

SEISMIC WALKDOWN REPORT

**IN RESPONSE TO THE 50.54(f) INFORMATION REQUEST REGARDING
FUKUSHIMA NEAR-TERM TASK FORCE RECOMMENDATION 2.3: SEISMIC**

for the

DUANE ARNOLD ENERGY CENTER

NRC Docket No. 50-331

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Executive Summary

The purpose of this report is to provide information as requested by the Nuclear Regulatory Commission (NRC) in its March 12, 2012 letter issued to all power reactor licensees and holders of construction permits in active or deferred status (Ref. 1). In particular, this report provides information requested to address Enclosure 3, Recommendation 2.3: Seismic, of the March 12, 2012 letter.

The 50.54(f) letter requires, in part, all U.S. nuclear power plants to perform seismic walkdowns to identify and address degraded, non-conforming or unanalyzed conditions and to verify the current plant configuration is within the current seismic licensing basis. This report documents the seismic walkdowns performed at Duane Arnold Energy Center (DAEC – henceforth referred to as DAEC) in response, in part, to the 50.54(f) letter issued by the NRC.

The Nuclear Energy Institute (NEI), supported by industry personnel, cooperated with the NRC to prepare guidance for conducting seismic walkdowns as required in the 50.54(f) letter, Enclosure 3, Recommendation 2.3: Seismic (Ref. 1). The guidelines and procedures prepared by NEI and endorsed by the NRC were published through the Electric Power Research Institute (EPRI) as EPRI Technical Report 1025286, *Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic*, dated June 2012; henceforth, referred to as the “EPRI guidance document” (Ref. 2). DAEC has utilized this NRC endorsed guidance as the basis for the seismic walkdowns and this report.

The EPRI guidance document was used to perform the engineering walkdowns and evaluations described in this report. In accordance with the EPRI guidance document, the following topics are addressed in the subsequent sections of this report.

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

Seismic Licensing Basis

The safe shutdown earthquake for the DAEC is 0.12g horizontal ground acceleration and 0.096g vertical ground acceleration at bedrock (Ref. 3 sections 2.5 & 3.7).

Personnel Qualifications

The SWEL development team consisted of experienced site personnel with Civil, Operations, and PRA backgrounds. The seismic walkdown team had experience in the

area of seismic design and the performance of seismic walkdowns. The personnel who performed the key activities required to fulfill the objectives and requirements of the 50.54(f) letter are qualified and trained as required in the EPRI guidance document (Ref. 2).

Selection of SSCs

Ninety seven (97) components were selected for the walkdown effort. These components were selected using the process described in detail in the EPRI guidance document, Section 3: Selection of SSCs (Ref. 2).

Seismic Walkdowns and Area Walk-Bys

Section 5, Appendix C, and Appendix D of this report document the equipment Seismic Walkdowns and the Area Walk-Bys. The online seismic walkdowns for DAEC were performed September 24-28, 2012 with additional walkdowns on October 12, 2012 to inspect selected electrical equipment and equipment in the primary containment. During the walkdown activities, the walkdown team consisted of one 2-person Seismic Walkdown Engineer (SWE) team.

The seismic walkdown team inspected 93 of the 97 components on the SWEL (comprised of SWEL 1 and SWEL 2). Walkdowns for nine (9) components were deferred due to full or partial accessibility issues given energized equipment. The nine (9) remaining items will be walked down during a unit outage, or another time when the equipment is accessible, as appropriate. A total of 36 anchorage configurations were verified to be installed in accordance with the station documentation.

During the seismic walkdowns at DAEC, Action Requests (ARs) were issued for conditions such as missing anchor bolt and seismic housekeeping issues. After evaluation through the corrective action process, it was determined that none of the conditions identified in the ARs were adverse seismic conditions.

Seismic Licensing Basis Evaluations

Potentially adverse conditions identified during the walkdowns were documented on the seismic walkdown and area walk-by checklists, as appropriate, and entered into the corrective action process. For those conditions that required an evaluation, the evaluations were completed and documented within the corresponding condition reports. As noted in Sections 5.2 and 5.3, the issues identified during the Seismic Walkdowns and Area Walk-Bys were not determined to be "Potentially Adverse Seismic Conditions" because in all cases the anomaly or issue would not prevent the equipment from performing its safety-related function. Therefore, no formal Licensing Basis Evaluations were necessary and none were performed. Table 5-2 and 5-3 of this report provide the results of the completed evaluations.

IPEEE Vulnerabilities

No vulnerabilities were identified as a result of the effort that addressed the Individual Plant Examination of External Events (IPEEE). The improvements made are discussed in Section 7 of this report.

Peer Reviews

The Peer Review of the SWEL and seismic walkdowns consisted of two teams made up of PRA representatives and structural/seismic engineers. Appendix F of this report contains a summary of the Peer Review. The Peer Review determined that the objectives and requirements of the 50.54(f) letter are met. Further, it was concluded by the peer reviews that the efforts completed and documented within this report are in accordance with the EPRI guidance document (Ref. 2).

Summary

In summary, seismic walkdowns have been completed at the DAEC in accordance with the NRC endorsed walkdown methodology (Ref. 2). All potentially degraded, nonconforming, or unanalyzed conditions identified as a result of the seismic walkdowns have been entered into the CAP.

Evaluations of the identified conditions are complete and documented within the CAP. These evaluations determined the Seismic Walkdowns resulted in no adverse anchorage conditions, no adverse seismic spatial interactions, and no other adverse seismic conditions associated with the items on the SWEL. Similarly, the Area Walk-Bys resulted with no adverse seismic conditions associated with other SSCs located in the vicinity of the SWEL item(s).

The Seismic Walkdowns identified several minor issues pertaining to missing anchor bolt and seismic housekeeping issues. The Seismic Walkdowns identified no degraded, nonconforming, or unanalyzed conditions that required either immediate or follow-on action(s). No planned or newly identified protection or mitigation features have resulted from the efforts to address the 50.54(f) letter (Ref. 1).

Follow-on activities required to complete the efforts to address Enclosure 3 of the 50.54(f) letter include inspection of four (4) items deferred due to the components being inaccessible, due to electrical hazard. Supplemental inspection of 5 items is also deferred due to operational hazards. Specifically, only a subset of cubicles of the five (5) Motor Control Centers were opened for internal inspection of the components as operation of the plant allowed.

1 Introduction

1.1 BACKGROUND

In response to Near-Term Task Force (NTTF) Recommendation 2.3, the Nuclear Regulatory Commission (NRC) issued a 10CFR50.54(f) letter on March 12, 2012 (Ref. 1) requesting that all licensees perform seismic walkdowns to identify and address plant degraded, non-conforming, or unanalyzed conditions, 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. The industry guidance document, EPRI Technical Report 1025286, *Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic*, dated June 2012 (Ref. 2), was endorsed by the NRC on May 31, 2012. DAEC has committed to using this NRC-endorsed guidance as the basis for completing the walkdown effort.

1.2 PLANT OVERVIEW

DAEC station is a single boiling water reactor (BWR) generating unit located on a site near Palo, Iowa. DAEC has a Mark I suppression type containment consists basically of two steel pressure vessels, the drywell and the torus, joined by large vent piping. The reactor building provides secondary containment for the reactor when in service. The reactor building is a reinforced concrete structure.

The nuclear steam supply system (NSSS) and the turbine-generator were furnished by the General Electric Company (GE). The balance of plant was designed and constructed by Bechtel Power Corporation (Bechtel) as architect engineer and constructor. The plant achieved initial criticality on March 23, 1974, and began commercial operation on February 1, 1975. The unit was originally designed, analyzed, and licensed for a steady-state core power of 1658 MWt. Then in 2001, the rated power level was increased, by the Extended Power Uprate (EPU) Project, to 1912 MWt. (Ref. 3, Section 1.1)

1.3 APPROACH

The EPRI Seismic Walkdown Guidance (Reference 2) was used for the DAEC seismic walkdowns and evaluations described in this report. In accordance with Reference 2, the following topics are addressed in the subsequent sections of this report:

- Seismic Licensing Basis
- Personnel Qualifications
- Selection of SSCs
- Seismic Walkdowns and Area Walk-Bys
- Licensing Basis Evaluations
- IPEEE Vulnerabilities Resolution Report
- Peer Review

2 Seismic Licensing Basis

The vibratory ground motion of the DAEC site is discussed in UFSAR (Ref. 3) Section 2.5.2. The site design ground motion response spectra for the Operating Basis Earthquake (OBE) and Design Basis Earthquake (DBE) at the foundation levels for structures supported on bedrock or lean concrete fill, for structures supported on approximately 10 ft of soil over bedrock, and for structures supported on approximately 30 to 50 ft of soil over bedrock, are provided in UFSAR Figure 2.5-8, Sheets 1 through 6. The DBE is twice the OBE.

