the SWEs during the Area Walk-Bys were judged to be potentially adverse seismic conditions that could affect the safety-related functions of equipment in the area.

Table 5-2: CAP Status for SWCs

Equipment ID	Description of Issue	CAP No.	Status
AO-4539	SWE's noted 2G4007 conduit used as anchor point to tie other power cables using tie wraps. Also noted electrical tape used to hold up power cables at connection point on valve.	1346939	This condition was determined not to be an adverse condition, however, WR 83827 was written to re-support the cable for AO-4539.
BUS 15	A missing fuse holder screw was noticed in an upper cubicle of BUS 15.	1377713	CAP 1377713 was initiated to address this concern and determined it was not an adverse seismic condition. The missing fuse holder screw was replaced under WO 440490.
CRD HCU W	CST line is in contact with CRD structural column. WR 62289 was initiated as part of CAP 1259196 to address rubbing.	1259196	This condition is being addressed in the work order process under WR 62289 and WO 417791. It is not an adverse seismic concern.
D31	Plant drawing inaccurate with installation of anchors. SEWS evaluation on anchors uses correct "as found" configuration.	1350165	The anchorage configuration was determined to be acceptable as found. The plant drawings were revised to match the anchorage configuration. EC 21029 completed this change.
D31	Plant drawing inaccurate with installation of anchors. SEWS evaluation on anchors uses correct "as found" configuration.	1346890	The anchorage configuration was determined to be acceptable as found. The plant drawings were revised to match the anchorage configuration. EC 21029 completed this change.
P-203A	Tall scaffold is constructed above the pump. Verify the seismic assessment of this scaffold.	1347002	The engineer responsible for scaffolding evaluations reviewed the scaffold and determined it was adequately braced to prevent sliding and overturning during a seismic event.

Table 5-2: CAP Status for SWCs

Equipment ID	Description of Issue	CAP No.	Status
P-209	There are eight 1" CIP anchor bolts per NX-8292-43 while the walkdown only found six 1" CIP anchor bolts.	1346272	The anchorage configuration was determined to be acceptable as found. The plant drawings were revised to match the anchorage configuration. EC 21337 completed this change
T-200	There is a discrepancy between Drawing NX7879-8-1 and what is installed in the plant.	1347243	The anchorage configuration was determined to be acceptable as found. The plant drawings were revised to match the anchorage configuration. EC 20980 completed this change.
T-200	Verify the seismic assessment for the scaffold near tank.	1347002	The engineer responsible for scaffolding evaluations reviewed the scaffold and determined it was adequately braced to prevent sliding and overturning during a seismic event. The condition was evaluated, and actions are complete.
V-SF-9	Drawing NX-9290-3 anchor bolt configuration does not match field. Bolt pattern does match 1995 SEWS.	1345975	As documented in the SEWs, there is no seismic concern, however, the drawing was updated to reflect field conditions. EC 22150 completed this change.

Table 5-3: CAP Status for AWCs			
Area Walk-By Designation	**Description of Issue**	**CAP No.**	**Status**
2	Fire station contains victaulic couplings. Station is bolted to wall. FP line runs up to roof of this floor and into the floor. No sign of lateral bracing. Three victaulic couplings are spaced closely together. Is this line adequate for seismic loads? Line is charged with water. Line is also in contact with conduit N43158 and in contact with HVAC duct support. (SWEs could not see lateral support above for FP line).	1346922	This line was determined to be adequately supported. This condition was evaluated in the Corrective Action Program and determined not to be a seismic concern.
7	In the Intake Structure, Sodium Hypochlorite residue was found on valve SHC-28 as well as from the ceiling, indicating a leak.	1346885	This issue is being addressed by the work management process. It is not a seismic concern.
10	Cable tray MP404 & MP403 appears to be in contact with C-27.	1345963	This issue has been previously analyzed and was determined not to be a seismic issue.
12	In the "A" RHR room, South wall, No. 11 RHR pump seal cooling water supply (RBCCW), line support, there is a U-bolt that is missing a nut and the other nut is not fully engaged. On a second support, one nut is not fully engaged and the other nut is partially missing.	1346654	This condition is being addressed by the work management process. It is not an adverse seismic concern.
12	Vertical tube support (3") has two anchor bolts into the floor. Nuts are not tight to the base plates. Located next to RHR-18-1 handwheel.	1346643	This condition is being addressed in the work management process. It is not an adverse seismic concern.
14	Also compressed bottle on cart is within a few inches of MCC-312. Wheels are locked.	1346030	Plant operations moved the cart to comply with housekeeping procedures. It is not a seismic concern.
15	Reddish deposit noted on one of two anchor bolts on vertical support of structural angle supporting two pipelines. The lines are 1" diameter connecting SV-2849 to contaminated drain line and RCIC - (14) (2" diameter line) - "To RCIC pump suction". SWE's cannot judge condition of one anchor bolt that is covered over with corrosion deposits. Other anchor bolt is not corroded.	1346642	The bolts were cleaned under WR 82134 and found to be in good condition. It is not a seismic concern. WR 82134 is complete.
19	Tie wrap used to anchor electrical cable to conduit 2G4010.	1346939	This condition was determined not to be a condition adverse to quality and it is not a seismic concern. WR 83827 and WO 472742 were initiated to re-support the extra cable length for AO-4539.

Table 5-3: CAP Status for AWCs			
Area Walk-By Designation	**Description of Issue**	**CAP No.**	**Status**
20	Cable ties are fastening a flexible conduit to a cable tray support.	1346170	This condition was determined not to be a condition adverse to quality and it is not a seismic concern. This condition was evaluated under AR 1346170 and is complete.
25	At the SBLC pump and tank area, there is a large amount of scaffolding, some of which is one level (~7' high), some of which has two levels (~14' high). Are the lateral attachments and overturning restraints adequate to achieve 2 over 1?	1347002	The engineer responsible for scaffolding evaluations reviewed the scaffold and determined it was adequately braced to prevent sliding and overturning during a seismic event. This action is complete.
27	Hoist is resting on LC-101 480V Load Center. It also poses an impact hazard, and has open s-hooks.	1349068	It was determined not to be an adverse seismic condition. This condition was evaluated under AR 1349068 and is complete.
27	Fire extinguisher near non safety 4.16kV 4kVB-06 cubicle is an interaction hazard as it can fall off hook.	1349068	It was determined not to be an adverse seismic condition. This condition was evaluated under AR 1349068 and is complete.
27	Hoist restraint on non-essential LC-109 should be replaced with a restraint more appropriate than wire.	1349068	It was determined not to be an adverse seismic condition. This condition was evaluated under AR 1349068 and is complete.
28	Lighting is pendant-hung and can swing into MCC-133B. Cable trays are supported by strut systems which are adequate.	1349068	It was determined not to be an adverse seismic condition. This condition was evaluated under AR 1349068 and is complete.
28	Pendant light is an interaction hazard to conduit connected to MCC-133A.	1349068	It was determined not to be an adverse seismic condition. This condition was evaluated under AR 1349068 and is complete.
31	FP line is in contact with DO fuel line.	1345971	This condition was found to be acceptable as any potential failures would not have any negative impact on the ability of the plant to safely shutdown. This condition was evaluated under AR 1345971 and is complete.

6
Licensing Basis Evaluations

Section 5, *Seismic Licensing Basis Evaluation*, of Reference 1 provides a detailed process to perform and document seismic licensing basis evaluations of SSCs identified when potentially adverse seismic conditions are identified during the equipment Seismic Walkdowns or Area Walk-Bys. The process provides a means to identify, evaluate and document how the identified potentially adverse seismic condition meets the site's seismic licensing basis without entering the condition into the site's Corrective Action Program (CAP). Further, the process directs that if a condition cannot be readily shown to meet the seismic licensing basis, then the identified condition should be entered into the station's CAP where it will be determined that the condition does or does not meet the seismic licensing basis.

All potentially adverse seismic conditions that were identified during the equipment Seismic Walkdowns or Area Walk-Bys were entered into the station's CAP. Therefore, no seismic licensing basis evaluations were completed in accordance with industry's understanding of the guidance documented in Section 5 of Reference 1 and the training provided by EPRI for the performing the Seismic Walkdowns. Tables 5-2 and 5-3 at the end of Section 5 of this report, and at the end of Section 5 of the Reference 13 report, provide a summary of the issues identified in both the Seismic Walkdowns and Area Walk-Bys for the walkdowns reported in the Reference 1 report and for the deferred walkdowns reported in this supplement/update.

7

IPEEE Vulnerabilities Resolution Report

In the NRC 10 CFR 50.54(f) letter (Reference 6), the NRC requested that licensees provide a list of plant-specific vulnerabilities (including any seismic anomalies, outliers, or other findings) identified by the Individual Plant Examination of External Events (IPEEE) and a description of the actions taken to eliminate or reduce them (including their completion dates), as part of NTTF Recommendation 2.3 – Seismic.

Section 7, IPEEE Vulnerabilities, of Reference 1 provides guidance for addressing and reporting the evaluations related to the Individual Plant Examination of External Events (IPEEE) program and the actions taken in response to the vulnerabilities that were identified during that program. According to the guidance in Reference 1, the submittal report should describe the actions taken to eliminate or reduce the IPEEE seismic vulnerabilities, and the date the actions were documented as complete. Table 7-1 and the following paragraphs provide this information.

NRC Generic Letter 88-20, Supplement No. 4, "Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities," dated June 28, 1991 (Reference 9), requested licensees to complete an IPEEE. The purpose of the IPEEE is to (1) develop appreciation of severe accident behavior, (2) understand the most likely severe accident sequences that occur under full power conditions, (3) gain a qualitative understanding of the overall likelihood of core damage and radioactive material release, and (4) to identify potential plant enhancements to reduce the overall likelihood of core damage and radioactive material releases. By letter dated March 1, 1995 (Reference 5), Monticello forwarded the report documenting the results of the Monticello Individual Plant Examination of External Events (IPEEE) as requested by Generic Letter 88-20. In addition to seismic events, this report addressed internal fires, high winds, floods and other credible external events. By letter dated November 20, 1995 (Reference 11), Monticello submitted revised information concerning the evaluation of internal fires as well as the seismic event evaluation.

The NRC review of information for the submittals related to IPEEE determined that no vulnerabilities associated with aspects of external events were identified and that the staff considers these issues resolved for Monticello (Reference 10). The NRC Staff made this conclusion on the basis that (1) the US1 A-46 program would upgrade the plant to the SSE level, and (2) assuming the failure of all seismic equipment list (SEL) equipment that were not screened at the review-level earthquake level, the plant would still be able to achieve safe shutdown. The following three plant improvements, which were stated by MNGP to be made as part of the US1 A-46 program, were necessary in order to make the statement that the plant would be capable of safe shutdown after an SSE:

- Fastening of U-bolts on diesel generator starting air receivers.
- Eliminating the potential impact of an HVAC duct on a relay panel.

- Upgrading light fixtures in the control room to have a means of anchorage independent of the T-bar supports.

Table 7-1 below lists the resolutions for these three IPEEE plant improvements, and when these resolutions were completed. Of the three IPEEE improvements listed in the table below, the DG 11 and DG 12 air receivers were selected for MNGP SWEL 1. The equipment tags for the air receivers are T-79D and T-80A, respectively. Anchorage configuration verifications were performed for both of these components, and no adverse seismic conditions were identified. In addition to performing Seismic Walkdowns on the 11 DG and 12 DG air receivers, an Area Walk-by was performed in the cable spreading room. No seismic issues for the C-32 relay panel were identified as a result of the Area Walk-by.

Table 7-1: Monticello IPEEE Seismic Improvements

Equipment Description	Potential Failure Mode	Resolution	Date Completed
DG 11 and 12 Air Receivers	Sliding-induced pipe failure. Pre-tension of U-bolts not reliable.	Analysis determined that a torque value of 15 ft-lb would apply adequate tension to assure that friction forces would adequately restrain the tanks in an axial direction. Work Order 9603068 and Work Order 9603069 applied a torque value of 15 ft-lb to the U-bolts.	December of 1996
Relay Panel C32	Relay chatter due to impact with HVAC duct behind panel.	Work Order 9602745 and modification 96Q035, Resolution of SQUG Outliers, trimmed the flanges of the HVAC duct so that it could not make contact with the panels. This eliminated the potential for the duct to impact the panels and cause essential relays to chatter.	December of 1996
Control Room Ceiling	Ceiling collapse. Ceiling system unbraced, vulnerable T-bar connections, light fixtures not safety-wired.	It was originally thought that all of the lights were not safety wired, however when trying to resolve this outlier it was found that the 2'x4' lights directly above the main control boards were supported from the ceiling by rods. The other ceiling lights were not independently supported from the ceiling. Work Order 9602920 and Modification 96Q035, Resolution of SQUG Outliers, installed safety wires on all of the lights over the listed panels to assure that they are independently supported and will not be a seismic interaction hazard.	December of 1996

8 Peer Review

A peer review team consisting of two individuals was assembled and peer reviews were performed in accordance with Section 6, *Peer Review*, of Reference 1. The Peer Review process for the deferred walkdowns included the following activities:

- Review of the selection of SSCs included on the SWEL
- Review of a sample of the checklists prepared for the deferred Seismic Walkdowns and Area Walk-Bys
- Review of Licensing basis evaluations, as applicable
- Review of the decisions for entering the potentially adverse conditions into the CAP process
- Review of the updated submittal report

The peer reviews were performed independently from this report. The summary Peer Review Report is provided in Appendix D of this report.

9 References

1) EPRI Technical Report 1025286, "Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic," dated June 2012.

2) Monticello Nuclear Generating Plant Updated Safety Analysis Report (USAR), Revision 29.

3) NSPM (M.A. Schimmel) Letter to NRC, "Monticello Nuclear Generating Plant's 120-Day Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding the Seismic Aspects of Recommendations 2.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated July 9, 2012.

4) NRC Letter, "Endorsement of Electric Power Research Institute (EPRI) Draft Report 1025286, 'Seismic Walkdown Guidance,'" dated May 31, 2012, ADAMS Accession No. ML12145A529.

5) Northern States Power (W.J. Hill) Letter to NRC, "Submittal of Monticello Individual Plant Examination of External Events (IPEEE) Report," dated March 1, 1995.

6) NRC (E Leeds and M Johnson) 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, ADAMS Accession No. ML12053A340.

7) Monticello Nuclear Generating Plant procedure 4 AWI-04.02.01, *Housekeeping*, Revision 21.

8) Monticello Nuclear Generating Plant procedure 4 AWI-04.05.10, *Scaffolding Controls*, Revision 8.

9) Supplement 4 of Generic Letter 88-20, "Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities," issued June of 1991.

10) NRC (C.F. Lyon) Letter to NSP (M.F. Hammer), "Review of Monticello Individual Plant Examination of External Events (IPEEE) Submittal (TAC No. M83644)," dated April 17, 2000.

11) NSP (W.J. Hill) Letter to NRC, "Individual Plant Examination of External Events (IPEEE) Report, Revision 1; Seismic Analysis, Revision 0 and Internal Fires Analysis, Revision 1 (TAC M83644)," dated November 20, 1995.

12) NSP (W.J. Hill) Letter to NRC, "Response to Supplement 1 to Generic Letter 87-02, Submittal of USI A-46 Seismic Evaluation Report (TAC M69460)," dated November 20, 1995.

13) NSPM Letter to NRC, "MNGP Final Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding the Seismic Aspects of Recommendation 2.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated November 27, 2012, ADAMS Accession No. ML12342A025.

A Equipment Lists

Appendix A contains the equipment lists that were developed as part of the equipment selection for the SWEL. Table A-2 from the Reference 13 report has been updated to include the substitution of item C-17 for the item C-03, and the deletion of G31 and C-93. The substitution and deletion of the SWEL 1 items are explained in Section 4.3 of this report. Note that MNGP did not identify any items which required walkdowns for SWEL 2, so a Base List 2 and SWEL 2 are not provided in this appendix.

The following contents are found in Appendix A:

A.1 Equipment Selection – Base List 1

Table A-1 is a list of the equipment resulting from Screen #3 and entering Screen #4. The screens utilized for selecting equipment for the SWEL is described in Section 4 of this report. This list of initial equipment is called "Base List 1," per the guidance in Reference 1.

