EA12-021, Revision 1 Updates

Pages or Attachments Updated in EA12-021, Revision 1 (Provided in Enclosure 1):

Pages 1 though 42
Attachment 11.1, Page 28 of 30
Attachment 11.2
Attachment 11.4
Attachment 11.5
Attachment 11.7

Not Provided (No Changes from Revision 0):

Attachment 11.3
Attachment 11.6

EA12-021, Seismic Walkdown Submittal Report, Revision 1

OMAHA PUBLIC POWER DISTRICT
FORT CALHOUN NUCLEAR STATION

SEISMIC WALKDOWN SUBMITTAL REPORT

for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic

Engineering Report Type:

New ☐ Revision ☒ Cancelled ☐ Superseded ☐
Superseded By:_____

EC No. N/A

Quality-Related: ☒ Yes ☐ No

Prepared by: Kevin Bessell (ENERCON) _____ Date: 4/26/2013
(Print Name/Sign)

Reviewed by: Laura Maclay (ENERCON) _____ Date: 4/26/2013
Other (Print Name/Sign)

Reviewed by: Jim Carlson _____ Date: 4/30/13
Peer Review Team Leader (Print Name/Sign)

Approved by: J K Gasper _____ Date: 5/1/13
Manager (Print Name/Sign)

Approved by: Jan Bostelman _____ Date: 5/1/13
Other (Print Name/Sign)

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1.0 SCOPE AND OBJECTIVE

This report documents the results of the seismic walkdown effort at the Omaha Public Power District (OPPD) Fort Calhoun Nuclear Station, for resolution of the Fukushima Near Term Task Force (NTTF) Recommendation 2.3: Seismic.

The objective of the walkdown effort is to provide response to the Title 10 of the Code of Federal Regulations, Section 50.54(f) letter (10 CFR 50.54(f)) issued by the Nuclear Regulatory Commission (NRC) on March 12, 2012 (Reference [10.1]). US nuclear power plants are "required to perform seismic walkdowns to identify and address degraded, non-conforming or unanalyzed conditions and to verify the current plant configuration with respect to the current seismic licensing basis". The Nuclear Energy Institute (NEI), through the Electric Power Research Institute (EPRI), prepared industry guidance to assist licensees in responding to this NRC request. During the walkdowns, a sample of components and areas of the plant are examined to identify potentially adverse seismic conditions, within the guidelines and parameters provided in the EPRI report 1025286 "Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic", dated June 2012 (Reference [10.2]) and endorsed by the NRC on May 31, 2012. This report will be referred to as the "*EPRI Guidance*" for the remainder of this document. Omaha Public Power District (OPPD) Fort Calhoun Nuclear Station (FCNS) has committed to using this NRC endorsed guidance as the basis for the walkdowns and this report.

The sample of components selected for walkdown inspection must be suitably diverse, be located in a variety of environments, include items needed to safely shutdown the reactor, maintain containment integrity, and avoid unanticipated rapid drain-down of the spent fuel pool. The walkdowns primarily focus on equipment anchorage, seismic spatial interaction, seismically induced fire and seismically induced flood.

Section 6.0 describes the equipment and component selection process. The selected sample of components constitutes the Seismic Walkdown Equipment List (SWEL). In addition to seismic equipment/component walkdowns (SWD), "area walk-bys" were performed to ensure that there were no other potentially adverse seismic conditions in an approximate 35 foot radius surrounding each component on the SWEL. The seismic walkdown teams consisted of two seismic walkdown engineers (SWE). In cases where multiple SWEL items were located in the same room/area of the plant, a single area walk-by was conducted for those items.

The results of the seismic walkdowns and walk-bys are documented on the Seismic Walkdown Checklists (SWC) and Area Walk-by Checklists (AWC). Any potentially adverse seismic conditions discovered during the walkdowns and identified on the SWC's or AWC's, that could not readily be shown to meet the Current Licensing Basis (CLB), were entered into the plant's Corrective Action Program (CAP) for documentation, evaluation and resolution. Description of the walkdown process is provided in more detail in Section 7.0; results are provided in Attachments 11.2, 11.3, 11.4.

Licensing Basis Evaluations (LBEs) were performed as part of the resolution of the Condition Reports (CR) that were initiated to document potentially adverse seismic conditions. The LBE process is described in more detail in Section 8.0; results of the evaluations are summarized in Attachment 11.4.

A Peer Review team was formed to review all aspects of the effort, including the development of the SWEL, the consideration of vulnerabilities identified in the 1990's under the Individual Plant Examination of External Events (IPEEE) program, the performance of SWEs during walkdowns and area walk-bys, the Licensing Basis Evaluation process, and this Submittal Report. The Peer Review process is described in more detail in Section 9.0; results are included in Attachments 11.6 and 11.7.

In accordance with the EPRI Guidance, the following topics are addressed in the subsequent sections of this report:

- Seismic Licensing Basis Summary
- Personnel Qualifications
- Selection of Systems, Structures and Components (SSCs)
- Seismic Walkdowns and Area Walk-bys
- Licensing Basis Evaluations
- IPEEE Vulnerabilities Resolution Report
- Peer Review

2.0 SEISMIC LICENSING BASIS SUMMARY

2.1 SAFE SHUTDOWN EARTHQUAKE

The Fort Calhoun Station is a pressurized water reactor (PWR) located on the west bank of the Missouri river, approximately 19.4 miles north of Omaha, Nebraska. The plant site is underlain by 65 to 75 feet of unconsolidated alluvial and glacial deposits, largely loose to moderately compact silty sand, and denser sands and gravels resting on sedimentary rock. The plant buildings are supported by a system of pipe piles driven to bedrock. The soil around the piles under Seismic Category I structures was compacted by vibroflotation to prevent liquefaction under Maximum Hypothetical Earthquake (Safe Shutdown Earthquake) loading.

The foundation mat for the Containment and Auxiliary buildings is an integral unit supported on piles. The Intake Structure and Turbine Building are on separate foundations, each supported on piles. The plant grade elevation is 1004 feet.

The primary sources of the plant's seismic licensing basis information are the Updated Safety Analysis Report (USAR), Appendix F (Reference [10.3]), and the Plant Level Design Basis Document (PLDBD), PLDBD-CS-51 (Reference [10.4]). The USAR describes the Design Earthquake (DE), also referred to as Operating Basis Earthquake (OBE), and the Maximum Hypothetical Earthquake (MHE), also referred to as Safe Shutdown Earthquake (SSE) and Design Basis Earthquake (DBE).

FCNS was licensed in accordance with the draft criteria set forth in the 70 General Design Criteria for Nuclear Power Plant Construction, published for comment in the Federal Register (32 FR 10213) on July 11,1967.

The Safe Shutdown Earthquake (SSE) for the site is 0.17g acting in the horizontal direction and two-thirds of 0.17g acting in the vertical direction simultaneously, in combination with the primary steady state stresses. Total stresses are limited so that

the function of Class 1 SSC's is not impaired in a manner that would prevent a safe and orderly shutdown of the plant.

The ground response spectrum of the SSE (MHE) is shown in Figure 1. The spectrum conforms to the average spectra developed by Housner (Reference [10.11]) for frequencies higher than about 0.33 Hz. The spectra for frequencies lower than about 0.33 Hz were prepared utilizing data presented by Newmark (Reference [10.12]). The damping factors (percent of critical) that were used in the design of SSC's range from 0.5% for vital piping systems to 7% for framed concrete structures. Damping ratio for bolted steel assemblies and for concrete structures supporting the reactor vessel or steam generator was 2%.

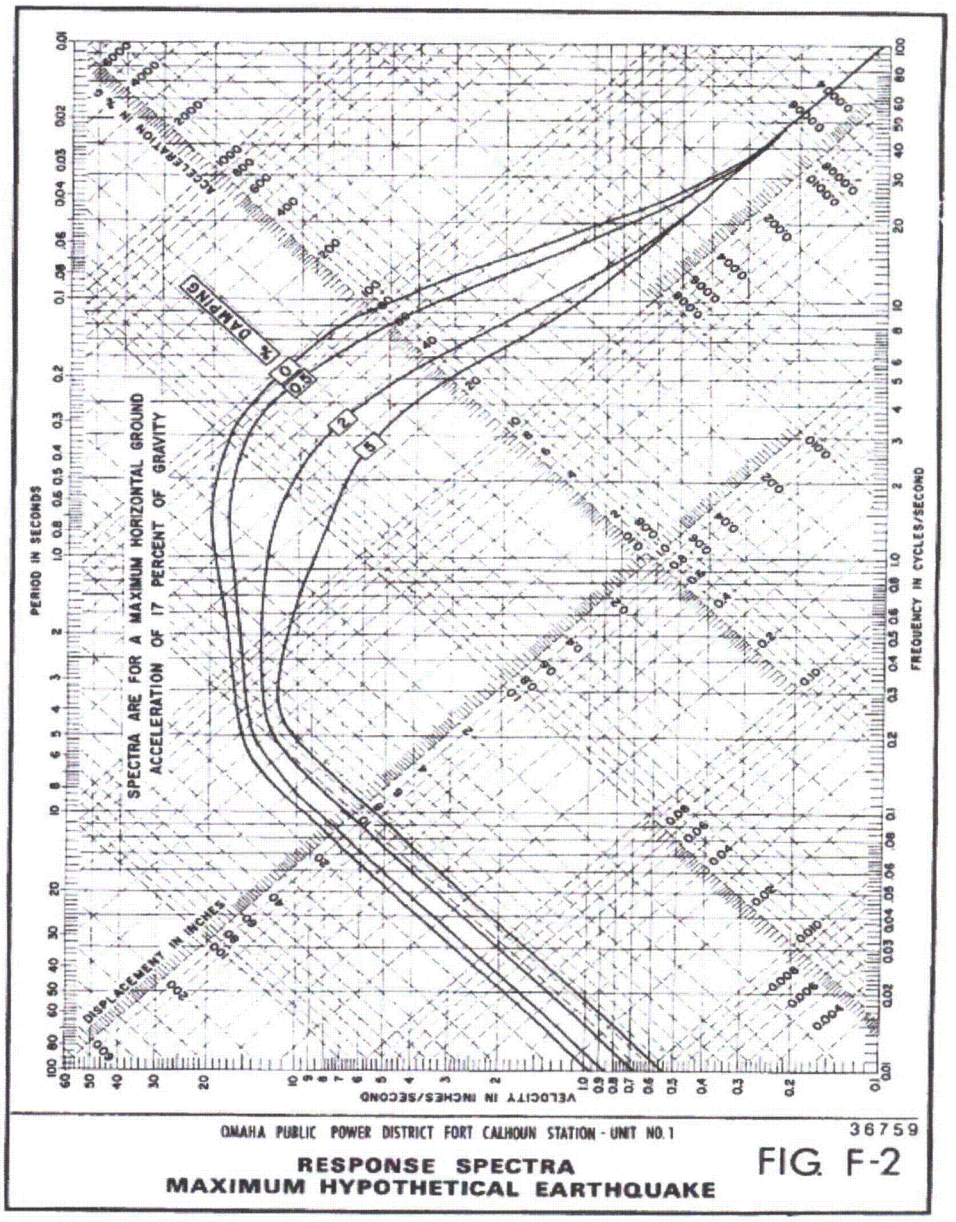

SPECTRA ARE FOR A MAXIMUM HORIZONTAL GROUND ACCELERATION OF .17 PERCENT OF GRAVITY
DAMPING
PERIOD IN SECONDS
FREQUENCY IN CYCLES/SECOND
ACCELERATION IN G'S
VELOCITY IN INCHES/SECOND
DISPLACEMENT IN INCHES
OMAHA PUBLIC POWER DISTRICT FORT CALHOUN STATION - UNIT NO. 1
RESPONSE SPECTRA
MAXIMUM HYPOTHETICAL EARTHQUAKE
36759
FIG. F-2

Figure 1

2.2 DESIGN CODES, STANDARDS, AND METHODS

All Class I systems, structures and components (SSC's) at FCS have been designed to withstand stresses resulting from the response to the Design Earthquake (ground acceleration of 0.08g horizontal and two-thirds of 0.08g vertical, acting simultaneously), in combination with the primary steady-state stresses. Total stresses are maintained within the allowable working stress limits accepted as good practice and, where applicable, set forth in the appropriate design standards, such as the ASME Boiler and Pressure Vessel Code, USAS B31.1 (1967), USAS B31.1 (1955) for Reactor Coolant loop piping, and B31.7 (1968) Codes for Pressure Piping, ACI 318-63 Building Code Requirements for Reinforced Concrete, and AISC Specification for the Design and Erection of Structural Steel for Buildings. In addition, Class I SSC's have been designed such that seismic stresses resulting from the response to the Maximum Hypothetical Earthquake (ground acceleration of 0.17g horizontal and two-thirds of 0.17g vertical, acting simultaneously), in combination with the primary steady-state stresses, are limited so that the function of the SSC's is not impaired in a manner that would disrupt the safe and orderly shutdown of the plant. Seismic qualification of Class I electrical equipment conforms to IEEE 344-1975. Components of the Reactor Protective System and the Engineered Safeguards Actuation System are qualified per IEEE 344-1971 "Guide for Seismic Qualification of Class 1E Electrical Equipment for Nuclear Power Generation Stations".

The general Method of analysis for Class 1 SSC's can be described as follows:

- Determine the natural frequency of vibration of the structure or component
- Select the appropriate Amplified Floor Response Spectrum (ARS, currently called In-Structure-Response-Spectrum, or ISRS) or Ground Spectrum, depending on support elevation and/or location

- Select the appropriate damping ratio of component and, from the corresponding spectral curve and at the natural frequency of vibration of the component, read the response acceleration of the component
- Stresses resulting from the combination of Design Earthquake acceleration and other applicable loads are checked against limits imposed by design standards
- Responses resulting from the combination of Maximum Hypothetical Earthquake acceleration and other applicable loads are checked to ensure that stresses would not produce rupture and deflections would not prevent the functional performance of the component

3.0 Seismic Walk-down Program Implementation Approach

OPPD has committed to conduct and document seismic walkdowns for resolution of NTTF Recommendation 2.3: Seismic, in accordance with the EPRI Guidance. OPPD contracted with ENERCON Services, Inc., for supplementary engineering and management resources.

A team of individuals, Mr. Marvin Morris and Mr. Steve Skubey, equipped with knowledge of plant systems and components, were selected to develop the Seismic Walkdown Equipment List (SWEL). Two SWELs were developed: SWEL 1 and SWEL 2.

SWEL 1 consists of a sample of equipment related to safe shutdown of the reactor and maintaining containment integrity; SWEL 2 consists of items related to the Spent Fuel Pool, as described in the EPRI Guidance.

Personnel responsible for performing the walkdowns and AWCs successfully completed training for the NTTF Recommendation 2.3: Seismic. The Seismic Walkdown Engineers who are certified by SQUG were not required to complete the NTTF training, but were trained on the differences between the USI A-46 and NTTF 2.3: Seismic programs. The team of Seismic Walkdown Engineers (SWEs) who performed the walkdowns were Mr. Kevin Bessell, Mr. Alex Smerch, and Mr. John Kao. The majority of the walkdowns were performed by Mr. Smerch and Mr. Kao. Mr. Bessell took over the role left vacant by Mr. Kao to complete the remaining walkdowns with Mr. Smerch. Plant personnel, namely Russ Placke, Ashwin Patel and Jim Carlson, also assisted in performing walkdowns. All SWEs have some if not extensive experience in seismic design and qualification of nuclear power plant SSC's. It was considered important to the project to ensure that any given walkdown team would be comprised with an experienced seismic engineer and one less experienced engineer. Qualifications of the seismic walkdown team members are provided in Section 4.0.

Seismic Walkdown Checklists (SWC's) and Area Walk-by Checklists (AWC's) were prepared in advance of the walkdowns. Packages were assembled into folders that included related information, such as location of equipment, anchorage drawings, in-structure response spectra information, calculations, and previously performed qualifications under earlier programs (refer to Section 5.0), if available.

Walkdowns were performed for all accessible components on the combined SWEL (SWEL 1 + SWEL 2). During the walkdowns, SWC's were completed for each component on the SWEL, and AWC's were completed for each area within an approximate 35 foot radius of the component. Walkdowns were tracked by component number and AWC's by location. Details of the SWC's and AWC's are provided in Section 7.0.

The SWCs and AWCs were given one of three status marks "Y" for Yes (walkdown is completed), "N" for No (walkdown has not been performed), or "U" for Uncertain (walkdown has been performed however more information is required and item has been deferred). When feasible, inaccessible items were replaced by alternate, accessible items, and the SWEL was revised accordingly. Such changes were reviewed by the SWEs, Equipment Selection Personnel and the Peer Review team.

Potentially adverse seismic conditions that were identified in the walkdowns were either evaluated under a Licensing Basis Evaluation or entered directly into the plant's corrective action program (CAP) for further evaluation. A summary of the potentially adverse seismic conditions is provided in Attachment 11.4.

A Peer Review was conducted for each activity, including this submittal report. The Peer review activity is described in detail in Section 9.0. Qualifications of the Peer Review team are provided in Section 4.0.

4.0 Personnel Qualifications

Qualifications and experiences of personnel participating in the NTTF Seismic Walkdown effort are provided in this section. Training certificates for the SWEs are provided in Attachment 11.8.

Name of Personnel	Equipment Selection	Plant Operations	Seismic Walkdown	Licensing Basis	IPEEE Reviewer	Peer Reviewer
Marvin Morris	X				X	
Steve Skubey	X					
Kevin Bessell			X	X		X (LBE)
Alex Smerch			X			
John Kao			X			
Don Pier		X				X (SWEL)
Ashwin Patel			X			X (SWD, SWEL)
Ryan Rymarczyk				X		
David Haas		X				X (SWD)
Russell Placke			X			
Laura Maclay				X		X
Jim Carlson			X			X

Table 1 - Personnel Function

4.1 SEISMIC WALK-DOWN TEAM

- **Marvin Morris**

  B.S. Mathematics, University of Texas, Pan American, 1968

  M.S. Physics, Sam Houston State University, 1974

  Mr. Marvin Morris is the Supervisor of Safety Analysis in ENERCON's NYSIS Division. Mr. Morris has over 30 years of experience in the nuclear industry in areas of design, analysis, licensing and operations support. His more recent experience has been involved with the development of Combined License (COL) applications for Bellefonte, Grand Gulf Nuclear Station, William States Lee and Comanche Peak Nuclear Power Plant new plant projects.

- **John Kao, S.E., P.E.**

  B.S. Civil Engineering, University of Illinois at Urbana-Champaign, 1976

  M.S. Civil Engineering, University of Illinois at Urbana-Champaign, 1977

  MBA Illinois State University, 2003

  Mr. John Kao is a Civil/Structural Engineer, sub-contracted by ENERCON, with over 34 years of work experience, the majority of which has been in nuclear. John has expertise in diverse areas of structural analysis and design, as well as some areas of civil engineering. Over the past 9 years at a utility company, Mr. Kao has served as a manager for small transmission and substation projects as well as performed the engineering for these projects. John has been the lead structural engineer for a leading consulting firm in the power industry and was responsible for the analysis and design of structural steel structures, pipe supports, writing design criteria and coordinating field work. Mr. Kao is an EPRI trained SQUG Seismic Capability Engineer. He is a licensed structural engineer and professional engineer in the state of Illinois.

- **Kevin Bessell, S.E., P.E.**

  B.S. Civil Engineering, University of Illinois at Urbana-Champaign, 2000

  Mr. Kevin Bessell is the Lead Civil/Structural Engineer in ENERCON's Naperville, Illinois office. He has over 12 years of experience, of which 4 years are in the nuclear industry. Mr. Bessell recently completed the seismic analysis of the Fuel Handling Building at Zion Nuclear Power Station in support of the upgrade of the overhead bridge crane. In addition, he provided oversight for the cask set down safe load path evaluations and stack-up seismic restraint design. Mr. Bessell has experience in linear time history and response spectrum dynamic analyses as well as equivalent static method analysis of decoupled subsystems. Mr. Bessell is an EPRI trained Fukushima NTTF Recommendation 2.3 Seismic Walkdown Engineer and has trained over 30 individuals. He is a licensed structural engineer in the state of Illinois and a licensed professional engineer in the state of Illinois and Wisconsin.

- **Alex Smerch**

  B.S. Civil Engineering, Marquette University, Milwaukee, WI, 2008

  Mr. Alex Smerch is a Civil/Structural Engineer in ENERCON's Naperville, Illinois office and is the lead Seismic Walkdown engineer for the project. He has over 3 years of experience performing structural analysis and design in the power and industrial industries. His experience includes developing and analyzing finite element models using a variety of software to aid the design of numerous structural components and systems. He is experienced in preparing design calculations and analysis of concrete and steel structures, conducting dynamic analyses of structures to resist seismic and hydrodynamic loads, designing various structural support systems to comply with regulations and restrictions at nuclear facilities, and performing computer programming to post-process and expedite the analysis results from software based design aids. Mr.

Smerch is an EPRI trained Fukushima NTTF Recommendation 2.3 Seismic Walkdown Engineer and has trained over 15 individuals.

- **Steve Skubey**

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

  Mr. Steve Skubey is a Civil/Structural Engineer in ENERCON's Overland Park, Kansas office. He has over 4 years of experience in the nuclear industry. He has been involved with the TVA Watts Bar Nuclear Unit 2 completion as an employee with Bechtel Power Corporation. His primary role was a pipe support design engineer performing design analyses, material testing and hazard evaluations.

- **Ryan Rymarczyk**

  B.S., Nuclear Engineering, University of Illinois Urbana-Champaign, 2007

  Mr. Ryan Rymarczyk is a Nuclear Engineer in ENERCON's Naperville, Illinois office. In this position, he has performed various mechanical analyses and design for commercial nuclear power plants including River Bend, Perry, Point Beach, St. Lucie and Palisades Nuclear Stations. Mr. Rymarczyk was also involved in developing an economic feasibility study for a next-generation mid-western nuclear power station.

- **David Haas**

  B.S. Engineering Technology, University of Nebraska, 1977

  Mr. David Haas has over 33 years of experience as a former senior mechanical design engineer in the Design Engineering Group at OPPD; 22 years of nuclear experience at Fort Calhoun Station; performed walkdowns for concrete anchor inspection and anchor pull-testing for the NRC I&E Bulletin 79-02 in the late 70's and early 80's; also performed pipe support walkdowns for related I&E Bulletin 79-14; wrote specifications, installation and repair procedures,

performed ASME code reconciliations, qualified various welding procedures and served as alternate welding engineer.

- **Ashwin Patel**

  B.S. Mechanical Engineering, University of Idaho

  B.S. Electrical Engineering, University of Idaho

  Mr. Patel is a senior engineer at OPPD. He has performed stress analyses and equipment qualifications of various power plant components based on SQUG methodology at General Electric, Union Carbide (Reprocessing Nuclear Fuel) and TVA; performed testing of equipment, seismic test reports, prepared modifications, evaluated relays and quality relays at OPPD. He holds the following certifications: SQUG Walkdown Engineer; SQUG NARE; SQUG Relay Evaluation.

- **Don Pier**

  B.S., Thomas Edison State University

  Mr. Pier is a licensed Senior Reactor Operator at Fort Calhoun Nuclear Station. He has been the project manager for the Steam Generator Replacement and Extended Power Uprate. He holds the following qualifications: Shift Manager; Control Room Supervisor; Shift Technical Advisor; Reactor Operator; Test Engineer.

- **Russ Placke, P.E.**

  B.S. Civil Engineering, University of Nebraska, Lincoln, 1995

  Mr. Placke has over 17 years of experience as a Civil/Structural Design engineer. Much of this experience has been in the power and industrial field in the design of steel and concrete structures such as buildings, pipe racks, pipe supports, building foundations and equipment foundations. A portion of this experience has been as a field engineer for the construction of (3) combined

cycle power plants where he was responsible for the resolution of structural issues encountered during the construction. The past two years have been as a design engineer – nuclear at OPPD's Fort Calhoun Power Station where he has been extensively involved in the plant recovery efforts such as the reconstitution of the containment internal structure design calculations. Mr. Placke has also completed OPPD's one year training program for design engineers and also the Seismic Qualification Utility Group (SQUG) training.