For structures supported on bedrock or on lean concrete, Housner's average response spectra, normalized to 6% and 12% of gravity (with appropriate damping), were used as the criteria response spectra. For structures supported on about 10 ft of compacted fill and/or natural glacial soils or soil cement fill overlying bedrock, the smoothed response spectra for the 1952 Taft, California, earthquake, normalized to 6% and 12% of gravity (with appropriate damping), were used as the criteria response spectra. For structures supported on 30 to 50 ft of overburden soils and/or compacted fill soils, the smoothed response spectra for the 1952 Taft, California, earthquake, normalized to 9% and 18% of gravity (with appropriate damping), were used as the criteria response spectra.

The development of the building floor response spectra is discussed in UFSAR Section 3.7.

UFSAR Section 3.2.1.1 defines "Seismic Structures, Systems, and Components" as: "Those structures, systems, and components important to safety that are designed to withstand the effects of a safe shutdown earthquake (SSE) and remain functional are designated as Seismic Category 1". UFSAR Tables 3.2-1 and 3.2-3 provide lists of Seismic Classification of Structures, Systems, and Components.

Per UFSAR Section 3.8.2.2, the design of concrete structures conforms to American Concrete Institute ACI 318-63, Building Code Requirements for Reinforced Concrete. The design of steel structures conforms to the American Institute of Steel Construction (AISC) Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings, 1963 and 1970.

The seismic design of mechanical equipment is discussed in UFSAR Section 3.7.3. The design of mechanical equipment was performed by analysis and/or testing.

The seismic qualification of instrumentation and electrical equipment is discussed in UFSAR Section 3.10.

Seismic Qualification Utility Group (SQUG) Methodology was used to verify the seismic adequacy of certain equipment as detailed in Reference 7. The SQUG's Generic Implementation Procedure (GIP) for Seismic Verification of Nuclear Plant Equipment provides methodology that relies primarily on the use of earthquake and test experience data to verify the seismic adequacy of generic classes of equipment. The NRC's

Supplemental Safety Evaluation Report No. 2 (SSER No. 2) on the GIP, Revision 2, Corrected February 14, 1992 (GIP-2) found the GIP-2 methodology to be an acceptable evaluation method for the US1 A-46 plants to verify the seismic adequacy of safe-shutdown equipment and to satisfy the pertinent equipment seismic requirements of General Design Criterion 2 and the purpose of the NRC regulations relevant to equipment seismic adequacy including 10 CFR Part 100. DAEC committed to the use of SQUG methodology as documented in the GIP-2, to resolve Unresolved Safety Issue (USI) A-46, Seismic Qualification of Equipment in Operating Plants, at the DAEC. The NRC safety evaluation on the resolution of US1 A-46 at the DAEC states that the DAEC's A-46 implementation program has, in general, met the purpose and intent of the criteria in GIP-2 and the NRC's SSER No. 2 for the resolution of US1 A-46 (Ref. UFSAR Section 3.2.1)

3 Personnel Qualifications

3.1 OVERVIEW

This section of the report identifies the personnel who participated in the NTTF 2.3 Seismic Walkdown efforts. A description of the responsibilities of each Seismic Walkdown participant's role(s) is provided in Section 2 of the EPRI Seismic Walkdown Guidance (Reference 2). Appendix A contains each person's qualification information.

3.2 PROJECT PERSONNEL

Table 3-1 below summarizes the names and corresponding roles of personnel who participated in the NTTF 2.3 Seismic Walkdown effort.

Table 3-1. Personnel Roles

Name	Equipment Selection Engineer	Plant Operations	Seismic Walkdown Engineer (SWE)	Licensing Basis Reviewer	IPEEE Reviewer	Peer Reviewer
DAEC (NextEra Energy)						
R. Severson	X (P)				X	
B. Hopkins	X (R)				X	
G. Rushworth	X (R)	X				
M. Monsef			X	X		X ^(Note 2)
S. Guokas						X ^(Note 1)
K. Chew						X ^(Note 3)
J. Whittle						X ^(Note 4)
Stevenson & Assoc.						
D. Carter			X			
N. Juraydini			X			

Roles: P (Preparer), R (Reviewer)

Notes:

1. Peer Review Team Leader for SWEL.
2. Peer Review of SWEL.
3. Peer Review Team Leader for Seismic Walkdowns.
4. Peer Review of Seismic Walkdowns.

3.3 EQUIPMENT SELECTION PERSONNEL

The SWEL was prepared and reviewed by the DAEC PRA Group. Additional reviews were performed by DAEC Operations and Design Engineering. The peer review of the SWEL was performed with assistance from the Point Beach PRA Group and the DAEC Engineering Group. Summaries of the background and experience of the involved individuals are provided in Appendix A.

3.4 SEISMIC WALKDOWN ENGINEERS

The seismic walkdown teams (SWT) consisted of three seismic walkdown engineers (SWEs), two from Stevenson and Associates (S&A) and one from DAEC. The SWT for 90 of the 93 walked down items were from S&A, the SWT for three (3) of the 93 walked down items, in addition to three (3) Area Walk-bys, were a SWE from S&A and a SWE from DAEC. Summaries of the background and experience of the SWEs are provided in Appendix A.

S&A is recognized internationally as a leading seismic consultant to the nuclear industry and as a regular contributor to the advancement of earthquake engineering knowledge through funded research projects. The professional staff has expertise and capabilities in earthquake engineering, structural dynamics, and structural design. S&A has performed seismic evaluations of US nuclear power plants, using either Seismic Probabilistic Risk Assessment (PRA) or Seismic Margin Assessment, to address US Nuclear Regulatory Commission (NRC) Individual Plant Evaluation for External Events (IPEEE) for over 35 US and European plants.

3.5 LICENSING BASIS REVIEWERS

The Licensing Basis Reviews were performed by the SWE from DAEC who had the lead in licensing basis determinations, with support from DAEC design engineers.

3.6 IPEEE REVIEWERS

The IPEEE reviewers were the preparer and reviewer of the SWEL.

3.7 PEER REVIEW TEAM

The Peer Reviewer Team is listed, along with their roles and qualifications, in the *Peer Review Report* included in Appendix F.

3.8 ADDITIONAL PERSONNEL

Other DAEC staff participating in the walkdowns included operation personnel (Reactor Operators) in all walkdowns except for the components inside the drywell, and an electrician on an as needed basis to open electrical cabinets and panels.

4 Selection of SSCs

The Seismic Walkdown Equipment List is documented in the *SWEL Selection Report*, provided in Appendix B. This report describes how the SWEL was developed to meet the requirements of EPRI Seismic Walkdown Guidance (Ref. 2). The final SWEL is included in the SWEL Selection Report in Appendix B.

5 Seismic Walkdowns and Area Walk-Bys

5.1 OVERVIEW

The DAEC Seismic Walkdowns and Area Walk-Bys were conducted by teams of trained Seismic Walkdown Engineers in accordance with the EPRI Seismic Walkdown Guidance (Ref. 2). The Seismic Walkdowns and Area Walk-Bys are discussed in more detail in the following sections.

5.2 SEISMIC WALKDOWNS

The Seismic Walkdowns focused on the seismic adequacy of the items on the SWEL as provided in Appendix B of this report. The Seismic Walkdowns also evaluated the potential for nearby SSCs to cause adverse seismic interactions with the SWEL items. The Seismic Walkdowns focused on the following adverse seismic conditions associated with the subject item of equipment:

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

The results of the Seismic Walkdowns have been documented on the Seismic Walkdown Checklist (SWC) provided in the EPRI guidance document, Appendix C (Ref. 2). Seismic Walkdowns were performed and a SWC completed for 93 of the 97 items identified on the DAEC SWEL. The completed SWCs are provided in Appendix C of this report. Drawings and other plant records are cited in some of the SWCs, but are not included with the SWCs because they are readily retrievable documents through the station's document management system.

Seismic Walkdowns are deferred for 4 items and additional inspections are required for 5 items until safe access conditions can be provided. These items could not be walked down during the 180-day period following the issuance of the 10CFR50.54(f) letter due to their being inaccessible because they were energized and were required for safe plant operation. Appendix E of this report identifies the inaccessible equipment. SWCs for the deferred items are included with the indicated status as "Unknown."

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

5.2.1 Adverse Anchorage Conditions

Guidance for identifying anchorage that could be degraded, non-conforming, or unanalyzed relied on visual inspections of the anchorage and verification of anchorage

configuration. Details for these two types of evaluations are provided in the following two subsections.

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

Visual Inspections

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

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

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

Additionally, any significant comments are noted on the SWCs. Drawings and other plant design documents are cited in some of the SWCs, but they are not included with the SWCs because they are readily available in the plant's electronic document management system.

5.2.2 Anchorage Configuration Confirmation

As required by the EPRI Seismic Walkdown Guidance (Ref. 2, page 4-3), at least 50% of the items were confirmed to be anchored consistent with existing plant documentation. Line-mounted equipment (e.g., valves mounted on pipe lines without separate anchorage) was not evaluated for anchorage adequacy and was not counted in establishing the 50% sample size.