Table A-1: Monticello Base List 1

Equipment Tag	Description	Class[1]	Safety Function[2]	System[3]
152-503	4KV BREAKER P-202C	(03) Medium Voltage Switchgear	3, 4, 5	4KV
152-504	4KV BREAKER P-202A	(03) Medium Voltage Switchgear	3, 4, 5	4KV
152-505	4KV TO P-208A 11 Core Spray Pump	(03) Medium Voltage Switchgear	3	4KV
152-605	4KV TO P-208B 12 Core Spray Pump	(03) Medium Voltage Switchgear	3	4KV
AO-2-2-11A	11 RECIRC PUMP SEAL LEAKOFF	(07) Fluid-Operated Valves	3, 5	REC
AO-2-2-11B	12 RECIRC PUMP SEAL LEAKOFF	(07) Fluid-Operated Valves	3, 5	REC
AO-2377	ALT N2 B	(21) Tanks and Heat Exchangers	5	AN2
AO-2377	DW & TORUS PURGE OTBD ISOL	(07) Fluid-Operated Valves	5	PCT
AO-2378	ALT N2 A	(21) Tanks and Heat Exchangers	5	AN2
AO-2378	TORUS PURGE INBD ISOL	(07) Fluid-Operated Valves	5	PCT
AO-2379	VACUUM RELIEF DAMPER	(07) Fluid-Operated Valves	5	PCT
AO-2380	VACUUM RELIEF DAMPER	(07) Fluid-Operated Valves	5	PCT
AO-2381	ALT N2 A	(21) Tanks and Heat Exchangers	5	AN2
AO-2381	DW PURGE INBD ISOL	(07) Fluid-Operated Valves	5	PCT

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
AO-2383	ALT N2 A	(21) Tanks and Heat Exchangers	5	AN2
AO-2383	TORUS PURGE EXH INBD	(07) Fluid-Operated Valves	5	PCT
AO-2386	DW PURGE EXH INBD	(07) Fluid-Operated Valves	5	PCT
AO-2386	ALT N2 A	(21) Tanks and Heat Exchangers	5	AN2
AO-2387	ALT N2 B	(21) Tanks and Heat Exchangers	5	AN2
AO-2387	DW OTBD VENT	(07) Fluid-Operated Valves	5	PCT
AO-2-80A	INBOARD MSIV	(07) Fluid-Operated Valves	2, 3, 5	MST
AO-2-80B	INBOARD MSIV	(07) Fluid-Operated Valves	3, 5	MST
AO-2-80C	INBOARD MSIV	(07) Fluid-Operated Valves	3, 5	MST
AO-2-80D	INBOARD MSIV	(07) Fluid-Operated Valves	3, 5	MST
AO-2-86A	A MSIV OUTBD	(07) Fluid-Operated Valves	3, 5	MST
AO-2-86B	B MISV OUTBD	(07) Fluid-Operated Valves	3, 5	MST
AO-2-86C	C MSIV OUTBD	(07) Fluid-Operated Valves	3, 5	MST
AO-2-86D	D MSIV OUTBD	(07) Fluid-Operated Valves	3, 5	MST
AO-2896	ALT N2 B	(21) Tanks and Heat Exchangers	5	AN2
AO-2896	TORUS PURGE EXH OTBD ISOL	(07) Fluid-Operated Valves	5	PCT
AO-4539	HARD PIPE VENT INBOARD ISOLATION VALVE	(07) Fluid-Operated Valves	5	PCT
AV-3147	11 RHR SW PUMP P-109A AUTO AIR VENT	(07) Fluid-Operated Valves	4, 5	RSW
AV-3148	14 RHR SW PUMP P-109D AUTO AIR VENT	(07) Fluid-Operated Valves	4, 5	RSW

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
AV-3149	13 RHR SW PUMP P-109C AUTO AIR VENT	(07) Fluid-Operated Valves	4, 5	RSW
AV-3150	12 RHR SW PUMP P-109B AUTO AIR VENT	(07) Fluid-Operated Valves	4, 5	RSW
AV-3155	11 ESW PUMP P-111A DISCHARGE AIR VENT	(07) Fluid-Operated Valves	3, 4	ESW
AV-3156	12 ESW PUMP P-111B DISCHARGE AIR VENT	(07) Fluid-Operated Valves	3, 4	ESW
AV-4024	13 ESW PUMP P-111C DISCHARGE AIR VENT	(07) Fluid-Operated Valves	3, 4, 5	FSW
AV-4026	14 ESW PUMP P-111D DISCHARGE AIR VENT	(07) Fluid-Operated Valves	3, 4, 5	FSW
BPM-1, Location:11 DG	DC-BOOSTER PUMP MOTOR	(05) Horizontal Pumps	1, 3, 4, 5	DGN
BPM-1, Location: 12 DG	DC-BOOSTER PUMP MOTOR	(05) Horizontal Pumps	3, 4, 5	DGN
BPM-2, Location: 11 DG	DC-BOOSTER PUMP MOTOR	(05) Horizontal Pumps	3, 4, 5	DGN
BPM-2, Location: 12 DG	DC-BOOSTER PUMP MOTOR	(05) Horizontal Pumps	3, 4, 5	DGN
BUS 15	4160 SWITCHGEAR	(03) Medium Voltage Switchgear	1, 2, 3, 4, 5	4KV
BUS 16	4160 SWITCHGEAR	(03) Medium Voltage Switchgear	1, 3, 4, 5	4KV
C-03	RX AND CTMT COOLING AND ISOL BENCH BOARD	(20) Instrumentation and Control Panels and Cabinets	2, 3, 4, 5	MSC
C-04	RWC RECIRCULATING BENCH BOARD	(20) Instrumentation and Control Panels and Cabinets	1, 3	MSC
C-05	REACTOR CONTROL BENCH BOARD	(20) Instrumentation and Control Panels and Cabinets	1, 3	MSC
C-06	FEEDWATER AND CONDENSATE BENCHBOARD	(20) Instrumentation and Control Panels and Cabinets	NONE	MSC

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
C-07	TURBINE BENCH BOARD	(20) Instrumentation and Control Panels and Cabinets	NONE	MSC
C-08	GENERATOR AUXILLARY POWER BENCH BOARD	(20) Instrumentation and Control Panels and Cabinets	NONE	MSC
C-121	JET PUMP INSTRUMENT RACK	(18) Instruments on Racks	3	REC
C-122	JET PUMP INSTRUMENT RACK	(18) Instruments on Racks	3	REC
C-129A	RHR INSTRUMENT RACK	(18) Instruments on Racks	3, 4, 5	RHR
C-129B	RHR INSTRUMENT RACK	(18) Instruments on Racks	3, 4, 5	RHR
C-15	CHANNEL A PRIMARY ISOL AND RPS VERTICAL BOARD	(20) Instrumentation and Control Panels and Cabinets	1, 3, 5	PPS
C-17	CHANNEL B ISOL AND RPS VERTICAL BOARD	(20) Instrumentation and Control Panels and Cabinets	1, 3, 5	PPS
C-18	FEEDWATER AND RECIRCULATION	(20) Instrumentation and Control Panels and Cabinets	NONE	CFW
C-19	PROCESS INSTRUMENT VERTICAL BOARD	(20) Instrumentation and Control Panels and Cabinets	NONE	CMP
C-20	TURBINE PLANT INSTRUMENT VERTICAL BOARD	(20) Instrumentation and Control Panels and Cabinets	NONE	MSC
C-21	NUCLEAR STEAM SUPPLY TEMPERATURE RECORDING	(20) Instrumentation and Control Panels and Cabinets	NONE	RPV
C-242	EFT NON-1E PANEL	(20) Instrumentation and Control Panels and Cabinets	NONE	EFT
C-243A	EFT FLOW CONTROLLERS PANEL DIV I	(20) Instrumentation and Control Panels and Cabinets	NONE	EFT
C-244B	EFT FLOW CONTROLLERS PANEL DIV II	(20) Instrumentation and Control Panels and Cabinets	NONE	EFT
C-253A	SRV Panel	(20) Instrumentation and Control Panels and Cabinets	2	APR
C-253B	SRV Panel	(20) Instrumentation and Control Panels and Cabinets	2	APR

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
C-253D	DIV II LOLO SET BYPASS PANEL	(20) Instrumentation and Control Panels and Cabinets	2	APR
C-27	RPIS CABINET C-27	(20) Instrumentation and Control Panels and Cabinets	NONE	RPI
C-289A	SPOTMOS PANEL	(20) Instrumentation and Control Panels and Cabinets	NONE	PCT
C-289B	SPOTMOS PANEL	(20) Instrumentation and Control Panels and Cabinets	NONE	PCT
C-290A	SRV BLOWDOWN INST PANEL	(18) Instruments on Racks	2, 3	APR
C-290B	SRV BLOWDOWN INST PANEL	(18) Instruments on Racks	2, 3	APR
C-292	ASDS BENCHBOARD	(20) Instrumentation and Control Panels and Cabinets	1, 2, 3, 4, 5	ASD
C-292	INSTRUMENT RACK	(18) Instruments on Racks	1, 2, 3, 5	ASD
C-293	ASDS RELAY PANEL	(20) Instrumentation and Control Panels and Cabinets	1, 2, 3, 5	ASD
C-30	RCIC CABLE SPR RM CONTROL PANEL	(20) Instrumentation and Control Panels and Cabinets	3	RCI
C-303A	ECCS DIV I ANALOG TRIP SYSTEM	(20) Instrumentation and Control Panels and Cabinets	3	PPS
C-303B	ECCS DIV II ANALOG TRIP SYSTEM	(20) Instrumentation and Control Panels and Cabinets	3	PPS
C-304A	RPS-A1 AND ISOLATION ANALOG TRIP UNIT	(20) Instrumentation and Control Panels and Cabinets	1, 5	PPS
C-304B	RPS-B1 AND ISOLATION ANALOG TRIP UNIT	(20) Instrumentation and Control Panels and Cabinets	1,5	PPS
C-304C	RPS-A2 AND ISOLATION ANALOG TRIP UNIT	(20) Instrumentation and Control Panels and Cabinets	1, 5	PPS
C-304D	RPS-B2 AND ISOLATION ANALOG TRIP UNIT	(20) Instrumentation and Control Panels and Cabinets	1, 5	PPS
C-311	SRV BACKUP AIR SUPPLY	(20) Instrumentation and Control Panels and Cabinets	2, 3	APR

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
C-32	A RHR, CORE SPRAY, ADS CONTROL PANEL	(20) Instrumentation and Control Panels and Cabinets	2, 3, 5	RHR
C-33	B RHR, CORE SPRAY, ADS CONTROL PANEL	(20) Instrumentation and Control Panels and Cabinets	2, 3, 5	RHR
C-39	HPCI RELAY PANEL	(20) Instrumentation and Control Panels and Cabinets	3	HPC
C-41	INBOARD ISOLATION RELAY PANEL	(20) Instrumentation and Control Panels and Cabinets	3, 5	PPS
C-42	OUTBOARD ISOLATION RELAY PANEL	(20) Instrumentation and Control Panels and Cabinets	3, 5	PPS
C-55	RX LEVEL & PRESSURE RACK	(18) Instruments on Racks	1, 2, 3, 5	RPV
C-56	RX LEVEL & PRESSURE RACK	(18) Instruments on Racks	1, 2, 3, 5	RPV
C-65	Fuel Pool Vent Control Panel	(20) Instrumentation and Control Panels and Cabinets	NONE	HTV
C-88	Fuel Pool Control Panel	(20) Instrumentation and Control Panels and Cabinets	NONE	FPC
C-91	11 DIESEL GEN ELECTRICAL	(20) Instrumentation and Control Panels and Cabinets	1, 3, 4, 5	DGN
C-92	12 DIESEL GEN ELECTRICAL	(20) Instrumentation and Control Panels and Cabinets	3, 4, 5	DGN
C-93	11 DIESEL GEN CONTROL	(20) Instrumentation and Control Panels and Cabinets	1, 3, 4, 5	DGN
C-94	12 DIESEL GEN CONTROL	(20) Instrumentation and Control Panels and Cabinets	3, 4, 5	DGN
CRD HCU E	CRD HYDRALIC CONTROL UNITS EAST SIDE	(18) Instruments on Racks	1	CRD
CRD HCU E FV	CRD HYDRALIC CONTROL UNITS EAST SIDE	(07) Fluid-Operated Valves	1	CRD
CRD HCU W	CRD HYDRALIC CONTROL UNITS WEST SIDE	(18) Instruments on Racks	1	CRD

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
CRD HCU W FV	CRD HYDRALIC CONTROL UNITS WEST SIDE	(07) Fluid-Operated Valves	1	CRD
CRD16A	SCRAM DISCHARGE VOLUME	(21) Tanks and Heat Exchangers	1, 3	CRD
CRD16B	SCRAM DISCHARGE VOLUME	(21) Tanks and Heat Exchangers	1, 3	CRD
CV-1728	11 RHR HX RHRSW OUTLET	(07) Fluid-Operated Valves	4, 5	RSW
CV-1729	12 RHR HX RHRSW OUTLET	(07) Fluid-Operated Valves	4, 5	RSW
CV-1994	11 RHR PUMP MINIMUM FLOW	(07) Fluid-Operated Valves	3, 4, 5	RHR
CV-1995	12 RHR PUMP MINIMUM FLOW	(07) Fluid-Operated Valves	3, 4, 5	RHR
CV-1996	13 RHR PUMP MINIMUM FLOW	(07) Fluid-Operated Valves	3, 4, 5	RHR
CV-1997	14 RHR PUMP MINIMUM FLOW	(07) Fluid-Operated Valves	3, 4, 5	RHR
CV-2043	HPCI STEAM LINE DRAIN TRAP BYPASS	(07) Fluid-Operated Valves	3	HPC
CV-2046A	STEAM LINE DRN TO MAIN CDSR	(07) Fluid-Operated Valves	3	HPC
CV-2046B	STEAM LINE DRN TO MAIN CDSR	(07) Fluid-Operated Valves	3	HPC
CV-2369	FLANGE LEAK OFF CONTROL VALVE	(07) Fluid-Operated Valves	3	RPV
CV-2370	FLANGE LEAK OFF CONTROL VALVE	(07) Fluid-Operated Valves	3	RPV
CV-2371	REACTOR HEAD VENT TO CRW	(07) Fluid-Operated Valves	3	RPV
CV-3-32A	WEST SDV VENT	(07) Fluid-Operated Valves	1, 3	CRH
CV-3-32B	EAST SDV VENT	(07) Fluid-Operated Valves	1, 3	CRH
CV-3-32C	WEST SDV VENT	(07) Fluid-Operated Valves	1, 3	CRH
CV-3-32D	EAST SDV VENT	(07) Fluid-Operated Valves	1, 3	CRH
CV-3-33A	SCRAM DISCHARGE VOLUME DRAIN LINES	(07) Fluid-Operated Valves	1, 3	CRH

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
CV-3-33B	SCRAM DISCHARGE VOLUME DRAIN LINES	(07) Fluid-Operated Valves	1, 3	CRH
CV-3-33C	WEST SDV DRAIN	(07) Fluid-Operated Valves	1, 3	CRH
CV-3-33D	EAST SDV DRAIN	(07) Fluid-Operated Valves	1, 3	CRH
D1	#11 BATTERY 125VDC	(15) Batteries on Racks	1, 2, 3, 4, 5	125
D10	125 VDC CHARGER FOR #11 BATT	(16) Battery Chargers and Inverters	1, 2, 3, 4, 5	125
D100	DIV 2 125/250 VDC DISTRIBUTION PANEL	(14) Distribution Panels	1, 2, 3, 4, 5	250
D101	DIV 2 125/250 VDC ALARM SYSTEM PANEL	(20) Instrumentation and Control Panels and Cabinets	3, 4, 5	250
D102	DIV 1 125/250 VDC ALARM SYSTEM PANEL	(20) Instrumentation and Control Panels and Cabinets	3, 4, 5	250
D11	DIV I 125VDC DISTRIBUTION CENTER	(14) Distribution Panels	1, 2, 3, 4, 5	125
D111	DIV II 125 VDC PANEL	(14) Distribution Panels	3, 4, 5	125
D2	#12 BATTERY 125VDC	(15) Batteries on Racks	3, 4, 5	125
D20	125 VDC Charger	(16) Battery Chargers and Inverters	3, 4, 5	125
D21	DIV I 125 VDC DISTRIBUTION PANEL	(14) Distribution Panels	3, 4, 5	125
D211	DIV II 125 VDC PANEL	(14) Distribution Panels	3, 4, 5	125
D31	DIV I 125/250 VDC DISTRIBUTION PANEL	(14) Distribution Panels	1, 2, 3, 4, 5	250
D33	125 VDC DISTRIBUTION CENTER	(14) Distribution Panels	3, 4, 5	125
D3A	#13 (DIV 1) 125/250VDC BATTERY "A"	(15) Batteries on Racks	1, 2, 3, 4, 5	250
D3B	#13 (DIV 1) 125/250VDC BATTERY "B"	(15) Batteries on Racks	1, 2, 3, 4, 5	250
D40	125 VDC Charger	(16) Battery Chargers and Inverters	3, 4, 5	125

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
D52	CHARGER, D3A (13) BATTERY	(16) Battery Chargers and Inverters	1, 2, 3, 4, 5	250
D53	CHARGER, D3B (13) BATTERY	(16) Battery Chargers and Inverters	3, 4, 5	250
D54	CHARGER, SWING D3A,D3B (13) BATTERY	(16) Battery Chargers and Inverters	3, 4, 5	250
D6A	#16 (DIV 2) 125/250VDC BATTERY "A"	(15) Batteries on Racks	3, 4, 5	250
D6B	#16 (DIV 2) 125/250VDC BATTERY "B"	(15) Batteries on Racks	3, 4, 5	250
D70	CHARGER, D6B (16) BATTERY	(16) Battery Chargers and Inverters	1, 2, 3, 4, 5	250
D80	CHARGER, D6A (16) BATTERY	(16) Battery Chargers and Inverters	3, 4, 5	250
D90	CHARGER, SWING D6A,D6B (16)BATTERY	(16) Battery Chargers and Inverters	3, 4, 5	250
DM-8089A1	V-SF-9 SUPPLY DAMPER	(10) Air Handlers	1, 3, 4, 5	HTV
DM-8089A2	V-SF-9 SUPPLY DAMPER	(10) Air Handlers	3, 4, 5	HTV
DM-8089A3	V-SF-9 SUPPLY DAMPER	(10) Air Handlers	3, 4, 5	HTV
DM-8089B1	V-SF-9 EXHAUST DAMPER	(10) Air Handlers	3, 4, 5	HTV
DM-8089B2	V-SF-9 EXHAUST DAMPER	(10) Air Handlers	3, 4, 5	HTV
DM-8089J1	V-SF-10 SUPPLY DAMPER	(10) Air Handlers	1, 3, 4, 5	HTV
DM-8089J2	V-SF-10 SUPPLY DAMPER	(10) Air Handlers	3, 4, 5	HTV
DM-8089J3	V-SF-10 SUPPLY DAMPER	(10) Air Handlers	3, 4, 5	HTV
DM-8089K1	V-SF-10 EXHAUST DAMPER	(10) Air Handlers	3, 4, 5	HTV
DM-8089K2	V-SF-10 EXHAUST DAMPER	(10) Air Handlers	3, 4, 5	HTV
DPT-10-91A	11 RHR HX TUBE/SHELL DP CONTROL	(18) Instruments on Racks	4, 5	RSW
DPT-10-91B	HR HX 12 TUBE/SHELL DP CONTROL	(18) Instruments on Racks	4, 5	RSW