- **Laura Maclay**

  B.S. Structural Engineering, Drexel University

  Ms. Maclay has over five years of experience as a structural engineer, three years with Enercon Services and is a qualified Seismic Walkdown Engineer as stated on her EPRI training certificate dated July 26, 2012. Her tasks have ranged from assisting with the development and preparation of design change packages to performing design calculations and markups, comment resolutions, and drawing revisions. Ms. Maclay spent a year on site at Turkey Point Nuclear Plant preparing structural evaluations of SSC's for an Extended Power Uprate (EPU). Her work included designing safety related supports for computer and electrical equipment for the Turbine Digital Controls Upgrade package and other similar packages. Ms. Maclay's responsibilities also included the review of calculations, drawings and vendor documentation for the seismic evaluation of the Unit 3 Palfinger Crane inside containment and new platforms in the High Pressure Turbine enclosure.

  Recent work includes Fukushima flooding walkdowns at Limerick Generating Station and seismic walkdowns at Plant Farley and Pilgrim Nuclear Generating Station. Ms. Maclay was the lead engineer for the Pilgrim seismic walkdowns, prepared the final report for issue to the NRC and was the reviewer for the final seismic report for Fitzpatrick.

- **James Carlson**

  B.S. Mechanical Engineering, North Dakota State University

  Mr. Carlson has over thirty years of experience in the HVAC industry. His expertise includes seismic restraint design of non-structural components for commercial and nuclear facilities. James is a certified seismic evaluation engineer (SQUG), identified by the Department of Energy Professional Engineering. He is responsible for the original preparation of the ASHRAE Seismic Restraint Design chapter published in the 1991 Applications Handbook and recent revision and served as the Principle Investigator of the "Manuals for Seismic Installation of Electrical and Mechanical Equipment" project contracted with ASCE (Reference: FEMA contract EMW-2001-CO-0379).

4.2 PEER REVIEW TEAM

- Kevin Bessell (ENERCON)
- Laura Maclay (ENERCON)
- Don Pier (OPPD)
- Ashwin Patel (OPPD Lead Peer Reviewer)
- David Haas (OPPD)
- Jim Carlson (OPPD)

5.0 IPEEE Vulnerabilities Reporting

During the IPEEE program in response to NRC Generic Letter 88-20 (Reference [10.5]), plant-specific seismic vulnerabilities were identified at many plants. In this context, "vulnerabilities" refers to conditions found during the IPEEE program related to seismic anomalies, outliers, or other findings.

IPEEE Reviewers (see Section 4.0) reviewed the IPEEE Report (Reference [10.25]) and supporting documentation to identify items determined to present a seismic vulnerability by the IPEEE program. IPEEE Reviewers then reviewed additional plant documentation to identify the eventual resolutions to those seismic vulnerabilities not resolved by the completion of the IPEEE program.

During the 1980's, the NRC initiated an Unresolved Safety Issue (USI) A-46 under Generic Letter No. 87-02 (Reference [10.6]), to review the seismic adequacy of equipment in certain operating nuclear power plants with respect to seismic criteria not in use at the time when these plants were licensed. FCNS was identified as one of the A-46 plants which must be reviewed. The vulnerabilities that were then identified under the IPEEE program were also incorporated as outliers under the USI A-46 program. OPPD joined the Seismic Qualification Utility Group (SQUG) which published the Generic Implementation Procedure, Revision 2 (GIP-2) (Reference [10.17]) for evaluating these plants and equipment. The NRC accepted the SQUG procedure for resolving USI A-46 in Supplementary Safety Evaluation Report No.2 (SSER No.2) (Reference [10.18]). OPPD used GIP-2 in its entirety, including the clarifications, interpretations and exceptions identified in SSER No.2, as clarified by the August 21, 1992 SQUG letter (Reference [2.19]), to evaluate the seismic adequacy of selected safe shutdown equipment in the Fort Calhoun Station (Reference [2.20]).

The NRC issued a Safety Evaluation Report to OPPD on July 30, 1998, which accepted the results of the USI A-46 program for FCNS, including the approach used to resolve all outliers and vulnerabilities (Reference [2.21]).

As discussed in the letter in the following figure, there are no IPEEE vulnerabilities to report, because all "outliers" have been resolved and incorporated into the plant design (see Figure 2 below for closeout of USI A-46, TAC No. M69447).

RECD AUG 4 1998

UNITED STATES
NUCLEAR REGULATORY COMMISSION NRC-98-129
WASHINGTON, D.C. 20555-0001
July 30, 1998

POSTING REQUIRED
PER 10 CFR 19.11, 21.6 or 50.7
YES ___ NO X
REVIEWED BY

Mr. S. K. Gambhir
Division Manager - Engineering & Operations Support
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
Post Office Box 399
Hwy. 75 - North of Fort Calhoun
Fort Calhoun, Nebraska 68023-0399

SUBJECT: FORT CALHOUN STATION, UNIT NO. 1 - CLOSEOUT OF UNRESOLVED SAFETY ISSUE A-46 (TAC NO. M69447)

Dear Mr. Gambhir:

The staff has reviewed Omaha Public Power District's (OPPD) response to Generic Letter (GL) 87-02 which established the USI A-46 program for the Fort Calhoun Station, Unit No. 1. The staff concludes that your USI A-46 implementation program has met the purpose and intent of the criteria in the Generic Implementation Procedure, Revision 2 (GIP-2) and the staff's Supplemental Safety Evaluation Report No. 2 (SSER No. 2) for the resolution of USI A-46. The staff has determined that your corrective actions and completed physical modifications for resolution of outliers resulted in safety enhancements, in certain aspects, that are beyond the original licensing basis, and as a result, provide sufficient basis to close the USI A-46 review at the facility. The staff concludes that your implementation program to resolve USI A-46 at the facility has adequately addressed the purpose of the 10 CFR 50.54(f) request. Your activities related to the USI A-46 implementation are subject to NRC inspection.

9808040284

Sincerely,

L. Raynard Wharton

L. Raynard Wharton, Project Manager
Project Directorate IV-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosure: Safety Evaluation

cc w/encls: See next page

WGGates, DJacobberger, SKGambhir, RLPhelps, JWChase, MATesar, JMSolymossy, RLJaworski, PJLounsberry, REWestcott, WLEllis, DRPodolil, MJLucht, JWTills, BRHansher, TCMatthews, DFSpires, JRKuhr, DPGalle, RDMartin, JGKeppler, JHMacKinnon, JTaylor, MJAngus, TJPalmisano, WHFujimoto, WFConway, FILE COPY (Joan)

LC004313

Figure 2

6.0 Seismic Walk-down Equipment List Development

The process used to select the items to be included in the seismic walkdown equipment list (SWEL) is described in detail in the EPRI Guidance, Section 3: Selection of SSCs. In general, the Ft. Calhoun SWEL is comprised of two groups of items, one of which is a sample of components from the USI A-46 safe shutdown equipment list (SSEL), the Ft. Calhoun IPEEE list, insights from the Ft. Calhoun PRA, and review of plant modifications completed since the USI A-46 report was completed (termed SWEL 1) and the other is a sample of components associated with the spent fuel pool (termed SWEL 2).

The equipment list used as a starting point for development of the SWEL 1 is the base list, or BL 1. The base list used at FCNS is the Safe Shutdown Equipment List (SSEL) that was developed to address the NRC Unresolved Safety Issue (USI) A-46, "Seismic Qualification of Equipment in Operating Plants" which employed the guidance provided in Revision 2 of the Generic Implementation Procedure (GIP) and NRC Supplemental Safety Evaluation Report No. 2. The SSEL was developed in the 1990's and, to ensure that the safe shutdown paths used as a basis for the list remained valid, a review of the Design Basis Documents (DBDs) for safe shutdown systems was performed to identify changes to the systems since the SSEL was developed. Any new or changed equipment was added to BL 1.

The selection of equipment for the seismic walkdown is based on the USI A-46 Safe Shutdown Equipment List from EA 96-017(Reference [2.26]) and the IPEEE Component List from the IPEEE Report (Reference [2.25]). Screening of these lists is based on the requirements provided in the EPRI Guidance. In accordance with the EPRI Guidance, Seismic Category I structures, containment penetrations, and Seismic Category I piping systems were not included in the SSC bucket from which the SWEL 1 components were selected. This selection process is intended to comply with the request in the NRC

50.54(f) Letter (Reference [10.1]), under the "Requested Actions" section, to "verify current plant configuration with the current license basis."

6.1 SAMPLE OF REQUIRED ITEMS FOR THE FIVE SAFETY FUNCTIONS

The selection of equipment for the seismic walkdown was based on the five safety functions identified in the EPRI Guidance:

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

The SWEL 1 was developed by applying the following five sample selection attributes, defined in the EPRI Guidance, Section 3, to BL 1. The method of application is summarized below for each attribute:

- ***A variety of types of systems***

  Sample items are selected to represent a broad range of frontline and support systems included on the SSEL.

- ***Major new and replacement equipment***

  A review of the system DBDs was performed to identify major new or replacement equipment installed within the last 20 years. A sample of these items is included on SWEL 1.

- ***A variety of types of equipment***

  At least one item from each of the classes of equipment listed in EPRI Guidance, Appendix B: Classes of Equipment was included in SWEL 1 to

provide a sample selection of a variety of equipment types. No items are specifically listed in the Ft. Calhoun SSEL for Classes 11, 12, and 13. For these three classes no items are included on SWEL 1.

- ***A variety of environments***

  Sample items were selected from different locations in the plant to include various environments (hot, cold, dry, wet) and inside and outside installations.

- ***Equipment enhanced due to vulnerabilities identified during the IPEEE program***

  The IPEEE program documentation was reviewed to determine equipment that had been modified or otherwise enhanced to reduce IPEEE vulnerabilities. A sample of these items is included on SWEL 1.

An additional consideration for the development of SWEL 1 is the equipment availability for inspection due to protected train restrictions during plant operation. The SWEL 1 items were selected from a single train (train A, where possible) and the walkdowns were scheduled to be accomplished within a single week to ensure accessibility. To ensure that risk significant items were included, insights from the Ft. Calhoun Probabilistic Risk Assessment (PRA) were considered.

The Fort Calhoun Station Probabilistic Risk Assessment (PRA) model includes only simplified modeling of a potential seismic initiating event. The simplified seismic model is used to support plant configuration risk assessments. It is not equivalent to a seismic PRA, and does not meet Regulatory Guide 1.200 (Reference [2.27]) with respect to modeling of seismic events. The simplified seismic model is based on a hypothetical seismic event (nominally 0.1g) that is assumed to result in failure of selected equipment that is susceptible to failure at or near the assumed g-level. The model assumes that the seismic event results in unrecoverable loss of off-site power, failure of equipment in the Turbine Building (including Auxiliary Feedwater Pump FW-54), failure of the diesel-

driven fire pump in the Intake Structure and failure of all makeup sources to the Emergency Feedwater Storage Tank (EFWST) except Raw Water.

Using the existing PRA model, a list of potential seismic event accident sequences (i.e., cut-sets) was generated. The list of importance measures for basic events appearing in the seismic event cut-sets were sorted based on the "Risk Achievement Worth, RAW" importance measure. The equipment with the highest importance according to this approach is listed below:

- Diesel Generators (including inlet/exhaust dampers and fuel oil transfer pumps)
- Station Batteries
- Various 4160V Breakers
- Air-Operated Auxiliary Feedwater Valves
- 480V Buses
- Auxiliary Feedwater Pumps FW-10 & FW-6 (including associated equipment)

6.2 SPENT FUEL POOL (SFP) ITEMS

A base list (BL 2) was developed by reviewing the spent fuel pool (SFP) cooling and inventory related systems for all safety-related, Seismic Category I equipment and reviewing the systems whose failure could result in rapid drain-down of the SFP to within 10' above the stored fuel. Rapid drain-down is defined as lowering of the water level to the top of the spent fuel assemblies within 72 hours after an earthquake. A sample of the Seismic Category I systems components were selected for inspection consistent with the SWEL 1 methods defined previously to create SWEL 2.

The method for selection of SWEL 2 SFP rapid drain-down items described in the EPRI Guidance is difficult to implement. When rapid drain-down items are identified, it is not clear what actions are required particularly if items are placed on SWEL 2. Rapid drain-

down would typically involve piping failure; however, the walkdown guidance does not include piping in the scope. In addition, the rapid drain-down considerations in the EPRI Guidance, such as pool sloshing evaluations, boil-off, leak size, etc., are not sufficiently defined for implementation as part of the walkdown / SWEL development process. SWEL 1 and SWEL 2 items were combined to form the SWEL. Generally speaking, all major components (e.g., tanks, heat exchangers, and pumps) needed for safe shutdown, following a seismic event and accompanied by a loss of offsite power (LOOP), were selected.

The SWEL was developed in the form of a spreadsheet, which allowed for manipulation/sorting of data and cross-referencing to build summary tables. The SWEL spreadsheet includes the following information:

1. Sequential item number (used to develop the SWC ID #)
2. A-46 Equipment Box (where provided)
3. Component ID
4. Equipment Class (from GIP)
5. Item Description
6. System Designator
7. Location (Room)
8. Floor Elevation
9. Equipment Location
10. Power source (if applicable)

The associated lists from the spreadsheet, BL 1, BL 2, and the combined SWEL can be found in Attachment 11.1. It shall be noted that the information (equipment description, elevation, location, etc.) provided in the base lists (BL1, BL2) is what is provided exactly

on the SSEL. The information provided in the SWEL is based on current information provided in the document management system utilized by Fort Calhoun Nuclear Station, Asset Suite. As such, the information from one list to the other may vary slightly, and has no effect on the implementation of the walkdowns performed at FCNS.

7.0 Seismic Walk-downs and Area Walk-Bys

Subsequent to the development of the SWEL, the SWE's prepared walkdown packages which consisted of the SWCs, AWCs, plant documentation showing the anchorage for at least 50% of the items on the SWEL and in-structure response-spectra, if available. Having obtained assurance from the SWEL development team and the Peer Review team that the SWEL attributes contained in the EPRI Guidance were not compromised, a small number of components that were inaccessible were either removed from the SWEL or replaced by alternate components.

The initial set of walkdowns were conducted from August 13th through August 29th, 2012, and focused on anchorages, seismic spatial interactions, and other potentially adverse seismic conditions, such as bolts in degraded or non-conforming conditions, extensive corrosion, absence of, or, inadequate hardware, cracked concrete, corrosion of weld and/or base metal, etc. Remaining walkdowns of deferred items which are discussed in Revision 0 were concluded on March 29th, 2013.

In addition to the general inspection requirements, at least 50% of SWEL items with anchorage were required to be verified that their anchorage is consistent with plant documentation. A total of 96 items were identified on the SWEL for inspection. Of the 96 items on the SWEL, 68 items had anchorage that was not considered in-line. Anchorage configuration verification was performed on 39 items, which is greater than 50% of the items with anchorage not considered in-line. There are 96 SWCs provided in Attachment 11.2. It shall be noted that the information provided on the SWCs relative to equipment identification, location, description and floor elevation was input as provided in the FCNS document management system, Asset Suite.

Area Walk-Bys were performed in conjunction with the walkdowns of each item. All areas/rooms containing equipment on the SWEL were included in the AWCs. Since

certain areas contained more than one SWEL item, the number of total area walk-bys conducted is less than the number of seismic walkdowns. A total of 33 area walk-bys were performed and the associated AWCs are provided in Attachment 11.3. It shall be noted that the floor elevation identified on the AWCs corresponds to the elevation from which the inspections were performed.

In cases where the SWEs identified a potentially adverse seismic condition, the condition was identified on the SWC and/or AWC and a Licensing Basis Evaluation was performed.

8.0 Licensing Basis Evaluation

8.1 LICENSING BASIS EVALUATIONS

Potentially adverse seismic conditions identified as part of the NTTF 2.3 Seismic Walkdown program may be evaluated by comparison to the current licensing basis of the plant as it relates to the seismic adequacy of the equipment in question, as is described in Section 5 of the EPRI Guidance. If the identified condition is consistent with existing seismic documentation associated with that item, then no further action is required. If the identified condition cannot easily be shown to be consistent with existing seismic documentation, or no seismic documentation exists, then the condition is entered into the CAP.

Of the 70 identified potentially adverse seismic conditions, 70 LBEs were performed. Each LBE performed is documented consistently, and included in Attachment 11.5. The results of these LBEs with respect to the associated potentially adverse seismic conditions are summarized in Attachment 11.4. A total of 21 potentially adverse seismic conditions evaluated using a LBE were dispositioned and require no further action, whereas 49 required CAP entry. It shall be noted that some of the potentially adverse seismic conditions are provided on the same CAP entry. The LBEs that were dispositioned were the result of inadequate anchorage configuration documentation at the time of the inspections. The SWE team documented as-built anchorage information as sketches on the checklists for further verification against plant documents.

The following Licensing Basis Evaluations provided below are worth noting. Refer to specific LBEs provided in Attachment 11.5 for more information on the condition.

LB-2

Condition: Missing clamp attaching unistrut and pipe for FCV-1369 (SWC-38). The unistrut holds the instrument line.

Evaluation: CR 2012-10198 was initiated to resolve the condition.

LB-28

Condition: Block wall lateral restraint is not in contact with block wall and is possibly not restraining block wall in current state. A potential seismic interaction concern with nearby pumps AC-5A and AC-5B.

Evaluation: CR 2012-10915 was initiated to resolve the condition.

8.2 CORRECTIVE ACTON PROGRAM ENTRIES

Conditions identified during the seismic walkdowns and area walk-bys that required further resolution were entered into the plant's Corrective Action Program (CAP) for further review and disposition in accordance with the plant's existing processes and procedures. Conditions entered into the CAP included three types of unusual conditions identified:

- Seismically insignificant unusual conditions
- Potentially adverse seismic condition that does not pass a LBE
- Potentially adverse seismic condition that bypasses a LBE

A total of 36 CRs were written relative to potentially adverse seismic conditions identified. The CR numbers, current status, and resolution (where applicable and available) are summarized for these potentially adverse seismic conditions in Attachment 11.4.

8.3 PLANT CHANGES

There were no immediately implemented plant changes warranted by the results of the NTTF 2.3 Seismic Walkdown program. Resolutions of the CRs for seismically insignificant unusual conditions and potentially adverse seismic conditions identified will determine if future modifications to the plant are required. While no plant modifications have been identified as a result of the seismic walkdowns and walk-bys, various cases were found where repairs were required or housekeeping issues needed to be addressed. Current status and resolutions (where applicable and available) for CRs related to potentially adverse seismic conditions are provided in Attachment 11.4.

9.0 Peer Review

9.1 PEER REVIEW PROCESS

The Peer Review for the NTTF Recommendation 2.3: Seismic walkdowns was performed in accordance with Section 7 of the EPRI Guidance. The following activities were peer reviewed:

- selection of SSC's for the SWEL
- sample of the checklists prepared for the seismic walkdowns and area walk-bys
- licensing basis evaluations
- decisions for entering the potentially adverse conditions into the CAP process
- submittal report
- results of the peer review process in the submittal report

The selection of items for the SWEL was peer reviewed in accordance with Section 3 of the EPRI Guidance. The peer review team members independently provided comments to the personnel who prepared the SWEL. Peer review comments were resolved and incorporated into the final SWEL, ensuring that all recommendations of the EPRI Guidance have been met. The final SWEL contains a diverse sample of equipment required to perform the five safety functions specified in the EPRI Guidance, which are:

- Reactor reactivity control
- Reactor coolant pressure control
- Reactor coolant inventory control
- Decay heat removal
- Containment integrity

In addition, the peer review process verified that SWEL items included major new and replacement items, a variety of environments, equipment enhanced based on findings of the IPEEE (if any), and risk insight considerations.

The peer review team confirmed that the SWE walkdown team performed the seismic walkdowns and area walk-bys as described in Section 4 of the EPRI Guidance. A minimum of 10-25% of the SWCs and AWCs were reviewed for consistency and accuracy. The majority of the peer reviews occurred at the start of the walkdowns, and the reviewers were able to provide comments at the early stages of the process. This helped to ensure consistency and confirm that walkdowns were being performed in accordance with all the requirements of the EPRI Guidance.

All potentially adverse seismic conditions were entered into the plant's CAP program for further review and disposition. The review team verified the decisions for identifying such conditions as sound, and the dispositions were conducted in accordance with the plant's current license basis (CLB).

A peer review was completed of the licensing basis evaluations provided in Attachment 11.5. Within these licensing basis evaluations, CRs were generated for maintenance issues to replace missing bolts, nuts or remove items for housekeeping issues, or to provide further, detailed resolution of the potentially adverse seismic condition. The remaining licensing basis evaluations were created to document potentially adverse seismic conditions that were immediately entered into the CAP for detailed evaluation and investigation. The peer review of these LBEs ensured that all the information provided from the walkdown team to the licensing basis evaluation team member provided enough detail for accurate and timely resolution.

The peer review team was provided with an early draft of this submittal report for peer review. The peer review team verified that the submittal report met the objectives and requirements of Enclosure 3 to the 50.54(f) Letter, and documented the NTTF 2.3

Seismic Walkdown program performed in accordance with the EPRI Guidance. The peer review team provided the results of review activities to the SWE team for consideration. The SWE team satisfactorily addressed all peer review comments in the final version of the submittal report. The signature of the Peer Review Team Leader provides documentation that all elements of the peer review as described in Section 6 of the EPRI Guidance were completed.

9.2 PEER REVIEW RESULTS SUMMARY

Peer Review of the seismic walkdowns and area walk-bys were conducted by Ashwin Patel and David Haas, who have extensive experience in seismic engineering as applied to nuclear power plants. The peer review team reviewed the walkdown packages (checklists, photos, drawings etc.) and ensured that the SWCs and AWCs were completed in accordance with the EPRI Guidance. The checklists were selected at random and 25 out of 96 SWC forms (26% of total) and 20 of 33 AWC forms (61% of total) were reviewed.