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

- Design drawings
- Calculations and seismic qualification reports
- USI A-46 project documentation

The table of contents for Appendix C indicates the anchorage verification status for components as follows:

N/A: components that are line-mounted and/or are not anchored to the civil structure and therefore do not count in the anchorage confirmation total.

Y: components that are anchored to the civil structure which were confirmed to be consistent with design drawings and/or other plant documentation

N: components which had anchorage but were not chosen for anchorage configuration confirmations.

See Table 5-1 below for the accounting of the 50% anchorage configuration confirmations, and the individual SWC forms in Appendix C for the specific plant documentations used in each confirmation.

Table 5-1. Anchorage Configuration Confirmation

Total SWEL Items	SWEL Items without Anchorage (N/A)	Minimum Required to Confirm	Total Items Confirmed
A	B	$(A - B) / 2$	
97	28	35	36

5.2.3 Adverse Seismic Spatial Interactions

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

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

- Proximity
- Failure and falling of SSCs (Seismic II over I)
- Flexibility of attached lines and cables

Detailed guidance for evaluating each of these types of seismic spatial interactions is described in the EPRI guidance document, Appendix D: Seismic Spatial Interaction.

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

5.2.4 Other Adverse Seismic Conditions

In addition to adverse anchorage conditions and adverse seismic interactions, described above, other potentially adverse seismic conditions that could challenge the seismic adequacy of a SWEL item was assessed during the seismic walkdowns. Examples of the types of conditions that could pose potentially adverse seismic conditions include the following:

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

Any identified other adverse seismic conditions are documented on the items' SWC and Table 5-2, as applicable.

5.2.5 Issues Identification During Seismic Walkdowns

Table 5-2 provides a summary of the issues identified during the Seismic Walkdowns. The equipment Seismic Walkdowns resulted in the identification of a total of two (2) concerns. One concern was entered into the station's CAP. The other concern was considered insignificant and was corrected by the Fix It Now (FIN) team. Both of the identified concerns were assessed and it was concluded that the conditions would not prevent the associated equipment from performing its safety-related function(s). None of the conditions identified by the SWEs during the equipment Seismic Walkdowns were concluded to be adverse seismic conditions.

Table 5-2: Table of Actions Resulting from Seismic Walkdown Inspection

Equipment ID	Equipment Description	Potentially Adverse Seismic Condition	Degraded	Non conforming	Unanalyzed	Action Taken to Address the Condition	Current Status
1C008	Aux power panel	Slightly loose screw for one of the light bulb cages in the panel.	X			The fixture tug-tested and found seismically acceptable by the walkdown team.	Closed A maintenance representative inspected the light bulb cages in the control room panels & tightened screws as necessary.
1P099A	ESW Pump A	During detailed anchorage review, it was observed that the base plate anchor bolts for the listed pumps do not match the design note on the drawing. The drawing contains a note stating: "Double nuts shall be used for vibrating equipment." Anchor bolts for the listed pumps were observed to have only one nut. Since pumps could be considered vibrating equipment, they would not fully meet this note.		X		Initiated AR	Closed The note on the drawing was considered a generic note and not applicable to the installed pumps. Note was removed from the drawing using the stations' Engineering Change process.
1P117A	RWS Pump A						
1P117B	RWS Pump B						
1P117C	RWS Pump C						
1P117D	RWS Pump D						
1P211A	CS Pump A						
1P229B	RHR Pump B						
1P229C	RHR Pump C						

5.3 AREA WALK-BYS

The purpose of the Area Walk-Bys is to identify potentially adverse seismic conditions associated with other SSCs located in the vicinity of the SWEL items. Vicinity is generally defined as the room containing the SWEL item. If the room is very large (e.g., Turbine Hall), then the vicinity is identified based on judgment, e.g., on the order of about 35 feet from the SWEL item. This vicinity is described on the Area Walk-By Checklist (AWC), shown in Appendix D of this report. A total of 36 AWCs were completed for DAEC.

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

- Anchorage conditions (if visible without opening equipment)
- Significantly degraded equipment in the area
- A visual assessment (from the floor) of cable/conduit raceways and HVAC ducting (e.g., condition of supports or fill conditions of cable trays)
- Potentially adverse seismic interactions including those that could cause flooding, spray, and fires in the area
- Other housekeeping items that could cause adverse seismic interaction (including temporary installations and equipment storage)
- Scaffold construction was inspected to meet the station administrative procedure for control of scaffolding
- Seismic housekeeping was examined to meet the station procedure for the control of temporary equipment

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

The results of the Area Walk-Bys are documented on the AWCs included in Appendix D of this report. A separate AWC was filled out for each area inspected. A single AWC was completed for areas where more than one SWEL item was located.

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

Seismically-Induced Flooding/Spray Interactions

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

One area of particular concern to the industry is threaded fire protection piping with long unsupported spans. If adequate seismic supports are present or there are isolation valves near the tanks or charging sources, flooding may not be a concern. Numerous

failures have been observed in past earthquakes resulting from sprinkler head impact. Less frequent but commonly observed failures have occurred due to flexible headers and stiff branch pipes, non-ductile mechanical couplings, seismic anchor motion and failed supports.

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

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

The SWEs exercised their judgment to identify only those seismically-induced interactions that could lead to flooding or spray.

Seismically-Induced Fire Interactions

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

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

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

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

The Seismic Walkdown Engineers exercised their judgment to identify only those seismically-induced interactions that could lead to fires. No such interactions were found at DAEC.

5.3.1 Issue Identification during Area Walk-bys

None of the anomalies or issues identified by the SWEs during the area walk-bys was ultimately judged to be "Potentially Adverse Seismic Conditions" because in all cases it was concluded that the anomaly or issue would not prevent the equipment from performing its safety-related function. Table 5-3 at the end of this section shows seven (7) issues identified in the Area Walk-bys.

Table 5-3: Table of Actions Resulting from Area Walk-by Inspections

Area	Potentially Adverse Seismic Condition	Degraded	Non conforming	Unanalyzed	Action Taken to Address the Condition	Current Status
PH-01	1S90B (RHR SW strainer) has 7 of 8 anchor bolts installed.		X		Initiated AR	Closed The existing design documents were revised to reflect the installed condition using stations' Engineering Change process.
RB-06	Missing fastener for clamp for conduit for fire detector.		X		Initiated AR	Closed Installed the missing fastener.
RB-10	Two 3/8" rods supporting EQ263 box are bent.		X		Initiated AR	Open The existing configuration of the rods is currently supporting the box and it is considered acceptable to perform its design function. Work Request has been initiated to fix the box support. Work will be completed per site priority process.
RB-11	Material stored near safety related equipment 1RD002D.		X		Initiated AR	Closed The transient materials were removed from the area.
TB-01	Six out of twelve screws were missing on cover plate for junction box 2J414 (*).		X		Initiated AR	Open The cover plate is considered a protective cover and lack of several screws does not directly affect the structural integrity of the junction box as a whole to perform its function. Work Request has been initiated to install the missing screws. Work will be completed per site priority process.
TB-01	Approximately 1/4" gap under a small bore pipe support base plate for line 1 1/2" HBD-122 (*).		X		Initiated AR	Open Based on the observed condition of the support, the fact that the bolts are not loose, and engineering judgment, the support is capable of taking its design load and performs its design function. Work Request has been initiated to repair the support. Work will be completed per site priority process.

Table 5-3: Table of Actions Resulting from Area Walk-by Inspections

Area	Potentially Adverse Seismic Condition	Degraded	Non conforming	Unanalyzed	Action Taken to Address the Condition	Current Status
TB-03	Missing 3/8" tubing clamp that supports the tubing for LIS3209 (*).		X		Initiated AR	<p style="text-align: center;">Open</p> <p>Based on the configuration of the tubing, the overall length of the tubing being only about 45", the rigid connections of the tubing at each end, and engineering judgment, it is determined that the tubing at its present configuration performs its intended safety function. Work Request has been initiated to install the clamp. Work will be completed per site priority process.</p>

* This condition was identified by the resident NRC inspector during his area walk-by.

6 Licensing Basis Evaluations

As noted in Sections 5.2 and 5.3, the issues identified during the Seismic Walkdowns and Area Walk-Bys were not determined to be "Potentially Adverse Seismic Conditions" because in all cases the anomaly or issue would not prevent the equipment from performing its safety-related function. Therefore, no formal Licensing Basis Evaluations were necessary and none were performed.

7 IPEEE Vulnerabilities Resolution Report

The DAEC Individual Plant Examination of External Events (IPEEE) was submitted to the NRC in November 1995 (Ref. 4) and the results of the NRC's review of the IPEEE was received by the DAEC in March 2000 (Ref. 5).