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
DPT-7845A	RHR 11 PUMP D/P	(18) Instruments on Racks	NONE	RHR
DPT-7845C	RHR 13 PUMP D/P	(18) Instruments on Racks	NONE	RHR
E-200A	11 RHR HEAT EXCHANGER	(21) Tanks and Heat Exchangers	4, 5	RHR
E-200B	RHR/ RHR B HXER	(21) Tanks and Heat Exchangers	4, 5	RHR
FE-10-121C	RHR PUMP 13 MIN FLOW ELEMENT	(00) Other	3, 4, 5	RHR
FI-10-136B	FLOW INDICATOR RHR	(18) Instruments on Racks	NONE	RHR
FI-14-50B	CS LOOP 12 FLOW	(18) Instruments on Racks	NONE	CSP
FI-4104	CORE SPRAY FLOW B	(18) Instruments on Racks	NONE	CSP
FI-4295B	14 ESW PUMP EFT-ESW HEADER FLOW INDICATOR	(18) Instruments on Racks	NONE	RSW
FMT-1 (DG-12)	12 DG FUEL TRANSFER PUMP #1	(05) Horizontal Pumps	3, 4, 5	DGN
FMT-2 (DG-11)	11 DG FUEL TRANSFER PUMP #2	(05) Horizontal Pumps	3, 4, 5	DGN
FMT-2 (DG-12)	12 DG FUEL TRANSFER PUMP #2	(05) Horizontal Pumps	3, 4, 5	DGN
FT-10-109B	RHR/ RHR B LPCI INJ FLOW	(18) Instruments on Racks	NONE	RHR
FT-10-111A	RHR LOOP A CONT COOLING FLOW	(18) Instruments on Racks	NONE	RHR
FT-10-97A	RHR HX 11 SW INLET FLOW	(18) Instruments on Racks	NONE	RSW
FT-10-97B	RHR HX 12 SW INLET FLOW	(18) Instruments on Racks	NONE	RSW
FT-14-40B	CS LOOP 12 FLOW	(00) Other	NONE	CSP
FT-23-82	HPCI PUMP FLOW TRANSMITTER	(18) Instruments on Racks	3	HPC
FT-6-51A	FW MST FLOW "A" TO LVL CONTROL	(18) Instruments on Racks	NONE	RLC
FT-6-51B	FW MST FLOW "B" TO LVL CONTROL	(18) Instruments on Racks	3, 5	RLC
FT-6-51C	FW MST FLOW "C" TO LVL CONTROL	(18) Instruments on Racks	3, 5	RLC

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
FT-6-51D	FW MST FLOW "D" TO LVL CONTROL	(18) Instruments on Racks	NONE	RLC
FY-4106	RHR CONTAINMENT COOLING FLOW	(18) Instruments on Racks	NONE	RHR
G31	#11 DG NEUTRAL GROUNDING CABINET	(04) Transformers	1, 3, 4, 5	DGN
G-3A	11 EMERGENCY DIESEL GENERATOR	(17) Engine-Generators	1, 3, 4, 5	DGN
G-3B	12 EMERGENCY DIESEL GENERATOR	(17) Engine-Generators	1, 3, 4, 5	DGN
G41	#12 DG NEUTRAL GROUNDING CABINET	(04) Transformers	3, 4, 5	DGN
IR-5A-K30A	RACK FOR 5A-K30A & 5A-K30B RELAYS	(18) Instruments on Racks	1	PPS
IR-DPT-7845A	RHR 11/13 PUMP D/P RACK	(18) Instruments on Racks	NONE	RHR
IR-FS-10-121A	RHR PUMP 11 MIN FLOW CONTROL RACK	(18) Instruments on Racks	3, 4, 5	RHR
IR-FS-10-121B	RHR PUMP 12 MIN FLOW CONTROL RACK	(18) Instruments on Racks	3, 4, 5	RHR
IR-FT-10-111A	RHR LOOP A CONT COOLING FLOW INSTR RACK	(18) Instruments on Racks	NONE	RHR
IR-LS-7428A	SDV WATER LEVEL HI RACK	(18) Instruments on Racks	1, 3, 5	CRH
IR-LS-7428C	SDV WATER LEVEL HI RACK	(18) Instruments on Racks	1, 3, 5	CRH
IR-PCV-4879	ALT N2 A RACK	(18) Instruments on Racks	2, 5	AN2
IR-PCV-4881	ALT N2 B RACK	(18) Instruments on Racks	2, 5	AN2
IR-PI-3051	TORUS INSTRUMENT RACK	(18) Instruments on Racks	5	PCT
IR-RB1001-01	Fuel Pool Instrument Rack	(18) Instruments on Racks	NONE	FPC
IR-SV-3-29	EAST/WEST SDV VENT/DRN VLVS AIR SUPPLY SOL VLV RACK	(18) Instruments on Racks	3, 5	CRH
IR-SV-3-31C	OUTBOARD VENT/AR RPS CH A RACK	(18) Instruments on Racks	1, 3, 5	CRH

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
J1010	SECURITY JUNCTION BOX	(14) Distribution Panels	NONE	SIN
J1012	SECURITY JUNCTION BOX	(14) Distribution Panels	NONE	SIN
J1013	SECURITY JUNCTION BOX	(14) Distribution Panels	NONE	SIN
K-10A	RHRSW AUX AIR COMP	(12) Air Compressors	4, 5	RSW
K-10B	B RHR AUX AIR COMPRESSOR	(12) Air Compressors	4, 5	RSW
K-8A	11 EDG ELECTRIC/DIESEL AIR STARTER COMPRESSOR #1	(12) Air Compressors	1, 3, 4, 5	DGN
K-8B	11 ELECTRIC AIR STARTER COMPRESSOR #2	(12) Air Compressors	1, 3, 4, 5	DGN
K-9A	12 ELECTRIC AIR STARTER COMPRESSOR #1	(12) Air Compressors	3, 4, 5	DGN
K-9B	12 EDG ELECTRIC/DIESEL AIR STARTER COMPRESSOR #2	(12) Air Compressors	3, 4, 5	DGN
LC-103	480 V LOAD CENTER	(02) Low Voltage Switchgear	1, 3, 4, 5	480
LC-104	480 V LOAD CENTER	(02) Low Voltage Switchgear	1, 3, 4, 5	480
LT-2-3-72A	LO LO REACTOR LVL ECCS INITIATION	(18) Instruments on Racks	2, 3	RPV
LT-2-3-72B	LO LO REACTOR LVL ECCS INITIATION	(18) Instruments on Racks	2, 3	RPV
LT-2-3-72C	LO LO REACTOR LVL ECCS INITIATION	(18) Instruments on Racks	2, 3	RPV
LT-2-3-72D	LO LO REACTOR LVL ECCS INITIATION	(18) Instruments on Racks	2, 3	RPV
LT-2996	TORUS WATER LEVEL	(18) Instruments on Racks	5	PCT
LT-7338A	TORUS WIDE RANGE LEVEL	(18) Instruments on Racks	NONE	PCT
LT-7338B	TORUS WIDE RANGE LEVEL	(18) Instruments on Racks	NONE	PCT
MCC-133A	480 V MCC (B33A)	(01) Motor Control Centers	1, 3, 4, 5	480
MCC-133B	480V MCC	(01) Motor Control Centers	1, 3, 4, 5	480

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
MCC-134	480 V MCC (B34)	(01) Motor Control Centers	1, 3, 4, 5	480
MCC-142A	480 V MCC (B42A)	(01) Motor Control Centers	1, 3, 4, 5	480
MCC-142B	480V MCC	(01) Motor Control Centers	NONE	480
MCC-143A	480 V MCC (B43A)	(01) Motor Control Centers	1, 3, 4, 5	480
MCC-143B	480V MCC	(01) Motor Control Centers	1, 3, 4, 5	480
MCC-144	480 V MCC (B44)	(01) Motor Control Centers	1, 3, 4, 5	480
MCC-311	DIV 1 (RCIC) 250V DC MOTOR CONTROL CENTER 311	(01) Motor Control Centers	3	250
MCC-312	DIV 2 (HPCI) 250V DC MOTOR CONTROL CENTER 312	(01) Motor Control Centers	3	250
MCC-313	DIV 1 250V DC MOTOR CONTROL CENTER 313	(01) Motor Control Centers	2, 3, 5	250
MO-1741	11 CS PUMP TORUS SUCTION	(08) Motor-Operated and Solenoid-Operated Valves	3	CSP
MO-1742	12 CS PUMP TORUS SUCTION	(08) Motor-Operated and Solenoid-Operated Valves	3	CSP
MO-1749	11 CORE SPRAY TEST LINE TO TORUS	(08) Motor-Operated and Solenoid-Operated Valves	3	CSP
MO-1750	12 CS TEST LINE TO TORUS	(08) Motor-Operated and Solenoid-Operated Valves	3	CSP
MO-1751	11 CS INJ OUTBOARD ISOLATION VLV	(08) Motor-Operated and Solenoid-Operated Valves	3	CSP
MO-1752	12 CS INJ OUTBOARD ISOLATION	(08) Motor-Operated and Solenoid-Operated Valves	3	CSP
MO-1753	11 CS INJ INBOARD ISOLATION VLV	(08) Motor-Operated and Solenoid-Operated Valves	3	CSP
MO-1754	12 CS INJ INBOARD ISOLATION VALVE	(08) Motor-Operated and Solenoid-Operated Valves	3	CSP

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
MO-1986	11 RHR SUCTION FROM TORUS	(08) Motor-Operated and Solenoid-Operated Valves	3, 5	RHR
MO-1987	B RHR/ TORUS SUCTION	(08) Motor-Operated and Solenoid-Operated Valves	3, 5	RHR
MO-1988	11 RHR SHUTDOWN COOLING SUCTION	(08) Motor-Operated and Solenoid-Operated Valves	4	RHR
MO-1989	RHR/ B SDC SUCTION	(08) Motor-Operated and Solenoid-Operated Valves	4	RHR
MO-2002	11 RHR HX BYPASS	(08) Motor-Operated and Solenoid-Operated Valves	3	RHR
MO-2003	RHR/RHR B HXER BYPASS	(08) Motor-Operated and Solenoid-Operated Valves	3	RHR
MO-2006	11 RHR DISCHARGE TO TORUS	(08) Motor-Operated and Solenoid-Operated Valves	5	RHR
MO-2007	RHR/RHR B DISCH TO TORUS	(08) Motor-Operated and Solenoid-Operated Valves	5	RHR
MO-2008	TORUS COOLING ISOL	(08) Motor-Operated and Solenoid-Operated Valves	5	RHR
MO-2009	RHR/ RHR B TORUS COOLING TEST RTN	(08) Motor-Operated and Solenoid-Operated Valves	5	RHR
MO-2010	TORUS SPRAY VLV	(08) Motor-Operated and Solenoid-Operated Valves	4, 5	RHR
MO-2011	RHR/ RHR B TORUS SPRAY INJ	(08) Motor-Operated and Solenoid-Operated Valves	5	RHR
MO-2012	11 RHR LPCI OUTBOARD INJECTION	(08) Motor-Operated and Solenoid-Operated Valves	3, 4	RHR
MO-2013	RHR/RHR B LPCI INJ OUTBD	(08) Motor-Operated and Solenoid-Operated Valves	3, 4	RHR
MO-2014	11 RHR LPCI INBOARD INJECTION	(08) Motor-Operated and Solenoid-Operated Valves	3, 4	RHR
MO-2015	RHR B LPCI INJ INBOARD	(08) Motor-Operated and Solenoid-Operated Valves	3, 4	RHR

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
MO-2020	11 RHR CONTAINMENT SPRAY OUTBOARD ISOLATION	(08) Motor-Operated and Solenoid-Operated Valves	5	RHR
MO-2021	"B" RHR CTMT SPRAY OUTBD ISOL	(08) Motor-Operated and Solenoid-Operated Valves	5	RHR
MO-2026	RHR HEAD SPRAY OUTBOARD ISOLATION	(08) Motor-Operated and Solenoid-Operated Valves	4	RHR
MO-2030	RHR SHUTDOWN COOLING SUPPLY OUTBOARD ISOLATION	(08) Motor-Operated and Solenoid-Operated Valves	3, 4	RHR
MO-2032	RHR DISCHARGE TO WASTE SURGE TANK	(08) Motor-Operated and Solenoid-Operated Valves	5	RHR
MO-2033	RHR LOOPS CROSSTIE	(08) Motor-Operated and Solenoid-Operated Valves	3	RHR
MO-2034	HPCI INBOARD STEAM SUPPLY	(08) Motor-Operated and Solenoid-Operated Valves	3, 5	HPC
MO-2035	HPCI OUTBOARD STEAM SUPPLY ISOLATION	(08) Motor-Operated and Solenoid-Operated Valves	3, 5	HPC
MO-2063	HPCI CST SUCT	(08) Motor-Operated and Solenoid-Operated Valves	3	HPC
MO-2075	RCIC STEAM SUPPLY INBOARD ISOLATION	(08) Motor-Operated and Solenoid-Operated Valves	3, 5	RCI
MO-2076	RCIC STEAM SUPPLY OUTBOARD ISOLATION	(08) Motor-Operated and Solenoid-Operated Valves	3, 5	RCI
MO-2078	RCIC TURBINE STEAM SUPPLY	(08) Motor-Operated and Solenoid-Operated Valves	3	RCI
MO-2106	RCIC PUMP DISCHARGE OUTBOARD	(08) Motor-Operated and Solenoid-Operated Valves	3	RCI
MO-2373	INBD MS LINE DRN UPSTREAM MSIVS	(08) Motor-Operated and Solenoid-Operated Valves	3, 5	MST
MO-2374	MAIN STEAM LINE DRAIN - OUTBOARD	(08) Motor-Operated and Solenoid-Operated Valves	2, 3, 5	MST
MO-2397	RWCU INLET INBOARD ISOL	(08) Motor-Operated and Solenoid-Operated Valves	3, 5	RWC

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
MO-2398	RWCU INLET OUTBOARD ISOL	(08) Motor-Operated and Solenoid-Operated Valves	3, 5	RWC
MO-2-43A	11 RECIRC PUMP SUCTION	(08) Motor-Operated and Solenoid-Operated Valves	3	REC
MO-2-43B	12 RECIRC PUMP SUCTION	(08) Motor-Operated and Solenoid-Operated Valves	3	REC
MO-2-53A	11 RECIRC PUMP DISCHARGE	(08) Motor-Operated and Solenoid-Operated Valves	3	REC
MO-2-53B	12 RECIRC PUMP DISCHARGE	(08) Motor-Operated and Solenoid-Operated Valves	3	REC
N3346A	11 EDG AIR CMPSR 1 (K-8A) LOCAL DISCONNECT SWITCH	(20) Instrumentation and Control Panels and Cabinets	1,3, 4, 5	DGN
N3346B	12 EDG AIR CMPSR 2 (K-9B) LOCAL DISCONNECT SWITCH	(20) Instrumentation and Control Panels and Cabinets	3, 4, 5	DGN
N3347	MOTOR STARTER FOR K-10A	(20) Instrumentation and Control Panels and Cabinets	4, 5	DGN
N4301A	11 EDG AIR CMPSR 2 (K-8B) LOCAL DISCONNECT SWITCH	(20) Instrumentation and Control Panels and Cabinets	1, 3, 4, 5	DGN
N4301B	12 EDG AIR CMPSR 1 (K-9A) LOCAL DISCONNECT SWITCH	(20) Instrumentation and Control Panels and Cabinets	3, 4, 5	DGN
N4454	MOTOR STARTER FOR K-10B	(20) Instrumentation and Control Panels and Cabinets	3, 4, 5	DGN
P-109A	11 RHR SW PUMP	(06) Vertical Pumps	4, 5	RSW
P-109B	12 RHR SW PUMP	(06) Vertical Pumps	4	RSW
P-109C	13 RHR SW PUMP	(06) Vertical Pumps	4	RSW
P-109D	14 RHR SW PUMP	(06) Vertical Pumps	4	RSW
P-11	DIESEL OIL XFER PUMP	(05) Horizontal Pumps	1, 3, 4, 5	DOL
P-111A	11 ESW (EDG-ESW) PUMP	(06) Vertical Pumps	1, 3, 4, 5	ESW
P-111B	12 ESW (EDG-ESW) PUMP	(06) Vertical Pumps	3, 4, 5	ESW