The table below summarizes the checklists that were reviewed:

	Equipment ID (from SWEL)	SWC No.	AWC No.
1	FT-1368	52	1
2	YCV-871H-20	4	2
3	DG-2	51	4
4	FO-2-2	62	4
5	FO-4A-2	21	4
6	EE-8A	48	5
7	EE-4S	15	7

	Equipment ID (from SWEL)	SWC No.	AWC No.
8	T1B-3C	16	7
9	FP1B	76	10
10	AC-12B-M	2	11
11	AI-41A	45	14
12	LT-1183	53	16
13	RW-262	96	16
14	HCV-478	91	18
15	CH-172	73	19
16	AC-1A	59	20
17	HCV-484	27	20
18	AC-102	66	21
19	HCV-2893	35	22
20	AC-4B	60	23
21	HCV-240	36	25
22	SI-6A	89	26
23	HCV-2918	83	29
24	B/PT-913	55	30
25	AC-7	94	33

Table 2 - Summary of Peer Reviewed Checklists

10.0 References

1. 10 CFR 50.54(f) Letter "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3 and 9.3 of the Near Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident", dated March 12, 2012
2. EPRI 1025286, Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic, June 2012
3. OPPD Fort Calhoun Power Station Updated Safety Analysis Report (USAR). Revision 4, Issued 04-15-2011
4. OPPD Fort Calhoun Station Plant Level Design Basis Document (PLDBD)
5. Generic Letter No, 88-20, Supplement 4, Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities
6. Generic Letter No, 87-02, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, Unresolved Safety Issue (USI) A-46
7. Seismic Qualification Utility Group (SQUG) Procedure: Generic Implementation Procedure (GIP) for Seismic Verification of Nuclear Power Plant Equipment, Revision 3A, December 2001
8. NRC-98-129 "Fort Calhoun Station, Unit No.1 – Closeout of Unresolved Safety Issue A-46 (TAC No. M69447)", dated July 30, 1998
9. U.S. Nuclear Regulatory Commission, "Endorsement of Electric Power Research Institute (EPRI) document 1025286, "Seismic Walkdown Guidance", May 31, 2012""

10. U.S. Nuclear Regulatory Commission, "Recommendations for Enhancing Reactor Safety in the 21st Century – The Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," July 12, 2011

11. Nuclear Reactors and Earthquakes, TID-7024, Division of Licensing and Regulation, AEC, Washington, D.C., August, 1963

12. Design Criteria for Nuclear Reactors Subjected to Earthquake Hazards, Newmark, N.M., Department of Civil Engineering, University of Illinois (presented in Tokyo, 1968)

13. Report to AEC Regulatory Staff, Adequacy of the Structural Criteria for Fort Calhoun Station – Unit No.1, Omaha Public Power District (Docket No. 50-285), by N.M. Newmark, W.J. hall and A.J. Hendron, January 12, 1968

14. USNRC Safety Evaluation Report of Alternate Seismic Criteria and Methodologies- Fort Calhoun Station, April 16, 1993, TAC No. M71408 (NRC-93-0150)

15. EA-FC-94-003, Alternate Seismic Criteria and Methodologies, Rev.0

16. USNRC Safety Evaluation Report, Fort Calhoun Station Unit No.1 – Request for Relief from Modifying Pipe Supports SIS-63/65, SIH-3 and RCH-13 (TAC-No. M5547), OPPD Tracking No. NRC-96-188

17. Generic Implementation Procedure (GIP) for Seismic Verification of Nuclear Power Plant Equipment, Revision 2, Corrected 02/14/98, Seismic Qualification Utility Group (SQUG), February 1992

18. NRC letter to SQUG Members dated May 22, 1992, Supplemental No.1 to Generic Letter 87-02 transmitting Supplemental Safety Evaluation Report No.2 (SSER No.2) on SQUG Generic Implementation Procedure, Revision 2, Corrected February 14, 1992 (GIP-2)

19. SQUG Letter to NRC dated August 21, 1992, SQUG Response to Generic Letter 87-02, Supplement 1 and Supplemental Safety Evaluation Report No.2 on the SQUG GIP

20. EA-FC-93-085, NRC USI A-46 and Seismic IPEEE Resolution

21. NRC Letter to OPPD dated July 30, 1998, Fort Calhoun Station Unit No.1 – Closeout of Unresolved Safety Issue A-46 (TAC No. M69447), OPPD Tracking No. NRC-98-129

22. Generic Implementation Procedure for Seismic Verification of Nuclear Power Plant Equipment, Revision 3, Updated 05/16/97 (GIP-3), Seismic Qualification Utility Group (SQUG), May 1997

23. NRC letter for SQUG dated December 4, 1997, Supplemental Safety Evaluation Report No.3 (SSER No. 3) on the Review of Revision 3 to the Generic Implementation Procedure for Seismic Verification of Nuclear Power Plant Equipment, Updated May 16, 1997 (GIP-3)

24. Fort Calhoun Station Calculation FC06945 (AREVA NP Inc., Document 32-5028554-01, FCS RSG – RCS Structural Evaluation) FCS RSG – RCS Structural Analysis

25. SL-4910, Individual Plant Examinations for External Events Seismic Margin Assessment Final Technical Report, March 1994, Revision 0

26. EA 96-017, SQUG Program Document Update, Revision 1

27. USNRC Regulatory Guide 1.200, An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities, Revision 2

11.0 Attachments

ATTACHMENT 11.1 - SEISMIC WALKDOWN EQUIPMENT LISTS

ATTACHMENT 11.2 - SEISMIC WALKDOWN CHECKLISTS

ATTACHMENT 11.3 - AREA WALK-BY CHECKLISTS

ATTACHMENT 11.4 - POTENTIALLY ADVERSE SEISMIC CONDITIONS

ATTACHMENT 11.5 - LICENSING BASIS EVALUATION FORMS

ATTACHMENT 11.6 - PEER REVIEW CHECKLISTS FOR SWEL

ATTACHMENT 11.7 – SEISMIC WALKDOWN ENGINEER TRAINING CERTIFICATES

SEISMIC WALKDOWN EQUIPMENT LIST (SWEL)

SWEL Item Number	BOX	ASSEL Associated Safe Shutdown List	CLASS	DESCRIPTION	SYSTEM	ROOM	ELEV	LOCATION	Safety Functions	SFP Item	Comments
1	AC-12B	AC-12B	0	RAW WATER STRAINER	AC-RW	INTK	0994	13W'BB-16N'104	4		
2	AC-12B	AC-12B-M	0	RAW WATER STRAINER AC-12B MOTOR	AC-RW	INTK	0999	13W'BB-16N'104	4		
3	YCV-871H	YCV-871H	0	DIESEL GENERATOR DG-1 ROOM FRESH AIR SUPPLY DAMPER	VA	MISL	1024	10W'K-11S'1A	1, 2, 3, 4, 5		
4	YCV-871H	YCV-871H-20	0	DIESEL GENERATOR DG-1 FRESH AIR INTAKE DAMPER : SOLENOID	VA	MISL	1020	1W'K-11S'1A	1, 2, 3, 4, 5		
5	MCC-3B1	MCC-3B1-C2R	1	VA-64-EHTR CONTROL ROOM FILTER VA-64A INLET HEATER	EE-5	57	1013	MCC-3B1	5		
6	1B3A	1B3A	2	480 VOLT BUS 1B3A (EE-4F)	EE-4B	56	1011	10W'C-21N'5B	1, 2, 3, 4, 5	SFP	
7	1B3B	1B3B	2	480 VOLT BUS 1B3B (EE-4H)	EE-4B	56	1011	10WC'-9N'5B	1, 2, 3, 4, 5	SFP	
8	1B3C	1B3C	2	480 VOLT BUS 1B3C (EE-4K)	EE-4B	56	1011	10W'C-10N'4A	1, 2		
9	1B4A	1B4A	2	480 VOLT BUS 1B4A (EE-4G)	EE-4B	56	1011	10E'D-15S'6D	1, 2, 3, 4, 5	SFP	
10	1B4B	1B4B	2	480 VOLT BUS 1B4B (EE-4J)	EE-4B	56	1011	10E'D-12N'5B	1, 2, 3, 5		
11	1B4C	1B4C	2	480 VOLT BUS 1B4C (EE-4L)	EE-4B	56	1011	15W'C-4N'4A	1, 2, 3, 4, 5	SFP	
12	1A4	1A4-11	3	BREAKER UNIT FEEDER FOR RAW WATER PUMP AC-10B	EE-4A	56	1011	1A4	4	SFP	
13	1A3	1A3	3	4.16KV BUS (EE-4C)	EE-4A	56	1016	11W'C-18N'1A	1, 2, 3, 4, 5	SFP	
14	1A4	1A4	3	4.16KV BUS (EE-4D)	EE-4A	56	1016	16W'C-18N'1A	1, 2, 3, 4, 5	SFP	
15	EE-4S	EE-4S	4	INVERTER #1, EE-8P BYPASS TRANSFORMER	EE	56	1011	0W'C-11N'6D	none		
16	T1B-3C	T1B-3C	4	4160/480 TRANSFORMER BUS 1B3C	EE	56	1011	7W'C-17N'4A	1, 2		
17	AC-3C	AC-3C	5	COMPONENT COOLING WATER PUMP	AC-CCW	69	1027	1W'N-3N'8A	3, 4	SFP	
18	AC-3B	AC-3B	5	COMPONENT COOLING WATER PUMP	AC-CCW	69	1027	1W'N-4'S8A	3, 4	SFP	
19	CH-1A	CH-1A	5	CHARGING PUMP	CH	6	0991	5E'U-4N'6E	1, 2, 3		
20	DG-2	FO-17-2	5	DIESEL GENERATOR DG-2 DC MOTOR DRIVEN FUEL OIL BOOSTER PUMP	FO-DG	64	1010	20W'F-22N'1A	1, 2, 3, 4, 5		
21	DG-2	FO-4A-2	5	D2 FUEL OIL TRANSFER PUMP #1	FO-DG	64	1012	3W'K-6S'2B	1, 2, 3, 4, 5		
22	FW-10	FW-10	5	AUXILIARY FEEDWATER PUMP (TURBINE-DRIVEN)	FW-AFW	19	0991	3W'C-1N'3A	4		
23	FW-6	FW-6	5	AUXILIARY FEEDWATER PUMP (MOTOR-DRIVEN)	FW-AFW	19	0992	4W'C-5S'4A	4		
24	AC-10B	AC-10B	6	RAW WATER PUMP	AC-RW	INTK	0994	1E'CC-1N'103	3, 4	SFP	
25	AC-10D	AC-10D	6	RAW WATER PUMP	AC-RW	INTK	0994	1E'CC-1N'104	3, 4	SFP	
26	HCV-474	HCV-474	7	SI-1A&B,2A,B&C/SI-3A-C BRG CLRS CCW INLET HEADER ISOLATION VALVE	AC-CCW	6	0992	9W'T-2N'6E	none	SFP	
27	HCV-484	HCV-484	7	SHUTDOWN COOLING HT EXCH AC-4A CCW OUTLET VALVE	AC-CCW	4	0993	2E'E-22N'5B	4		
28	HCV-489B	HCV-489B	7	COMP COOLING HT EXCH AC-1A CCW OUTLET VALVE	AC-CCW	4	0992	10W'D-1N'6D	4, 5		
29	HCV-497	HCV-497	7	COMP CLG HT EXCHS AC-1A-D CCW BYPASS LINE ISOLATION VALVE	AC-CCW	4	0991	2E'E-8S'7A	4, 5		
30	TCV-893	TCV-893	7	AIR CONDITIONER VA-46A CCW SUPPLY TEMPERATURE CONTROL VALVE	AC-CCW	72	1037	8W'J1-12N'7A	none		
31	HCV-2874A	HCV-2874A	7	RAW WATER PUMPS DISCH HEADER ISOLATION VALVE	AC-RW	INTK	1001	6E'CC-4S'103	4, 5	SFP	
32	HCV-2875A	HCV-2875A	7	RAW WATER PUMPS DISCH HEADER ISOLATION VALVE	AC-RW	INTK	1001	6E'CC-7N'103	4, 5	SFP	
33	HCV-2877A	HCV-2877A	7	COMP CLG HT EXCHS AC-1A-D RAW WATER INLET HDR ISOLATION VALVE	AC-RW	18	0993	13E'D-12S'6D	4, 5	SFP	
34	HCV-2880A	HCV-2880A	7	COMP COOLING HT EXCH AC-1A RAW WATER INLET VALVE	AC-RW	18	0994	13E'D-6S'6D	4, 5	SFP	
35	HCV-2893	HCV-2893	7	RAW WATER TO CCW ISOLATION VALVE	AC-RW	18	0993	13E'D-19S'6D	4, 5	SFP	
36	HCV-240	HCV-240	7	PRESSURIZER RC-4 AUXILIARY SPRAY INLET VALVE	CH	CONT	1045	14W'DD-6N'II	5		
37	LCV-218-3	LCV-218-3	7	CHRG PUMPS CH-1A,B&C SUCT HDR SAFETY INJ & BORIC ACID SUPPLY VLV	CH	7	0992	45W'T-2N'7B	1, 2, 3		

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 1

Equipment ID No. AC-12B Equip. Class[1] 0, Other

Equipment Description Raw Water Strainer

Location: Bldg. Intake Floor El. 994' Room, Area Intake Structure, 13W'BB-16N'104

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☐
   Strainer base has four 1.25" diameter anchor bolts to concrete, all of which have a lack of thread engagement to their nuts (varies from 3/8" to 1"). Also, nut seems bent. CR 2012-10553 initiated.

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 1

Equipment ID No. AC-12B Equip. Class[2] 0, Other

Equipment Description Raw Water Strainer

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

   The anchorage configuration is consistent with drawing 12545, Rev. 8 (File# 12107).

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

Interaction Effects

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

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

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 1

Equipment ID No. AC-12B Equip. Class[3] 0, Other

Equipment Description Raw Water Strainer

Other Adverse Conditions

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: John Kao John Kao Date: 8/17/2012

Alex Smerch 8/17/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

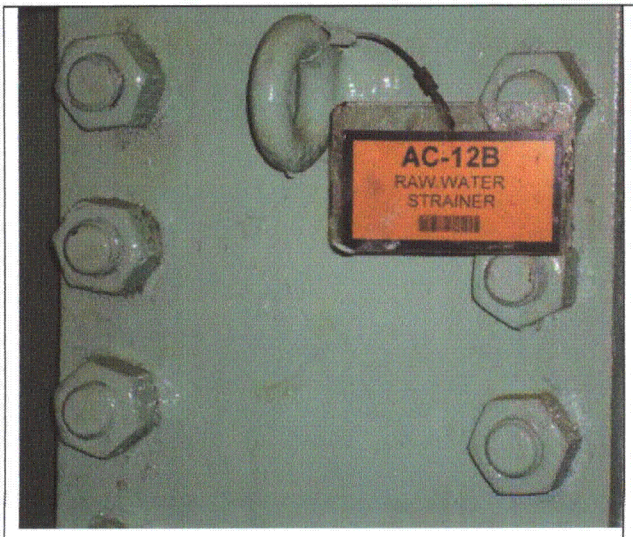
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 1

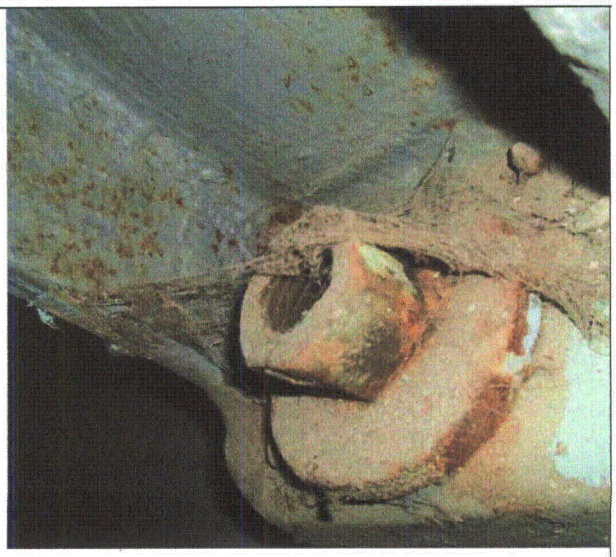
Equipment ID No. AC-12B Equip. Class[4] 0, Other

Equipment Description Raw Water Strainer

Photographs



Note: *Equipment.*



Note: *Lack of anchor thread engagement.*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 2

Equipment ID No. AC-12B-M Equip. Class[1] *0, Other*

Equipment Description RAW WATER STRAINER AC-12B MOTOR

Location: Bldg. Intake Floor El. 999' Room, Area Intake Structure, 13W'BB-16N'104

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 2

Equipment ID No. AC-12B-M Equip. Class[2] *0, Other*

Equipment Description RAW WATER STRAINER AC-12B MOTOR

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☐ N☐ U☐ N/A☒
   Not a soft target

8. Are 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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 2

Equipment ID No. AC-12B-M Equip. Class[3] *0, Other*

Equipment Description RAW WATER STRAINER AC-12B MOTOR

Other Adverse Conditions

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: John Kao John Kao Date: 8/17/2012

Alex Smerch 8/17/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 2

Equipment ID No. AC-12B-M Equip. Class[4] *0, Other*

Equipment Description RAW WATER STRAINER AC-12B MOTOR

Photographs

Note: *Equipment*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 3

Equipment ID No. YCV-871H Equip. Class[1] 0, OTHER

Equipment Description DIESEL GENERATOR DG-1 ROOM FRESH AIR SUPPLY DAMPER

Location: Bldg. MISL Floor El. 1024' Room, Area MISL, 10W'K-11S'1A

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

Anchorage

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 3

Equipment ID No. YCV-871H Equip. Class[2] 0, OTHER

Equipment Description DIESEL GENERATOR DG-1 ROOM FRESH AIR SUPPLY DAMPER

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☐ N☐ U☐ N/A☒
   Damper is not a soft Target.

8. Are 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☒
   No attached lines.

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

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 3

Equipment ID No. YCV-871H Equip. Class[3] 0, OTHER

Equipment Description DIESEL GENERATOR DG-1 ROOM FRESH AIR SUPPLY DAMPER

Other Adverse Conditions

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: John Kao John Kao Date: 8/14/12

Alex Smerch 8/14/12

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

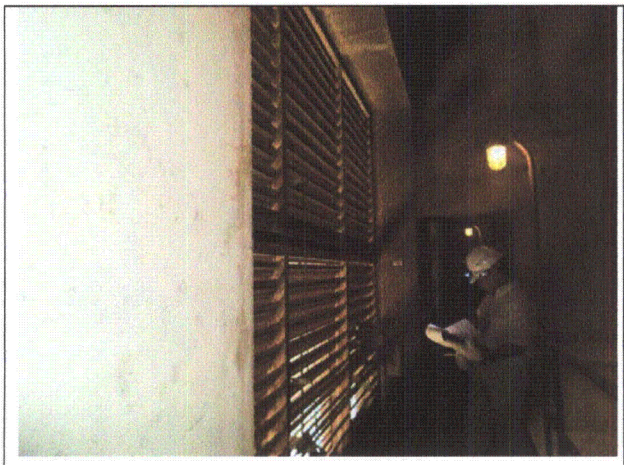
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 3

Equipment ID No. YCV-871H Equip. Class[4] 0, OTHER

Equipment Description DIESEL GENERATOR DG-1 ROOM FRESH AIR SUPPLY DAMPER

Photographs



Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 4

Equipment ID No. YCV-871H-20 Equip. Class[1] *0, OTHER*

Equipment Description DIESEL GENERATOR DG-1 FRESH AIR INTAKE DAMPER : SOLENOID

Location: Bldg. MISL Floor El. 1020' Room, Area MISL, 1W'K-11S'1A

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

Anchorage

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☐
   Mild surface oxidation.

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

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 4

Equipment ID No. YCV-871H-20 Equip. Class[2] *0, OTHER*

Equipment Description DIESEL GENERATOR DG-1 FRESH AIR INTAKE DAMPER : SOLENOID

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 4

Equipment ID No. YCV-871H-20 Equip. Class[3] *0, OTHER*

Equipment Description DIESEL GENERATOR DG-1 FRESH AIR INTAKE DAMPER : SOLENOID

Other Adverse Conditions

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: John Kao John Kao Date: 8/14/12

Alex Smerch 8/14/12

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

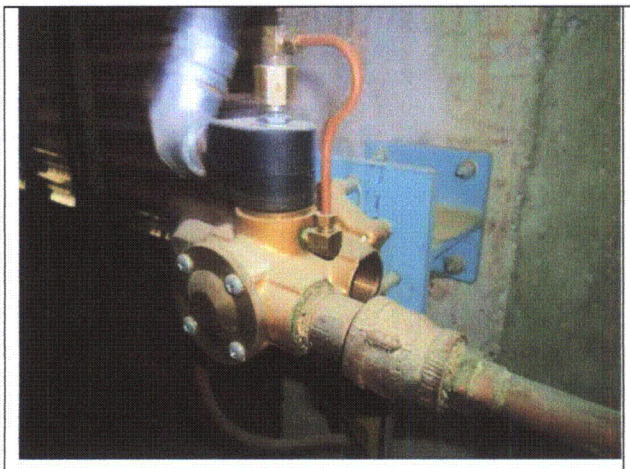
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 4

Equipment ID No. YCV-871H-20 Equip. Class[4] *0, OTHER*

Equipment Description DIESEL GENERATOR DG-1 FRESH AIR INTAKE DAMPER : SOLENOID

Photographs



Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 5

Equipment ID No. MCC-3B1-C2R Equip. Class[1] *1, MOTOR CONTROL CENTERS AND WALL-MOUNTED CONTACTORS*

Equipment Description VA-64-EHTR CONTROL ROOM FILTER VA-64A INLET HEATER

Location: Bldg. AUX Floor El. 1013' Room, Area 57, MCC-3B1

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 5

Equipment ID No. MCC-3B1-C2R Equip. Class[2] *1, MOTOR CONTROL CENTERS AND WALL-MOUNTED CONTACTORS*

Equipment Description VA-64-EHTR CONTROL ROOM FILTER VA-64A INLET HEATER

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 5

Equipment ID No. MCC-3B1-C2R Equip. Class[3] *1, MOTOR CONTROL CENTERS AND WALL-MOUNTED CONTACTORS*

Equipment Description VA-64-EHTR CONTROL ROOM FILTER VA-64A INLET HEATER

Other Adverse Conditions

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: Alex Smerch Date: 8/16/2012

John Kao John Kao 8/16/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

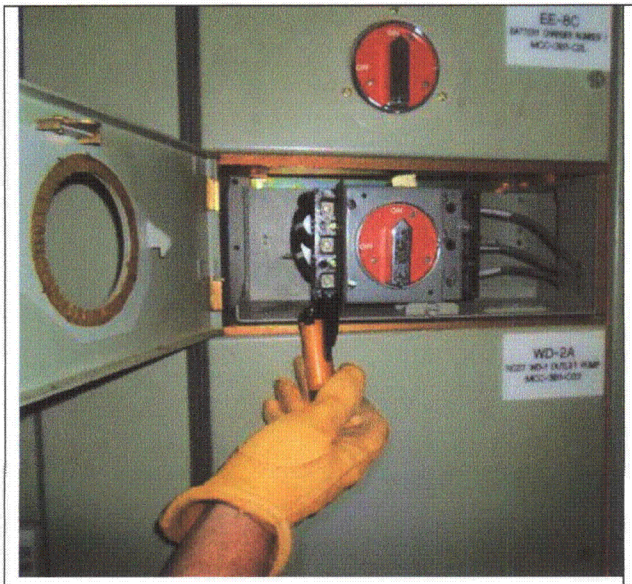
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 5

Equipment ID No. MCC-3B1-C2R Equip. Class[4] *1, MOTOR CONTROL CENTERS AND WALL-MOUNTED CONTACTORS*

Equipment Description VA-64-EHTR CONTROL ROOM FILTER VA-64A INLET HEATER

Photographs



Note: Equipment.

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 6

Equipment ID No. *1B3A* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3A (EE-4F)*

Location: Bldg. *AUX* Floor El. *1011'* Room, Area *56, 10W'C-21N'5B*

Manufacturer, Model, Etc. (optional but recommended) *GE Type AKD-5*

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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.

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 6

Equipment ID No. *1B3A* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3A (EE-4F)*

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

Interaction Effects

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

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

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)

The following items are not a seismic concern but were noted on the walkdowns:
Terminations 13, 14, 15 on 1B3A-101 (not coming in from side) see photo.
(B) Silver oxide outside cable connection missing (not part of contact surface) in 1B3A-103.
(A, B, C) Silver oxide outside cable connection missing (not part contact surface).