The Seismic Margins Assessment (SMA) defined in EPRI NP-6041 was used to examine seismic risk in the IPEEE. All outliers and exceptions to applicable requirements identified in the SMA were resolved by plant modification, by maintenance action, or by engineering evaluation. Previously identified USI A-46 outliers are reported in Section 3 of the IPEEE, while potential vulnerabilities identified during walkdowns and possible improvements and strategies for reducing their contribution to core damage frequency are described in Section 7. The following items in Section 7 pertain to seismic initiated events:

- One masonry wall was identified as a potential outlier that could fall and damage equipment in the Safe Shutdown Equipment List (SSEL). This wall was subsequently qualified for SSE loading.
- Inspections of the Control Room ceiling members indicated potential outliers with respect to connections and restraint. This issue was subsequently resolved by modifying selected elements of the Control Room ceiling.
- Two air handlers in the HPCI room were identified as potential flood/spray outliers due to potential interaction of nearby sprinkler heads with adjacent piping. This outlier was resolved by calculation to show that clearances are sufficient to preclude impact.
- MCC 1D41 and Control Building HVAC chillers 1VCH001A and B, all located in the reactor building, were identified as potential outliers due to the presence of nearby unanchored gas storage bottles. These outliers were resolved by providing adequate restraint.
- The diesel-driven fire pump day tank, located in the pump house, was identified as a potential seismic fire outlier due to anchorage concerns. This outlier was shown not to be risk significant due to the large distance and the substantial reinforced-concrete walls between the tank and SSEL equipment.
- The turbine lube oil storage tank, located in the turbine building, was identified as a potential seismic fire outlier due to inadequate supports. This potential outlier was determined by analysis not to be risk significant.

These actions were completed at the time of submittal of Reference 4.

Furthermore, Section 8 of Reference 6 documents the equipment outliers identified during the USI A-46 implementation effort at DAEC. The documentation also includes descriptions of the associated defects or inadequacies, methods for resolving outliers, and the dates the outliers were resolved or proposed to be resolved when the USI A-46 program implementation submittal was made. As discussed in that submittal, eight of the outliers identified during seismic and relay reviews remained unresolved at the time the summary report was made. The final resolution of the eight outstanding outliers identified in Reference 6 was reported to the NRC in Reference 8 and accepted by the Staff in their Safety Evaluation (Reference 7).

8 Peer Review

The Peer Review Report is included as Appendix F. This includes the peer review of the SWEL selection, peer review of the seismic walkdown, and peer review of this final report.

9 References

Reference drawings related to SWEL items are provided in the Seismic Walkdown Checklists and if applicable, in the Area-Walkdown Checklists.

1. NRC (E. Leeds and M. Johnson) Letter to All Power Reactor Licensees et al., "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendation 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," Enclosure 2.3, "Recommendation 2.3: Seismic," dated March 12, 2012.
2. EPRI Technical Report 1025286, "Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic", dated June 2012.
3. Duane Arnold Energy Center Updated Final Safety Analysis Report (UFSAR), Revision 21.
4. Duane Arnold Energy Center Letter from John Franz to Office of Nuclear Reactor Regulation, "Summary Report of Individual Plant Examination of External Events (IPEEE) as required by NRC GL 88-20, Supplement 4", dated November 15, 1995.
5. The U.S. NRC letter to Eliot Protsch, President IES Utilities, "Review of Individual Plant Examination for External Events (IPEEE) submittal, Duane Arnold Energy Center", dated March 10, 2000.
6. Duane Arnold Energy Center Letter from John Franz to Office of Nuclear Reactor Regulation, "Summary Report for Resolution of USI A-46", dated November 15, 1995.
7. R. Laufer (NRC) letter, to L. Liu (IES), Safety Evaluation on the Resolution of USI A-46 at the DAEC, July 29, 1998.
8. Duane Arnold Energy Center Letter from Kenneth E. Peveler to Office of Nuclear Reactor Regulation, "Letter dated November 15, 1995, NG-95-3072, J. Franz (IES Utilities) to W. Russel (NRC), Summary report for Resolution of USI A-46", dated July 15, 1998.

A Project Personnel Background and Experience and SWE Certificates

A.1 INTRODUCTION

Resumes for the following personnel that contributed to the seismic walkdown and/or peer review are included in this Appendix:

- NextEra Energy: M. Monsef, K. Chew, J. Whittle, R. Severson, B. Hopkins, G. Rushworth, S. Guokas
- Stevenson & Associates: D. Carter, N. Juraydini

In addition, certificates from the EPRI Walkdown Training Course are included for each of the designated SWEs: D. Carter, N. Juraydini, and M. Monsef.

A.2 SUMMARY OF BACKGROUND AND EXPERIENCE

David Carter, P.E., S.E

Mr. Carter is a Project Engineer in the S&A Chicago Office. He has a Bachelor of Science degree in civil engineering and has more than 30 years of experience in the nuclear power plant industry. He is a licensed Structural Engineer in the State of Illinois and has a Professional Engineering License in several states. He is a SQUG Qualified Seismic Capability Engineer (SCE) and has completed the NTTF Recommendation 2.3 Training Course (SWE). In addition to his involvement in design and analysis of structures, systems, and components at nuclear power plants, he has performed SQUG walkdowns at various nuclear power plants. He has worked for over ten years as a Seismic Qualification Engineer at another utility performing seismic evaluations of plant equipment, input to procurement documents, and reviewing seismic qualification reports for new plant equipment.



Nabil Juraydini

Mr. Juraydini is a Structural/Seismic Engineer in the S&A Chicago Office. He has a Bachelor and Master of Science degrees in civil/structural engineering and has 25 years of experience in the nuclear power plant industry. He has been involved in areas of structural analysis and design; structural dynamic analysis and design; evaluation and design of steel and concrete structures; pipe stress analysis; high energy line break, and seismic qualification of mechanical and electrical equipment. He is a SQUG Qualified Seismic Capability Engineer (SCE) and has completed the NTTF Recommendation 2.3 Training Course (SWE), and has performed SQUG walkdowns at various nuclear power plants.



Mohsen Monsef

Mr. Monsef is a Principal Engineer in the Mechanical Design Engineering Group at NextEra Duane Arnold Energy Center. He has a Bachelor of Science and Master of Science in mechanical engineering from Clarkson University - Potsdam, New York and has more than 30 years of experience in the nuclear power plant industry. He is a SQUG Qualified Seismic Capability Engineer (SCE) and has completed the NTTF Recommendation 2.3 Training Course (SWE). In addition to his involvement in design and analysis of structures, systems, and components at nuclear power plants, he is one of the responsible engineers for over twenty years at DAEC performing seismic evaluations of plant equipment, input to procurement documents, and reviewing seismic qualification reports for new plant equipment.



Kenneth Chew

Mr. Chew is a Lead Civil Engineer in the License Renewal Group at the NextEra Duane Arnold Energy Center and Seabrook Nuclear Station with over 30 years of general Civil engineering experience in utility plant design, review and construction. He has been involved in seismic design of piping system, pipe supports, electrical and mechanical equipment and buildings. Mr. Chew is involved in industry group for License Renewal, responsible for managing the Civil/Structures aging effects of nuclear power plants. He holds a BSCE from Heald College in San Francisco, California.

Jerald Whittle

Mr. Whittle has BS in Structural Engineering and MS in Environmental Science from Drexel University. He has more than 40 years experience in electric power industry in project engineering, seismic qualification reviews for the safety related equipment, seismic walkdowns, and design and qualification of the structures and supports in the nuclear power plants. Mr. Whittle is currently supporting the engineering department at NextEra Duane Arnold Energy Center as an augmented staff in support of the various projects.

Brad Hopkins

Mr. Hopkins is a PRA Engineer in NextEra Energy's Reliability and Risk Assessment group. He has over 20 years of experience in PRA related work and over 30 years of experience in the nuclear power industry. He participated in the IPE and IPEEE projects for Duane Arnold in the early 1990s and was recently involved in the development of a Fire PRA model for transition to an NFPA 805 fire protection program. He holds a BS in Nuclear Engineering from Oregon State University.

Glenn Rushworth

Mr. Rushworth is currently the Operations Director at NextEra Energy Duane Arnold Energy Center. He has 26 years of nuclear experience most of which is in Operations. Mr. Rushworth holds a senior reactor operator license at Duane Arnold Energy Center.

Russ Severson

Mr. Severson is a PRA Engineer in NextERA Energy's Reliability and Risk Assessment group. He has 27 years of experience in the nuclear power industry. He has been performing and reviewing PRA model external events analysis (IPEEE) for the last 6 years at DAEC. He holds a BS in Mechanical Engineering from University of North Dakota.

Stanley Guokas

Mr. Guokas is a PRA Engineer in NextERA Energy's Reliability and Risk Assessment group. He has 22 years of experience in the Safety and Probabilistic Risk Assessments in the nuclear power industry. He has been performing and reviewing IPE and IPEEE analysis. He is a Professional Engineer in the State of Wisconsin.