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
P-111C	13 ESW PUMP	(06) Vertical Pumps	3, 4, 5	FSW
P-111D	14 ESW PUMP	(06) Vertical Pumps	3, 4, 5	FSW
P-202A	11 RHR PUMP	(06) Vertical Pumps	3, 4, 5	RHR
P-202B	RHR/ RHR B PUMP # 12	(06) Vertical Pumps	3, 4, 5	RHR
P-202C	13 RHR PUMP	(06) Vertical Pumps	3, 4, 5	RHR
P-202D	RHR/ RHR D PUMP # 14	(06) Vertical Pumps	3, 4, 5	RHR
P-203A	11 SBLC Pump	(05) Horizontal Pumps	1	SLC
P-208A	11 CORE SPRAY PUMP	(06) Vertical Pumps	3	CSP
P-208B	12 CORE SPRAY PUMP	(06) Vertical Pumps	3	CSP
P-209	HPCI PUMP	(05) Horizontal Pumps	3	HPC
P-222A	11 DG FUEL TRANSFER PUMP #1	(05) Horizontal Pumps	1, 3, 4, 5	DGN
P-73A	480V POWER PANEL	(14) Distribution Panels	4, 5	480
P-88A	ECCS AREA DRAIN PUMP	(06) Vertical Pumps	3, 4, 5	LRW
P-88B	ECCS AREA DRAIN PUMP	(06) Vertical Pumps	3, 4, 5	LRW
P-88C	ECCS AREA DRAIN PUMP	(06) Vertical Pumps	3, 4, 5	LRW
P-88D	ECCS AREA DRAIN PUMP	(06) Vertical Pumps	3, 4, 5	LRW
PCV-3004	11/13 RHRWSW PUMP MOTORS COOLING WATER HEADER INLET	(07) Fluid-Operated Valves	3, 4, 5	RSW
PCV-3005	12/14 RHRSW PUMP MOTORS COOLING HEADER INLET	(07) Fluid-Operated Valves	3, 4, 5	RSW
PCV-4879	ALT N2 A	(18) Instruments on Racks	2, 5	AN2
PCV-4881	ALT N2 B	(18) Instruments on Racks	2, 5	AN2
PCV-4897	ALT N2 A	(18) Instruments on Racks	2, 5	AN2

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
PCV-4898	ALT N2 B	(18) Instruments on Racks	2, 5	AN2
PCV-4903	ALT N2 A	(18) Instruments on Racks	2, 5	AN2
PCV-4904	ALT N2 A	(18) Instruments on Racks	2, 5	AN2
PCV-4905	ALT N2 B	(18) Instruments on Racks	2, 5	AN2
PCV-4906	ALT N2 B	(18) Instruments on Racks	2, 5	AN2
PS-23-97A	HPCI HI TURB EXH PRESS TURB TRIP	(18) Instruments on Racks	3	HPC
PSX5	X PAGE 5 VOLT POWER SUPPLY RPIS	(16) Battery Chargers and Inverters	NONE	RPI
PSX6	X PAGE 6 VOLT POWER SUPPLY RPIS	(16) Battery Chargers and Inverters	NONE	RPI
PSY5	Y PAGE 5 VOLT POWER SUPPLY RPIS	(16) Battery Chargers and Inverters	NONE	RPI
PSY6	Y PAGE 6 VOLT POWER SUPPLY RPIS	(16) Battery Chargers and Inverters	NONE	RPI
PT-14-38B	CS PUMP 12 DISCHARGE PRESSURE	(18) Instruments on Racks	3	CSP
PT-2994A	DW PRESS NARROW RANGE	(18) Instruments on Racks	NONE	PCT
PT-2994B	TORUS PRESSURE NARROW RANGE	(18) Instruments on Racks	NONE	PCT
PT-4022	EFT-ESW SYSTEM PRESSURE	(18) Instruments on Racks	NONE	PCT
PT-7251A	DW WIDE RANGE PRES	(18) Instruments on Racks	NONE	PCT
PT-7251B	DRYWELL WIDE RANGE PRESS	(18) Instruments on Racks	NONE	PCT
RV-1523	XFER PUMP DISCHARGE RELIEF VALVE	(07) Fluid-Operated Valves	3, 4, 5	DOL
RV-1524	XFER PUMP DISCHARGE RELIEF VALVE	(07) Fluid-Operated Valves	3, 4, 5	DOL
RV-1745	11 CS PUMP DISCH RV TO ORW	(07) Fluid-Operated Valves	3	CSP
RV-1746	12 CS PUMP DISCH RV TO ORW	(07) Fluid-Operated Valves	3	CSP

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
RV-1990	RHR 11 PUMP SUCTION RV	(07) Fluid-Operated Valves	3, 4, 5	RHR
RV-1991	RHR/ RHR B PUMP SUCTION RELIEF	(07) Fluid-Operated Valves	3, 4, 5	RHR
RV-1992	RHR 13 PUMP SUCTION RV	(07) Fluid-Operated Valves	3, 4, 5	RHR
RV-1993	RHR/ RHR D PUMP SUCTION RELIEF	(07) Fluid-Operated Valves	3, 4, 5	RHR
RV-2004	RHR LOOP A DISCHARGE LINE RV	(07) Fluid-Operated Valves	3, 4, 5	RHR
RV-2005	RHR LOOP B DISCHARGE LINE RV	(07) Fluid-Operated Valves	3, 4, 5	RHR
RV-2025	RHR HEAD SPRAY LINE RV	(07) Fluid-Operated Valves	3, 4, 5	RHR
RV-2031	SD COOLING SUCTION SUPPLY	(07) Fluid-Operated Valves	4	RHR
RV-2-71A	A SRV	(07) Fluid-Operated Valves	2	APR
RV-2-71B	B SRV	(07) Fluid-Operated Valves	2	APR
RV-2-71C	C SRV	(07) Fluid-Operated Valves	2	APR
RV-2-71D	D SRV	(07) Fluid-Operated Valves	2	APR
RV-2-71E	E SRV	(07) Fluid-Operated Valves	2	APR
RV-2-71F	F SRV	(07) Fluid-Operated Valves	2	APR
RV-2-71G	G SRV	(07) Fluid-Operated Valves	2	APR
RV-2-71H	H SRV	(07) Fluid-Operated Valves	2	APR
RV-3038	11 LOOP MOTOR COOLING HEADER	(07) Fluid-Operated Valves	4, 5	RSW
RV-3039	12/14 LOOP MOTOR COOLING HEADER	(07) Fluid-Operated Valves	4, 5	RSW
RV-3202	11 HX TUBE SIDE	(07) Fluid-Operated Valves	4, 5	RSW
RV-3203	12 HX TUBE SIDE	(07) Fluid-Operated Valves	4, 5	RSW
RV-3216	11 DG AIR TK T-79A RV	(07) Fluid-Operated Valves	3, 4, 5	DGN

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
RV-3217	11 DG AIR TK T-79B RV	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3218	11 DG AIR TK T-79C RV	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3219	11 DG AIR TK T-79D RV	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3220	11 DG AIR TK T-79E RV	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3221	11 DG AIR TK T-79F RV	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3222	DIESEL AIR START COMPRESSOR (K-8A)	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3223	DIESEL AIR START COMPRESSOR (K-8B)	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3224	12 DG AIR TK T-80A RV	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3225	12 DG AIR TK T-80B RV	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3226	12 DG AIR TK T-80C RV	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3227	12 DG AIR TK T-80D RV	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3228	12 DG AIR TK T-80E RV	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3229	12 DG AIR TK T-80F RV	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3230	DIESEL AIR START COMPRESSOR (K-9A)	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3231	DIESEL AIR START COMPRESSOR (K-9B)	(07) Fluid-Operated Valves	3, 4, 5	DGN
RV-3242	A SRV DISCHARE 2 VAC RV	(07) Fluid-Operated Valves	2	MST
RV-3242A	A SRV DISCHARGE 8 VAC RV	(07) Fluid-Operated Valves	2	MST
RV-3243	B SRV DISCHARGE 2" VAC RV	(07) Fluid-Operated Valves	2	MST
RV-3243A	B SRV DISCHARGE 8" VAC RV	(07) Fluid-Operated Valves	2	MST
RV-3244	C SRV DISCHARGE 2 VAC	(07) Fluid-Operated Valves	2	MST

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
RV-3244A	C SRV DISCHARGE 8 VAC	(07) Fluid-Operated Valves	2	MST
RV-3245	D SRV DISCHARGE 2 VAC	(07) Fluid-Operated Valves	2	MST
RV-3245A	D SRV DISCHARGE 8 VAC	(07) Fluid-Operated Valves	2	MST
RV-4236	ALT N2 B RELIEF	(07) Fluid-Operated Valves	2, 5	AN2
RV-4281	A RHR HX RV SHELL SIDE	(07) Fluid-Operated Valves	3, 4, 5	RHR
RV-4282	RHR/RHR B HXER RELIEF VALVE	(07) Fluid-Operated Valves	3, 4, 5	RHR
RV-4673	ALT N2 A RELIEF	(07) Fluid-Operated Valves	2, 5	AN2
RV-4878	ALT N2 A RELIEF	(07) Fluid-Operated Valves	2, 5	AN2
RV-4880	ALT N2 B RELIEF	(07) Fluid-Operated Valves	2, 5	AN2
RV-7440	E SRV DISCHARGE 2 VAC RV	(07) Fluid-Operated Valves	2	MST
RV-7440A	E SRV DISCHARGE 8" VAC RV	(07) Fluid-Operated Valves	2	MST
RV-7441	F SRV DISCHARGE 2" VAC RV	(07) Fluid-Operated Valves	2	MST
RV-7441A	F SRV DISCHARGE 8" VAC RV	(07) Fluid-Operated Valves	2	MST
RV-7467	G SRV DISCHARGE 2 VAC RV	(07) Fluid-Operated Valves	2	MST
RV-7467A	G SRV DISCHARGE 8" VAC RV	(07) Fluid-Operated Valves	2	MST
RV-7468	H SRV DISCHARGE 2" VAC RV	(07) Fluid-Operated Valves	2	MST
RV-7468A	H SRV DISCHARGE 8" VAC RV	(07) Fluid-Operated Valves	2	MST
SV-1728	CV-1728 (11 RHR HX RHRSW OUTLET)SV	(08) Motor-Operated and Solenoid-Operated Valves	4, 5	RSW
SV-1729	SV FOR CV-1729 #12 RHR HX RHRSW OUT	(08) Motor-Operated and Solenoid-Operated Valves	4, 5	RSW
SV-1994	SV FOR CV-1994 #11 RHR MINIMUM FLOW	(08) Motor-Operated and Solenoid-Operated Valves	3, 4, 5	RHR

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
SV-1995	SV FOR CV-1995 #12 RHR MIN FLOW	(08) Motor-Operated and Solenoid-Operated Valves	3, 4, 5	RHR
SV-1996	SV FOR CV-1996 #13 RHR MINIMUM FLOW	(08) Motor-Operated and Solenoid-Operated Valves	3, 4, 5	RHR
SV-1997	SV FOR CV-1997 #14 RHR MIN FLOW	(08) Motor-Operated and Solenoid-Operated Valves	3, 4, 5	RHR
SV-2-2-11A	11 RECIRC PUMP SEAL LEAKOFF	(08) Motor-Operated and Solenoid-Operated Valves	3	REC
SV-2-2-11B	12 RECIRC PUMP SEAL LEAKOFF	(08) Motor-Operated and Solenoid-Operated Valves	3	REC
SV-2-32A	A SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-32B	B SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-32C	C SRV BELLOWS LEAK TEST SV	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-32D	D SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-32E	E SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-32F	F SRV BELLOWS LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-32G	G SRV BELLOWS LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-32H	H SRV BELLOWS LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-33A	A SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-33B	B SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-33C	C SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
SV-2-33D	D SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-33E	E SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-33F	F SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-33G	G SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-33H	H SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-34A	A SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-34B	B SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-34C	C SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-34D	D SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-34E	E SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-34F	F SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-34G	G SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-34H	H SRV BELLOW LEAK TEST	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2369	FLANGE LEAK OFF CONTROL VALVE	(08) Motor-Operated and Solenoid-Operated Valves	3	RPV
SV-2370	FLANGE LEAK OFF CONTROL VALVE	(08) Motor-Operated and Solenoid-Operated Valves	3	RPV
SV-2371	REACTOR HEAD VENT TO CRW	(08) Motor-Operated and Solenoid-Operated Valves	3	RPV

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
SV-2379	ALT N2 A SPLY TO AO-2379	(08) Motor-Operated and Solenoid-Operated Valves	5	PCT
SV-2380	ALT N2 A SUPPLY TO AO-2380	(08) Motor-Operated and Solenoid-Operated Valves	5	PCT
SV-2-71A	A SRV ALT N2 A A/S	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-71B	B SRV PILOT	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-71C	C SRV ALT N2 B SUPPLY	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-71D	D SRV PILOT A/S	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-71E	E SRV ALT N2 A A/S	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-71F	F SRV PILOT A/S	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-71G	G SRV PILOT A/S	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-71H	H SRV PILOT A/S	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-71J	E SRV ALT N2 A A/S	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-71K	G SRV PILOT A/S	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-71L	H SRV PILOT A/S	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-2-71M	F SRV ASDS PILOT A/S	(08) Motor-Operated and Solenoid-Operated Valves	2	APR
SV-3-29	EAST/WEST SDV VENT/DRN VLVS AIR SUPPLY SOL VLV	(08) Motor-Operated and Solenoid-Operated Valves	1, 3	CRH
SV-3-31A	INBOARD VENT/DR RPS CH A	(08) Motor-Operated and Solenoid-Operated Valves	1, 3	CRH

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
SV-3-31B	INBOARD VENT/DR RPS CH B	(08) Motor-Operated and Solenoid-Operated Valves	1, 3	CRH
SV-3-31C	OUTBOARD VENT/AR RPS CH A	(08) Motor-Operated and Solenoid-Operated Valves	1, 3	CRH
SV-3-31D	OUTBOARD VENT/DR RPS CH B	(08) Motor-Operated and Solenoid-Operated Valves	1, 3	CRH
SV-4014A	LIQ SX RETURN TO A RHR ISOL	(08) Motor-Operated and Solenoid-Operated Valves	NONE	PAS
SV-4015A	A LOOP RHR SAMPLE ISOL	(08) Motor-Operated and Solenoid-Operated Valves	NONE	PAS
SV-4015B	B LOOP RHR SAMPLE ISOL	(08) Motor-Operated and Solenoid-Operated Valves	NONE	PAS
SV-4033A	A CGCS RECMB CLG PMP INL	(08) Motor-Operated and Solenoid-Operated Valves	NONE	PAS
SV-4033B	B CGCS RECOMBINER COOLING PUMP INLET	(08) Motor-Operated and Solenoid-Operated Valves	NONE	CGC
SV-4034A	AGGCS RECMB CLG PMP BYPASS	(08) Motor-Operated and Solenoid-Operated Valves	NONE	CGC
SV-4034B	B CGCS RECOMBINER COOLING PUMP BYPASS	(08) Motor-Operated and Solenoid-Operated Valves	NONE	CGC
SV-4234	ALT N2 A	(08) Motor-Operated and Solenoid-Operated Valves	2, 5	AN2
SV-4235	ALT N2 B MANIFOLD ISOL	(08) Motor-Operated and Solenoid-Operated Valves	2, 5	AN2
SV-4541	INBOARD N2 SUPPLY TO HPV RUPTURE DISC	(08) Motor-Operated and Solenoid-Operated Valves	5	PCT
T-200	Standby Liquid Control Tank	(21) Tanks and Heat Exchangers	1	SLC
T-44	DIESEL OIL STORAGE TANK	(21) Tanks and Heat Exchangers	3, 4, 5	DOL
T-45A	STANDBY DIESEL GENERATOR DAY TANK	(21) Tanks and Heat Exchangers	1, 3, 4, 5	DOL

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
T-45B	STANDBY DIESEL GENERATOR DAY TANK	(21) Tanks and Heat Exchangers	1, 3, 4, 5	DOL
T-48A	Skimmer Surge Tank A	(21) Tanks and Heat Exchangers	NONE	FPC
T-48B	Skimmer Surge Tank B	(21) Tanks and Heat Exchangers	NONE	FPC
T-49A	A MSIV (AO-2-80A) ACCUMULATOR	(21) Tanks and Heat Exchangers	3, 5	MST
T-49B	B MSIV (AO-2-80B) ACCUMLATOR	(21) Tanks and Heat Exchangers	3, 5	MST
T-49C	C MSIV (AO-2-80C) ACCUMULATOR	(21) Tanks and Heat Exchangers	3, 5	MST
T-49D	D MSIV (AO-2-80D) ACCUMULATOR	(21) Tanks and Heat Exchangers	3, 5	MST
T-57A	ALT N2 ACCUMULATOR	(21) Tanks and Heat Exchangers	2	APR
T-57B	ALT N2 ACCUMULATOR	(21) Tanks and Heat Exchangers	2	APR
T-57C	ALT N2 ACCUMULATOR	(21) Tanks and Heat Exchangers	2	APR
T-57D	ALT N2 ACCUMULATOR	(21) Tanks and Heat Exchangers	2	APR
T-57E	ALT N2 ACCUMULATOR	(21) Tanks and Heat Exchangers	2	APR
T-57F	ALT N2 ACCUMULATOR	(21) Tanks and Heat Exchangers	2	APR
T-57G	ALT N2 ACCUMULATOR	(21) Tanks and Heat Exchangers	2	APR
T-57H	ALT N2 ACCUMULATOR	(21) Tanks and Heat Exchangers	2	APR
T-75A	ACCUMULATOR FOR SV-1994	(21) Tanks and Heat Exchangers	3, 4, 5	RHR