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 6

Equipment ID No. *1B3A* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3A (EE-4F)*

Evaluated by: *Russ Placke* Date: *10/17/2012*

Ashwin Patel *10/17/2012*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 5

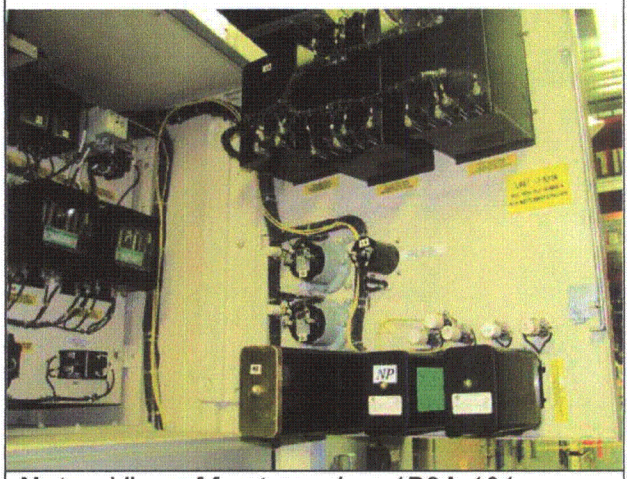
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 6

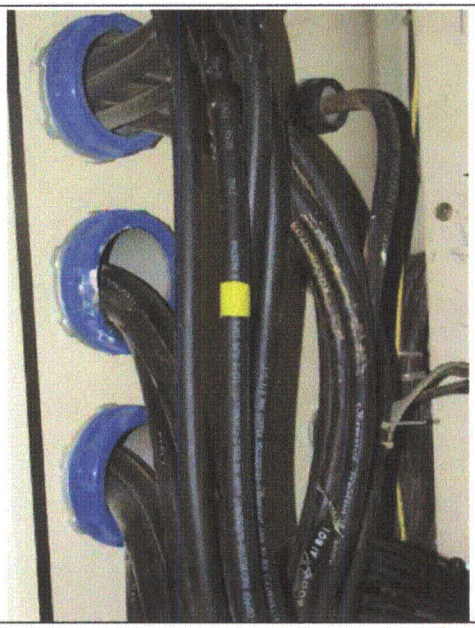
Equipment ID No. *1B3A* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3A (EE-4F)*

Photographs



Note: *View of front panel on 1B3A-101.*



Note: *View showing wiring for terminations 13, 14 and 15 not coming in from the side on 1B3A-101.*

SEISMIC WALKDOWN CHECKLIST FORM

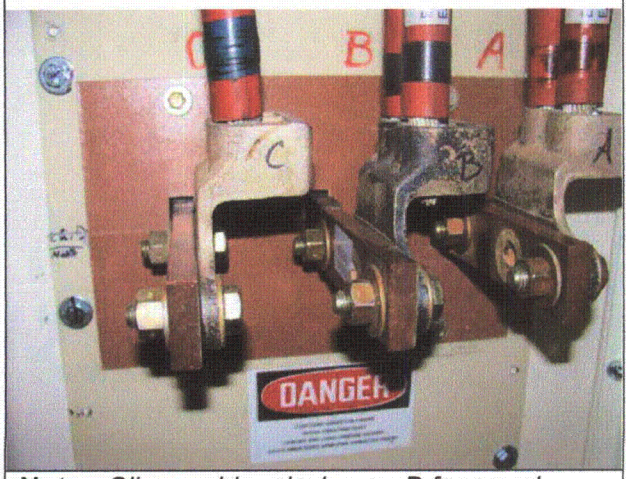
Sheet 5 of 5

Status: Y☒ N☐ U☐

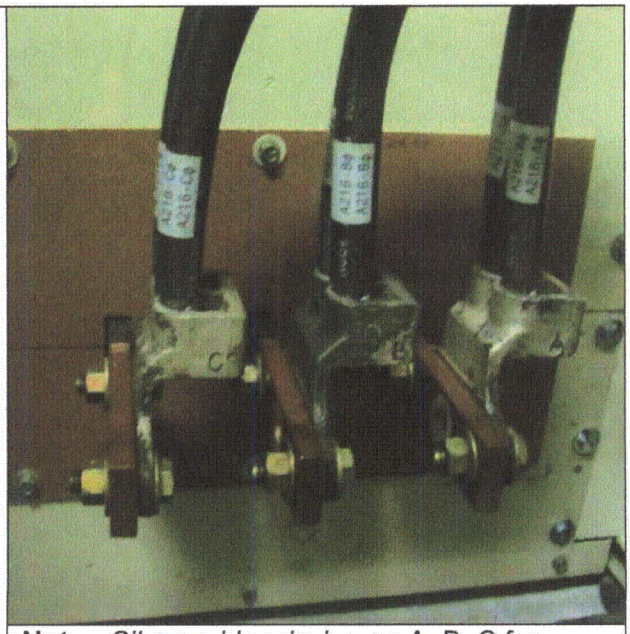
Seismic Walkdown Checklist (SWC) SWC- 6

Equipment ID No. *1B3A* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3A (EE-4F)*



Note: *Silver oxide missing on B for panel 1B3A-103.*



Note: *Silver oxide missing on A, B, C for panel 1B3A-104.*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 7

Equipment ID No. *1B3B* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3B (EE-4H)*

Location: Bldg. *AUX* Floor El. *1011'* Room, Area *56, 10WC'-9N'5B*

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.

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 7

Equipment ID No. *1B3B* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3B (EE-4H)*

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

Interaction Effects

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

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

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)

Danger tags noted on cubicle 300B and ground lug remains on frame although wire has been cut and abandoned in place.

Danger tags noted on cubicle 303F.

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 7

Equipment ID No. 1B3B Equip. Class[1] 2. LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS

Equipment Description 480 VOLT BUS 1B3B (EE-4H)

Evaluated by: Russ Placke Date: 11/13/2012

Ashwin Patel 11/13/2012

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 5

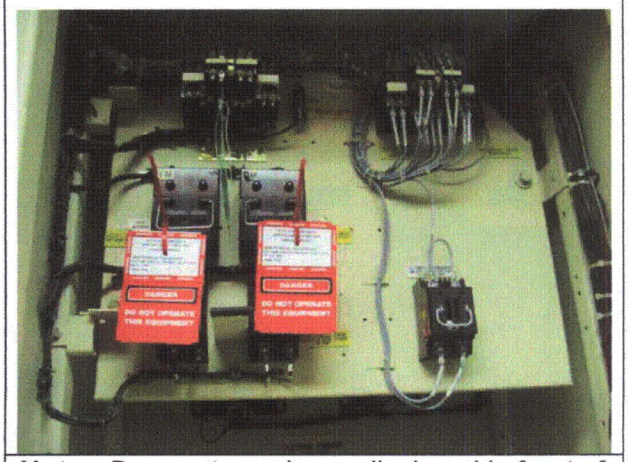
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 7

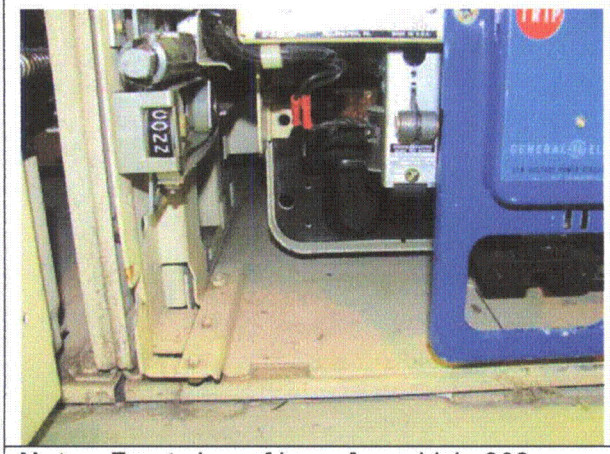
Equipment ID No. *1B3B* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3B (EE-4H)*

Photographs



Note: *Danger tags shown displayed in front of cubicle 300.*



Note: *Front view of base for cubicle 302.*

SEISMIC WALKDOWN CHECKLIST FORM

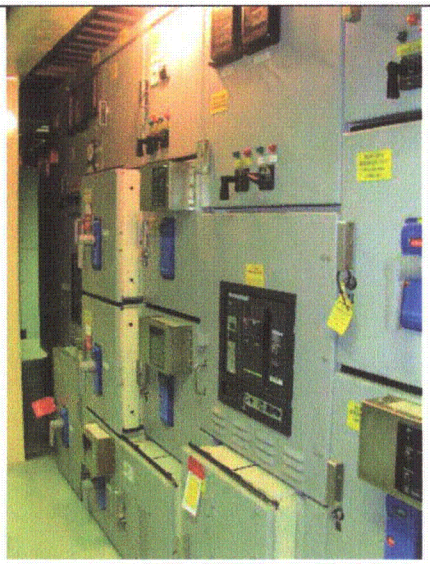
Sheet 5 of 5

Status: Y☒ N☐ U☐

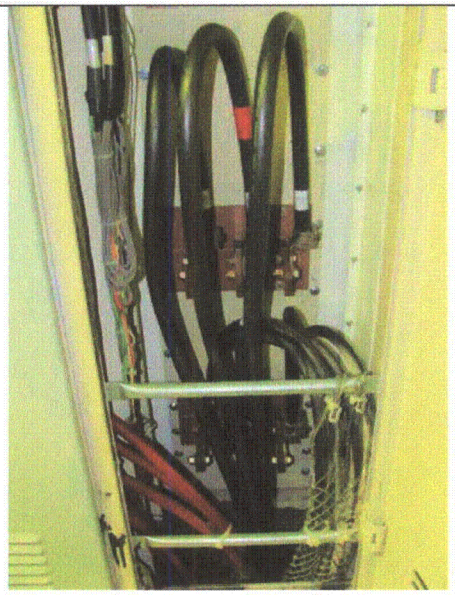
Seismic Walkdown Checklist (SWC) SWC- 7

Equipment ID No. *1B3B* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3B (EE-4H)*



Note: *Exterior view of all cubicles.*



Note: *Back of cubicle 301.*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 6

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 8

Equipment ID No. *1B3C* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3C (EE-4K)*

Location: Bldg. *AUX* Floor El. *1011'* Room, Area *56, 10W'C-10N'4A*

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 6

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 8

Equipment ID No. *1B3C* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3C (EE-4K)*

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

Anchorage consists of welds between the bus frame and a metal plate embedded in the concrete floor on both the front and back sides of the bus. Each cubicle has 2 plug welds on the front side and 3 plug welds on the back side with the exception of the 2 center cubicles which have no welds in the back. Upon examination it was observed that for some of the welds there was not complete penetration or there were gaps between the weld material and the base of the bus. Portions of the base of the cabinent were not completely observable due to a fire resistant coating obstructing view. Below is a summary of the deficient welds for each cubicle:

Cubicle 500 – 50% of contact with bus in one of the back welds.

Cubicle 502 – 70% of contact with bus in one of the back welds.

Cubicle 503 – 50% of contact with bus in one of the front welds.

Cubicle 503 – Back of cubicle is covered by fire-resistant coating, but SEWS for 1B3C shows that there is no anchorage existing underneath.

Cubicle 504 – 30% of contact with bus in one of the front welds.

Cubicle 504 – Back of cuble is covered by fire-resistant coating, but SEWS for 1B3C shows that there is no anchorage existing underneath.

Cubicle 506 – 95% of contact with bus in front left weld.

Cubicle 506 – 50% of contact with bus in front right weld.

Cubicle 506 – Unknown amount of weld in back cubicle as it is covered by fire-resistant coating.

Review of SEWS package for 1B3C noted that the quality of welds were inspected by a weld specialist as cross referenced in the SEWS package of 1A3. Therefore the welds are judged to be acceptable.

The welds that are not visible are judged to be adequate based on the consistency of welds observed in the remaining cubicles and as noted in the SEWS report.

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

There appears to be mild oxidation on some of the welds but no loss of material.

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

There were no cracks observed on the concrete surface.

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 6

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 8

Equipment ID No. *1B3C* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3C (EE-4K)*

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y☒ N☐ U☐ N/A☐
   Anchorage was verified against SEWS Package for 1B3C Rev. 0

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

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
   The only nearby equipment is a transformer which is connected to the bus and therefore could not move out of phase with the bus and cause damage during an earthquake.

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

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐
   All attached lines either have nearby 90 degree elbows giving them flexibility or are flexible cables themselves.

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

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐
    There were some sheet metal screws observed that were not screwed to anything but a single piece of sheet metal and therefore not providing any function, but these were deemed not to be a seismic concern as they have negligible mass.

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 6

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 8

Equipment ID No. 1B3C Equip. Class[1] 2. LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS

Equipment Description 480 VOLT BUS 1B3C (EE-4K)

Comments (Additional pages may be added as necessary)

Evaluated by: Alex Smerch Date: 11/27/2012

James Carlson 9836 11/27/2012

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 5 of 6

Status: Y☒ N☐ U☐

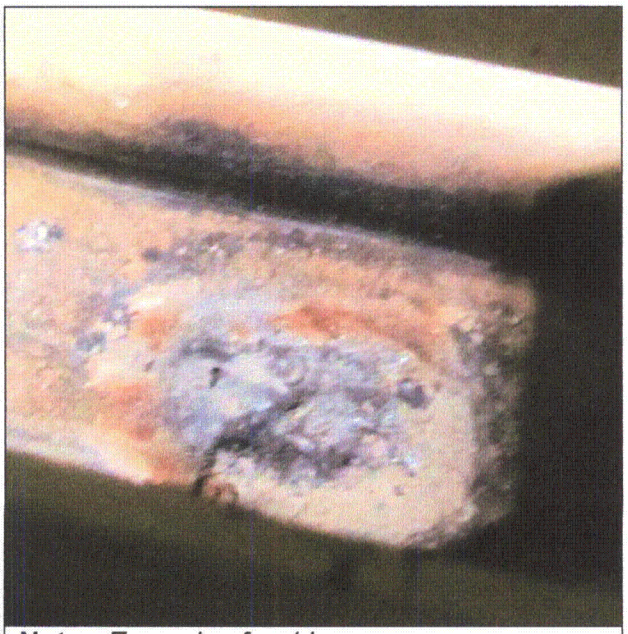
Seismic Walkdown Checklist (SWC) SWC- 8

Equipment ID No. *1B3C* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3C (EE-4K)*

Photographs

Note: *Equipment*



Note: *Example of weld.*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 6 of 6

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 8

Equipment ID No. *1B3C* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B3C (EE-4K)*

Note: *Example of fire-resistant coating.*

Note:

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 9

Equipment ID No. *1B4A* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4A (EE-4G)*

Location: Bldg. *AUX* Floor El. *1011'* Room, Area *56, 10E'D-15S'6D*

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☐
   Only able to visibly identify 2 plug welds in the front of cubicle 205. All remaining anchor point plug welds are covered by cabinet plating. The cabinet had been refurbished in 2012 and seismic calculations have been performed by NLI. A corresponding SQUG walkdown had been performed as stated by Jim Carlson of OPPD, therefore, the remaining cubicles are judged to be adequate.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y☒ N☐ U☐ N/A☐
   Refer to question #2. Of the welds that were visible, there was no evidence of corrosion.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y☒ N☐ U☐ N/A☐
   There were no cracks identified in the floors surrounding the equipment.

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

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 9

Equipment ID No. *1B4A* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4A (EE-4G)*

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☒ N☐ U☐
   Refer to question #2.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
   There are overhead light fixtures in the vicinity with uncaged fluorescent bulbs. The light fixture is well overhead and does not pose a credible interaction with the equipment. The light bulb is not a signficant source since it is brittle with an extremely small mass relative to the cabinet.
   The light fixtures also have open S-hooks, however the S-hooks have a wire tieing them closed, therfore providing redundancy.
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y☒ N☐ U☐ N/A☐
   Cable tray is supported overhead. The cable tray supports are well supported and there is sufficient vertical clearance between the top of the cabinet and the bottom of the cable tray support. There is also piping overhead which is well supported and brace.
9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐
   Flexible cables feed into the top of the cabinet Conduit is also connected to the top of the cabinet and contains multiple bends to promote flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐
    Interconnecting bolts were missing which connect panels on 1B4A with 69/1B4A. It appears as if the bolts were there once. There are 3 bolts one side and 4 the other side remaining, and the stability and connection is judged to be adequate. CR 2013-07194 was issued to resolve the issue.

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 9

Equipment ID No. *1B4A* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4A (EE-4G)*

Comments (Additional pages may be added as necessary)

A bolt that interconnects 1B4A-3 had 1 or 2 screws that were skewed. There were multiple screws providing interconnection and the connection and stability, therefore, is not a concern

1B4A-4 had some empty holes for intercabinet connections in the plate, however, additional stiffening angles were provided with many more bolts providing an adequate connection.

Cubicle BT-1B4A was not opened since it was energized. This cubicle was judged to be adequate based on observations of the remaining cubicles.

Evaluated by: *Kevin Bessell* Date: *3/29/2013*

Jim Carlson *3/29/2013*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) **SWC- 9**

Equipment ID No. *1B4A* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4A (EE-4G)*

Photographs

Note: *Back view of equipment.*

Note: *Front view of equipment.*

SEISMIC WALKDOWN CHECKLIST FORM

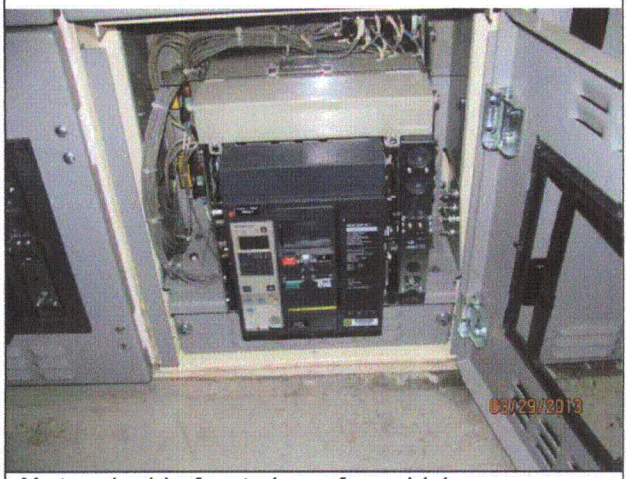
Sheet 5 of 5

Status: Y☒ N☐ U☐

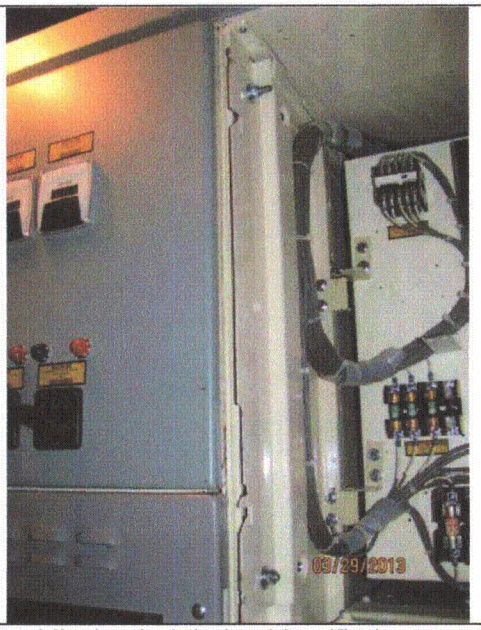
Seismic Walkdown Checklist (SWC) **SWC- 9**

Equipment ID No. *1B4A* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4A (EE-4G)*

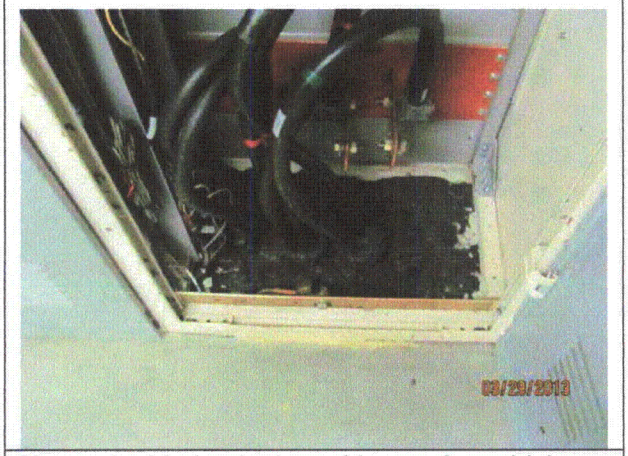


Note: *Inside front view of a cubicle.*



Note: *Missing bolt holes identified connecting 1B4A with 69/1B4A.*

Note: *Front base of empty cubicle showing plug welds.*



Note: *Inside back view of base of a cubicle.*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 10

Equipment ID No. *1B4B* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4B (EE-4J)*

Location: Bldg. *AUX* Floor El. *1011'* Room, Area *56, 10E'D-12N'5B*

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.

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 10

Equipment ID No. *1B4B* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4B (EE-4J)*

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

Interaction Effects

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

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

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)

Danger tags noted in cubicle 404F. This has no adverse impact on the equipment.

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 10

Equipment ID No. 1B4B Equip. Class[1] 2. LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS

Equipment Description 480 VOLT BUS 1B4B (EE-4J)

Evaluated by: Russ Placke Date: 11/13/2012

Ashwin Patel 11/13/2012

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 5

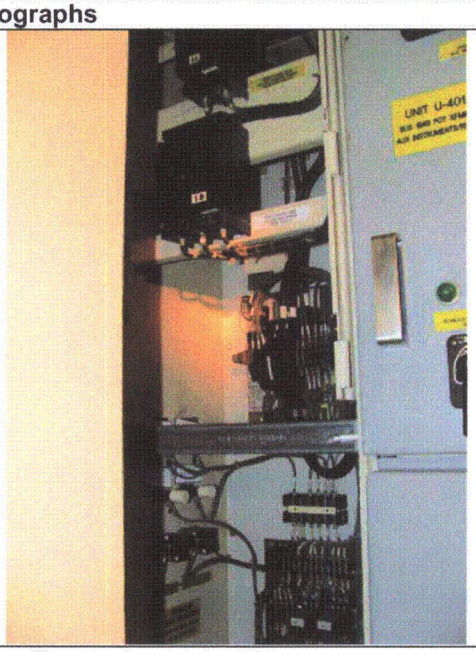
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 10

Equipment ID No. *1B4B* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4B (EE-4J)*

Photographs



Note: *Front of cubicle 400.*

Note: *Base of cubicle 400.*

SEISMIC WALKDOWN CHECKLIST FORM

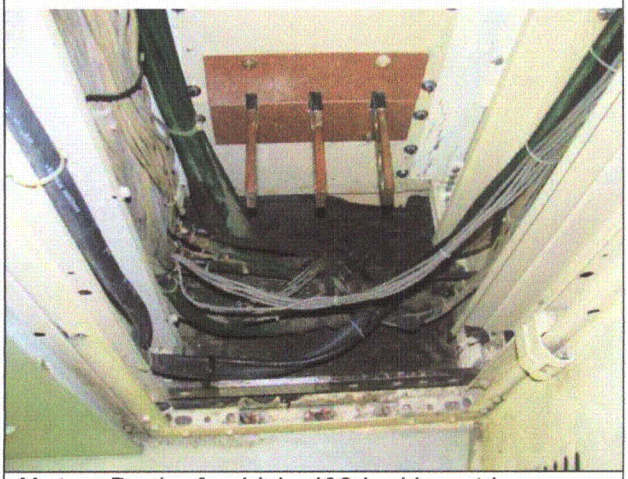
Sheet 5 of 5

Status: Y☒ N☐ U☐

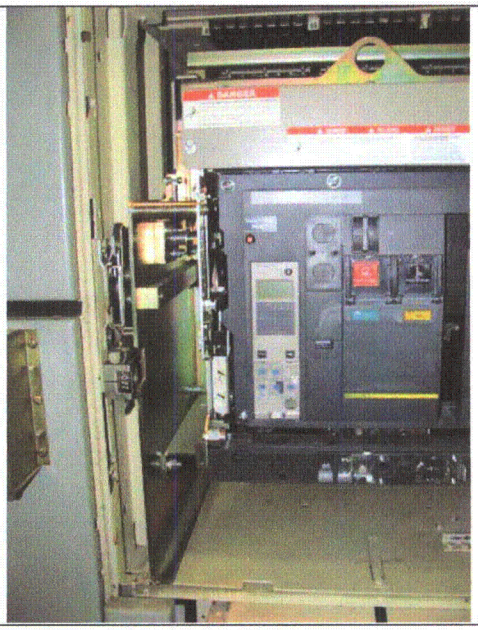
Seismic Walkdown Checklist (SWC) **SWC- 10**

Equipment ID No. *1B4B* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4B (EE-4J)*



Note: *Back of cubicle 403 looking at base.*



Note: *Front of cubicle 404.*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 11

Equipment ID No. *1B4C* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4C (EE-4L)*

Location: Bldg. *AUX* Floor El. *1011'* Room, Area *56, 15W'C-4N'4A*

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☐

   Anchorage consists of welds between the bus frame and a metal plate embedded in the concrete floor on both the front and back sides of the bus. Each cubicle has 2 plug welds on the front side and 3 plug welds on the back side with the exception of the end cubicles which have only 1 back weld. Upon examination it was observed that for some of the welds that there was not complete penetration or there were gaps between the weld material and the base of the bus. Below is a summary of the deficient welds for each cubicle:

   Cubicle 600 – 95% of contact with bus in one of the front welds.
   Cubicle 602 – 70% of contact with bus in one of the front welds.
   Cubicle 602 – 60% of contact with bus in one of the back welds.
   Cubicle 603 – 20% of contact with bus in one of the back welds.
   Cubicle 604 – 95% of contact with bus in one of the front welds.