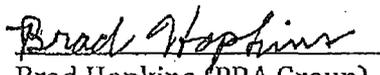
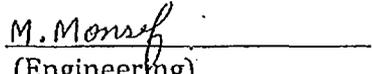
B SWEL Selection Report

This appendix includes the SWEL selection report.

**Selection of the Duane Arnold Energy Center
Seismic Walkdown Equipment List (SWEL)
for the Requirement 2.3 Walkdown**

Duane Arnold Energy Center

Revision 01
November 2012

Prepared by	 Russ Severson (PRA Group)	<u>11/6/2012</u> Date
Reviewed by	 Brad Hopkins (PRA Group)	<u>11/7/2012</u> Date
Reviewed by	 (Operations)	<u>11/9/12</u> Date
Reviewed by	 (Engineering)	<u>11/8/2012</u> Date

1 Introduction

This document summarizes the process for selecting the components to be included in the seismic walkdown equipment list (SWEL) for the Duane Arnold Energy Center (DAEC). This process is consistent with guidance in EPRI-TR-1025286^(REF 1) and meets the intent of NRC NTF Requirement 2.3.

The SWEL walkdown locations are listed in Section 4, along with walk-by attributes. The final DAEC SWEL is included in Attachment A.

Rev 01: The SWEL list was revised during the seismic walkdowns in September 2012 to specify the sister equipment for the other train in three cases. See Section 4 for details.

2 Process

The general process focuses on reviewing Seismic Category 1 components that assure the five safety functions will be represented along with a variety of systems, environments, and component types. The Master Component List started with the IPEEE component list updated by comparing the components with the current plant equipment list and updating the list with additions identified during the modification reviews.

The process also includes identifying a set of plant locations around which the walkdown is organized (Section 4). The plant locations are also used to support the "walk-by" process to assess cable trays and ventilation ducts and the potential for seismic spatial interactions (Section 5).

Finally, Section 6 identifies several evaluations that support the identification of targets for the walkdown and the specific attributes that need to be examined.

Because the SWEL needs to address a number of attributes, the selection was performed and reviewed by a team that includes representatives from PRA, Operations, and Engineering.

3 Master Component List

The SWEL was developed starting from the components list in the original IPEEE submittal and was augmented with components identified during the modification reviews. The SWEL contains risk important components from the internal events PRA and other components that are implicitly modeled in the PRA (e.g., instrument racks).

The original IPEEE submittal was used as a starting point to ensure components related to the five safety functions - reactivity control, RCS pressure control, RCS inventory control, decay heat removal, containment function. The five safety functions are addressed further in Section 4.1 (Screen #3).

Components associated with the Spent Fuel Pool (SWEL 2) were considered for inclusion, but none were chosen for the walkdown. Per the guidance, the Spent Fuel pool structure is excluded from the walkdown. In general, the Spent Fuel Pool Cooling system was not designed to withstand seismic events. A hose connection provided on the Emergency Service Water (ESW) system on the Refuel Floor ensures a Seismic Class 1 water supply exists to replace the fuel pool

water as it evaporates with a loss of spent fuel cooling. Additionally during outages part of the RHR system can be used to supplement the spent fuel cooling system. This small portion of Spent Fuel Pool Cooling piping is Seismic Class 1 and includes a few manual valves. The spent fuel pool itself is part of the Maintenance Rule periodic structure walkdown. In light of these design considerations there was no equipment associated with the spent fuel pool added to the SWEL. The Spent Fuel Pool design at DAEC is such that there are no components that could lead to rapid draindown of the Spent Fuel Pool, so the list was not expanded for that screening criteria.

Specific attributes were identified for each component to support the sample selection, as described below:

- *Seismic Class.* Each component in the master list was identified as SC1. The SWEL applies only to SC1 as consistent with guidance in EPRI-TR-1025286^(REF 1).
- *System.* The associated system was identified for each component. This attribute is used to assure that the equipment selection includes a variety of types of systems.
- *Location.* The location was identified for each component. The walkdowns are organized by plant location (see Section 4). This also assures that the equipment selection includes a variety of environments.
- *Equipment Class.* The equipment class was identified for each component. The equipment classes are the 21 types of equipment identified in Appendix B of the EPRI guidance document. This attribute is used to assure that the equipment selection includes a variety of types of equipment.
- *New / Replacement Equipment.* Components that were new or replaced since the IPEEE was submitted are represented in the sample.
- *Equipment Enhanced from IPEEE.* As described in Section 6.1, Components that were enhanced as a result of the IPEEE assessments are also represented in the sample.

The Master Component List is included in Attachment B (referred to as Base List 1 & Base List 2 in Section 8 of the EPRI guidance).

4 Walkdown List (SWEL)

The SWEL was created by sampling from the Master Component List, using the attributes identified in Section 3. The final SWEL is contained in Attachment A.

Plant locations were defined to support the walkdown. A building list was created to ensure components from many environments are contained in the sample, and that many of the components were from the top ten risk-important systems. The Table in Section 4.2 provides a breakdown of walkdown locations within each building and how many of the 97 components identified from the Master Component List (97 in SWEL 1 and none from SWEL 2) are grouped in that walk by. As shown in Attachment A, this process assured that a variety of systems, environments and equipment classes are represented. This sample was also reviewed by Operations and Engineering to assure these components were accessible and that the anchorage was visible.

The SWEL list was revised during the seismic walkdowns in September 2012 based on availability of equipment for inspection. 'A' side load center 1B09 was substituted for 'B' side load center 1B20; 'A' side switchgear 1A3 was substituted for 'B' side switchgear 1A4; and 'A' side transformer 1X031 was substituted for 'B' side transformer 1X041.

4.1 Screening for SWEL 1

The screening process for SWEL 1 meets the requirements of the EPRI-TR as described below:

Screen #1 Seismic Category 1

Non-seismic-category 1 components are screened out of the Master Component List. This screening was performed by beginning with the original IPEEE equipment list.

Screen #2 Equipment or Systems

Components selected for the SWEL 1 were those that do not undergo regular inspection to confirm their configuration. Thus, SC1 structures, containment penetrations, and SC1 piping systems were excluded. As a result, the SWEL includes mechanical and electrical equipment plus tanks and heat exchangers (as demonstrated in Screen #4, "equipment type" below).

Screen #3 Supports Five Safety Functions

The SWEL includes components from all five safety functions, as follows:

1. *Reactivity Control*

- Reactor Scram System;
- Support systems (AC power, DC power).

2. *RCS Pressure Control*

- Steam Line Safety Relief Valves and Automatic Depressurization System;
- Support systems (DC power).

3. *RCS Inventory Control*

- Low Pressure Coolant Injection;
- Low Pressure Core Spray;
- Support systems (AC power, DC power, Emergency Service Water (ESW), River Water Supply (RW), room ventilation, & MOVs).

4. *Decay Heat Removal*

- Suppression Pool cooling mode of RHR (RHR pump, heat exchanger, and MOVs) ;
- Support systems (AC power, DC power, room ventilation, ESW, RW, and Residual Heat Removal Service Water (RHRSW)).

5. *Containment Function*

- Containment isolation (Containment isolation valve);
- Support systems (AC power, DC power).

Screen #4 Sample Considerations

The SWEL includes components from various systems, environments, and types:

- *System.* The SWEL includes components from a number of types of systems – power support systems (125vDC, DG), cooling support systems (River Water, ESW), ventilation systems, and ECCS (RHR, CS).
- *Environment.* The SWEL includes components from in SC1 buildings on site – Control Building, Reactor Building, Turbine Building (SBDG Rooms), Pump House, Intake Structure, and the Containment (Drywell). These locations involve different environments, from ventilation controlled areas (Control Bldg); from areas with normally running equipment (TB) to areas with normally standby equipment (RB). These locations involve different environments related to elevation also.

The following table summarizes the count of components by physical building.

SWEL Location	Building Name	Count of Components
CB	Control Building	25
DW	Drywell	2
IS	Intake Structure	6
PH	Pump House	4
RB	Reactor Building	42
TB	Turbine Building	17
YD	Outside Yard	1

- *Equipment Type.* The SWEL includes components from most of the 21 equipment classes. The following table provides a list of the 21 equipment classes. The following table shows the SWEL count by equipment class. As noted, one class has no SC1 equipment at DAEC.

Equipment Class	Count of Components
(00) Other	1
(01) 480V MCC	5
(02) 125 VDC SWGR	1
(03) 4 KV SWGR	1
(04) transformer	1
(05) motor-driven pump	1
(06) pump (vertical drive)	8
(07) AOV	11
(08) MOV and SOV	13
(09) fan	2

(10) air handlers	5
(11) chillers	1
(12) air compressor	1
(13) Motor Generator Set	0
(14) power panel	4
(15) battery	3
(16) battery charger/Inverter	4
(17) diesel generator	2
(18) instrument rack	6
(19) temperature device	2
(20) instrumentation/control panel	11
(21) tank/heat exchanger	14

4.2 Screening for SWEL 2

The screening process for SWEL 2 meets the requirements of the EPRI-TR as described below:

Screen #1 Seismic Category 1

Non-seismic-category 1 components related to SFP cooling are screened out of the Master Component List. This screening was performed by reviewing the DAEC UFSAR. The SC1 components associated with the Spent Fuel Pool and Spent Fuel Pool Cooling were added to the Master Equipment List.