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
T-75B	RHR/ RHR B PUMP MIN FLOW ACCUM	(21) Tanks and Heat Exchangers	3, 4, 5	RHR
T-75C	ACCUMULATOR FOR SV-1996	(21) Tanks and Heat Exchangers	3, 4, 5	RHR
T-75D	RHR/ RHR D PUMP MIN FLOW ACCUM	(21) Tanks and Heat Exchangers	3, 4, 5	RHR
T-79A	11 DG AIR TK A	(21) Tanks and Heat Exchangers	3, 4, 5	DGN
T-79B	11 DG AIR TK B	(21) Tanks and Heat Exchangers	3, 4, 5	DGN
T-79C	11 DG AIR TK C	(21) Tanks and Heat Exchangers	3, 4, 5	DGN
T-79D	11 DG AIR TK D	(21) Tanks and Heat Exchangers	1, 3, 4, 5	DGN
T-79E	11 DG AIR TK E	(21) Tanks and Heat Exchangers	1, 2, 3, 4, 5	DGN
T-79F	11 DG AIR TK F	(21) Tanks and Heat Exchangers	1, 2, 3, 4, 5	DGN
T-80A	12 DG AIR TK A	(21) Tanks and Heat Exchangers	1, 3, 4, 5	DGN
T-80B	12 DG AIR TK B	(21) Tanks and Heat Exchangers	1, 2, 3, 4, 5	DGN
T-80C	12 DG AIR TK C	(21) Tanks and Heat Exchangers	1, 2, 3, 4, 5	DGN
T-80D	12 DG AIR TK D	(21) Tanks and Heat Exchangers	3, 4, 5	DGN
T-80E	12 DG AIR TK E	(21) Tanks and Heat Exchangers	3, 4, 5	DGN
T-80F	12 DG AIR TK F	(21) Tanks and Heat Exchangers	3, 4, 5	DGN
T-ALTN2B	ALT N2 B BOTTLE RACK	(21) Tanks and Heat Exchangers	2, 5	AN2

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
TS-13-79C	RCIC STM LINE HI AREA TEMPERATURE ISOLATION	(19) Temperature Sensors	2, 3, 5	RCI
V-AC-4	RHR B AIR HANDLER	(10) Air Handlers	3, 4, 5	HTV
V-AC-5	RHR A AIR HANDLER	(10) Air Handlers	3, 4, 5	HTV
V-EAC-14A	CRV DIV I HVAC UNIT	(11) Chillers	1, 2, 3, 4, 5	EFT
V-EAC-14B	CRV DIV II HVAC UNIT	(10) Air Handlers	1, 2, 3, 4, 5	EFT
V-EF-40A	DIV II 250VDC BATTERY ROOM VENTILATION	(10) Air Handlers	1, 2, 3, 4, 5	EFT
V-EF-40B	DIV II 250VDC BATTERY ROOM VENTILATION	(10) Air Handlers	1, 2, 3, 4, 5	EFT
V-ERF-14A	CRV DIV I EXHAUST RECIRC FAN	(10) Air Handlers	1, 2, 3, 4, 5	EFT
V-FE-11	DIV 1 EFT CHARCOAL AIR FILTER UNIT	(10) Air Handlers	1, 2, 3, 4, 5	EFT
V-SF-10	11 DIESEL ROOM VENT FAN	(09) Fans	1, 3, 4, 5	HTV
V-SF-9	12 DIESEL ROOM VENT FAN	(09) Fans	1, 3, 4, 5	HTV
X30	TRANSFORMER	(04) Transformers	1, 3, 4, 5	480
X40	TRANSFORMER	(04) Transformers	1,2, 3, 4, 5	480
Y01	11 STANDBY INTRUMENT AC TRANSFORMER	(04) Transformers	NONE	UAC
Y10	DIV 1 CLASS NON-1E UNINT INST 120VAC DIST PANEL	(14) Distribution Panels	NONE	UAC
Y20	NON- 1E INST 120VDC DIST PANEL	(14) Distribution Panels	NONE	UAC
Y21	INSTRUMENT AC TRANSFER SWITCH	(14) Distribution Panels	NONE	UAC
Y22	12 INSTRUMENT AC TRANSFORMER	(04) Transformers	NONE	UAC
Y30	DIV 2 CLASS NON-1E UNINT 120VAC INST AC DIST PANEL	(14) Distribution Panels	NONE	UAC

Table A-1: Monticello Base List 1				
Equipment Tag	**Description**	**Class[1]**	**Safety Function[2]**	**System[3]**
Y70	DIV 1 UNINTERRUPTIBLE 120VAC CLASS 1E DIST PANEL	(14) Distribution Panels	1, 2, 3, 4, 5	UAC
Y71	DIV 1 120VAC CLASS 1E INVERTER	(16) Battery Chargers and Inverters	1, 2, 3, 4, 5	UAC
Y72	120 VDC TRANSFORMER FEEDING Y73	(04) Transformers	1, 2, 3, 4, 5	UAC
Y73	ALTERNATE 120VAC TO UPS (Y71)	(14) Distribution Panels	1, 2, 3, 4, 5	UAC
Y74	FUSED DISCONNECT SWITCH TO PANEL Y10	(14) Distribution Panels	NONE	UAC
Y75	FUSED DISCONNECT SWITCH TO PANEL Y70	(14) Distribution Panels	1, 2, 3, 4, 5	UAC
Y77	120-120/240VAC TRANSFORMER TO PANEL Y10	(04) Transformers	NONE	UAC
Y80	DIV 2 UNINTERRUPTIBLE 120VAC CLASS 1E DIST PANEL	(14) Distribution Panels	1, 2, 3, 4, 5	UAC
Y81	DIV 2 120VAC CLASS 1E INVERTER	(16) Battery Chargers and Inverters	1, 2, 3, 4, 5	UAC
Y82	DIV 2 120 VDC TRANSFORMER Y83	(04) Transformers	1, 2, 3, 4, 5	UAC
Y83	ALTERNATE 120VAC TO UPS (Y81)	(14) Distribution Panels	1, 2, 3, 4, 5	UAC
Y84	FUSED DISCONNECT SWITCH TO PANEL Y30	(14) Distribution Panels	NONE	UAC
Y85	FUSED DISCONNECT SWITCH TO PANEL Y80	(14) Distribution Panels	1, 2, 3, 4, 5	UAC
Y87	120-120/240VAC TRANSFORMER TO PANEL Y30	(04) Transformers	NONE	UAC

Notes:

1) Class – Class as defined in Appendix B of Reference 1.

2) Safety function – Defined as follows:

1 = Reactor Reactivity Control

2 = Reactor Coolant Pressure Control

3 = Reactor Coolant inventory Control

4 = Decay Heat Removal

5 = Containment Function

3) System – Identifies the system associated with the equipment. The abbreviations for these systems are listed below.

System	Description	System	Description	System	Description
125	125 Volt DC	**DGN**	Emergency Diesel Generators	**PPS**	Plant Protection System
250	250 Volt DC	**DOL**	Diesel Oil System	**RCI**	RX Core Isolation Cooling Sys
480	480 V Station Auxiliary	**EFT**	Emergency Filtration Train	**REC**	RX Recirculation System
4KV	4.16 KV Station Auxiliary	**ESW**	Emergency Service Water	**RHR**	Residual Heat Removal System
AN2	Alternate N2	**FPC**	Fuel Pool Cooling and Cleanup	**RLC**	RX Level Control
APR	Automatic Press Relief	**FSW**	Emergency Filtration Train - Emergency Service Water	**RPI**	Rod Position Information System
ASD	Alternate Shutdown System	**HPC**	High Press Coolant Injection	**RPV**	RX Pressure Vessel
CFW	Condensate & Feedwater	**HTV**	Heating & Ventilation	**RSW**	RHR Service Water
CGC	Combustible Gas Control	**LRW**	Liquid Radwaste	**RWC**	RX Water Cleanup
CMP	Computer	**MSC**	Miscellaneous	**SIN**	Security Instrumentation
CRD	Control Rod Drive System	**MST**	Main Steam	**SLC**	Standby Liquid Control
CRH	Control Rod Drive Hydraulic	**PAS**	Post Accident Sampling System	**UAC**	Uninterruptible AC
CSP	Core Spray System	**PCT**	Primary Containment		

A.2 Final SWEL 1

This section provides a list of the final equipment selected for MNGP's SWEL 1 in Table A-2 below. This table identifies which items were selected for anchorage configuration verification, as well as which items are being deferred due to inaccessibility. The comments column of this table identifies the following selection criteria which were utilized in Screen #4:

- "IPEEE Enhanced" identifies that this equipment was enhanced due to outliers identified during the IPEEE program.
- "New or Replaced" identifies this equipment as major new or replacement equipment.
- "Risk Significant" identifies this equipment as risk significant.

The comments column also identifies those electrical components that required an internal cabinet inspection. The equipment class, safety function, and system designations used in Table A-2 are the same as Table A-1.

Table A-2: Monticello SWEL 1

Equipment Tag	Description	Class	Safety Function	System	Comments	Verify Anchorage	Deferred
152-505	4KV TO P-208A 11 Core Spray Pump	(03) Medium Voltage Switchgear	3	4KV	Internal cabinet inspection		Yes
AO-2379	VACUUM RELIEF DAMPER	(07) Fluid-Operated Valves	5	PCT			
AO-2-80A	INBOARD MSIV	(07) Fluid-Operated Valves	2, 3, 5	MST			Yes
AO-4539	HARD PIPE VENT INBOARD ISOLATION VALVE	(07) Fluid-Operated Valves	5	PCT	Risk Significant		
AV-3147	11 RHR SW PUMP P-109A AUTO AIR VENT	(07) Fluid-Operated Valves	4, 5	RSW	New or Replaced		
AV-4024	13 ESW PUMP P-111C DISCHARGE AIR VENT	(07) Fluid-Operated Valves	3, 4, 5	FSW			
BPM-1, Location 11 DG	DC-BOOSTER PUMP MOTOR	(05) Horizontal Pumps	1, 3, 4, 5	DGN			

Table A-2: Monticello SWEL 1							
Equipment Tag	**Description**	**Class**	**Safety Function**	**System**	**Comments**	**Verify Anchorage**	**Deferred**
BUS 15	4160 SWITCHGEAR	(03) Medium Voltage Switchgear	1, 2, 3, 4, 5	4KV	Internal cabinet inspection		Yes
C-17	CHANNEL B ISOL AND RPS VERTICAL BOARD	(20) Instrumentation and Control Panels and Cabinets	1, 3, 5	PPS			Yes (substitution for C-03)
C-122	JET PUMP INSTRUMENT RACK	(18) Instruments on Racks	3	REC		Yes	
C-129A	RHR INSTRUMENT RACK	(18) Instruments on Racks	3, 4, 5	RHR		Yes	
C-129B	RHR INSTRUMENT RACK	(18) Instruments on Racks	3, 4, 5	RHR		Yes	
C-253A	SRV Panel	(20) Instrumentation and Control Panels and Cabinets	2	APR		Yes	
C-253D	DIV II LOLO SET BYPASS PANEL	(20) Instrumentation and Control Panels and Cabinets	2	APR	Internal cabinet inspection		Yes
C-290A	SRV BLOWDOWN INST PANEL	(18) Instruments on Racks	2, 3	APR			
C-292	ASDS BENCHBOARD	(20) Instrumentation and Control Panels and Cabinets	1, 2, 3, 4, 5	ASD		Yes	
C-30	RCIC CABLE SPR RM CONTROL PANEL	(20) Instrumentation and Control Panels and Cabinets	3	RCI		Yes	
C-303A	ECCS DIV I ANALOG TRIP SYSTEM	(20) Instrumentation and Control Panels and Cabinets	3	PPS		Yes	
C-39	HPCI RELAY PANEL	(20) Instrumentation and Control Panels and Cabinets	3	HPC		Yes	
C-41	INBOARD ISOLATION RELAY PANEL	(20) Instrumentation and Control Panels and Cabinets	3, 5	PPS		Yes	
C-55	RX LEVEL & PRESSURE RACK	(18) Instruments on Racks	1, 2, 3, 5	RPV		Yes	

Table A-2: Monticello SWEL 1							
Equipment Tag	**Description**	**Class**	**Safety Function**	**System**	**Comments**	**Verify Anchorage**	**Deferred**
C-91	11 DIESEL GEN ELECTRICAL	(20) Instrumentation and Control Panels and Cabinets	1, 3, 4, 5	DGN	Internal cabinet inspection		Yes
CRD HCU W	CRD HYDRALIC CONTROL UNITS WEST SIDE	(18) Instruments on Racks	1	CRD	New or Replaced	Yes	
CRD16A	SCRAM DISCHARGE VOLUME	(21) Tanks and Heat Exchangers	1, 3	CRD			
CV-1728	11 RHR HX RHRSW OUTLET	(07) Fluid-Operated Valves	4, 5	RSW			
CV-2043	HPCI STEAM LINE DRAIN TRAP BYPASS	(07) Fluid-Operated Valves	3	HPC			
CV-3-32A	WEST SDV VENT	(07) Fluid-Operated Valves	1, 3	CRH			
D1	#11 BATTERY 125VDC	(15) Batteries on Racks	1, 2, 3, 4, 5	125	Risk Significant	Yes	
D100	DIV 2 125/250 VDC DISTRIBUTION PANEL	(14) Distribution Panels	1, 2, 3, 4, 5	250	Risk Significant		
D11	DIV I 125VDC DISTRIBUTION CENTER	(14) Distribution Panels	1, 2, 3, 4, 5	125	Risk Significant, Internal cabinet inspection		Yes
D31	DIV I 125/250 VDC DISTRIBUTION PANEL	(14) Distribution Panels	1, 2, 3, 4, 5	250	Risk Significant	Yes	
D3A	#13 (DIV 1) 125/250VDC BATTERY "A"	(15) Batteries on Racks	1, 2, 3, 4, 5	250	Risk Significant	Yes	
D3B	#13 (DIV 1) 125/250VDC BATTERY "B"	(15) Batteries on Racks	1, 2, 3, 4, 5	250	Risk Significant	Yes	

Table A-2: Monticello SWEL 1

Equipment Tag	Description	Class	Safety Function	System	Comments	Verify Anchorage	Deferred
D40	125VDC SWING CHARGER FOR #11 AND #12 BATTERIES	(16) Battery Chargers and Inverters	1, 2, 3, 4, 5	125	Risk Significant, New or Replaced, Internal cabinet inspection	Yes	Yes
D54	SWING CHARGER D3A,D3B 13 BATTERY	(16) Battery Chargers and Inverters	1, 2, 3, 4, 5	250	Risk Significant, Internal cabinet inspection	Yes	Yes
D90	CHARGER, SWING D6A,D6B (16) BATTERY	(16) Battery Chargers and Inverters	1, 2, 3, 4, 5	250	Risk Significant, Internal cabinet inspection	Yes	Yes
DM-8089A1	V-SF-9 SUPPLY DAMPER	(10) Air Handlers	1, 3, 4, 5	HTV			
DM-8089J1	V-SF-10 SUPPLY DAMPER	(10) Air Handlers	1, 3, 4, 5	HTV			
FT-23-82	HPCI PUMP FLOW TRANSMITTER	(18) Instruments on Racks	3	HPC			
G-3A	11 EMERGENCY DIESEL GENERATOR	(17) Engine-Generators	1, 3, 4, 5	DGN		Yes	
G-3B	12 EMERGENCY DIESEL GENERATOR	(17) Engine-Generators	1, 3, 4, 5	DGN		Yes	
K-10A	RHRSW AUX AIR COMP	(12) Air Compressors	4, 5	RSW		Yes	
K-8A	11 EDG ELECTRIC/DIESEL AIR STARTER COMPRESSOR #1	(12) Air Compressors	1, 3, 4, 5	DGN		Yes	
K-8B	11 ELECTRIC AIR STARTER COMPRESSOR #2	(12) Air Compressors	1, 3, 4, 5	DGN		Yes	
LT-2-3-72A	LO LO REACTOR LVL ECCS INITIATION	(18) Instruments on Racks	2, 3	RPV	Risk Significant		

Table A-2: Monticello SWEL 1

Equipment Tag	Description	Class	Safety Function	System	Comments	Verify Anchorage	Deferred
LT-2-3-72C	LO LO REACTOR LVL ECCS INITIATION	(18) Instruments on Racks	2, 3	RPV	Risk Significant		
LT-2996	TORUS WATER LEVEL	(18) Instruments on Racks	5	PCT			
MCC-133B	480V AC MOTOR CONTROL CENTER 133B	(01) Motor Control Centers	1, 3, 4, 5	480	Risk Significant, Internal cabinet inspection		Yes
MCC-134	480 V MCC (B34)	(01) Motor Control Centers	1, 3, 4, 5	480	Internal cabinet inspection		Yes
MCC-312	DIV 2 (HPCI) 250V DC MOTOR CONTROL CENTER 312	(01) Motor Control Centers	3	250	Risk Significant, Internal cabinet inspection	Yes	Yes
MCC-313	DIV 1 250V DC MOTOR CONTROL CENTER 313	(01) Motor Control Centers	2, 3, 5	250	Risk Significant, Internal cabinet inspection	Yes	Yes
MO-1741	11 CS PUMP TORUS SUCTION	(08) Motor-Operated and Solenoid-Operated Valves	3	CSP			
MO-2010	TORUS SPRAY VLV	(08) Motor-Operated and Solenoid-Operated Valves	4, 5	RHR			
MO-2012	11 RHR LPCI OUTBOARD INJECTION	(08) Motor-Operated and Solenoid-Operated Valves	3, 4	RHR			
MO-2013	RHR/RHR B LPCI INJ OUTBD	(08) Motor-Operated and Solenoid-Operated Valves	3, 4	RHR			
MO-2030	RHR SHUTDOWN COOLING SUPPLY OUTBOARD ISOLATION	(08) Motor-Operated and Solenoid-Operated Valves	3, 4	RHR			
MO-2063	HPCI CST SUCT	(08) Motor-Operated and Solenoid-Operated Valves	3	HPC			