   Review of SEWS package for 1B4C noted that the quality of welds were inspected by a weld specialist as cross referenced in the SEWS package of 1A3. Therefore the welds are judged to be acceptable.

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

   There appears to be mild oxidation on some of the welds but no loss of material.

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 11

Equipment ID No. *1B4C* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4C (EE-4L)*

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y☒ N☐ U☐ N/A☐
   There were no cracks observed on the concrete surface.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y☒ N☐ U☐ N/A☐
   Anchorage was verified against SEWS Package for 1B4C Rev. 0

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

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
   All equipment nearby the bus is well secured and poses no risk of seismic interaction.

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

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐
   All attached lines either have nearby 90 degree elbows giving them flexibility or are flexible cables themselves.

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 11

Equipment ID No. *1B4C* Equip. Class[1] *2. LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4C (EE-4L)*

Other Adverse Conditions

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: *Alex Smerch* Date: *11/27/2012*

James Carlson 8836 *11/27/2012*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

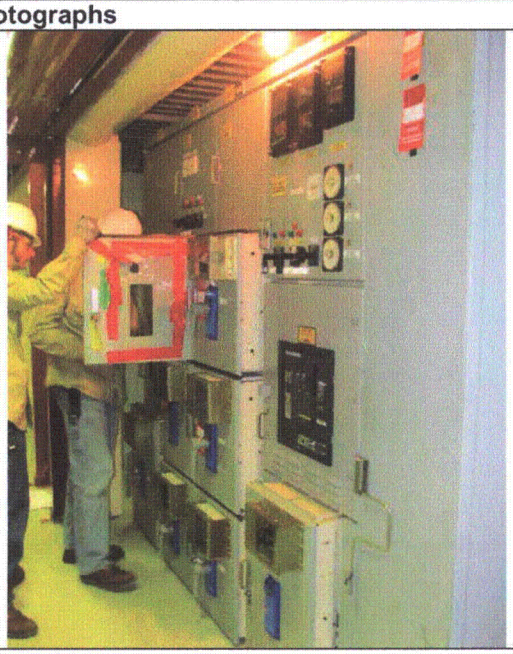
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 11

Equipment ID No. *1B4C* Equip. Class[1] *2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *480 VOLT BUS 1B4C (EE-4L)*

Photographs



Note: *Equipment*

Note: *Example of weld.*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 12

Equipment ID No. 1A4-11 Equip. Class[1] 2, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS

Equipment Description BREAKER UNIT FEEDER FOR RAW WATER PUMP AC-10B

Location: Bldg. AUX Floor El. 1011' Room, Area 56, 1A4

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 12

Equipment ID No. 1A4-11 Equip. Class 3

Equipment Description 4.16 KV FEEDER BREAKER TO AC-10B

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

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☐
   There are fluorescent light bulbs in hallways near equipment that are not caged which could cause a potentially adverse seismic condition with nearby equipment. CR 2012-10423 has been initiated.

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☐

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 12

Equipment ID No. 1A4-11 Equip. Class 3

Equipment Description 4.16 KV FEEDER BREAKER TO AC-10B

Other Adverse Conditions

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: Alex Smerch Date: 8/16/2012

John Kao John Kao 8/16/2012

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

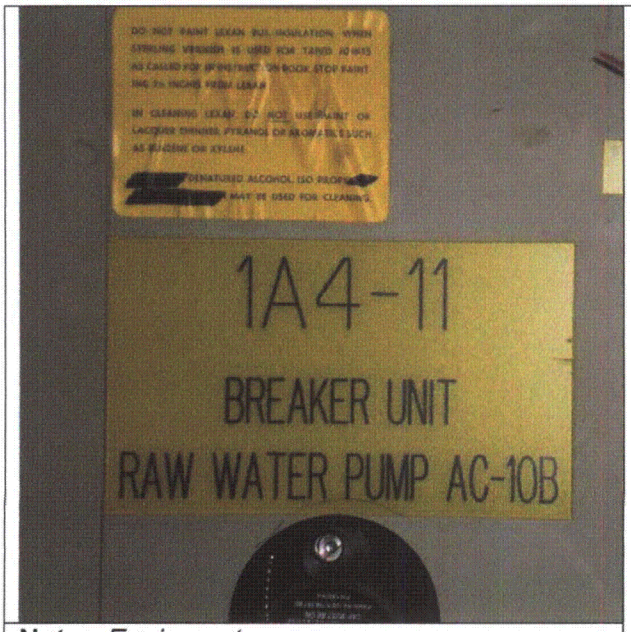
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 12

Equipment ID No. 1A4-11 Equip. Class 3

Equipment Description 4.16 KV FEEDER BREAKER TO AC-10B

Photographs



Note: *Equipment*

Note: *Fluorescent light bulbs posing potential seismic impact hazard.*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 13

Equipment ID No. *1A3* Equip. Class[1] *3, MEDIUM VOLTAGE, METAL-CLAD SWITCHGEAR*

Equipment Description *4.16KV BUS (EE-4C)*

Location: Bldg. *AUX* Floor El. *1016'* Room, Area *56, 11W'C-18N'1A*

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

Anchorage

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 anchorage consists of 3 rows of 2 plug welds on either side of each cubicle attaching the base of each cubicle to embedded steel in the floor.

   The plug weld on cubicle 1A3-3 middle row is in poor condition and appears to be missing weld. Review of SEWS documentation for 1A3 confirms that the welds are acceptable based on previous weld inspections.

   Due to breaker obstruction, only 5 plug welds were visible for cubicles 1A3-5, 6, 7, 9, 10, 11, 12, 13, 15 and 20.

   Plates were obstructing the view of 4 plug welds in cubicles 1A1-1A3 and 1A3-4.

   Based on information provided in the SEWS package the conditions noted above are judged to be adequate. As provided in the SEWS package, the loading conditions are minimal with a lowest safety factor of 4 when analyzed against 5 plug welds. Although only 2 plug welds were visible on 1A1-13 and 1A3-4, these welds are judged to be adequate based on the extent and consistency encountered during inspection.

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

   Minor oxidation noted in the vicintiy of the plug welds.

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 13

Equipment ID No. *1A3* Equip. Class[1] *3, MEDIUM VOLTAGE, METAL-CLAD SWITCHGEAR*

Equipment Description *4.16KV BUS (EE-4C)*

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y☒ N☐ U☐ N/A☐
   No cracks are noted in the floor.

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

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

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
   There are overhead light fixtures in the vicinity with uncaged fluorescent bulbs. The light fixture is well overhead and does not pose a credible interaction with 1A3. The light bulb is not a signficant source since it is brittle with an extremely small mass relative to the cabinet.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y☒ N☐ U☐ N/A☐
   Cable tray is supported overhead. The cable tray supports are well supported and there is sufficient vertical clearance between the top of the cabinet and the bottom of the cable tray support. There is also piping overhead which is well supported and brace.

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐
   Flexible cables feed into the top of the cabinet Conduit is also connected to the top of the cabinet and contains multiple bends to promote flexibility.

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 13

Equipment ID No. *1A3* Equip. Class[1] *3. MEDIUM VOLTAGE, METAL-CLAD SWITCHGEAR*

Equipment Description *4.16KV BUS (EE-4C)*

Other Adverse Conditions

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

There are wood cribbing blocks inside cubicles 1A3-6, 7, 9, 13, 14, 15 and 16, CR 2013-00522 has been generated.

Cubicle 1A3-4 contains a steel plate that seperates the interior of the cabinet. This plate appears to be missing a bolt. This is not a structural concern since this plate does not provide structural resistance of the cabinet and there are additional bolts that keep the plate in place. CR 2013-08401 has been issued.

It is noted that a new component, 27-T1/OPLS-C(AV) has been added to cubicle 1A3-2 as evident from screw holes. This is merely an observation and is not a condition.

Comments (Additional pages may be added as necessary)

The back of the cubicles are attached with multiple structural bolts and require a torque wrench to remove. Since the back of the cubicles take a considerable effort to remove, inspection of the back of the cabinet has not been performed. The anchorage of the cabinet and critical components are located in the front of the cabinet, which have been inspected and the intent of the EPRI Guidance document have been met.

Evaluated by: *Jim Carlson* Date: *1/8/2013*

Kevin Bessell *1/8/2013*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 13

Equipment ID No. *1A3* Equip. Class[1] *3, MEDIUM VOLTAGE, METAL-CLAD SWITCHGEAR*

Equipment Description *4.16KV BUS (EE-4C)*

Photographs

Note: *Equipment tag.*

Note: *Equipment.*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 5 of 5

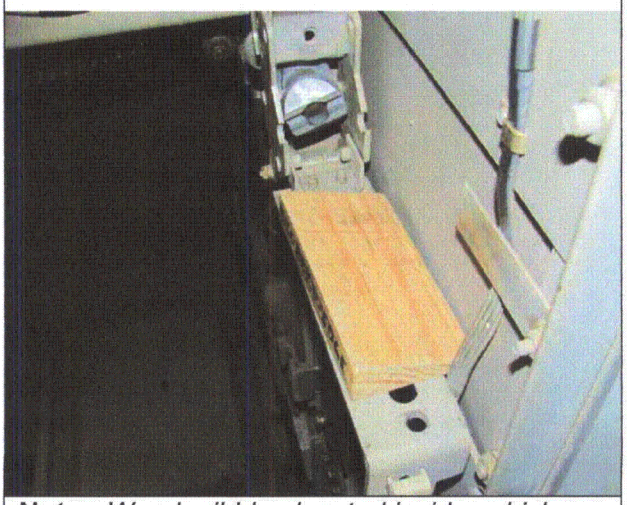
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 13

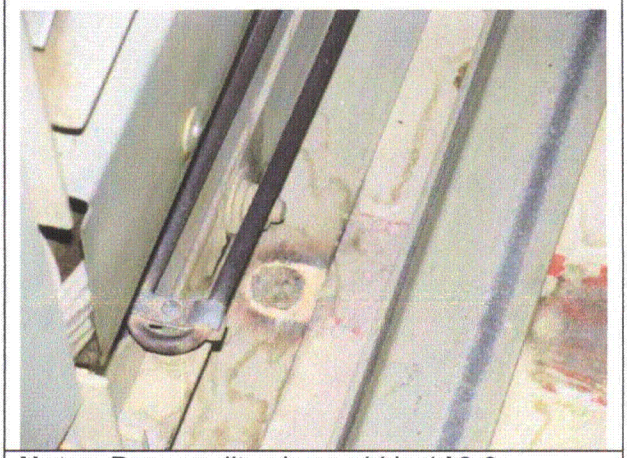
Equipment ID No. *1A3* Equip. Class[1] *3, MEDIUM VOLTAGE, METAL-CLAD SWITCHGEAR*

Equipment Description *4.16KV BUS (EE-4C)*

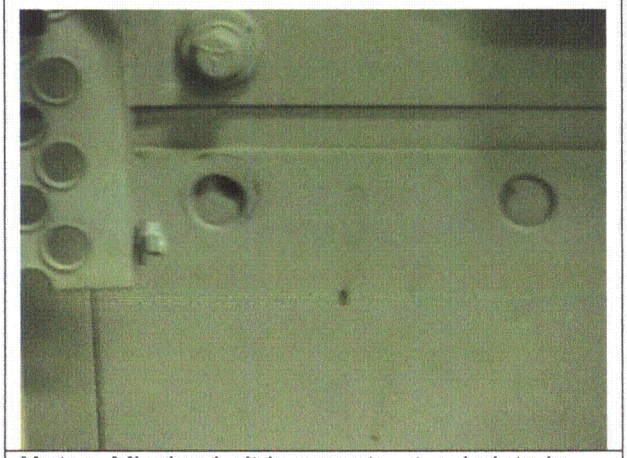
Note: *Plug weld anchorage.*



Note: *Wood cribbing located inside cubicle.*



Note: *Poor quality plug weld in 1A3-3.*



Note: *Missing bolt in non-structural plate in cubicle 1A3-4.*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 14

Equipment ID No. *1A4* Equip. Class[1] *3, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *4.16KV BUS (EE-4D)*

Location: Bldg. *AUX* Floor El. *1016'* Room, Area *56, 16W'C-18N'1A*

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

Anchorage

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 anchorage of the bus consists welds between the bus frame and an embedded metal plate in the concrete floor. All 21 cubicles have at minimum six -1/2" welds between the frame and the embed plate, with the exception of cubicles 1A4-2 and 1A4-7 having only 4 welded points.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y☒ N☐ U☐ N/A☐
   There appears to be mild oxidation on some of the welds but no loss of material.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y☒ N☐ U☐ N/A☐
   There were no cracks observed on the concrete surface.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y☒ N☐ U☐ N/A☐
   Anchorage was verified against SEWS Package for 1A4 Rev. 0.
   Only 2 welds in cubicle 1A4-21 were visible but given that the SEWS Package conservatively excludes some of the welds from its anchorage analysis and still has significant margin for the seismic analysis, this was not deemed to be a concern.

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 14

Equipment ID No. *1A4* Equip. Class[1] *3. LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *4.16KV BUS (EE-4D)*

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

Interaction Effects

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

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y☒ N☐ U☐ N/A☐
   There were overhead lights and cable trays which were well supported.

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐
   All attached lines were either flexible cable or had 90 degree elbows giving them flexibility.

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

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐
    In the back of cubicle 1A4-21 there were missing bolts holding up an interior plate inside of the cabinent. But since the interior plate was not part of or connected to the structural system of the cabinent it was not judged to be a seismic concern.

Comments (Additional pages may be added as necessary)

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 14

Equipment ID No. *1A4* Equip. Class[1] *3, LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *4.16KV BUS (EE-4D)*

Evaluated by: *James Carlson* James A Carlson 8836 Date: *12/27/2012*

Alex Smerch Alex Smerch *12/27/2012*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 5

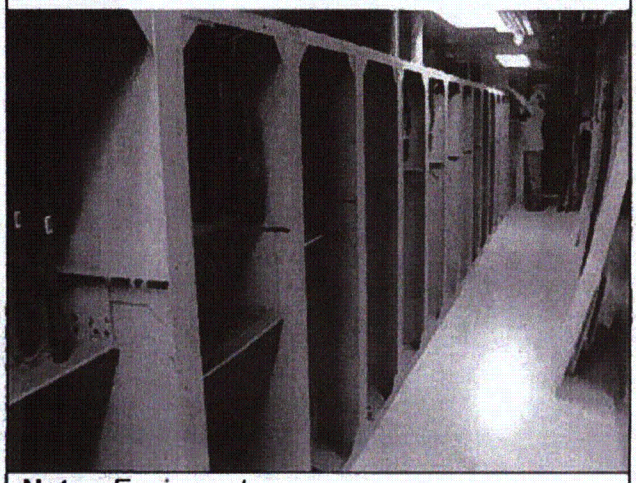
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) **SWC- 14**

Equipment ID No. *1A4* Equip. Class[1] *3. LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *4.16KV BUS (EE-4D)*

Photographs



Note: *Equipment*

Note: *Example of welded connection.*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 5 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) **SWC- 14**

Equipment ID No. *1A4* Equip. Class[1] *3. LOW VOLTAGE SWITCHGEAR AND BREAKER PANELS*

Equipment Description *4.16KV BUS (EE-4D)*

Note: *Back panel showing no anchorage.*

Note:

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 15

Equipment ID No. EE-4S Equip. Class[1] 4, TRANSFORMERS

Equipment Description INVERTER #1, EE-8P BYPASS TRANSFORMER

Location: Bldg. AUX Floor El. 1011' Room, Area 56, 0W'C-11N'6D

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 15

Equipment ID No. EE-4S Equip. Class[2] 4, TRANSFORMERS

Equipment Description INVERTER #1, EE-8P BYPASS TRANSFORMER

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y☐ N☒ U☐ N/A☐
   No documentation identified. Anchor layout shown in sketches below. Further license basis evaluation required.
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☐ N☒ U☐

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y☐ N☒ U☐ N/A☐
   There are fluorescent lights located overhead nearby that are not caged which could cause a potentially adverse seismic condition with nearby equipment. CR 2012-10423 has been initiated.
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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 15

Equipment ID No. EE-4S Equip. Class[3] 4, TRANSFORMERS

Equipment Description INVERTER #1, EE-8P BYPASS TRANSFORMER

Other Adverse Conditions

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: John Kao John Kao Date: 8/16/2012

Alex Smerch 8/16/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

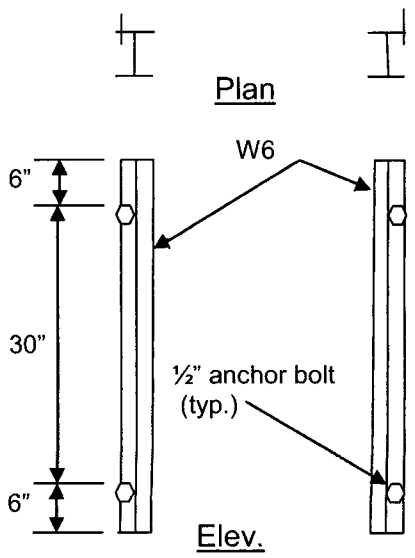
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 15

Equipment ID No. EE-4S Equip. Class[4] 4, TRANSFORMERS

Equipment Description INVERTER #1, EE-8P BYPASS TRANSFORMER

Photographs



Note: *Equipment is attached to two W6's, which are anchored to concrete wall*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 16

Equipment ID No. T1B-3C Equip. Class[1] 4, TRANSFORMERS

Equipment Description 4160/480 TRANSFORMER BUS 1B3C

Location: Bldg. AUX Floor El. 1011' Room, Area 56, 7W'C-17N'4A

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 transformer is welded to embed channels.

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 16

Equipment ID No. T1B-3C Equip. Class[2] 4, TRANSFORMERS

Equipment Description 4160/480 TRANSFORMER BUS 1B3C

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

   The anchorage configuration is consistent with drawing A-5438 (File# 43610).

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

Interaction Effects

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

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

   There are fluorescent light bulbs in hallways near equipment that are not caged which could cause a potentially adverse seismic condition with nearby equipment. CR 2012-10423 has been initiated.

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 16

Equipment ID No. T1B-3C Equip. Class[3] 4, TRANSFORMERS

Equipment Description 4160/480 TRANSFORMER BUS 1B3C

Other Adverse Conditions

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: John Kao John Kao Date: 8/16/2012

Alex Smerch 8/16/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 16

Equipment ID No. T1B-3C Equip. Class[4] 4, TRANSFORMERS

Equipment Description 4160/480 TRANSFORMER BUS 1B3C

Photographs

Note: *Equipment.*

Note: *Overhead fluorescent bulbs with no cage.*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 17

Equipment ID No. *AC-3C* Equip. Class[1] *5, HORIZONTAL PUMPS*

Equipment Description *COMPONENT COOLING WATER PUMP*

Location: Bldg. *AUX* Floor El. *1027'* Room, Area *69, 1W'N-3N'8A*

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 17

Equipment ID No. *AC-3C* Equip. Class[2] *5, HORIZONTAL PUMPS*

Equipment Description *COMPONENT COOLING WATER PUMP*

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

   The anchorage is consistent with drawing 11405-S-53, Rev. 6 (File# 16438).

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

Interaction Effects

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

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

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 17

Equipment ID No. *AC-3C* Equip. Class[3] *5, HORIZONTAL PUMPS*

Equipment Description *COMPONENT COOLING WATER PUMP*

Other Adverse Conditions

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: John Kao John Kao Date: 8/21/2012

Alex Smerch 8/21/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 17

Equipment ID No. *AC-3C* Equip. Class[4] *5, HORIZONTAL PUMPS*

Equipment Description *COMPONENT COOLING WATER PUMP*

Photographs

Note: *Equipment*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 18

Equipment ID No. AC-3B Equip. Class[1] *5, HORIZONTAL PUMPS*

Equipment Description COMPONENT COOLING WATER PUMP

Location: Bldg. AUX *1027'* Room, Area 69, 1W'N-4'S8A

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☐
   In-line valve.

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

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

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 18

Equipment ID No. AC-3B Equip. Class[2] *5, HORIZONTAL PUMPS*

Equipment Description COMPONENT COOLING WATER PUMP

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

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

Interaction Effects

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

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

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 18

Equipment ID No. AC-3B Equip. Class[3] *5, HORIZONTAL PUMPS*

Equipment Description COMPONENT COOLING WATER PUMP

Other Adverse Conditions

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: John Kao John Kao Date: 8/21/2012

Alex Smerch 8/21/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

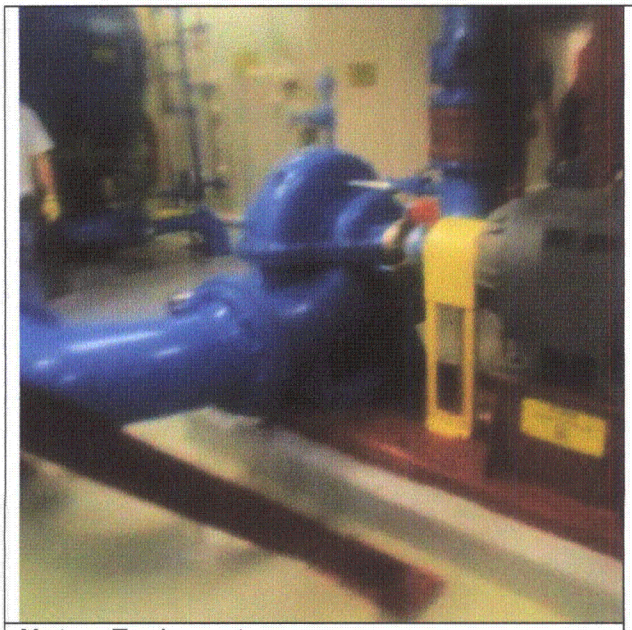
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 18

Equipment ID No. AC-3B Equip. Class[4] *5, HORIZONTAL PUMPS*

Equipment Description COMPONENT COOLING WATER PUMP

Photographs



Note: *Equipment*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 19

Equipment ID No. CH-1A Equip. Class[1] 5, HORIZONTAL PUMPS

Equipment Description CHARGING PUMP

Location: Bldg. AUX Floor El. 991' Room, Area 6, 5E'U-4N'6E

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 19

Equipment ID No. CH-1A Equip. Class[2] 5, HORIZONTAL PUMPS

Equipment Description CHARGING PUMP

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

   The anchorage configuration is consistent with drawing 11405-S-48, Rev. 7 (File# 16433) and 11405-S-69, Rev. 5 (File# 16454).