Screen #2 Equipment or Systems

Components selected for the SWEL 2 were those that do not undergo regular inspection to confirm their configuration. Thus, SC1 structures including the SF Pool were excluded. As a result, the SWEL includes the SC1 mechanical equipment (as demonstrated in Screen #3, "equipment type" below).

Screen #3 Sample Considerations

The components identified after the first two screenings were not deemed to significant enough to be added to the SWEL compared to the SWEL 1 list. Considering the reasons stated before, the SC1 portion of the Spent Fuel Pool Cooling System design at DAEC includes a few manual valves and a small portion of piping. These components were not added to the SWEL.

Screen #4 Rapid Draindown

The EPRI guidance requires assessment of the potential for SFP rapid draindown, specifically the identification of SFP penetrations below about 10 feet above the top of the fuel assemblies. The Fuel Pool design at DAEC does not have any penetrations that could cause rapid draindown, so the SWEL was not adjusted for this screening criterion.

5 Walk-By Table

Each location will also be subject to a walk-by, an examination (in less detail) of the other PRA components as well as an inspection for other seismic issues:

- Several other passive component types: cable trays & ventilation ducts.
- Seismic-induced fire. This includes all flammable materials in each location. Such as hydrogen lines, gas bottles (acetylene, hydrogen), natural gas lines, and hazardous/flammable material stored in the location.
- Seismic-induced flood. This includes all flood/spray sources (tanks, piping) originating in each location, based on the Internal Flood PRA. Note, the flood sources of interest are only those originating in the location, not those coming from another location. The potential for flood propagation will be addressed in the seismic/flood analysis.
- Spatial interactions (2 / 1). This includes adverse physical interaction due to proximity, failing of other components or structures (e.g., cranes), and flexibility of attached lines and cables.

The following table is a list of the walk bys and a component count for each.

SWEL Walk By Number	Location Description	Count of Components
CB-01	CB,1ST FL 1A3 ESSNTL SWGR RM	8
CB-02	CB,1ST FL 1A4 ESSNTL SWGR RM	3
CB-03	CB,1ST FL 1D2 BATTERY ROOM	1
CB-04	CB,1ST FL 1D4 BATTERY ROOM	1
CB-05	CB,1ST FL 1D1 BATTERY ROOM	1
CB-06	CB,3RD FL CONTROL ROOM AND BACK PANEL	7
CB-07	CB HVAC ROOM	4
IS-01	INTAKE STRUCTURE SOUTH PUMP ROOM	2
IS-02	INTAKE STRUCTURE NORTH PUMP ROOM	4
PH-01	PH SOUTH SERVICE WATER PUMP ROOM	1
PH-02	PH NORTH SERVICE WATER PUMP ROOM	1
PH-03	PH BASEMENT	2
RB-01	TORUS BAY 4, 716'	1
RB-02	TORUS BAY 8, 716'	2
RB-03	TORUS BAYS 13, 14, AND 15, 716'	4
RB-04	RB NE CORNER ROOM	5
RB-05	RB NW CORNER ROOM	3
RB-06	RB NW CORNER ROOM PLATFORM (732 & 734)	2
RB-07	RB SE CORNER ROOM	3
RB-08	RB HPCI ROOM	2
RB-09	RB RCIC ROOM	3
RB-10	RB,1ST FL RHR VALVE ROOM	4
RB-11	RB,1ST FL CRD REPAIR ROOM	2
RB-12	RB,1ST FL NORTH SIDE	2
RB-13	RB,1ST FL SOUTH SIDE	3
RB-14	RB,2ND FL NORTH SIDE	1
RB-15	RB,2ND FL SOUTH SIDE	2

SWEL Walk By Number	Location Description	Count of Components
RB-16	RB,2ND FL SGBT ROOM A & B	1
RB-17	RB,3RD FL CB CHILLERS AREA	2
DW-01	DRYWELL - 757	1
DW-02	DRYWELL - 775	1
TB-01	TB,1ST FL 1G021 DIESEL GENERATOR RM	8
TB-02	TB,1ST FL 1G031 DIESEL GENERATOR RM	7
TB-03	TB,1ST FL 1G021 DAY TANK ROOM	1
TB-04	TB,1ST FL 1G031 DAY TANK ROOM	1
YD-01	SOUTH PROT AREA, DIESEL FUEL OIL STRG	1

6 Evaluations

The following evaluations were performed prior to the walkdown to assess specific issues that may add to the walkdown scope or the inspection criteria.

6.1 IPEEE Vulnerabilities

The seismic assessment performed for the DAEC IPEEE Report^(REF 2) was reviewed for any seismic vulnerability identified. Components were enhanced as a result of the IPEEE walkdowns (See NRC SER on IPEEE^(REF 3), page 2) and the SWEL includes a sample of these enhanced IPEEE components.

The equipment items in the sample which were enhanced during the IPEEE are listed in the following table.

Equipment ID	General Notes & Comments
1B42	Installed the missing bolts between two sections
1B46	Enhanced the anchorage
1X031	Shims added to strengthen load path
1VEF030A	Enhanced the supporting system
1VEF030B	Enhanced the supporting system
1VAC030A	Shimmed isolators to limit springs movements
1VAC030B	Shimmed isolators to limit springs movements
1C013	Installed missing bolts
1C024	Restrained devices at the panel top
1C026	Installed missing bolt on bracket
1C043	Bolted 1C043 & 1C402 together
1C094	Enhanced the anchorage by adding grout

6.2 Equipment Modified Since IPEEE

Modifications completed after the IPEEE submittal were reviewed to identify equipment that was modified after the IPEEE walkdowns. Some equipment modified after the IPEEE was added to the SWEL. The following equipment items that are part of the SWEL were modified.

Equipment	Equipment Description
CV4357	Torus hard pipe vent line isolation
SV4357	CV4357 control air supply isolation
1D12	125 VDC div 1 battery 1D1 charger
1D120	125VDC back-up charger
1D43	250 VDC battery 1D4 charger
1G021/ENG	SBDG
1G031/ENG	SBDG
PSE4357	Torus hard pipe vent line rupture disc

7 References

- (1) EPRI TR-1025286, "Seismic Walkdown Guidance," June 2012.
- (2) IPEEE Report for DAEC, 1995.
- (3) NRC SER on DAEC IPEEE, 2000.

ATTACHMENT A Seismic Walkdown Equipment List (SWEL)

Item No.	Equip Class	Equipment ID	Equipment Description	SUS No.	Anc. Y/N	Equipment Location	5 Safety Function Note 4	Enhanced For IPEEE	Area Walkby No.	Major Mod?	Notes
1	1	1B42	480VAC CB MCC	6.00	Y	CB-757	3,4,5	Y	CB-02		1e,2,3,4
2	1	1B91	480VAC intake MCC	6.10	Y	IS-767	3,4		IS-02		1e,2,4
3	1	1B46	480VAC MCC	6.00	Y	PH-761	3,4	Y	PH-01		1e,2,4
4	1	1D42	250 VDC MCC	88.00	Y	RB-757	3		RB-12		1e,2,4
5	1	1D14	125VDC RCIC MCC	2.50	Y	RB-786	3,5		RB-15		1e,2,4
6	2	1B09	480VAC IS Load Center	5.10	Y	IS-767	3,4		IS-02		1a,2,4
7	3	1A3	4160VAC Switchgear	4.00	Y	CB-757	1,2,3,4,5		CB-01		1b,2,4
8	4	1X031	480VAC Transformer	5.00	Y	CB-757	1,2,3,4,5	Y	CB-01		1c,2,4
9	5	1P044A	Diesel oil transfer pump	23.00	N	YARD-757	3,4		YD-01		4
10	6	1P117B	RWS pump B	10.01	Y	IS-767	3,4		IS-01		2,3,4
11	6	1P117A	RWS pump A	10.01	Y	IS-767	3,4		IS-02		2,3,4
12	6	1P099A	ESW pump A	54.00	Y	PH-761	3,4		PH-02		2,3,4
13	6	1P229B	RHR pump B	49.00	Y	RB-NWCR	3,4		RB-05		2,3,4
14	6	1P211A	CS pump A	51.00	Y	RB-SECR	3,4		RB-07		2,3,4
15	6	1P229C	RHR pump C	49.00	Y	RB-SECR	3,4		RB-07		2,3,4
16	6	1P117C	RWS pump C	10.01	Y	IS-767	3,4		IS-02		2,3,4
17	6	1P117D	RWS pump D	10.01	Y	IS-767	3,4		IS-01		2,3,4
18	7	CV3704	RS/DW floor drain sump inb-isolation	20.04	N	BAY-8	5		RB-02		4
19	7	CV3705	RS/DW floor drain sump out-isolation	20.04	N	BAY-8	5		RB-02		4
20	7	CV4357	Torus hard pipe vent line isolation	73.01	N	RB-NECR	5		RB-04	Y, P1524	4
21	7	CV2234	HPCI cond ppg discharge to CRW iso	52.00	N	RB-HPCI	3,5		RB-08		4
22	7	CV1804A	CRD/ A recirc pump mini purge supply	64.01	N	RB-757	5		RB-13		4
23	7	CV1804B	CRD/ B recirc pump mini purge supply	64.01	N	RB-757	5		RB-13		4
24	7	CV4910B	RWS/Loop B dilution isolation valve	10.01	N	PH-727	3,4		PH-03		4
25	7	CV4909	RWS/River water radwaste dilution isolation	10.01	N	PH-727	3,4		PH-03		4
26	7	CV4415	MS/Main steam isolation valve (MSIV)	83.01	N	DW-757	5		DW-01		4
27	7	CV2081	ESW loop B diesel cooler isolation	54.00	N	TB-757	3,4		TB-01		4
28	7	CV2080	ESW loop A diesel cooler isolation	54.00	N	TB-757	3,4		TB-02		4