Table A-2: Monticello SWEL 1

Equipment Tag	Description	Class	Safety Function	System	Comments	Verify Anchorage	Deferred
MO-2078	RCIC TURBINE STEAM SUPPLY	(08) Motor-Operated and Solenoid-Operated Valves	3	RCI	Risk Significant		
MO-2106	RCIC PUMP DISCHARGE OUTBOARD	(08) Motor-Operated and Solenoid-Operated Valves	3	RCI	Risk Significant		
MO-2374	MAIN STEAM LINE DRAIN - OUTBOARD	(08) Motor-Operated and Solenoid-Operated Valves	2, 3, 5	MST	New or Replaced		Yes
N3346A	11 EDG AIR CMPSR 1 (K-8A) LOCAL DISCONNECT SWITCH	(20) Instrumentation and Control Panels and Cabinets	1,3, 4, 5	DGN	Internal cabinet inspection		Yes
N3347	MOTOR STARTER FOR K-10A	(20) Instrumentation and Control Panels and Cabinets	4, 5	RSW	Internal cabinet inspection		Yes
N4301A	11 EDG AIR CMPSR 2 (K-8B) LOCAL DISCONNECT SWITCH	(20) Instrumentation and Control Panels and Cabinets	1, 3, 4, 5	DGN	Internal cabinet inspection		Yes
P-109A	11 RHR SW PUMP	(06) Vertical Pumps	4, 5	RSW	New or Replaced	Yes	
P-11	DIESEL OIL XFER PUMP	(05) Horizontal Pumps	1, 3, 4, 5	DOL		Yes	
P-111A	11 ESW (EDG-ESW) PUMP	(06) Vertical Pumps	1, 3, 4, 5	ESW		Yes	
P-111C	13 ESW PUMP	(06) Vertical Pumps	3, 4, 5	FSW	New or Replaced	Yes	
P-202C	13 RHR PUMP	(06) Vertical Pumps	3, 4, 5	RHR	New or Replaced	Yes	
P-203A	11 SBLC Pump	(05) Horizontal Pumps	1	SLC		Yes	
P-208A	11 CORE SPRAY PUMP	(06) Vertical Pumps	3	CSP			
P-209	HPCI PUMP	(05) Horizontal Pumps	3	HPC	Risk Significant	Yes	

Table A-2: Monticello SWEL 1

Equipment Tag	Description	Class	Safety Function	System	Comments	Verify Anchorage	Deferred
P-222A	11 DG FUEL TRANSFER PUMP #1	(05) Horizontal Pumps	1, 3, 4, 5	DGN			
P-73A	480V POWER PANEL	(14) Distribution Panels	4, 5	480	Internal cabinet inspection	Yes	Yes
P-88A	ECCS AREA DRAIN PUMP	(06) Vertical Pumps	3, 4, 5	LRW			
PS-23-97A	HPCI HI TURB EXH PRESS TURB TRIP	(18) Instruments on Racks	3	HPC	Risk Significant		
RV-1990	RHR 11 PUMP SUCTION RV	(07) Fluid-Operated Valves	3, 4, 5	RHR			
RV-2-71A	A SRV	(07) Fluid-Operated Valves	2	APR	Risk Significant		Yes
SV-1728	CV-1728 (11 RHR HX RHRSW OUTLET)SV	(08) Motor-Operated and Solenoid-Operated Valves	4, 5	RSW		Yes	
SV-2379	ALT N2 A SPLY TO AO-2379	(08) Motor-Operated and Solenoid-Operated Valves	5	PCT			
T-200	Standby Liquid Control Tank	(21) Tanks and Heat Exchangers	1	SLC		Yes	
T-45A	STANDBY DIESEL GENERATOR DAY TANK	(21) Tanks and Heat Exchangers	1, 3, 4, 5	DOL		Yes	
T-45B	STANDBY DIESEL GENERATOR DAY TANK	(21) Tanks and Heat Exchangers	1, 3, 4, 5	DOL		Yes	
T-75A	ACCUMULATOR FOR SV-1994	(21) Tanks and Heat Exchangers	3, 4, 5	RHR			
T-79D	11 DG AIR TK D	(21) Tanks and Heat Exchangers	1, 3, 4, 5	DGN	IPEEE Enhanced	Yes	
T-80A	12 DG AIR TK A	(21) Tanks and Heat Exchangers	1, 3, 4, 5	DGN	IPEEE Enhanced	Yes	
T-ALTN2B	ALT N2 B BOTTLE RACK	(21) Tanks and Heat Exchangers	2, 5	AN2			

Table A-2: Monticello SWEL 1

Equipment Tag	Description	Class	Safety Function	System	Comments	Verify Anchorage	Deferred
TS-13-79C	RCIC STM LINE HI AREA TEMPERATURE ISOLATION	(19) Temperature Sensors	2, 3, 5	RCI			
V-AC-5	RHR A AIR HANDLER	(10) Air Handlers	3, 4, 5	HTV		Yes	
V-EAC-14A	CRV DIV I HVAC UNIT	(11) Chillers	1, 2, 3, 4, 5	EFT			
V-EF-40A	DIV II 250VDC BATTERY ROOM VENTILATION	(10) Air Handlers	1, 2, 3, 4, 5	EFT	New or Replaced		
V-EF-40B	DIV II 250VDC BATTERY ROOM VENTILATION	(10) Air Handlers	1, 2, 3, 4, 5	EFT	New or Replaced		
V-ERF-14A	CRV DIV I EXHAUST RECIRC FAN	(10) Air Handlers	1, 2, 3, 4, 5	EFT			
V-FE-11	DIV 1 EFT CHARCOAL AIR FILTER UNIT	(10) Air Handlers	1, 2, 3, 4, 5	EFT			
V-SF-10	11 DIESEL ROOM VENT FAN	(09) Fans	1, 3, 4, 5	HTV		Yes	
V-SF-9	12 DIESEL ROOM VENT FAN	(09) Fans	1, 3, 4, 5	HTV		Yes	
X30	TRANSFORMER	(04) Transformers	1, 3, 4, 5	480			
Y72	120 VDC TRANSFORMER FEEDING Y73	(04) Transformers	1, 2, 3, 4, 5	UAC		Yes	
Y81	DIV 2 120VAC CLASS 1E INVERTER	(16) Battery Chargers and Inverters	1, 2, 3, 4, 5	UAC	Internal cabinet inspection	Yes	Yes

B
Deferred Seismic Walkdown Checklists (SWCs)

This appendix provides the Seismic Walkdown Checklists (SWC) completed after Reference 13 was submitted. The SWCs completed prior to November 27, 2012 were provided in Table B-1 of the Reference 13 report, and are not provided in this supplement.

In the Reference 13 report, NSPM identified 22 deferred seismic walkdowns that needed to be completed at a later date. As described in Section 4 of this report, item C-03 was deleted from the SWEL 1 list, because not all of the anchors were visible to perform a complete inspection. A similar panel located in the Control Room, C-17, was substituted for C-03 and completed as part of the deferred walkdowns. In addition to this substitution, two deferred items (C-93 and G31) were not inspected because anchorages for these items were not visible. As a result of the substitution and deletion of these items, NSPM completed 21 deferred seismic walkdowns.

Table B-1 of this appendix includes a description of each deferred walkdown item, anchorage configuration verification, and the checklist status for each SWC. If a checklist status is marked "Y," then the SWEs concluded in the field that the equipment was seismically acceptable. If a checklist status is marked as "N," then the SWEs judged there was a potential adverse condition that required additional information to determine if the equipment was seismically adequate, complied with current site procedures and met the current licensing basis requirements. None of the observations noted in the SWCs for the deferred walkdowns were found to be adverse seismic conditions that significantly affected or degraded safety related functions of equipment.

NSPM completed its seismic walkdowns over the month of August 2012, and submitted the results of these seismic walkdowns on November 27, 2012 (Reference 13). The revised NRC position on internal electrical cabinet inspections was issued in September 2012. NSPM had already completed external visual inspections of several electrical cabinets and panels in August 2012. Instead of re-performing the external visual inspection completed in August 2012, NSPM included the SWCs from these inspections in the deferred walkdowns and completed a separate SWC to document the results of the internal cabinet inspections. Both SWCs are included in this appendix.

The SWCs are provided after Table B-1, and are in the same chronological order as listed in the table.

The SWCs in this appendix include information on the location of SWEL components, which is considered Sensitive Unclassified Non-Safeguards Information (SUNSI), of which the loss, issue, modification, or unauthorized access can reasonably be foreseen to harm the safe operation of the nuclear plant. Pages which contain SUNSI information

have been marked with a header, and the sensitive information, such as the locations and photos of safety-related components, has been redacted. A copy of this report with the SUNSI information redacted has been provided as Enclosure 2 of this letter package.

Table B-1: Monticello SWCs Completed After November 27, 2012

Equipment Tag	Description	Anchorage Configuration Verified	Checklist Status (Y/N)
152-505	4KV TO P-208A 11 Core Spray Pump	-	Y
AO-2-80A	INBOARD MSIV	-	Y
BUS 15	4160 SWITCHGEAR	-	Y
C-17	CHANNEL B ISOL AND RPS VERTICAL BOARD	-	Y
C-253D	DIV II LOLO SET BYPASS PANEL	-	Y
C-91	11 DIESEL GEN ELECTRICAL	-	Y
D11	DIV I 125VDC DISTRIBUTION CENTER	-	Y
D40	125VDC SWING CHARGER FOR #11 AND #12 BATTERIES	Y	Y
D54	SWING CHARGER D3A, D3B 13 BATTERY	Y	Y
D90	CHARGER, SWING D6A,D6B (16) BATTERY	Y	Y
MCC-133B	480V AC MOTOR CONTROL CENTER 133B	-	Y
MCC-134	480 V MCC (B34)	-	N
MCC-312	DIV 2 (HPCI) 250V DC MOTOR CONTROL CENTER 312	Y	Y
MCC-313	DIV 1 250V DC MOTOR CONTROL CENTER 313	Y	Y
MO-2374	MAIN STEAM LINE DRAIN - OUTBOARD	-	Y

Table B-1: Monticello SWCs Completed After November 27, 2012			
Equipment Tag	**Description**	**Anchorage Configuration Verified**	**Checklist Status (Y/N)**
N3346A	11 EDG AIR CMPSR 1 (K-8A) LOCAL DISCONNECT SWITCH	-	Y
N3347	MOTOR STARTER FOR K-10A	-	Y
N4301A	11 EDG AIR CMPSR 2 (K-8B) LOCAL DISCONNECT SWITCH	-	Y
P-73A	480V POWER PANEL	Y	Y
RV-2-71A	A SRV	-	Y
Y81	DIV 2 120VAC CLASS 1E INVERTER	Y	Y

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *152-505* Equip. Class[1] *(03) Medium Voltage Switchgear*

Equipment Description *4KV Supply to P-208A*

Location: Bldg. *TB* Floor El. [redacted] Room, Area *Lower 4KV*

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.

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. 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☒

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *152-505* Equip. Class[1] *(03) Medium Voltage Switchgear*

Equipment Description *4KV Supply to P-208A*

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☐

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☐

Comments (Additional pages may be added as necessary)

Internal inspection performed lower compartment and upper relay compartment. No looser or missing hardware found.

Evaluated by: *Steve Kaas* Date: 4/09/13

Bruce Lory 04-09-13

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *AO-2-80A* Equip. Class[1] *(07) Fluid-Operated Valves*

Equipment Description *INBOARD MSIV*

Location: Bldg. *RX* Floor El. [redacted] Room, Area *DW NORTH*

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.

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. 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☒

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *AO-2-80A* Equip. Class[1] *(07) Fluid-Operated Valves*

Equipment Description *INBOARD MSIV*

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 HVAC duct judged to be adequately anchored.

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☐

Comments (Additional pages may be added as necessary)

Evaluated by: *Steve Kaas* Date: 5/29/13

Dennis Zercher 5-29-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *Bus 15* Equip. Class[1] *(03) Medium Voltage Switchgear*

Equipment Description *4160 Switchgear*

Location: Bldg. *RX* Floor El. [redacted] Room, Area *Lower 4kV*

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.

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 slot weld anchorage at the front of the breaker compartment was viewed. Lateral bracing at the top of the cabinet was not inspected (Refer to Bus 15 SEWS for information).

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☒

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *Bus 15* Equip. Class[1] *(03) Medium Voltage Switchgear*

Equipment Description *4160 Switchgear*

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☐

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☐

Comments (Additional pages may be added as necessary)

Bus 15 internal compartments were visually inspected by opening the upper and lower front doors and removing the rear panel. No loose internal components were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1' to the plane of the cabinet door.

Internal inspection note:

1. Upper compartment of cubicle 502, fuse holder NM is missing the bottom mounting screw. Top screw is present and visually appears to be tightened. CAP A/R 01377713 was writtent to document issue.

The back panel of cubicles 511 and 507 were not removed. Per drawing NX-27319-1 Rev A, there are no anchorage welds to view in these locations, nor are there internal components to inspect.

Evaluated by: Bruce M. Lory Bruce M. Lory Date: 04-15-13

Steve Kaas 04/15/13

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *C-17* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *Channel B Primary Isol and RPS Verticle Board*

Location: Bldg. *Admin* Floor El. [redacted] Room, Area *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.

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. 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] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *C-17* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *Channel B Primary Isol and RPS Verticle Board*

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☒ N☐ U☐
   Cabinets are laterally braced by overhead bracing back to the concrete walls.
   Internal cabinet lights are screwed to panel and judged adequate by SWE's.
   Cabinets are well fastened to each other.

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 lights, conduits, and ductwork well supported.

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☐

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *C-17* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *Channel B Primary Isol and RPS Verticle Board*

Comments (Additional pages may be added as necessary)

Evaluated by: *Steve Kaas* Date: 5/22/13

Dennis Zercher 5-22-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *C-253D* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *Div II LOLO Set Bypass Panel*

Location: Bldg. *Admin* Floor El. [redacted] Room, Area *CR*

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.

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. 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☒

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *C-253D* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *Div II LOLO Set Bypass Panel*

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☐

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☐
SWEs judged cork board next to panel is adequately anchored to wall with four screws such that it is not a seismic interaction hazard.

Comments (Additional pages may be added as necessary)

Anchored with four 3/8" bolt, which is approx. 36" high and 18" wide.

Evaluated by: *Bruce M. Lory* Bruce M. Lory Date: 08/02/12

Steve Kaas Steve Kaas 8/2/12

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *C-253D* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *Div II LOLO Set Bypass Panel* ***(Internal Inspection)***

Location: Bldg. *Admin* Floor El. [redacted] Room, Area *CR*

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.

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. 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☐

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *C-253D* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *Div II LOLO Set Bypass Panel* ***(Internal Inspection)***

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☐

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☐

Comments (Additional pages may be added as necessary)

C-253D internals were visually inspected by opening the front door. No loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1' to the plane of the cabinet door.

Evaluated by: *Dennis Zercher* Date: *4-9-2013*

Steve Kaas *4/9/2013*

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *C-91* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *11 Diesel Gen. Electrical*

Location: Bldg. *TB* Floor El. [redacted] Room, Area *11 DG RM*

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.

Anchorage

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

2. Is the anchorage free of bent, broken, missing or loose hardware? Y☒ N☐ U☐ N/A☐
   There is one anchor in each corner of the cabinet. The anchorage is a clip bolted to the floor and welded to the cabinet framing.

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☒

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☒ N☐ U☐
   Note that cabinet is braced to the concrete wall at the top with structural steel braces on both sides.

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *C-91* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *11 Diesel Gen. Electrical*

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
   Overhead room heaters deemed acceptable in Area Walk-B Checklist (AWC) performed last year by SWE's.

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☐
   Roof drain pipe nearby with Victaulic couplings. Pipe was deemed acceptable in Area Walk-B Checklist (AWC) performed last year.

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☐

Comments (Additional pages may be added as necessary)

C-91 internals were visually inspected by opening doors in front and removing lower panels in the back. No loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1' to the plane of the cabinet door.

Evaluated by: *Steve Kaas* Date: 5/29/13

Dennis Zercher 5-29-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *D11* Equip. Class[1] *(14) Distribution Panels*

Equipment Description *Div 1 125VDC Distribution Center*

Location: Bldg. *ADMIN* Floor El. [redacted] Room, Area *#11 125 BA*

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.

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☐
   Visually located eight bolts anchoring panel to unistrut installed into masonry wall. Front screwed on panels were removed to view anchors.

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 wall supporting D11 is a masonry wall. Not able to view the wall surface directly behind D11, but no cracks were seen in wall around the panel.

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☒

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *D11* Equip. Class[1] *(14) Distribution Panels*

Equipment Description *Div 1 125VDC Distribution Center*

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? *Reader is referred to IE Bulletin 80-11 for the battery room masonry wall evaluation*	Y☒ N☐ U☐ N/A☐
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? *D11 internal components were visually inspected by opening breaker compartments in front. Circuits 03 and 13 could not be opened due to "Hold Tags" on these. On the viewed components, no loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1'-0" to the plane of the cabinet door.* *Sixteen screws were noted to be missing from the front panels. Electrical Maintenance Supervision notified. CAP A/R 1367974 and WO 447529 were found to already address this issue. All panels have at least three screws which was judged adequate to temporarily support the panels until all screws will be placed.*	Y☒ N☐ U☐

Comments (Additional pages may be added as necessary)

Evaluated by: *Dennis Zercher* Date: *4-21-2013*

Steve Kaas *5/23/13*

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *D11* Equip. Class[1] *(14) Distribution Panels*

Equipment Description *Div 1 125VDC Distribution Center Circuits 03 and 13 Internal Inspection*

Location: Bldg. *ADMIN* Floor El. [redacted] Room, Area *#11 125 BA*

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.