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

Interaction Effects

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

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

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 19

Equipment ID No. CH-1A Equip. Class[3] 5, HORIZONTAL PUMPS

Equipment Description CHARGING PUMP

Other Adverse Conditions

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: John Kao John Kao Date: 8/20/12

Alex Smerch 8/20/12

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 19

Equipment ID No. CH-1A Equip. Class[4] 5, HORIZONTAL PUMPS

Equipment Description CHARGING PUMP

Photographs

	
Note: *Equipment.*	**Note:**

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 20

Equipment ID No. FO-17-2 Equip. Class[1] *5, HORIZONTAL PUMPS*

Equipment Description DIESEL GENERATOR DG-2 DC MOTOR DRIVEN FUEL OIL BOOSTER PUMP

Location: Bldg. AUX Floor El. 1010' Room, Area 64, 20W'F-22N'1A

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

Anchorage

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 20

Equipment ID No. FO-17-2 Equip. Class[2] *5, HORIZONTAL PUMPS*

Equipment Description DIESEL GENERATOR DG-2 DC MOTOR DRIVEN FUEL OIL BOOSTER PUMP

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 20

Equipment ID No. FO-17-2 Equip. Class[3] *5, HORIZONTAL PUMPS*

Equipment Description DIESEL GENERATOR DG-2 DC MOTOR DRIVEN FUEL OIL BOOSTER PUMP

Other Adverse Conditions

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: *Alex Smerch* Date: *8/15/2012*

John Kao *8/15/2012*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 20

Equipment ID No. FO-17-2 Equip. Class[4] *5, HORIZONTAL PUMPS*

Equipment Description DIESEL GENERATOR DG-2 DC MOTOR DRIVEN FUEL OIL BOOSTER PUMP

Photographs

Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 21

Equipment ID No. FO-4A-2 Equip. Class[1] *5, HORIZONTAL PUMPS*

Equipment Description D2 FUEL OIL TRANSFER PUMP #1

Location: Bldg. AUX Floor El. 1012' Room, Area 64, 3W'K-6S'2B

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

Anchorage

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 21

Equipment ID No. FO-4A-2 Equip. Class[2] *5, HORIZONTAL PUMPS*

Equipment Description D2 FUEL OIL TRANSFER PUMP #1

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y☒ N☐ U☐ N/A☐
   The anchorage configuration is consistent with drawing 303.18-IC-01, Rev. 2 (File# 55108).
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☒ N☐ U☐

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y☐ N☒ U☐ N/A☐
   Fan overhead possibly missing tie down clips. Could be out of licensing basis or may not require all clips to be attached. CR 2012-10367 has been initiated.
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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 21

Equipment ID No. FO-4A-2 Equip. Class[3] *5, HORIZONTAL PUMPS*

Equipment Description D2 FUEL OIL TRANSFER PUMP #1

Other Adverse Conditions

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: *John Kao* John Kao Date: *8/15/12*

Alex Smerch *8/15/12*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 21

Equipment ID No. FO-4A-2 Equip. Class[4] *5, HORIZONTAL PUMPS*

Equipment Description D2 FUEL OIL TRANSFER PUMP #1

Photographs

Note: *Equipment.*

Note: *Fan shield above equipment with holes for additional bolts.*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 22

Equipment ID No. *FW-10* Equip. Class[1] *5, HORIZONTAL PUMPS*

Equipment Description *AUXILIARY FEEDWATER PUMP (TURBINE-DRIVEN)*

Location: Bldg. *AUX* Floor El. *991'* Room, Area *19, 3W'C-1N'3A*

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☐
   One anchor was inspected to find that the nut was not flush with the baseplate, upon further inspection of the configuration drawings it was found that this anchor in question was not required, and was most likely just used for leveling for installation.

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 22

Equipment ID No. *FW-10* Equip. Class[2] *5, HORIZONTAL PUMPS*

Equipment Description *AUXILIARY FEEDWATER PUMP (TURBINE-DRIVEN)*

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y☒ N☐ U☐ N/A☐
   The anchorage configuration is consistent with drawing 11405-S-47, Rev. 14 (File#16432) and 11405-S-69, Rev. 5 (File# 16454).
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☒ N☐ U☐

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☐ N☐ U☐ N/A☒
   Pump not soft target.
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y☒ N☐ U☐ N/A☐
   Unistrut nearby appears to be missing clamp but its failure would not damage pump as it is a non significant threat.
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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 22

Equipment ID No. *FW-10* Equip. Class[3] *5, HORIZONTAL PUMPS*

Equipment Description *AUXILIARY FEEDWATER PUMP (TURBINE-DRIVEN)*

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐
    Nearby scaffolding anchored at only 1 point would be blocked by pipe supports if seismic motion occured and would not contact pump.

Comments (Additional pages may be added as necessary)

Evaluated by: *Alex Smerch* Date: *8/13/12*

John Kao *8/13/12*

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

ATTACHMENT 9.6 **SEISMIC WALKDOWN CHECKLIST FORM**

Sheet 4 of 4

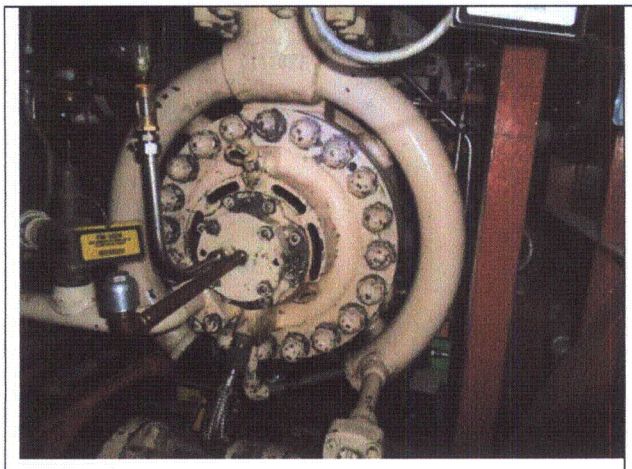
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 22

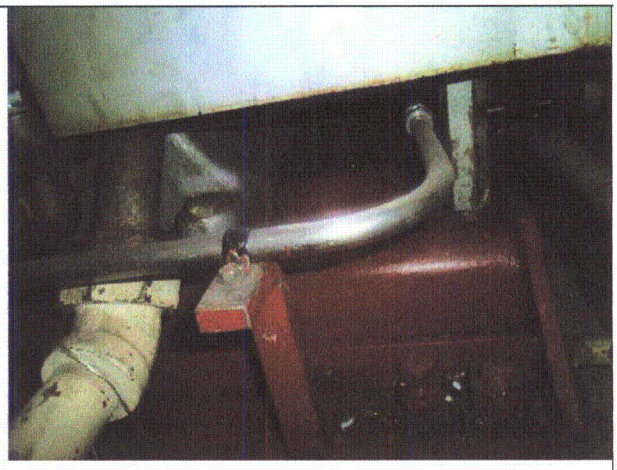
Equipment ID No. *FW-10* Equip. Class[4] *5, HORIZONTAL PUMPS*

Equipment Description *AUXILIARY FEEDWATER PUMP (TURBINE-DRIVEN)*

Photographs



Note: *Equipment.*



Note: *Anchorage showing bolts between skid and skid and foundation and pump and skid.*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 3

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 23

Equipment ID No. *FW-6* Equip. Class[1] *5, HORIZONTAL PUMPS*

Equipment Description *AUXILIARY FEEDWATER PUMP (MOTOR-DRIVEN)*

Location: Bldg. *AUX* Floor El. *992'* Room, Area *19, 4W'C-5S'4A*

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 anchorage of the equipment consists of 6, 1" diameter cast in place anchor bolts through an equipment skid.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y☒ N☐ U☐ N/A☐
   The skid and anchor bolts are painted red. There was no corrosion noted.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Y☒ N☐ U☐ N/A☐
   The equipment is mounted on a pedestal that is attached to the reinforced concrete floor. The pedestal and floor are epoxy coated. There were no cracks observed in the pedestal or the floor.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y☒ N☐ U☐ N/A☐
   The anchorage configuration is consistent with 11405-S-69, Rev. 5.

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.

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 3

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 23

Equipment ID No. *FW-6* Equip. Class[1] *5. HORIZONTAL PUMPS*

Equipment Description *AUXILIARY FEEDWATER PUMP (MOTOR-DRIVEN)*

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
   The nearby equipment and structures are well supported and braced, therefore the target is free from impact.

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

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐
   The attached lines consist of electrical conduit, tubing and piping. The piping contains multiple bends and is supported in a manner that promotes flexibility.

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

Other Adverse Conditions

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

Comments (Additional pages may be added as necessary)

The equipment is in the process of maintenance and there are miscellaneous maintenance items on and around the equipment.

Evaluated by: *Jim Carlson* Date: *1/7/2013*

Kevin Bessell *1/7/2013*

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 3

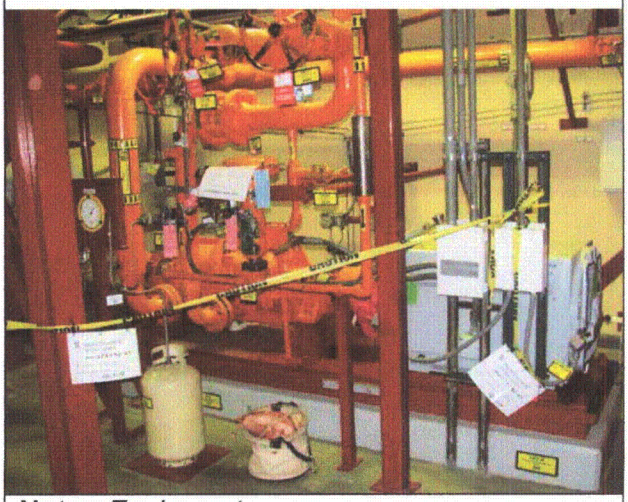
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 23

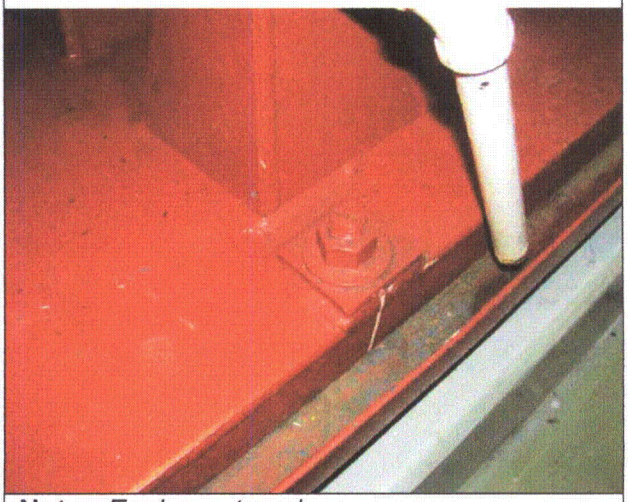
Equipment ID No. *FW-6* Equip. Class[1] *5, HORIZONTAL PUMPS*

Equipment Description *AUXILIARY FEEDWATER PUMP (MOTOR-DRIVEN)*

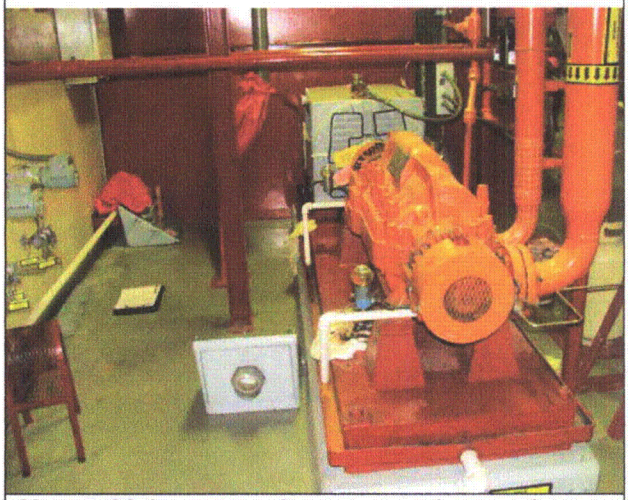
Photographs



Note: *Equipment.*



Note: *Equipment anchorage.*



Note: *Maintenance items on and around equipment.*

Note:

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 24

Equipment ID No. AC-10B Equip. Class[1] *6, VERTICAL PUMPS*

Equipment Description RAW WATER PUMP

Location: Bldg. INTAKE Floor El. 994' Room, Area INTAKE, 1E'CC-1N'103

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☐
   Welded.

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 24

Equipment ID No. AC-10B Equip. Class[2] *6, VERTICAL PUMPS*

Equipment Description RAW WATER PUMP

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 24

Equipment ID No. AC-10B Equip. Class[3] *6, VERTICAL PUMPS*

Equipment Description RAW WATER PUMP

Other Adverse Conditions

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: Alex Smerch Date: 8/17/2012

John Kao John Kao 8/17/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

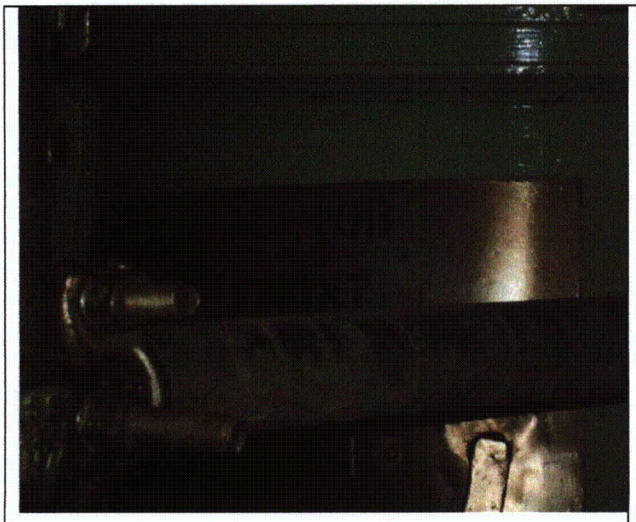
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 24

Equipment ID No. AC-10B Equip. Class[4] *6, VERTICAL PUMPS*

Equipment Description RAW WATER PUMP

Photographs



Note: *Equipment*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 25

Equipment ID No. AC-10D Equip. Class[1] *6, VERTICAL PUMPS*

Equipment Description RAW WATER PUMP

Location: Bldg. INTAKE Floor El. 994' Room, Area INTAKE, 1E'CC-1N'104

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☐
   Welded.

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 25

Equipment ID No. AC-10D Equip. Class[2] *6, VERTICAL PUMPS*

Equipment Description RAW WATER PUMP

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 25

Equipment ID No. AC-10D Equip. Class[3] *6, VERTICAL PUMPS*

Equipment Description RAW WATER PUMP

Other Adverse Conditions

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: Alex Smerch Date: 8/17/2012

John Kao John Kao 8/17/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 25

Equipment ID No. AC-10D Equip. Class[4] *6, VERTICAL PUMPS*

Equipment Description RAW WATER PUMP

Photographs

Note: *Equipment*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 26

Equipment ID No. HCV-474 Equip. Class[1] 7, PNEUMATIC-OPERATED VALVES

Equipment Description SI-1A&B,2A,B&C/SI-3A-C BRG CLRS CCW INLET HEADER ISOLATION VALVE

Location: Bldg. AUX Floor El. 992' Room, Area 6, 9W'T-2N'6E

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 26

Equipment ID No. HCV-474 Equip. Class[2] 7, PNEUMATIC-OPERATED VALVES

Equipment Description SI-1A&B,2A,B&C/SI-3A-C BRG CLRS CCW INLET HEADER ISOLATION VALVE

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 26

Equipment ID No. HCV-474 Equip. Class[3] 7, PNEUMATIC-OPERATED VALVES

Equipment Description SI-1A&B,2A,B&C/SI-3A-C BRG CLRS CCW INLET HEADER ISOLATION VALVE

Other Adverse Conditions

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: John Kao John Kao Date: 8/20/2012

Alex Smerch 8/20/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

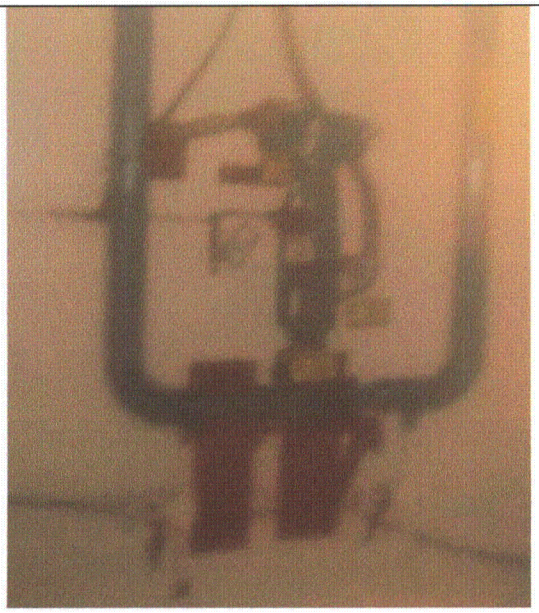
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 26

Equipment ID No. HCV-474 Equip. Class[4] 7, PNEUMATIC-OPERATED VALVES

Equipment Description SI-1A&B,2A,B&C/SI-3A-C BRG CLRS CCW INLET HEADER ISOLATION VALVE

Photographs



Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 27

Equipment ID No. HCV-484 Equip. Class[1] 7, PNEUMATIC-OPERATED VALVES

Equipment Description SHUTDOWN COOLING HT EXCH AC-4A CCW OUTLET VALVE

Location: Bldg. AUX Floor El. 993' Room, Area 4, 2E'E-22N'5B

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 27

Equipment ID No. HCV-484 Equip. Class[2] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description SHUTDOWN COOLING HT EXCH AC-4A CCW OUTLET VALVE

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐
   In-line valve

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☐ N☐ U☐ N/A☒
   Not a soft target

8. Are 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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 27

Equipment ID No. HCV-484 Equip. Class[3] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description SHUTDOWN COOLING HT EXCH AC-4A CCW OUTLET VALVE

Other Adverse Conditions

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: John Kao John Kao Date: 8/20/2012

Alex Smerch 8/20/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 27

Equipment ID No. HCV-484 Equip. Class[4] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description SHUTDOWN COOLING HT EXCH AC-4A CCW OUTLET VALVE

Photographs

Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 28

Equipment ID No. HCV-489B Equip. Class[1] 7, PNEUMATIC-OPERATED VALVES

Equipment Description COMP COOLING HT EXCH AC-1A CCW OUTLET VALVE

Location: Bldg. AUX Floor El. 992' Room, Area 4, 10W'D-1N'6D

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 28

Equipment ID No. HCV-489B Equip. Class[2] 7, PNEUMATIC-OPERATED VALVES

Equipment Description COMP COOLING HT EXCH AC-1A CCW OUTLET VALVE

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐
   In-line valve

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 28

Equipment ID No. HCV-489B Equip. Class[3] 7, PNEUMATIC-OPERATED VALVES

Equipment Description COMP COOLING HT EXCH AC-1A CCW OUTLET VALVE

Other Adverse Conditions

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: John Kao John Kao Date: 8/20/2012

Alex Smerch 8/20/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

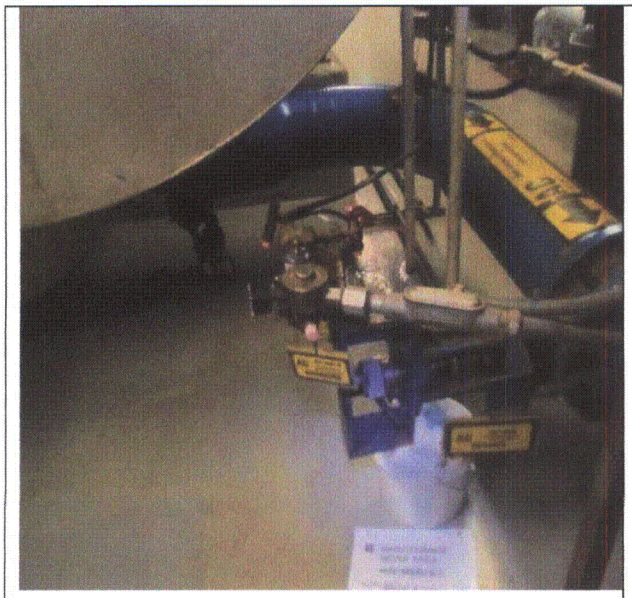
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 28

Equipment ID No. HCV-489B Equip. Class[4] 7, PNEUMATIC-OPERATED VALVES

Equipment Description COMP COOLING HT EXCH AC-1A CCW OUTLET VALVE

Photographs



Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 29

Equipment ID No. HCV-497 Equip. Class[1] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description COMP CLG HT EXCHS AC-1A-D CCW BYPASS LINE ISOLATION VALVE

Location: Bldg. AUX Floor El. 991' Room, Area *4, 2E'E-8S'7A*

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 29

Equipment ID No. HCV-497 Equip. Class[2] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description COMP CLG HT EXCHS AC-1A-D CCW BYPASS LINE ISOLATION VALVE

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐
   In-line valve.

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 29

Equipment ID No. HCV-497 Equip. Class[3] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description COMP CLG HT EXCHS AC-1A-D CCW BYPASS LINE ISOLATION VALVE

Other Adverse Conditions

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: John Kao John Kao Date: 8/20/2012

Alex Smerch 8/20/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

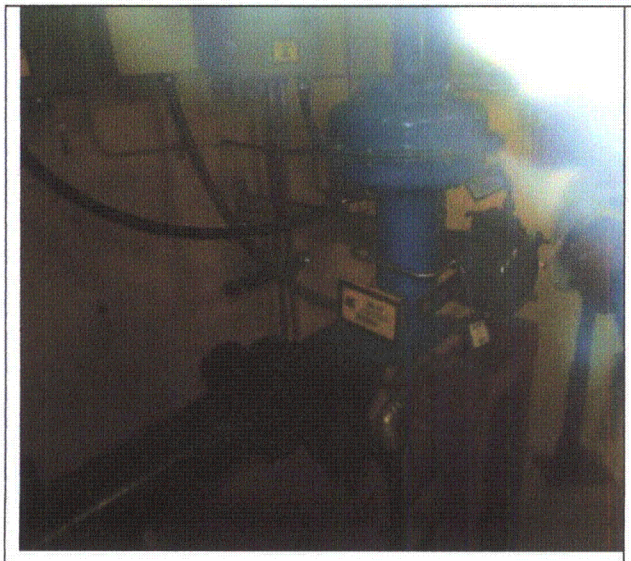
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 29

Equipment ID No. HCV-497 Equip. Class[4] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description COMP CLG HT EXCHS AC-1A-D CCW BYPASS LINE ISOLATION VALVE

Photographs



Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 30

Equipment ID No. *TCV-893* Equip. Class[1] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description *AIR CONDITIONER VA-46A CCW SUPPLY TEMPERATURE CONTROL VALVE*

Location: Bldg. *AUX* Floor El. *1037'* Room, Area *72, 8W'J1-12N'7A*

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 30

Equipment ID No. *TCV-893* Equip. Class[2] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description *AIR CONDITIONER VA-46A CCW SUPPLY TEMPERATURE CONTROL VALVE*

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐
   In-line valve

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 30

Equipment ID No. *TCV-893* Equip. Class[3] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description *AIR CONDITIONER VA-46A CCW SUPPLY TEMPERATURE CONTROL VALVE*

Other Adverse Conditions

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: John Kao John Kao Date: 8/18/2012

Alex Smerch 8/18/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

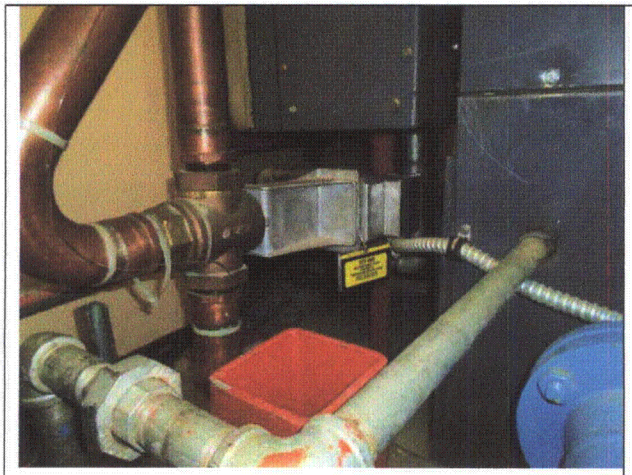
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 30

Equipment ID No. *TCV-893* Equip. Class[4] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description *AIR CONDITIONER VA-46A CCW SUPPLY TEMPERATURE CONTROL VALVE*

Photographs



Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 31

Equipment ID No. HCV-2874A Equip. Class[1] 7, *PNEUMATIC-OPERATED VALVES*

Equipment Description RAW WATER PUMPS DISCH HEADER ISOLATION VALVE

Location: Bldg. INTAKE Floor El. 1001' Room, Area INTAKE, 6E'CC-4S'103

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☒
   In-line valve.

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

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

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 31

Equipment ID No. HCV-2874A Equip. Class[2] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description RAW WATER PUMPS DISCH HEADER ISOLATION VALVE

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐
   N/A In line valve

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 31

Equipment ID No. HCV-2874A Equip. Class[3] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description RAW WATER PUMPS DISCH HEADER ISOLATION VALVE

Other Adverse Conditions

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: Alex Smerch Date: 8/17/2012

John Kao John Kao 8/17/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 31

Equipment ID No. HCV-2874A Equip. Class[4] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description RAW WATER PUMPS DISCH HEADER ISOLATION VALVE

Photographs

Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 32

Equipment ID No. HCV-2875A Equip. Class[1] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description RAW WATER PUMPS DISCH HEADER ISOLATION VALVE

Location: Bldg. INTAKE Floor El. *1001* Room, Area INTAKE, 6E'CC-7N'103

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☒
   In-line valve.