Item No.	Equip Class	Equipment ID	Equipment Description	SUS No.	Anc. Y/N	Equipment Location	5 Safety Function Note 4	Enhanced For IPEEE	Area Walkby No.	Major Mod?	Notes
29	8	MO1903	RHR B drywell spray out-isolation	49.00	N	BAY-14	5		RB-03		4
30	8	MO1932	RHR/LOOP B Torus spray outboard isolation	49.00	N	BAY-14	5		RB-03		4
31	8	MO1934	RHR/LOOP B Torus return isolation	49.00	N	BAY-13	4,5		RB-03		4
32	8	SV4357	CV4357 control air supply isolation	73.01	N	RB-NECR	5		RB-04	Y, P1524	4
33	8	MO1920	RHR pump D isolation valve	49.00	N	RB-NWCR	3,4		RB-05		4
34	8	MO1940	RHR/LOOP B Hx bypass valve	49.00	N	RB-NWCR	3,4		RB-06		4
35	8	MO2404	RCIC Turbine steam supply isolation	50.00	N	RB-RCIC	3		RB-09		4
36	8	MO2003	RHR/LOOP A LPCI inboard inject	49.00	N	RB-RHR VR	3,4,5		RB-10		4
37	8	MO2004	RHR Loop A LPCI Inject valve	49.00	N	RB-RHR VR	3,4		RB-10		4
38	8	MO1904	RHR B LPCI out-inject valve	49.00	N	RB-RHR VR	3,4		RB-10		4
39	8	MO1908	RHR shutdown cooling suction isolation	49.00	N	DW-775	3,4,5		DW-02		4
40	8	MO1909	RHR shutdown cooling out-suction isolation	49.00	N	RB-RHR VR	4,5		RB-10		4
41	8	MO2000	RHR A inb-drywell spray valve	49.00	N	RB-786	5		RB-15		4
42	9	1VEF030A	Bat. Room exhaust fan	30.00	Y	CB-800	1,2,3,4,5	Y	CB-07		2,3,4
43	9	1VEF030B	Bat. Room exhaust fan	30.00	Y	CB-800	1,2,3,4,5	Y	CB-07		2,3,4
44	10	1VAC030A	CRHVAC, AC unit	30.00	Y	CB-800	1,2,3,4,5	Y	CB-07		2,3,4
45	10	1VAC030B	CRHVAC, AC unit	30.00	Y	CB-800	1,2,3,4,5	Y	CB-07		2,3,4
46	10	1VAC011	HVAC/RHR & CS ROOM AC Unit A	34.00	y	RB-NWCR	3,4		RB-06		2,4
47	10	1VAC015A	RCIC/LOOP A RCIC Room Cooling Unit	34.00	y	RB-RCIC	3		RB-09		2,4
48	10	1VAC015B	RCIC/LOOP B RCIC Room Cooling Unit	34.00	y	RB-RCIC	3		RB-09		2,4
49	11	1VCH001A	Control building chiller A	30.01	Y	RB-812	3,4		RB-17		2,4
50	12	1K004	HVAC Instrument air compressor B	30.04	Y	RB-786	5		RB-16		2,3,4
51	14	1D10	125 VDC Div 1 Dist panel	2.00	Y	CB-757	1,2,3,4,5		CB-01		2,4
52	14	1D11	125VDC div 1 distribution panel A	2.00	Y	CB-757	1,2,3,4,5		CB-01		2,4
53	14	1D13	125VDC div 1 distribution panel C	2.00	Y	CB-757	1,2,3,4,5		CB-01		2,4
54	14	1D40	250VDC distribution panel	88.00	Y	CB-757	3		CB-02		2,4
55	15	1D2	125VDC Div 2 Battery	2.00	Y	CB-757	1,2,3,4,5		CB-03		2,4
56	15	1D4	250VDC Battery	88.00	Y	CB-757	3		CB-04		2,3,4
57	15	1D1	125VDC Div 1 Battery	2.00	Y	CB-757	1,2,3,4,5		CB-05		2,3,4

Item No.	Equip Class	Equipment ID	Equipment Description	SUS No.	Anc. Y/N	Equipment Location	5 Safety Function Note 4	Enhanced For IPEEE	Area Walkby No.	Major Mod?	Notes
58	16	1D12	125 VDC div 1 battery 1D1 charger	2.00	Y	CB-757	1,2,3,4,5		CB-01	Y, P1900	2,3,4,5
59	16	1D120	125VDC back-up charger	2.00	Y	CB-757	1,2,3,4,5		CB-01	Y, P1900	2,3,4,5
60	16	1D43	250 VDC battery 1D4 charger	88.00	Y	CB-757	3		CB-01	Y, P1900	2,3,4,5
61	16	1D25	120VAC instrument AC power supply	17.00	Y	CB-757	1,2,3,4,5		CB-02		2,4
62	17	1G021/ENG	SBDG	24.01	Y	TB-757	1,2,3,4,5		TB-01	Y, P1748	2,4,5
63	17	1G031/ENG	SBDG	24.01	Y	TB-757	1,2,3,4,5		TB-02	Y, P1748	2,4,5
64	18	1C129B	RHR loop B instrument rack	49.00	Y	RB-NWCR	3,4,5		RB-05		2,3,4
65	18	1C129A	RHR loop A instrument rack	49.00	Y	RB-SECR	3,4,5		RB-07		2,3,4
66	18	1C120	HPCI instrument rack	52.00	Y	RB-HPCI	3		RB-08		2,3,4
67	18	1C126A	Main steam instrument rack	83.01	Y	RB-757	1,3		RB-12		2,3,4
68	18	1C126B	Main steam instrument rack	83.01	Y	RB-757	1,3		RB-13		2,4
69	18	PT4599A	SRV/RCS PT	80.00	Y	RB-786	2		RB-14		2,4
70	19	TE4325	Torus water temp	59.00	N	BAY-4	1,2,3,4,5		RB-01		4
71	19	TE4324	Torus water temp	59.00	N	BAY-15	1,2,3,4,5		RB-03		4
72	20	1C008	Aux power panel	99.28	Y	CB-786	1,2,3,4,5		CB-06		2,4
73	20	1C013	TIP control board	78.02	Y	CB-786	1	Y	CB-06		2,3,4
74	20	1C024	Vertical board	70.00	Y	CB-786	5	Y	CB-06		2,3,4
75	20	1C026	HVAC TB & CB Cont panel	30.00	Y	CB-786	3,4,5	Y	CB-06		2,4
76	20	1C031	Turbine generator relay panel	99.30	Y	CB-786	1,2,3,4,5		CB-06		2,4
77	20	1C033	RHR Div II, CS panel	49.00	Y	CB-786	3,4		CB-06		2,3,4
78	20	1C043	CS Div I Core Spray vertical board	51.00	Y	CB-786	3	Y	CB-06		2,3,4
79	20	1C152	SBDG vent control cabinet	24.01	Y	TB-757	1,2,3,4,5		TB-01		2,4
80	20	1C092	SBDG Gauge board	24.01	Y	TB-757	1,2,3,4,5		TB-01		2,3,4
81		1C094	SBDG 1G-21 control panel	24.01	Y	TB-757	1,2,3,4,5	Y	TB-01		1d,2,4
82	20	1C093	480VAC SBDG Control panel	24.01	Y	TB-757	1,2,3,4,5		TB-02		2,3,4
83	21	1R002A	MSIV Accumulator	83.01	Y	RB-CRD RR	5		RB-11		2,3,4
84	21	1VHX031B	Non-essential cooling HX	30.00	Y	RB-812	1,2,3,4,5		RB-17		2,4
85	21	1T113B	Jacket water expansion tank	24.01	Y	TB-757	1,2,3,4,5		TB-01		2,3,4