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. 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☐

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *D11* Equip. Class[1] *(14) Distribution Panels*

Equipment Description *Div 1 125VDC Distribution Center Circuits 03 and 13 Internal Inspection*

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☐

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☐

Comments (Additional pages may be added as necessary)

D11 circuit 03 and 13 internal components were visually inspected by opening breaker compartments in front. On the viewed components, no loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1'-0" to the plane of the cabinet door.

Evaluated by: *Bruce Lory* Date: 05-10-12

Steve Kaas 05/10/13

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *D40* Equip. Class[1] *(16) Battery Chargers and Inverters*

Equipment Description *125 VDC Swing Charger for 11 and 12 Batteries*

Location: Bldg. *ADMIN* Floor El. [redacted] Room, Area *DIV 1 250V Battery Room (Door 109)*

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.

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

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y☒ N☐ U☐ N/A☐
   Small shrinkage cracks in concrete, judged to be satisfactory by SWE's.

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 is consistent with SEWS

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *D40* Equip. Class[1] *(16) Battery Chargers and Inverters*

Equipment Description *125 VDC Swing Charger for 11 and 12 Batteries*

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☐
   HVAC Duct has strap bolt not fully screwed in. Judged ok in Area Walk By Inpection done previously.

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☐

Comments (Additional pages may be added as necessary)

D40 internals were visually inspected by opening doors in front. No loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1' to the plane of the cabinet door.

Evaluated by: *Steve Kaas* Date: 4/11/13

Dennis Zercher 4-11-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *D54* Equip. Class[1] *(16) Battery Chargers and Inverters*

Equipment Description *Swing Charger, D3A, D3B (13) Battery*

Location: Bldg. *ADMIN* Floor El. [redacted] Room, Area *DIV 1 250V Battery Room (Door 109)*

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.

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

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y☒ N☐ U☐ N/A☐
   Small shrinkage cracks in grout and concrete, judged to be satisfactory by SWE's.

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☐
   3" minimum length of weld at each corner to floor plate, which is consistent with the anchorage configuration in the SEWS.

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *D54* Equip. Class[1] *(16) Battery Chargers and Inverters*

Equipment Description *Swing Charger, D3A, D3B (13) Battery*

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☐

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☐
Minimum gap of 2" between panels

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☐

Comments (Additional pages may be added as necessary)

D54 internals were visually inspected by opening doors in front. No loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1' to the plane of the cabinet door.

Evaluated by: *Steve Kaas* Date: 4/11/13

Dennis Zercher 4-11-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *D90* Equip. Class[1] *(16) Battery Chargers and Inverters*

Equipment Description *Swing Charger, D6A, D6B (16) Battery*

Location: Bldg. *EFT* Floor El. [redacted] Room, Area *DIV 2 (Door 171)*

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.

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☐
   3" of weld in each corner to wide flange beam. Frame welded to embeds in concrete floor.

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

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 consistent with SEWS

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *D90* Equip. Class[1] *(16) Battery Chargers and Inverters*

Equipment Description *Swing Charger, D6A, D6B (16) Battery*

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☐
   Copper water line overhead. See Area Walk By for resolution of this item.

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☐
    Adequate gap between panels

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☐

Comments (Additional pages may be added as necessary)

D90 internals were visually inspected by opening doors in front. No loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1' to the plane of the cabinet door.

Evaluated by: Steve Kaas Date: 4/11/13

Dennis Zercher 4-11-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-133B* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *480V AC MOTOR CONTROL CENTER 133B*

Location: Bldg. *TB* Floor El. [redacted] Room, Area *South*

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.

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 MCC is anchored to support frame with two bolts. MCC is attached to adjacent MCC with two bolts front and back.

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☒

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-133B* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *480V AC MOTOR CONTROL CENTER 133B*

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
   Security barrier well supported, grating tied to support structure
   Lights are rod hung and able to swing into conduit above MCC in a seismic event (as noted in Area Walk By for [redacted] TB) Lights are above MCC 133B and conduit deemed robust enough to be unaffected by impact from the comparatively fragile lighting system.
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☐
   Lights are rod hung, not likely to collapse
   Overhead cable tray well supported
   Overhead copper air line well supported
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☐

Comments (Additional pages may be added as necessary)

Area is being modified for new Feedwater Pumps / Motors. Multiple scaffold, platforms, and construction equipment in area making seismic interaction evaluation very difficult.

Evaluated by: *Dennis Zercher* Date: 5-6-2013

Steve Kaas 5-6-2013

The remaining pages are withheld from public disclosure

Status: Y☐ N☒ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-134* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *480V MCC (B34)*

Location: Bldg. *EFT* Floor El. [redacted] Room, Area *ALL*

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.

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. 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☐
   Typical shrinkage cracks only. No adverse affect on seismic capacity of 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☒

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☒ N☐ U☐
   MCC welded to 6" baseplates using two 3" x 1/4" fillet welds on 6" centers. Baseplates anchored to floor using (12) - 5/8" diameter anchors on 2' centers. Details are per SQUG SEWS anchorage calculation 91C2687.

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☐ N☒ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-134* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *480V MCC (B34)*

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☐ N☒ U☐ N/A☐
   1) 3" diameter line entering room from south wall has just a dead weight support near south wall and then runs horizontally over to MCC. This line appears to contain cast iron threaded fittings. Concern is if this small line structurally falls in seismic event, it could impact MCC.
   2) 4" diameter line from south wall is connected at wall with structural steel anchored to CIP concrete. It has victaulic coupling midspan and is anchored above MCC with U-bolt/I-beam support. Concern is differential displacement of south steel beam versus north CIP wall.
   3) 4" diameter piping containing victaulic couplings have good structural support to CIP. SWEs judge them adequate.
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☐
   Drywall noted and determined to meet seismic II over I criteria based on documentation in modification 79N745 (Doc D400)
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☐

Comments (Additional pages may be added as necessary)

Housekeeping: Sheet metal screw missing on cover to west end cubicle at top. Same issue found on east end cubicle.

Evaluated by: *Bruce M. Lory* Bruce M. Lory Date: 08/14/12

Steve Kaas Steve Kaas 8/8/12

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-134* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *480V MCC (B34)* ***(Internal Inspection)***

Location: Bldg. *EFT* Floor El. [redacted] Room, Area *ALL*

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.

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. 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☐

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-134* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *480V MCC (B34)* ***(Internal Inspection)***

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☐

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☐

Comments (Additional pages may be added as necessary)

MCC-134 internals were visually inspected on 4/11/13. No loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 26" to the plane of the bucket doors.

Evaluated by: *Dennis Zercher* Date: 4-16-2013

Steve Kaas 4/16/13

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-312* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *DIV 2 (HPCI) 250V DC MOTOR CONTROL CENTER 312*

Location: Bldg. *RX* Floor El. [redacted] Room, Area *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.

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. 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 is consistent with plant documentation (SEWS). There are also angle iron brackets each end of the MCC adding redundant anchorage.

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-312* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *DIV 2 (HPCI) 250V DC MOTOR CONTROL CENTER 312*

Interaction Effects

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

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☐

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☐
    Wheels locked on cart next to MCC

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☐

Comments (Additional pages may be added as necessary)

MCC opened and interior visually inspected. No loose hardware visible.

Per direction from site Operations, cubicles with Hold Tags were not allowed to be opened during this walkdown.

Evaluated by: *Steve Kaas* Date: 5/29/13

Dennis Zercher 5-29-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-312* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *DIV 2 (HPCI) 250V DC MOTOR CONTROL CENTER 312* ***Walk-down of cubicles D312-01, D312-02, D312-03, D312-06, D312-10, D312-12***

Location: Bldg. *RX* Floor El. [redacted] Room, Area *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.

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. 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☐

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-312* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *DIV 2 (HPCI) 250V DC MOTOR CONTROL CENTER 312* ***Walk-down of cubicles D312-01, D312-02, D312-03, D312-06, D312-10, D312-12***

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☐

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☐

Comments (Additional pages may be added as necessary)

Walk- down of the cubicles D312-01, D312-02, D312-03, D312-06, D312-10, D312-12.. Internal components were visually inspected. No loose components were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1' to the plane of the cabinet door.

Evaluated by: *Steve Kaas* Date: 5/14/13

Bruce Lory 5/14/13

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-313* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *DIV 1 250V DC Motor Control Center 313*

Location: Bldg. *RX* Floor El. [redacted] Room, Area *MG Set 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.

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. 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☐
   Only shrinkage cracks are evident. There are no structural cracks.

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-313* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *DIV 1 250V DC Motor Control Center 313*

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
   Cable tray above supported on brackets and deemed adequate.

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☐
   Fire protection piping is welded steel and seismically supported. HVAC duct is trapeze rod-hung to 1/2" shell expansion anchors.

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☐

Comments (Additional pages may be added as necessary)

Evaluated by: *Walter Djordjevic* Date: 8/2/12

Scott Luckiesh 8/2/12

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-313* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *DIV 1 250V DC Motor Control Center 313* ***(Internal Inspection)***

Location: Bldg. *RX* Floor El. [redacted] Room, Area *MG Set 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.

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. 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☐

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MCC-313* Equip. Class[1] *(01) Motor Control Centers*

Equipment Description *DIV 1 250V DC Motor Control Center 313* ***(Internal Inspection)***

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☐

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☐

Comments (Additional pages may be added as necessary)

MCC-313 internals were visually inspected on 5/07/13. No loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1' to the plane of the cabinet door.

Evaluated by: *Dennis Zercher* Date: 5-7-2013

Steve Kaas 5-7-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MO-2374* Equip. Class[1] *(08) Motor-Operated and Solenoid-Operated Valves*

Equipment Description *Main Steam Line Drain - Outboard*

Location: Bldg. *RX* Floor El. [redacted] Room, Area *Steam Chase*

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.

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. 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☒

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *MO-2374* Equip. Class[1] *(08) Motor-Operated and Solenoid-Operated Valves*

Equipment Description *Main Steam Line Drain - Outboard*

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☐

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☐

Comments (Additional pages may be added as necessary)

Evaluated by: *Steve Kaas* Date: 5/29/13

Dennis Zercher 5-29-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *N3346A* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *11 EDG Air CMPSR 1 (K-8A) Local Disconnect Switch*

Location: Bldg. *TB* Floor El. [redacted] Room, Area *11 DG RM*

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.

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☒
   Two unistruts support N4301A and N3346A. Equipment is bolted to unistrut. Unistrut is anchored to concrete wall. Condition deemed acceptable.
2. Is the anchorage free of bent, broken, missing or loose hardware? Y☒ N☐ U☐ N/A☐
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☒
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☒ N☐ U☐

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *N3346A* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *11 EDG Air CMPSR 1 (K-8A) Local Disconnect Switch*

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☐
   Fire protection piping well supported from above.

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐
   No potential for differential movement of attached lines.

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☐

Comments (Additional pages may be added as necessary)

Evaluated by: *Walter Djordjevic* Date: 8/1/12

Scott Luckiesh 8/1/12

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *N3346A* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *11 EDG Air CMPSR 1 (K-8A) Local Disconnect Switch* ***(Internal Inspection)***

Location: Bldg. *TB* Floor El. [redacted] Room, Area *11 DG RM*

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.

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. 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☐

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *N3346A* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *11 EDG Air CMPSR 1 (K-8A) Local Disconnect Switch* ***(Internal Inspection)***

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☐

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☐

Comments (Additional pages may be added as necessary)

N3346A internals were visually inspected on 4/2/13. No loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1' to the plane of the cabinet door.

Evaluated by: *Steve Kaas* Date: 5/28/13

Dennis Zercher 5-29-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *N3347* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *Motor Starter for K-10A*

Location: Bldg. *RX* Floor El. [redacted] Room, Area *East 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.

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. 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☒

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *N3347* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *Motor Starter for K-10A*

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☐

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☐

Comments (Additional pages may be added as necessary)

Evaluated by: *Bruce Lory* Bruce M. Lory Date: 08/02/12

Steve Kaas Steve Kaas 8/2/12

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *N3347* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *Motor Starter for K-10A* ***(Internal Inspection)***

Location: Bldg. *RX* Floor El. [redacted] Room, Area *East 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.

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. 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☐

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *N3347* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *Motor Starter for K-10A* ***(Internal Inspection)***

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☐

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☐

Comments (Additional pages may be added as necessary)

N3357 internals were visually inspected on 4/11/13. No loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1' to the plane of the cabinet door.

Evaluated by: *Steve Kaas* Date: 4/16/13

Dennis Zercher Date: 4-16-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *N4301A* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *11 EDG Air CMPSR 2(K-8B) Local Disconnect Switch*

Location: Bldg. *TB* Floor El. [redacted] Room, Area *11 DG RM*

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.

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☒
   Two unistruts support N4301A and N3346A. Equipment is bolted to unistrut. Unistrut is anchored to concrete wall. Condition deemed acceptable.
2. Is the anchorage free of bent, broken, missing or loose hardware? Y☒ N☐ U☐ N/A☐
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☒
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☒ N☐ U☐

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *N4301A* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *11 EDG Air CMPSR 2(K-8B) Local Disconnect Switch*

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☐
   Fire protection piping well supported above.

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐
   No potential for differential movement of attached lines.

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☐

Comments (Additional pages may be added as necessary)

Evaluated by: *Walter Djordjevic* Date: 8/1/12

Scott Luckiesh 8/1/12

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *N4301A* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *11 EDG Air CMPSR 2(K-8B) Local Disconnect Switch* ***(Internal Inspection)***

Location: Bldg. *TB* Floor El. [redacted] Room, Area *11 DG RM*

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.

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. 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☐

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *N4301A* Equip. Class[1] *(20) Instrumentation and Control Panels and Cabinets*

Equipment Description *11 EDG Air CMPSR 2(K-8B) Local Disconnect Switch* ***(Internal Inspection)***

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☐

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☐

Comments (Additional pages may be added as necessary)

N4301A internals were visually inspected on 4/3/13. No loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1' to the plane of the cabinet door.

Evaluated by: *Steve Kaas* Date: 5/29/13

Dennis Zercher 5-29-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *P-73A* Equip. Class[1] *(14) Distribution Panels*

Equipment Description *480V Power Panel*

Location: Bldg. *RX* Floor El. [redacted] Room, Area *MG SET 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.

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. 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 is consistent with plant drawing # NX-20614 which shows six 1/2" diameter anchors.

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *P-73A* Equip. Class[1] *(14) Distribution Panels*

Equipment Description *480V Power Panel*

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☐

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐
Rigid conduit runs are adequate for seismic loads.

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☐

Comments (Additional pages may be added as necessary)

Evaluated by: *Bruce M. Lory* Bruce M. Lory Date: 08/02/12

Steve Kaas Steve Kaas 8/2/12

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *P-73A* Equip. Class[1] *(14) Distribution Panels*

Equipment Description *480V Power Panel* ***(Internal Inspection)***

Location: Bldg. *RX* Floor El. [redacted] Room, Area *MG SET 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.

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. 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☐

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *P-73A* Equip. Class[1] *(14) Distribution Panels*

Equipment Description *480V Power Panel* ***(Internal Inspection)***

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☐

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☐

Comments (Additional pages may be added as necessary)

P-73A internals were visually inspected on 5/07/13. No loose internals were noted, fasteners appeared to be in place. No internal components were visible with the door open since the view is blocked by internal panels screwed into place. SWE's not allowed closer than 1' to the plane of the cabinet door.

Evaluated by: *Steve Kaas* Date: 5/7/13

Dennis Zercher 5-7-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *RV-2-71A* Equip. Class[1] *(07) Fluid-Operated Valves*

Equipment Description *A SRV*

Location: Bldg. *RX* Floor El. [redacted] Room, Area *DW West*

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.

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. 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☒

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *RV-2-71A* Equip. Class[1] *(07) Fluid-Operated Valves*

Equipment Description *A SRV*

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

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☐

Comments (Additional pages may be added as necessary)

Evaluated by: *Steve Kaas* Date: 5/29/13

Dennis Zercher 5-29-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *Y81* Equip. Class[1] *(16) Battery Chargers and Inverters*

Equipment Description *Div 2 120VAC Class 1E Inverter*

Location: Bldg. *EFT* Floor El. [redacted] Room, Area *North*

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.

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. 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 in accordance with Y81 SEWS.

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

[1] Enter the equipment class name from Appendix B: Classes of Equipment.

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC)

Equipment ID No. *Y81* Equip. Class[1] *(16) Battery Chargers and Inverters*

Equipment Description *Div 2 120VAC Class 1E Inverter*

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
   Overhead light and tray well supported. No other concerns

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☐
   Roof drain at East wall with Victaulic coupling well supported
   Roof drain at North wall supported at floor and ceiling. Previously evaluated by CAP A/R 1346922 as being adequate in seismic event.

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☐
    3/4" gap to adjacent panel Y-83 judged ok

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☐

Comments (Additional pages may be added as necessary)

Y-81 internals were visually inspected by opening the two front doors. No loose internals were noted, fasteners appeared to be in place, and components appeared adequately supported based on the viewing angle and distance available. SWE's not allowed closer than 1' to the plane of the cabinet door..

Evaluated by: *Dennis Zercher* Date: 4-11-2013

Steve Kaas 4/11/13

The remaining pages are withheld from public disclosure

~~SUNSI – WITTHOLD FROM PUBLIC DISCLOSURE UNDER 2.390~~

C

Deferred Area Walk-By Checklists (AWCs)

This appendix provides the Area Walk-By Checklists (AWC) completed after Reference 13 was submitted. The AWCs completed prior to November 27, 2012 were provided in Table C-1 of the Reference 13 report, and are not provided in this supplement.