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

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

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 32

Equipment ID No. HCV-2875A Equip. Class[2] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description RAW WATER PUMPS DISCH HEADER ISOLATION VALVE

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

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

Interaction Effects

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

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

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 32

Equipment ID No. HCV-2875A Equip. Class[3] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description RAW WATER PUMPS DISCH HEADER ISOLATION VALVE

Other Adverse Conditions

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: Alex Smerch Date: 8/17/2012

John Kao John Kao 8/17/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 32

Equipment ID No. HCV-2875A Equip. Class[4] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description RAW WATER PUMPS DISCH HEADER ISOLATION VALVE

Photographs

Note: *Equipment Tag.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 33

Equipment ID No. HCV-2877A Equip. Class[1] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description COMP CLG HT EXCHS AC-1A-D RAW WATER INLET HDR ISOLATION VALVE

Location: Bldg. AUX *993'* Room, Area 18, 13E'D-12S'6D

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☒
   In-line valve.

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

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

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

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 33

Equipment ID No. HCV-2877A Equip. Class[2] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description COMP CLG HT EXCHS AC-1A-D RAW WATER INLET HDR ISOLATION VALVE

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

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

Interaction Effects

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

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

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 33

Equipment ID No. HCV-2877A Equip. Class[3] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description COMP CLG HT EXCHS AC-1A-D RAW WATER INLET HDR ISOLATION VALVE

Other Adverse Conditions

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: Alex Smerch Date: 8/21/2012

John Kao John Kao 8/21/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 33

Equipment ID No. HCV-2877A Equip. Class[4] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description COMP CLG HT EXCHS AC-1A-D RAW WATER INLET HDR ISOLATION VALVE

Photographs

Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 34

Equipment ID No. HCV-2880A Equip. Class[1] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description COMP COOLING HT EXCH AC-1A RAW WATER INLET VALVE

Location: Bldg. AUX *994'* Room, Area 18, 13E'D-6S'6D

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☒
   In-line valve.

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

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

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 34

Equipment ID No. HCV-2880A Equip. Class[2] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description COMP COOLING HT EXCH AC-1A RAW WATER INLET VALVE

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

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

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 34

Equipment ID No. HCV-2880A Equip. Class[3] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description COMP COOLING HT EXCH AC-1A RAW WATER INLET VALVE

Other Adverse Conditions

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: Alex Smerch Date: 8/21/2012

John Kao John Kao 8/21/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 34

Equipment ID No. HCV-2880A Equip. Class[4] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description COMP COOLING HT EXCH AC-1A RAW WATER INLET VALVE

Photographs

Note: *Equipment Tag*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 35

Equipment ID No. HCV-2893 Equip. Class[1] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description RAW WATER TO CCW ISOLATION VALVE

Location: Bldg. AUX *993'* Room, Area 18, 13E'D-19S'6D

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 35

Equipment ID No. HCV-2893 Equip. Class[2] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description RAW WATER TO CCW ISOLATION VALVE

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐
   In-line valve

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☐ N☐ U☐ N/A☒
   Not a soft target

8. Are 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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 35

Equipment ID No. HCV-2893 Equip. Class[3] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description RAW WATER TO CCW ISOLATION VALVE

Other Adverse Conditions

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: Alex Smerch Date: 8/21/2012

John Kao John Kao 8/21/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

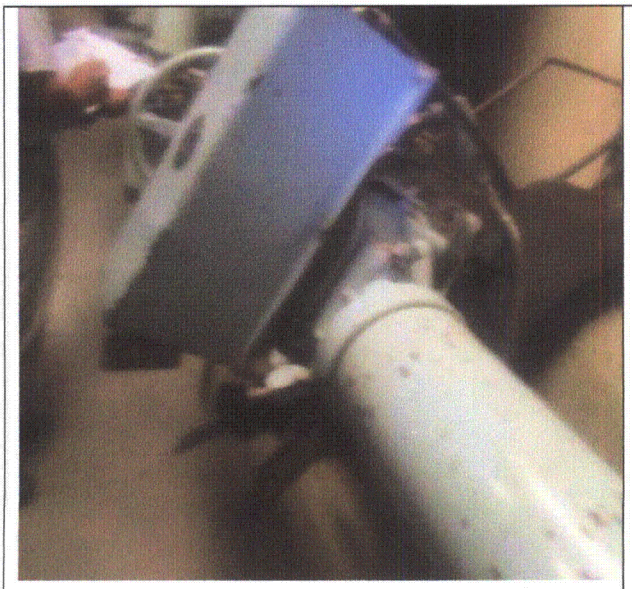
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 35

Equipment ID No. HCV-2893 Equip. Class[4] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description RAW WATER TO CCW ISOLATION VALVE

Photographs



Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 36

Equipment ID No. HCV-240 Equip. Class[1] 7, PNEUMATIC-OPERATED VALVES

Equipment Description PRESSURIZER RC-4 AUXILIARY SPRAY INLET VALVE

Location: Bldg. CONT Floor El. 1045' Room, Area *CONT, 14W'DD-6N'II*

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 36

Equipment ID No. HCV-240 Equip. Class[2] 7, PNEUMATIC-OPERATED VALVES

Equipment Description PRESSURIZER RC-4 AUXILIARY SPRAY INLET VALVE

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐
   In Line Valve

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☐ N☐ U☐ N/A☒
   Not a soft target

8. Are 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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 36

Equipment ID No. HCV-240 Equip. Class[3] 7, PNEUMATIC-OPERATED VALVES

Equipment Description PRESSURIZER RC-4 AUXILIARY SPRAY INLET VALVE

Other Adverse Conditions

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: *John Kao* John Kao Date: *8/22/12*

Alex Smerch *8/22/12*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 36

Equipment ID No. HCV-240 Equip. Class[4] 7, PNEUMATIC-OPERATED VALVES

Equipment Description PRESSURIZER RC-4 AUXILIARY SPRAY INLET VALVE

Photographs

Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 37

Equipment ID No. LCV-218-3 Equip. Class[1] 7, PNEUMATIC-OPERATED VALVES

Equipment Description CHRG PUMPS CH-1A,B&C SUCT HDR SAFETY INJ & BORIC ACID SUPPLY VLV

Location: Bldg. AUX Floor El. 992' Room, Area 7, 45W'T-2N'7B

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 37

Equipment ID No. LCV-218-3 Equip. Class[2] 7, PNEUMATIC-OPERATED VALVES

Equipment Description CHRG PUMPS CH-1A,B&C SUCT HDR SAFETY INJ & BORIC ACID SUPPLY VLV

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

   Needs plant documentation to verify. See sketch in photos section. Licensing Basis Evaluation is required.

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

Interaction Effects

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

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

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 37

Equipment ID No. LCV-218-3 Equip. Class[3] 7, PNEUMATIC-OPERATED VALVES

Equipment Description CHRG PUMPS CH-1A,B&C SUCT HDR SAFETY INJ & BORIC ACID SUPPLY VLV

Other Adverse Conditions

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: *Alex Smerch* Date: *8/20/12*

John Kao *8/20/12*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

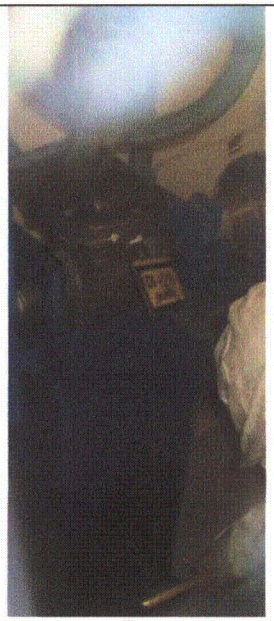
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 37

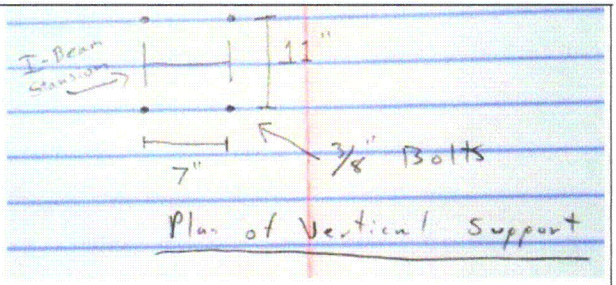
Equipment ID No. LCV-218-3 Equip. Class[4] 7, PNEUMATIC-OPERATED VALVES

Equipment Description CHRG PUMPS CH-1A,B&C SUCT HDR SAFETY INJ & BORIC ACID SUPPLY VLV

Photographs



Note: *Equipment.*



Note: *Sketch of plan view of vertical I-beam support anchorage.*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 38

Equipment ID No. *FCV-1369* Equip. Class[1] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description *TURB-DRIVEN AUX FEED PUMP FW-10 RECIRCULATION VALVE*

Location: Bldg. *AUX* Floor El. *991'* Room, Area *19, 3W'C-7N'3AA*

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 38

Equipment ID No. *FCV-1369* Equip. Class[2] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description *TURB-DRIVEN AUX FEED PUMP FW-10 RECIRCULATION VALVE*

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐
   N/A Inline Valve

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☐ N☐ U☐ N/A☒
   Valve is not a soft target.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y☐ N☒ U☐ N/A☐
   Unistrut above missing clamp and just resting on support. Could fall. CR 2012-10198 has been initiated.

9. Do attached lines have adequate flexibility to avoid damage? Y☒ N☐ U☐ N/A☐
   There are multiple elbows for attached line showing flexibility.

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

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 38

Equipment ID No. *FCV-1369* Equip. Class[3] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description *TURB-DRIVEN AUX FEED PUMP FW-10 RECIRCULATION VALVE*

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☒ N☐ U☐
    There is a chain attached. This item is not seen as a credible source as it does not have much mass.

Comments (Additional pages may be added as necessary)

Evaluated by: *Alex Smerch* Date: *8/13/12*

John Kao John Kao *8/13/12*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

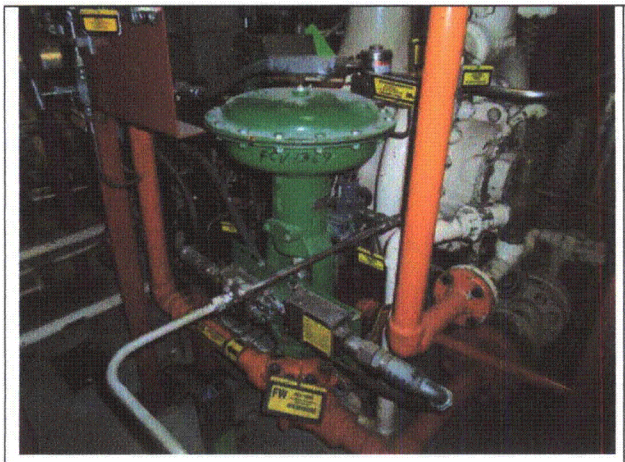
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 38

Equipment ID No. *FCV-1369* Equip. Class[4] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description *TURB-DRIVEN AUX FEED PUMP FW-10 RECIRCULATION VALVE*

Photographs



Note: *Equipment.*

Note: *Unistrut Missing Clamp.*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 39

Equipment ID No. HCV-1107A Equip. Class[1] 7, PNEUMATIC-OPERATED VALVES

Equipment Description STEAM GENERATOR RC-2A AUXILIARY FEEDWATER INLET VALVE

Location: Bldg. CONT Floor El. 1050' Room, Area *CONT, 15W'BB-9N'II*

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 39

Equipment ID No. HCV-1107A Equip. Class[2] 7, PNEUMATIC-OPERATED VALVES

Equipment Description STEAM GENERATOR RC-2A AUXILIARY FEEDWATER INLET VALVE

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 39

Equipment ID No. HCV-1107A Equip. Class[3] 7, PNEUMATIC-OPERATED VALVES

Equipment Description STEAM GENERATOR RC-2A AUXILIARY FEEDWATER INLET VALVE

Other Adverse Conditions

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: John Kao John Kao Date: 8/22/2012

Alex Smerch 8/22/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 39

Equipment ID No. HCV-1107A Equip. Class[4] 7, PNEUMATIC-OPERATED VALVES

Equipment Description STEAM GENERATOR RC-2A AUXILIARY FEEDWATER INLET VALVE

Photographs

No photographs were able to be taken of the item.	
Note:	**Note:**

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 40

Equipment ID No. HCV-1107B Equip. Class[1] 7, PNEUMATIC-OPERATED VALVES

Equipment Description STEAM GENERATOR RC-2A AUXILIARY FEEDWATER INLET VALVE

Location: Bldg. AUX Floor El. 1038' Room, Area 81, 0W'H-4N'3A

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 40

Equipment ID No. HCV-1107B Equip. Class[2] 7, PNEUMATIC-OPERATED VALVES

Equipment Description STEAM GENERATOR RC-2A AUXILIARY FEEDWATER INLET VALVE

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

   Needs plant documentation to verify anchorage. See sketch in photos section. Licensing Basis Evaluation is required.

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

Interaction Effects

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

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

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 40

Equipment ID No. HCV-1107B Equip. Class[3] 7, PNEUMATIC-OPERATED VALVES

Equipment Description STEAM GENERATOR RC-2A AUXILIARY FEEDWATER INLET VALVE

Other Adverse Conditions

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: *Alex Smerch* Date: *8/18/2012*

John Kao John Kao *8/18/2012*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 5

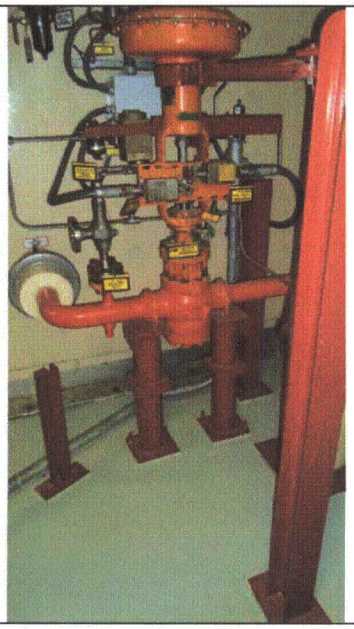
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 40

Equipment ID No. HCV-1107B Equip. Class[4] 7, PNEUMATIC-OPERATED VALVES

Equipment Description STEAM GENERATOR RC-2A AUXILIARY FEEDWATER INLET VALVE

Photographs



Note: *Equipment and supports.*

Note: *Equipment support footprint.*

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

SEISMIC WALKDOWN CHECKLIST FORM

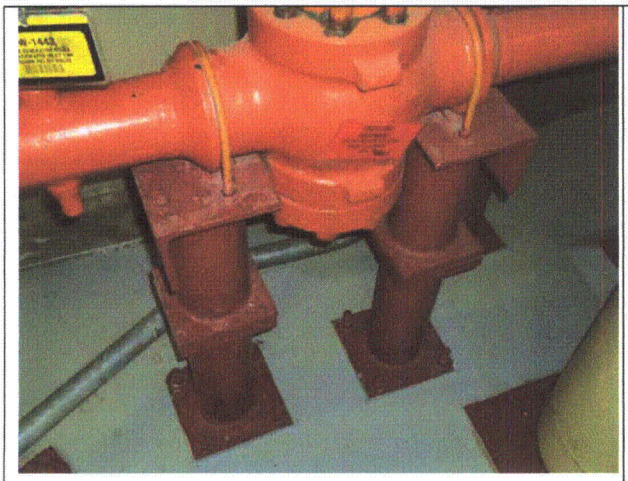
Sheet 5 of 5

Status: Y☒ N☐ U☐

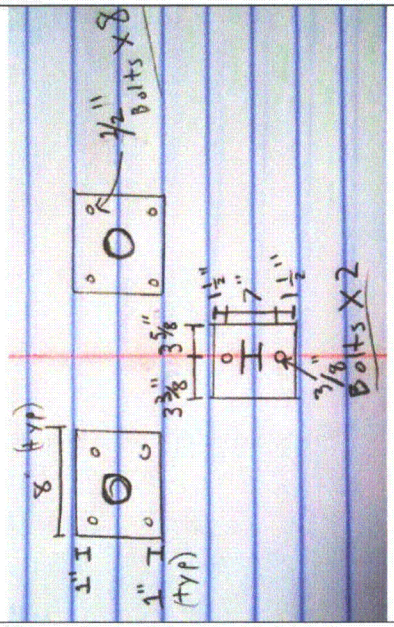
Seismic Walkdown Checklist (SWC) SWC- 40

Equipment ID No. HCV-1107B Equip. Class[5] 7, PNEUMATIC-OPERATED VALVES

Equipment Description STEAM GENERATOR RC-2A AUXILIARY FEEDWATER INLET VALVE



Note: *Vertical Support Footprint.*



Note: *Plan view of 3 support footings anchorage sketch.*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 41

Equipment ID No. HCV-1384 Equip. Class[1] 7, PNEUMATIC-OPERATED VALVES

Equipment Description MAIN AND AUXILIARY FEEDWATER CROSSCONNECT VALVE

Location: Bldg. AUX Floor El. 1039' Room, Area 81, 22E'D-21N'5B

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 41

Equipment ID No. HCV-1384 Equip. Class[2] 7, PNEUMATIC-OPERATED VALVES

Equipment Description MAIN AND AUXILIARY FEEDWATER CROSSCONNECT VALVE

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐
   In-line valve

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 41

Equipment ID No. HCV-1384 Equip. Class[3] 7, PNEUMATIC-OPERATED VALVES

Equipment Description MAIN AND AUXILIARY FEEDWATER CROSSCONNECT VALVE

Other Adverse Conditions

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: John Kao John Kao Date: 8/18/2012

Alex Smerch 8/18/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

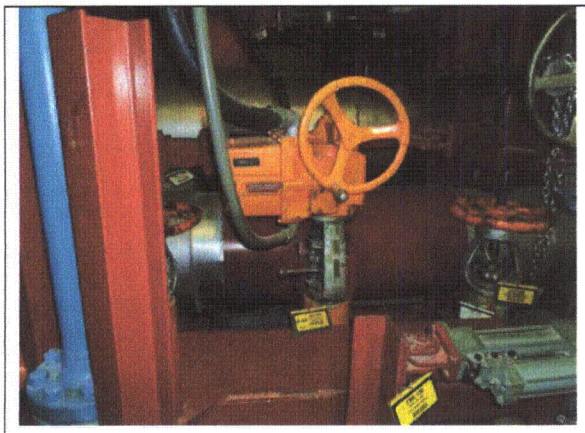
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 41

Equipment ID No. HCV-1384 Equip. Class[4] 7, PNEUMATIC-OPERATED VALVES

Equipment Description MAIN AND AUXILIARY FEEDWATER CROSSCONNECT VALVE

Photographs



Note: *Equipment*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 42

Equipment ID No. SA-193 Equip. Class[1] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description SECONDARY STARTING AIR PRESSURE REGULATION VALVE

Location: Bldg. AUX Floor El. 1008' Room, Area 64, 3W'F-28N'1A

Manufacturer, Model, Etc. (optional but recommended)

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

Anchorage

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 42

Equipment ID No. SA-193 Equip. Class[2] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description SECONDARY STARTING AIR PRESSURE REGULATION VALVE

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐
   N/A, In-line valve

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 42

Equipment ID No. SA-193 Equip. Class[3] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description SECONDARY STARTING AIR PRESSURE REGULATION VALVE

Other Adverse Conditions

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: *Alex Smerch* Date: *8/15/2012*

John Kao *8/15/2012*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 42

Equipment ID No. SA-193 Equip. Class[4] *7, PNEUMATIC-OPERATED VALVES*

Equipment Description SECONDARY STARTING AIR PRESSURE REGULATION VALVE

Photographs

Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 43

Equipment ID No. VA-15B Equip. Class[1] 10, AIR HANDLERS

Equipment Description CONTAINMENT AIR COOL/FILTER UNIT B HOUSING

Location: Bldg. CONT Floor El. 1060' Room, Area *CONT, 0W'BB-24N'III*

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 43

Equipment ID No. VA-15B Equip. Class[2] 10, AIR HANDLERS

Equipment Description CONTAINMENT AIR COOL/FILTER UNIT B HOUSING

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

Interaction Effects

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

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

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 43

Equipment ID No. VA-15B Equip. Class[3] 10, AIR HANDLERS

Equipment Description CONTAINMENT AIR COOL/FILTER UNIT B HOUSING

Other Adverse Conditions

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: *Alex Smerch* Date: *8/27/12*

Kevin Bessell *8/27/12*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

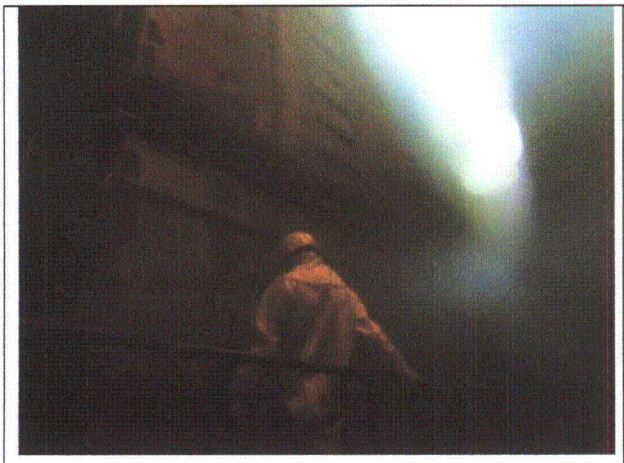
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 43

Equipment ID No. VA-15B Equip. Class[4] 10, AIR HANDLERS

Equipment Description CONTAINMENT AIR COOL/FILTER UNIT B HOUSING

Photographs



Note: *Equipment (large housing).*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 44

Equipment ID No. *VA-46A* Equip. Class[1] *10, AIR HANDLERS*

Equipment Description *CONTROL ROOM AIR CONDITIONING UNIT*

Location: Bldg. *AUX* Floor El. *1036* Room, Area *72, 8W'J1-12N'7A*

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 44

Equipment ID No. *VA-46A* Equip. Class[2] *10, AIR HANDLERS*

Equipment Description *CONTROL ROOM AIR CONDITIONING UNIT*

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 44

Equipment ID No. *VA-46A* Equip. Class[3] *10, AIR HANDLERS*

Equipment Description *CONTROL ROOM AIR CONDITIONING UNIT*

Other Adverse Conditions

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: John Kao John Kao Date: 8/21/2012

Alex Smerch 8/21/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 44

Equipment ID No. *VA-46A* Equip. Class[4] *10, AIR HANDLERS*

Equipment Description *CONTROL ROOM AIR CONDITIONING UNIT*

Photographs

Note: *Equipment Tag.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 45

Equipment ID No. DC-BUS-AI-41A Equip. Class[1] *14, DISTRIBUTION PANELS AND AUTOMATIC TRANSFER SWITCHES*

Equipment Description PANEL BOARD

Location: Bldg. AUX Floor El. 1036' Room, Area 77, AI-41A

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 45

Equipment ID No. DC-BUS-AI-41A Equip. Class[2] *14, DISTRIBUTION PANELS AND AUTOMATIC TRANSFER SWITCHES*

Equipment Description PANEL BOARD

5.	Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 45

Equipment ID No. DC-BUS-AI-41A Equip. Class[3] *14, DISTRIBUTION PANELS AND AUTOMATIC TRANSFER SWITCHES*

Equipment Description PANEL BOARD

Other Adverse Conditions

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: John Kao John Kao Date: 8/18/2012

Alex Smerch 8/18/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

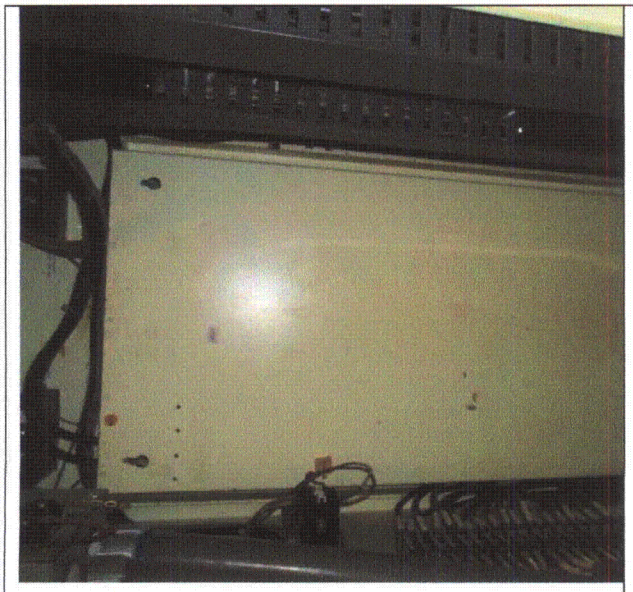
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 45

Equipment ID No. DC-BUS-AI-41A Equip. Class[4] *14, DISTRIBUTION PANELS AND AUTOMATIC TRANSFER SWITCHES*

Equipment Description PANEL BOARD

Photographs



Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 46

Equipment ID No. EE-8F Equip. Class[1] *14, DISTRIBUTION PANELS AND AUTOMATIC TRANSFER SWITCHES*

Equipment Description 125V DC NUMBER 1 MAIN DISTRIBUTION PANEL

Location: Bldg. AUX Floor El. 1011' Room, Area 56, 9W'C-0N'7A

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 46

Equipment ID No. EE-8F Equip. Class[2] *14, DISTRIBUTION PANELS AND AUTOMATIC TRANSFER SWITCHES*

Equipment Description 125V DC NUMBER 1 MAIN DISTRIBUTION 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☐

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☐ N☒ U☐ N/A☐
   There is only a 3/8" gap between this equipment and other safety related equipment (EE-8C) nearby, raising the possibility of out of phase displacement between these different pieces of equipment, and banging against each other. CR 2012-10427 has been initiated.