NSPM completed three deferred Area Walk-Bys. Table C-1 below provides the list of the deferred Area Walk-By checklists that were completed, as well a list of SWEL items associated with each area, and whether or not the checklist was marked as "Y" or "N" (the checklist status). If a checklist status is marked "Y," then the SWEs concluded in the field that the equipment was seismically acceptable. If a checklist status is marked as "N," then the SWEs judged there was a potential adverse condition which required additional information to determine if the equipment was seismically adequate, complied with current site procedures and met current licensing basis requirements. None of the observations noted in the SWCs were found to be adverse seismic conditions that significantly affected or degraded safety related functions of equipment.

The AWCs are provided after this table, and are in the same chronological order as listed in the table below.

This table and the following AWCs include information on the location of SWEL components, which is considered SUNSI, of which the loss, issue, modification, or unauthorized access can reasonably be foreseen to harm the safe operation of the nuclear plant. Pages which contain SUNSI information have been marked with a header, and the sensitive information, such as locations and pictures of safety-related components, has been redacted. A copy of this report with the SUNSI information redacted has been provided as Enclosure 2 of this letter package.

Table C-1: Monticello Completed AWCs After November 27, 2012

Area Walk-By Designation	Area Walk-by Checklist	Equipment Tag	Checklist Status (Y/N)
37	R[redacted]-DRYWELL	AO-2-80A	Y
38	RX[redacted]-STEAMCHASE	MO-2374	Y

~~SUNSI – WITTHOLD FROM PUBLIC DISCLOSURE UNDER 2.390~~

Table C-1: Monticello Completed AWCs After November 27, 2012			
Area Walk-By Designation	**Area Walk-by Checklist**	**Equipment Tag**	**Checklist Status (Y/N)**
39	RX[redacted]-DRYWELL	RV-2-71A	Y

NOTE: The Area Walk-By PAB-CR, associated with deferred SWEL 1 items C-17 and C-253D, was completed prior to November 27, 2012. The results of this Area Walk-By were provided in Appendix C of the Reference 13 report.

Status: Y☒ N☐ U☐

Area Walk-By Checklist (AWC)

MP 6/3/12

Location: Bldg. RX Floor El. [redacted] Room, Area[1] 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.

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☐

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

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☐

[1] 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.

Status: Y☒ N☐ U☐

Area Walk-By Checklist (AWC)

6/3/13

Location: Bldg. *RX* Floor El. [redacted] Room, Area[1] *Drywell*

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☐

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☐
   Significant amounts of temporary scaffold in area due to refueling outage activities.

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☐

Comments (Additional pages may be added as necessary)

Limited visibility of equipment and seismic interactions due to congestion, shielding and scaffolding in drywall.

Evaluated by: *Steve Kaas* Date: 3/21/13

Dennis Zercher 3-21-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Area Walk-By Checklist (AWC)

MM 6/4/13

Location: Bldg. RX Floor El. [redacted] Room, Area[1] Steam Chase

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.

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☐

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☐

[1] 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.

Status: Y☒ N☐ U☐

Area Walk-By Checklist (AWC)

TP 6/4/13

Location: Bldg. RX Floor El. [redacted] Room, Area[1] Steam Chase

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☐

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 temporary scaffolding, tools, etc in the steam chase, but the plant is shutdown with the core unloaded.

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☐

Comments (Additional pages may be added as necessary)

Three of the anchor nuts are not run all the way down on a permanent platform. The platform is fastened to the East wall near the South end. This represents a potential safety issue and not a seismic concern to equipment.

Evaluated by: Steve Kaas Date: 3/17/13

Dennis Zercher 3-17-2013

The remaining pages are withheld from public disclosure

Status: Y☒ N☐ U☐

Area Walk-By Checklist (AWC)

MW 6/5/13

Location: Bldg. RX Floor El. [redacted] Room, Area[1] 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.

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☐

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☐

[1] 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.

Status: Y☒ N☐ U☐

Area Walk-By Checklist (AWC)

6/5/13

Location: Bldg. *RX* Floor El. [redacted] Room, Area[1] *Drywell*

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☐

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☐

Comments (Additional pages may be added as necessary)

Limited visibility of equipment and seismic interactions due to congestion, shielding and scaffolding in drywall.

Evaluated by: *Steve Kaas* Date: 3/21/13

Dennis Zercher 3-21-2013

The remaining pages are withheld from public disclosure

D
Peer Review Report

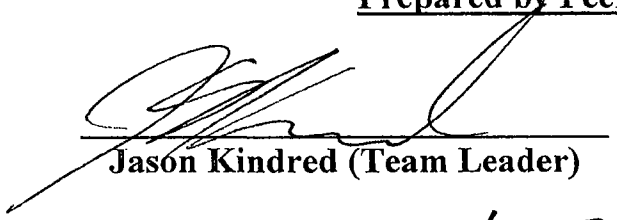
This appendix includes the Peer Review Team's report on the results of the deferred seismic walkdowns. This appendix includes a revision to the signed Peer Review Checklist for the SWEL from Appendix E, *Checklist for Peer Review of SSC Selection*, of Reference 1.

Table D-1 of this appendix includes information on the location of SWEL components, which is considered SUNSI, of which the loss, issue, modification, or unauthorized access can reasonably be foreseen to harm the safe operation of the nuclear plant. Pages which contain SUNSI information have been marked, and the sensitive information has been redacted.

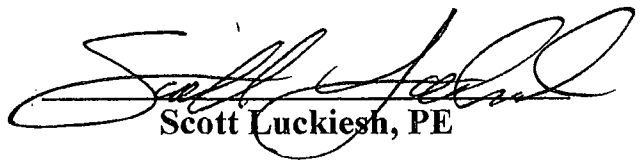
Peer Review Report
for
Near Term Task Force (NTTF) Recommendation 2.3
Seismic Walkdown Inspection
of
Monticello Nuclear Generating Plant

September 12, 2013

Prepared by Peer Reviewers



Jason Kindred (Team Leader) — **Date** 9-12-13



Scott Luckiesh, PE — **Date** 9-12-2013

1. Introduction

Overview

This updated report documents the independent peer review for the Near Term Task Force (NTTF) Recommendation 2.3 Seismic Walkdowns performed at MNGP after November 27, 2012. The peer review addresses only the changes made to the SWEL list after November 27, 2012 and includes the following activities:

- Review of the selection of the structures, systems, and components (SSCs) that are included in the Seismic Walkdown Equipment List (SWEL).
- Review of a sample of the checklists prepared for the Seismic Walkdowns & Area Walk-bys.
- Review of any licensing basis evaluations.
- Review of the decisions for entering the potentially adverse conditions into the plant's Corrective Action Plan (CAP).
- Review of the final submittal report.

The peer reviewers for MNGP are Messrs. Jason Kindred and Scott Luckiesh of NSPM. Mr. Kindred is designated the Peer Review Team Leader. Neither of these engineers were involved in the seismic walkdown inspections performed after November 27, 2012 so that they can maintain their independence from the project. Mr. Kindred is a degreed mechanical engineer with over twenty years of nuclear engineering experience and is a licensed Senior Reactor Operator. Mr. Luckiesh is a structural engineer with a graduate structural engineering degree and over sixteen years of structural experience and over three years of nuclear power plant experience. Mr. Luckiesh has also been trained as a Seismic Capability Engineer (5-day EPRI-SQUG Training).

The SWEL development was performed by Robert Walstrom. The Peer Review team was involved in the review of SWEL 1 and SWEL 2. The Peer Review ensured the lists covered various systems in the plant and all five safety functions listed in Section 3 of EPRI Technical Report 1025286[1]. All issues identified by the Peer Review team were corrected prior to completion of the Seismic Walkdown Report. None of the issues identified by the peer review team were significant enough to warrant entry into the corrective action process. The completed SWEL Peer Review Checklist is found in Attachment 1. The discussion for the SWEL development peer review is found in Section 2.

The peer review of the seismic walkdown inspection started on September 4, 2013 with a peer check of the Seismic Walkdown Checklists (SWCs) and Area Walkdown Checklists (AWCs). The discussion of the sample SWCs and AWCs is provided in Section 3.

No issues were identified which challenged the current licensing basis.

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[1] EPRI Technical Report 1025286, *Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic,* dated June 2012.

2. Peer Review - Selection of SSCs

Purpose

The purpose of this section is to describe the process to perform the peer review of the selected structures, systems, and components, (SSCs) that were included in the Seismic Walkdown Equipment List (SWEL).

This section documents the Peer Review – Selection of SSCs performed for MNGP.

Peer Review Activity – Selection of SSCs

The guidance in EPRI Technical Report 1025286, *Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic*, dated June 2012, Section 3: Selection of SSCs was used as the basis for this review.

This peer review was based on interviews with the following individuals who were directly responsible for development of the SWEL:

- Mr. Robert Walstrom, Retired SRO/Shift Manager

This peer review utilized the checklist shown in the SWG, Appendix F: Checklist for Peer Review of SSC Selection.

For SWEL 1 development, the following actions were completed in the peer review process:

- Verification that the SSCs selected represented a diverse sample of the equipment required to perform the following five safety functions:
    - Reactor Reactivity Control (RRC)
    - Reactor Coolant Pressure Control (RCPC)
    - Reactor Coolant Inventory Control (RCIC)
    - Decay Heat Removal (DHR)
    - Containment Function (CF)

  This peer review determined that the SSCs selected for the seismic walkdowns represent a diverse sample of equipment required to perform the five safety functions.

- Verification that the SSCs selected include an appropriate representation of items having the following sample selection attributes:
    - Various types of systems

- Major new and replacement equipment
- Various types of equipment
- Various environments
- Equipment enhanced based on the findings of the IPEEE
- Risk insight consideration

For SWEL 2 development, the Peer Review process verified that appropriate justification was documented for spent fuel pool related items that were not added to the SWEL 2.

This final peer review determined that the SSCs selected for the seismic walkdowns include a sample of items that represent each attribute/consideration identified above.

Peer Review Findings – Selection of SSCs

This peer review found that the process for selecting SSCs that were added to the SWEL was consistent with the process outlined in the SWG Section 3: Selection of SSCs.

- The SSCs selected represented a diverse sample of equipment required to perform the five safety functions
- The SSCs selected included a sample of items that represents each of the desired attributes/considerations.

The peer review checklist is attached to this document with additional comments that the Peer Review team provided back to the SWEL developer. All of these comments were verified by the Peer Review team to have been incorporated into the SWEL prior to the commencement of in-plant walkdowns. None of the issues identified were significant enough to warrant entry into the Corrective Action Process.

Resolution of Peer Review Comments – Selection of SSCs

All comments requiring resolution were incorporated prior to completion of this inplant walkdowns. None of the issues identified were significant enough to warrant entry into the Corrective Action Process.

Conclusion of Peer Review – Selection of SSCs

This peer review concludes that the process for selecting SSCs to be included on the seismic walkdown equipment list appropriately followed the process outlined in the SWG, Section 3: Selection of SSCs. It is further concluded that the SWEL sufficiently represents a broad population of plant Seismic Category 1 equipment and systems to meet the objectives of the NRC 50.54(f) Letter.

3. Review of Sample Seismic Walkdown & Area Walk-Bys Checklists

Overview

A peer review of the sample SWCs and AWCs was performed on September 10, 2013 in accordance with the SWG requirements.

Sample Checklists

Table D-1 lists the SWC and AWC samples which represent approximately 29% of the SWCs and 100% of the AWCs. The sample includes the equipment inspected during the peer review and other equipment items from other classes to introduce diversity to the sampling procedure.

Table D-1: SWC and AWC Samples from Seismic Walkdown Inspection

Equipment Identification	Equipment Class	Walkdown Item	50% Anchor Verif. (Y/N)	Observations
AO-2-80A	07 – Fluid-Operated Valves	Inboard MSIV	N	No Comments
C-17	20 – Instrumentation and Control Panels and Cabinets	Channel B ISOL and RPS Vertical Board	N	No Comments
D40	16 – Battery Chargers and Inverters	125 VDC Swing Charger for #11 & #12 Batteries	Y	No Comments
D54	16 – Battery Chargers and Inverters	Swing Charger D3A, D3B 13 Battery	Y	No Comments
MCC-312	01 – Motor Control Centers	Div 2 (HPCI) 250VDC Motor Control Center	Y	No Comments
Y81	16 – Battery Chargers and Inverters	Div 2 120VAC Class 1E Inverter	Y	No Comments

Area Walkdown Description	Observations
Reactor Bldg [redacted] – Drywell	No comments
Reactor Bldg [redacted] – Drywell	No Comments
Reactor Bldg [redacted] – Steam Chase	No Comments

Evaluation of Findings

There were no findings that challenged the licensing basis. Tables 5-2 and 5-3 of the Seismic Walkdown Report (final submittal report) provide the lists of the issues encountered for the equipment seismic walkdowns and area walk-bys.

The scaffolding and seismic housekeeping procedures were reviewed by the SWEs in order to gain a full understanding of the plant practices in regard to those procedures. There were no seismic concerns noted with regard to scaffold erection. The scaffolds were properly tied off and braced, and properly tagged with respect to the procedure. There were no seismic housekeeping issues identified during the walkdowns and it can be concluded that MNGP implements their seismic housekeeping program consistently.

The peer reviewers consider the judgments made by the SWEs to be appropriate and in concurrence with the SWG.

Conclusion of Peer Review - Seismic and Area Walkdown Checklists

This peer review concluded that Seismic and Area Walkdown checklists properly documented and dispositioned the issues identified by the engineers performing the walkdowns.

4. Review of Licensing Basis Assessments

Section 6 of the final submittal report was reviewed to assess Seismic Licensing Basis Evaluations. The report documents that all potentially adverse seismic conditions that were identified during plant walkdowns were entered into the corrective action process. Therefore, no Licensing Basis Evaluations were needed.

The Peer Review Team determined that while this was a conservative method to complete this portion of the evaluation, it did not violate the EPRI guidance document.

Tables 5-2 and 5-3 of the Seismic Walkdown Report were reviewed by the Peer Team, and it was concluded that the completed and planned corrective actions for the issues identified were appropriate to address the conditions identified.

5. Review Final Submittal Report & Sign-off

The entire final submittal report has been reviewed by Messrs. J. Kindred and S. Luckiesh and found to meet the requirements of the EPRI 1025286 – Seismic Walkdown Guidance. The Peer Review determined that the objectives and requirements of the 50.54(f) letter[2] are met. Further, the efforts completed and documented within the final submittal report are in accordance with the EPRI guidance document.

[2] NRC Letter to All Power Reactor Licensees et al., "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendation 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Daiichi Accident," Enclosure 3, "Recommendation 2.3: Seismic," dated March 12, 2012.

Attachment 1: Peer Review Checklist for SWEL

Peer Review Checklist for SWEL

This checklist is being completed as an addition to the checklist completed in July 2012 to review changes made to SWEL 1 list and to review walkdowns completed during RFO.

Jason Kinkel [signature]

Scott Koziesk [signature]

Instructions for Completing Checklist

This peer review checklist may be used to document the review of the Seismic Walkdown Equipment List (SWEL) in accordance with Section 6: Peer Review. The space below each question in this checklist should be used to describe any findings identified during the peer review process and how the SWEL may have changed to address those findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Were the five safety functions adequately represented in the SWEL 1 selection? Y☒ N☐

The changes made to SWEL 1 list were reviewed. The five safety functions remain adequately represented.
- Recommend adding safety function #2 to MCC-312

Safety function #1 (11 counts), #2 (10), #3 (16), #4 (12), #5 (16)

2. Does SWEL 1 include an appropriate representation of items having the following sample selection attributes:

   a. Various types of systems? Y☒ N☐

   The changes to SWEL 1 list were reviewed. A sufficiently diverse population of systems was used. The new items include: 1-4KV, 2-MST, 1-PPS, 2-APR, 4-DGN, 2-125VDC, 4-250VDC, 3-480VAC, 1-UAC

   b. Major new and replacement equipment? Y☒ N☐

   The changes to SWEL 1 list were reviewed. Major new and replaced equipment remain on the list. For example #11 Core Spray Pump was recently rebuilt

   c. Various types of equipment? Y☒ N☐

   The SWEL 1 list still contains a wide variety of equipment types, although most of the changes to the list since July 2012 are electrical.

   d. Various environments? Y☒ N☐

   The list includes equipment from almost every location in the plant including some examples of equipment in potentially harsh environments. For example.
   - MO-2373 is in the steam chase
   - A-SRU is in PCT

e. Equipment enhanced based on the findings of the IPEEE (or equivalent) program? Y☒ N☐
SWEL 1 list still contains 4 components flagged as IPEEE enhanced. This is one less from list published in July 2012

f. Were risk insights considered in the development of SWEL 1? Y☒ N☐
The list still represents a strong sample of Risk significant components. The list now contains 19 items which is one less than list reviewed in July 2012.

3. For SWEL 2:

a. Were spent fuel pool related items considered, and if applicable included in SWEL 2? Y☐ N☐

b. Was an appropriate justification documented for spent fuel pool related items not included in SWEL 2? Y☐ N☐

4. Provide any other comments related to the peer review of the SWELs.
After discussions with the individual who developed the SWEL, the peer review team agreed the Safety function comment on MCC-312 in Question 1 is not valid as the design basis safety function of the HPCI system is reactor inventory control (Ref. USAR 6.2.4.1) and does not include reactor pressure control. HPCI can be used by Operators for reactor pressure control but it is not a design basis safety function of the HPCI system. Therefore, the peer review team withdraws the comment on MCC-312.

5. Have all peer review comments been adequately addressed in the final SWEL? Y☒ N☐

Peer Reviewer #1: Jason Kivlal Date: 9-10-13

Peer Reviewer #2: Scott Lickiesh Date: Sep 10 2013