8. Are 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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 46

Equipment ID No. EE-8F Equip. Class[3] *14, DISTRIBUTION PANELS AND AUTOMATIC TRANSFER SWITCHES*

Equipment Description 125V DC NUMBER 1 MAIN DISTRIBUTION PANEL

Other Adverse Conditions

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: Alex Smerch Date: 8/16/2012

John Kao John Kao 8/16/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

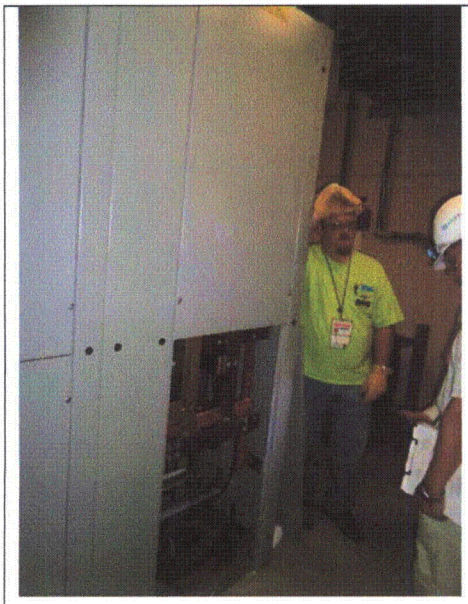
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 46

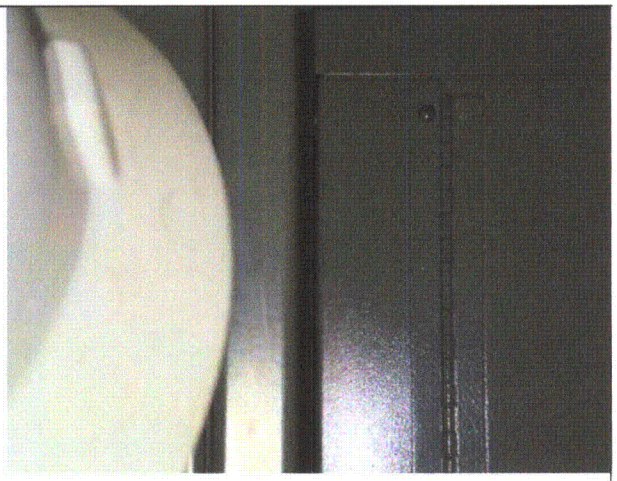
Equipment ID No. EE-8F Equip. Class[4] *14, DISTRIBUTION PANELS AND AUTOMATIC TRANSFER SWITCHES*

Equipment Description 125V DC NUMBER 1 MAIN DISTRIBUTION PANEL

Photographs



Note: *Equipment.*



Note: *Gap between pieces of equipment.*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 47

Equipment ID No. I-BUS-A Equip. Class[1] *14, DISTRIBUTION PANELS AND AUTOMATIC TRANSFER SWITCHES*

Equipment Description BUS

Location: Bldg. AUX Floor El. 1036' Room, Area 77, AI-40A

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☒

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 47

Equipment ID No. I-BUS-A Equip. Class[2] *14, DISTRIBUTION PANELS AND AUTOMATIC TRANSFER SWITCHES*

Equipment Description BUS

5. Is the anchorage configuration consistent with plant documentation? (Note: This 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☐

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 47

Equipment ID No. I-BUS-A Equip. Class[3] *14, DISTRIBUTION PANELS AND AUTOMATIC TRANSFER SWITCHES*

Equipment Description BUS

Other Adverse Conditions

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: John Kao John Kao Date: 8/18/2012

Alex Smerch 8/18/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

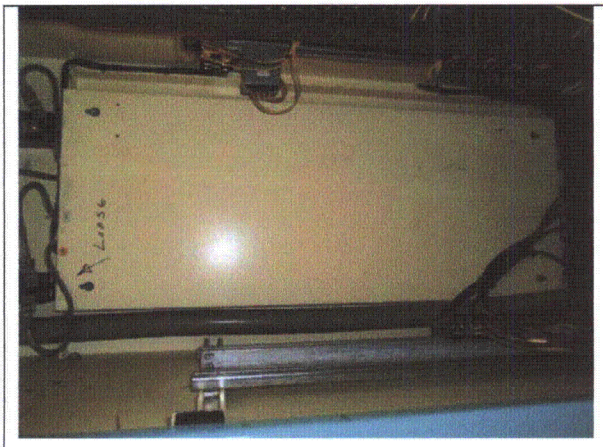
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 47

Equipment ID No. I-BUS-A Equip. Class[4] *14, DISTRIBUTION PANELS AND AUTOMATIC TRANSFER SWITCHES*

Equipment Description BUS

Photographs



Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 48

Equipment ID No. EE-8A Equip. Class[1] *15, BATTERY RACKS*

Equipment Description 125 VDC STATION BATTERY NO. 1

Location: Bldg. AUX Floor El. 1012' Room, Area 54, 9W'C-15N'7B

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 48

Equipment ID No. EE-8A Equip. Class[2] *15, BATTERY RACKS*

Equipment Description 125 VDC STATION BATTERY NO. 1

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y☐ N☒ U☐ N/A☐
   There is no anchorage documentation. Anchorage pattern attached in photos below. Licensing Basis Evaluation is required.
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☐ N☒ U☐

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y☒ N☐ U☐ N/A☐
9. Do attached lines have adequate flexibility to avoid damage? Y☐ N☐ U☐ N/A☒
   No attached lines.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y☒ N☐ U☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 48

Equipment ID No. EE-8A Equip. Class[3] *15, BATTERY RACKS*

Equipment Description 125 VDC STATION BATTERY NO. 1

Other Adverse Conditions

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: *John Kao* John Kao Date: *8/15/12*

Alex Smerch *8/15/12*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

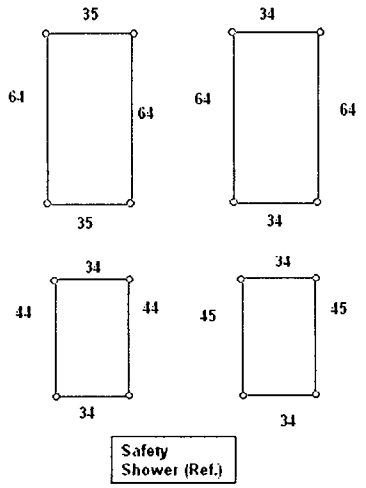
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 48

Equipment ID No. EE-8A Equip. Class[4] *15, BATTERY RACKS*

Equipment Description 125 VDC STATION BATTERY NO. 1

Photographs



Above is a plan sketch of the 16 anchor bolts for the Battery Racks.
All Dimensions are in Inches.
All anchor diameters are .75"

No photo was able to be taken for component.

Note: *Field measured anchor dimensions for battery rack (require LB verification).*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 49

Equipment ID No. EE-8C Equip. Class[1] *16, BATTERY CHARGERS AND INVERTERS*

Equipment Description 125V DC BATTERY CHARGER NUMBER 1

Location: Bldg. AUX Floor El. 1011' Room, Area 56, 9W'C-13N'6D

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☐

   Some surface pitting of the concrete, not near embedded plates.

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 49

Equipment ID No. EE-8C Equip. Class[2] *16, BATTERY CHARGERS AND INVERTERS*

Equipment Description 125V DC BATTERY CHARGER NUMBER 1

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y☐ N☒ U☐ N/A☐
   Needs plant documentation. See sketch in photo's section. Licensing Basis Evaluation is required.
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☐ N☒ U☐

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☐ N☒ U☐ N/A☐
   There exists a between a 0" and 3/8" gap between EE-8C and EE-8F. These are two independently anchored pieces of equipment which during out of phase seismic motion could come into contact. CR 2012-10427 has been initiated.
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y☐ N☒ U☐ N/A☐
   There are fluorescent light bulbs in hallways near equipment that are not caged which could cause a potentially adverse seismic condition with nearby equipment. CR 2012-10423 has been initiated.
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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 49

Equipment ID No. EE-8C Equip. Class[3] *16, BATTERY CHARGERS AND INVERTERS*

Equipment Description 125V DC BATTERY CHARGER NUMBER 1

Other Adverse Conditions

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: *Alex Smerch* Date: *8/16/12*

John Kao John Kao *8/16/12*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 5

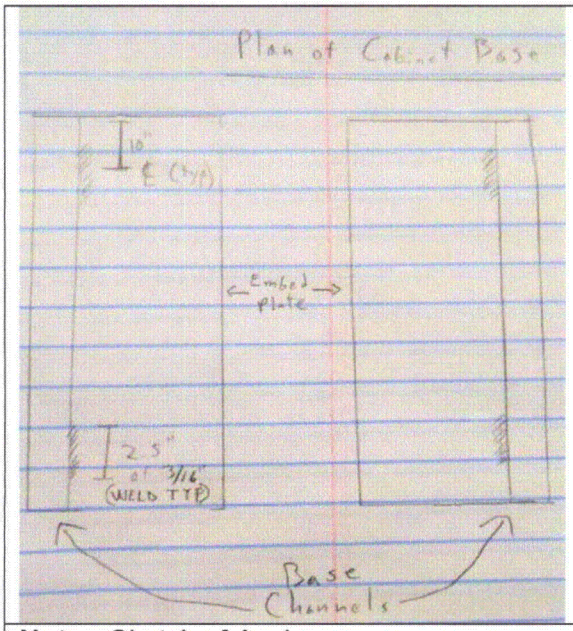
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 49

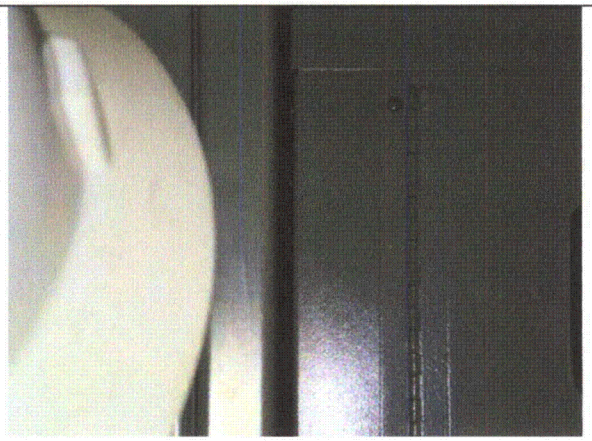
Equipment ID No. EE-8C Equip. Class[4] *16, BATTERY CHARGERS AND INVERTERS*

Equipment Description 125V DC BATTERY CHARGER NUMBER 1

Photographs



Note: *Sketch of Anchorage*



Note: *3/8" Gap Between EE-8C and EE-8F.*

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

SEISMIC WALKDOWN CHECKLIST FORM

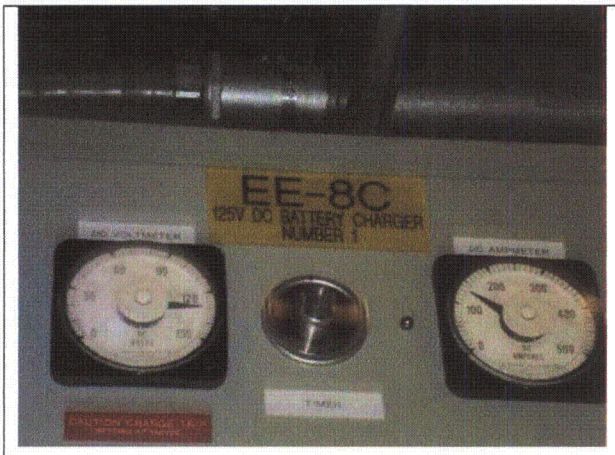
Sheet 5 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 49

Equipment ID No. EE-8C Equip. Class[5] *16, BATTERY CHARGERS AND INVERTERS*

Equipment Description 125V DC BATTERY CHARGER NUMBER 1



Note: *Equipment.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 50

Equipment ID No. EE-8H Equip. Class[1] *16, BATTERY CHARGERS AND INVERTERS*

Equipment Description INSTRUMENT BUS "A" INVERTER "A"

Location: Bldg. AUX Floor El. 1011' Room, Area 56, 7W'C-6N'6D

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 50

Equipment ID No. EE-8H Equip. Class[2] *16, BATTERY CHARGERS AND INVERTERS*

Equipment Description INSTRUMENT BUS "A" INVERTER "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 attachment drawings to Plant floor could not be found. A licensing basis evaluation is required.
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☐ N☒ U☐

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☒ N☐ U☐ N/A☐
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Y☐ N☒ U☐ N/A☐
   Fluorescent light bulbs overhead that are not caged which could cause a potentially adverse seismic condition with nearby equipment. CR 2012-10423 has been initiated.
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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 50

Equipment ID No. EE-8H Equip. Class[3] *16, BATTERY CHARGERS AND INVERTERS*

Equipment Description INSTRUMENT BUS "A" INVERTER "A"

Other Adverse Conditions

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: Alex Smerch Date: 8/16/2012

John Kao John Kao 8/16/2012

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 50

Equipment ID No. EE-8H Equip. Class[4] *16, BATTERY CHARGERS AND INVERTERS*

Equipment Description INSTRUMENT BUS "A" INVERTER "A"

Photographs

Note: *Equipment Tag*

Note: *Fluorescent light bulbs with no cage overhead.*

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

SEISMIC WALKDOWN CHECKLIST FORM

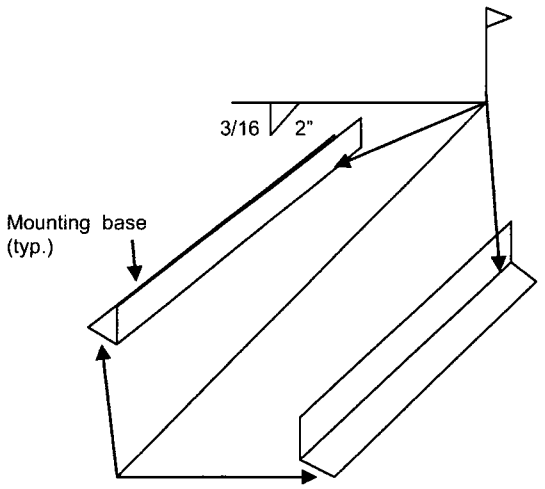
Sheet 5 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 50

Equipment ID No. EE-8H Equip. Class[5] *16, BATTERY CHARGERS AND INVERTERS*

Equipment Description INSTRUMENT BUS "A" INVERTER "A"



Note: *Anchorage configuration sketch.*

Note:

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 51

Equipment ID No. DG-2 Equip. Class[1] 17, ENGINE GENERATORS

Equipment Description EMERGENCY DIESEL GENERATOR #2

Location: Bldg. AUX Floor El. 1010' Room, Area 64, 3E'F-7S'2B

Manufacturer, Model, Etc. (optional but recommended) *GM Electromotive 20-645-E4*

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 51

Equipment ID No. DG-2 Equip. Class[2] 17, ENGINE GENERATORS

Equipment Description EMERGENCY DIESEL GENERATOR #2

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y☒ N☐ U☐ N/A☐
   The anchorage is consistent with drawing 11405-S-52, Rev. 6 (File# 16437).
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y☒ N☐ U☐

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y☐ N☐ U☐ N/A☒
   Not a soft target
8. Are 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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 4

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 51

Equipment ID No. DG-2 Equip. Class[3] 17, ENGINE GENERATORS

Equipment Description EMERGENCY DIESEL GENERATOR #2

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment? Y☐ N☒ U☐
    Insulation of piping on top of generator may have not been included in original seismic analysis. CR 2012-10369 has been initiated.

Comments (Additional pages may be added as necessary)

Evaluated by: *Alex Smerch* Date: *8/15/2012*

John Kao *8/15/2012*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 4

Status: Y☒ N☐ U☐

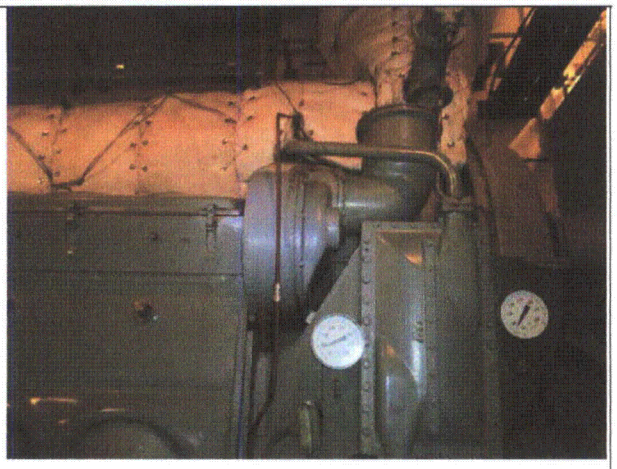
Seismic Walkdown Checklist (SWC) SWC- 51

Equipment ID No. DG-2 Equip. Class[4] 17, ENGINE GENERATORS

Equipment Description EMERGENCY DIESEL GENERATOR #2

Photographs

Note: *Equipment*



Note: *Insulated line on top of generator.*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 1 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 52

Equipment ID No. *FT-1368* Equip. Class[1] *18, INSTRUMENT RACKS*

Equipment Description *MOTOR-DRIVEN AUX FEED PUMP FW-6 SUCTION FLOW TRANSMITTER*

Location: Bldg. *AUX* Floor El. *993'* Room, Area *19, 1W'C-4S'4A*

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 2 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 52

Equipment ID No. *FT-1368* Equip. Class[2] *18, INSTRUMENT RACKS*

Equipment Description *MOTOR-DRIVEN AUX FEED PUMP FW-6 SUCTION FLOW TRANSMITTER*

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

   Drawing 3143K10-058, Sh. 1, Rev. 10 (File# 9906) is used for anchorage configuration verification. Item anchorage may not be consistent with Plant documentation since anchor angle plate is rotated flipped (see photo below and reference drawing). Note on drawing states to see drawing 11405-M-54, Sh. 20 for field configuration. More information is needed and a Licensing Basis Evaluation is required.

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

Interaction Effects

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

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

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☐

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 3 of 5

Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 52

Equipment ID No. *FT-1368* Equip. Class[3] *18, INSTRUMENT RACKS*

Equipment Description *MOTOR-DRIVEN AUX FEED PUMP FW-6 SUCTION FLOW TRANSMITTER*

Other Adverse Conditions

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: *John Kao* John Kao Date: *8/13/12*

Alex Smerch *8/13/12*

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

SEISMIC WALKDOWN CHECKLIST FORM

Sheet 4 of 5

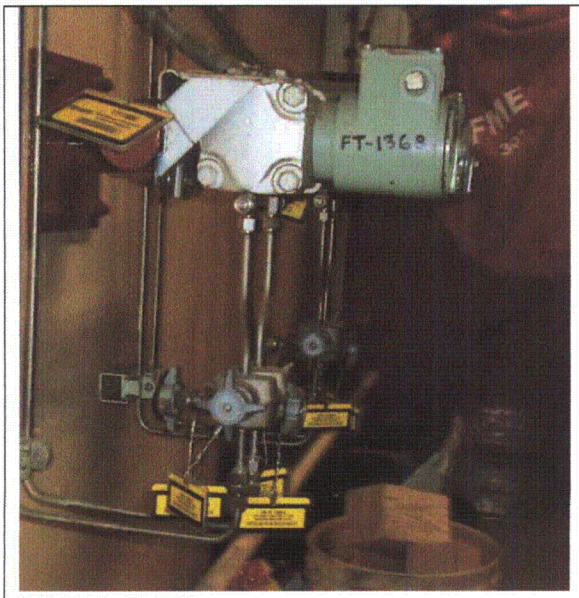
Status: Y☒ N☐ U☐

Seismic Walkdown Checklist (SWC) SWC- 52

Equipment ID No. *FT-1368* Equip. Class[4] *18, INSTRUMENT RACKS*

Equipment Description *MOTOR-DRIVEN AUX FEED PUMP FW-6 SUCTION FLOW TRANSMITTER*

Photographs



Note: *Side view of equipment showing its mounting bracket flipped from configuration drawing.*

Note: *Equipment close to combustibles. (Acceptable for maintenance area under SO-G-91)*

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

SEISMIC WALKDOWN CHECKLIST FORM

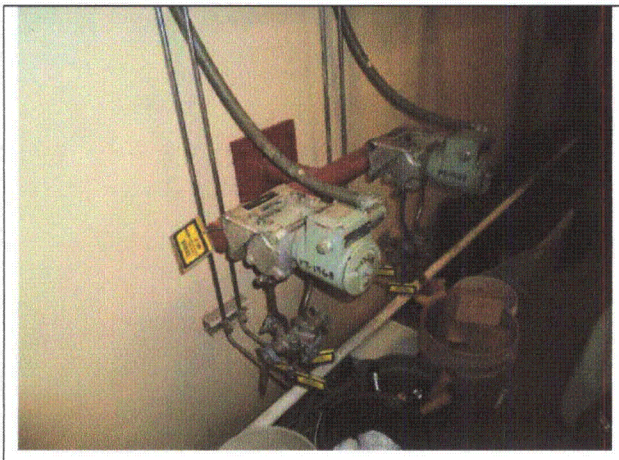
Sheet 5 of 5

Status: Y☒ N☐ U☐

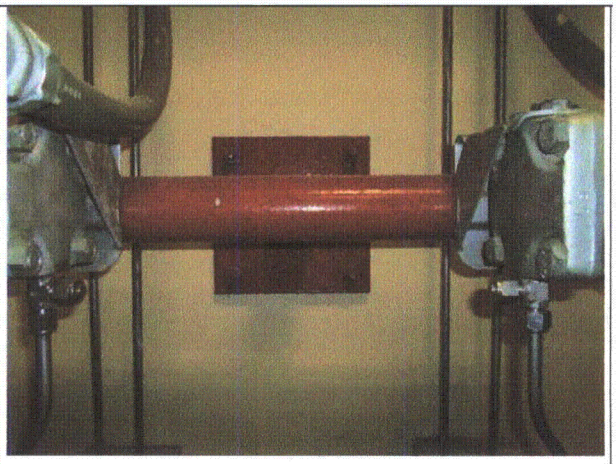
Seismic Walkdown Checklist (SWC) SWC- 52

Equipment ID No. *FT-1368* Equip. Class[5] *18, INSTRUMENT RACKS*

Equipment Description *MOTOR-DRIVEN AUX FEED PUMP FW-6 SUCTION FLOW TRANSMITTER*



Note: *Equipment.*



Note: *Equipment Wall anchorage.*

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