Item No.	Equip Class	Equipment ID	Equipment Description	SUS No.	Anc. Y/N	Equipment Location	5 Safety Function Note 4	Enhanced For IPEEE	Area Walkby No.	Major Mod?	Notes
86	21	1T115B	Diesel air receiver tank	24.01	Y	TB-757	1,2,3,4,5		TB-01		2,3,4
87	21	1T116B	Diesel air receiver	24.01	Y	TB-757	1,2,3,4,5		TB-01		2,3,4
88	21	1T113A	Jacket water expansion tank	24.01	Y	TB-757	1,2,3,4,5		TB-02		2,4
89	21	1T115A	Diesel air receiver tank	24.01	Y	TB-757	1,2,3,4,5		TB-02		2,4
90	21	1T116A	Diesel air receiver	24.01	Y	TB-757	1,2,3,4,5		TB-02		2,4
91	21	1T117A	Diesel air receiver	24.01	Y	TB-757	1,2,3,4,5		TB-02		2,4
92	21	1T037B	1000 gal diesel oil day tank	23.00	Y	TB-757	1,2,3,4,5		TB-03		2,4
93	21	1T105A	CAV/CV4304 Control Air Supply Accumulator	73.04	Y	RB-NECR	5		RB-04		2,3,4
94	21	1T037A	1000 gal diesel oil day tank	23.00	Y	TB-757	1,2,3,4,5		TB-04		2,4
95	21	1R002C	MSTV Accumulator	83.01	Y	RB-CRD RR	5		RB-11		2,3,4
96	21	1T105B	CAV/CV4305 Control Air Supply Accumulator	73.04	Y	RB-NECR	5		RB-04		2,3,4
97	O	PSE4357	Torus hard pipe vent line rupture disc	73.01	N	RB-NECR	5		RB-04	Y, P1524	4

Table Notes:

1. Component is inaccessible during normal plant operations or RFO23. To be inspected later when accessible.
 - a) 1B20 & 1B09 are similar. Due to earlier (LCO is currently scheduled for April 2013) availability of 1B09, 1B20 is replaced with 1B09.
 - b) 1A4 & 1A3 are similar. Due to earlier (is currently scheduled for RFO25 in 2016) availability of 1A3, 1A4 is replaced with 1A3.
 - c) 1X041 & 1X031 are similar. Due to earlier (is currently scheduled for RFO25 in 2016) availability of 1X031, 1X041 is replaced with 1X031.
 - d) Two bays of panel 1C094 that contain high voltage equipment items could not be opened for anchorage inspection, Next scheduled LCO for this panel is first quarter of 2014.
 - e) Additional inspection of internal components is required due to operational restraint. Additional inspection is deferred to a later date when the component is tagged-out.
2. Component has anchorage. 69 items have anchorage, performed detailed inspection on 36 items with anchorage
3. Detailed anchorage inspection to be performed.

Table Notes Continued:

4. Five safety function designations are:

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

5. P number is the design package that modified the system, structure, or component.

**ATTACHMENT B
 Master Equipment List**

Equipment ID	Description	SWEL?
IS220(06-35)	CRD/HYDRAULIC CONTROL UNIT (89 total)	
CV1849(06-35)	CRD/INLET SCRAM VALVE (89 TOTAL)	
CV1850(06-35)	CRD/OUTLET SCRAM VALVE (89 TOTAL)	
SV1855(06-35)	CRD/SCRAM PILOT VALVE (89 TOTAL)	
SV1856(06-35)	CRD/SCRAM PILOT VALVE (89 TOTAL)	
SV1840A	CRD/BACKUP SCRAM PILOT VALVE	
SV1840B	CRD/BACKUP SCRAM PILOT VALVE	
CV1859A	CRD/SCRAM DISCHARGE VOLUME VENT ISOLATION VALVE	
CV1859B	CRD/SCRAM DISCHARGE VOLUME VENT ISOLATION VALVE	
CV1867A	CRD/SCRAM DISCHARGE VOLUME DRAIN ISOLATION VALVE	
CV1867B	CRD/SCRAM DISCHARGE VOLUME DRAIN ISOLATION VALVE	
SV1868A	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	
SV1868B	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	
SV1869A	CRD/SCRAM DISCHARGE VOLUME ISOLATION PILOT VALVE	
SV1869B	CRD/SCRAH DISCHARGE VOLUME ISOLATION PILOT VALVE	
PSV4400	SRV/SAFETY RELIEF VALVE (SRV)	
PSV4401	SRV/SAFETY RELIEF VALVE (SRV)	
PSV4402	SRV/SAFETY RELIEF VALVE (SRV)	
PSV4405	SRV/SAFETY RELIEF VALVE (SRV)	
PSV4406	SRV/SAFETY RELIEF VALVE (SRV)	
PSV4407	SRV/SAFETY RELIEF VALVE (SRV)	
SV4400	SRV/SRV PILOT VALVE	
SV4401	SRV/SRV PILOT VALVE	
SV4402	SRV/SRV PILOT VALVE	
SV4405	SRV/SRV PILOT VALVE	
SV4406	SRV/SRV PILOT VALVE	
SV4407	SRV/SRV PILOT VALVE	
1R003A	SRV/NITROGEN ACCUMULATOR	
1R003B	SRV/NITROGEN ACCUMULATOR	
1R003C	SRV/NITROGEN ACCUMULATOR	
1R003D	SRV/NITROGEN ACCUMULATOR	
PT4599A	SRV/RCS PRESSURE TRANSMITTER	YES
PT4599B	SRV/RCS PRESSURE TRANSMITTER	
CV4412	MS/MAIN STEAM ISOLATION VALVE (MSIV)	
CV4415	MS/MAIN STEAM ISOLATION VALVE (MSIV)	YES
CV4418	MS/MAIN STEAM ISOLATION VALVE (MSIV)	
CV4420	MS/MAIN STEAM ISOLATION VALVE (MSIV)	
1R001A	MS/MSIV ACCUMULATOR	
1R001B	MS/MSIV ACCUMULATOR	

Equipment ID	Description	SWEL?
IR001C	MS/MSIV ACCUMULATOR	
IR001D	MS/MSIV ACCUMULATOR	
CV4413	MS/MAIN STEAM ISOLATION VALVE (MSIV)	
CV4416	MS/MAIN STEAM ISOLATION VALVE (MSIV)	
CV4419	MS/MAIN STEAM ISOLATION VALVE (MSIV)	
CV4421	MS/MAIN STEAM ISOLATION VALVE (MSIV)	
IR002A	MS/MSIV ACCUMULATOR	YES
IR002B	MS/MSIV ACCUMULATOR	
IR002C	MS/MSIV ACCUMULATOR	YES
IR002D	MS/MSIV ACCUMULATOR	
MO2700	RWCU/RWCU INLET INBOARD ISOLATION VALVE	
MO2701	RWCU/RWCU INLET INBOARD ISOLATION VALVE	
MO2147	CS/LOOP A INBOARD TORUS ISOLATION VALVE	
MO2100	CS/LOOP A INBOARD TORUS ISOLATION VALVE	
IP211A	CS/CORE SPRAY PUMP A	YES
MO2104	CS/LOOP A MINIMUM FLOW LINE ISOLATION VALVE	
MO2112	CS/LOOP A TEST LINE ISOLATION VALVE	
MO2117	CS/LOOP A INBOARD VESSEL ISOLATION VALVE	
MO2146	CS/LOOP B INBOARD VESSEL ISOLATION VALVE	
MO2120	CS/LOOP B OUTBOARD VESSEL ISOLATION VALVE	
IP211B	CS/CORE SPRAY PUMP B	
MO2124	CS/LOOP B MINIMUM FLOW LINE ISOLATION VALVE	
MO2132	CS/LOOP B TEST LINE ISOLATION VALVE	
MO2135	CS/LOOP B OUTBOARD VESSEL ISOLATION VALVE	
MO2137	CS/LOOP B INBOARD VESSEL ISOLATION VALVE	
FT2110	CS/LOOP A FLOW RATE TRANSMITTER	
FT2130	CS/LOOP B FLOW RATE TRANSMITTER	
LITS4539	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	
LITS4540	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	
LT4565A	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	
LT4565B	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	
LT4565C	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	
LT4565D	RCS/REACTOR VESSEL WATER LEVEL TRANSMITTER	
LIS4592A	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	
LIS4592B	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	
LIS4592C	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	
LIS4592D	REACTOR VESSEL NR LEVEL (RCIC, PCIS TRIP)	
LIS4535	REACTOR VESSELWATER LEVEL (ATWS TRIP)	
LIS4536	REACTOR VESSELWATER LEVEL (ATWS TRIP)	
LIS4537	REACTOR VESSELWATER LEVEL (ATWS TRIP)	

Equipment ID	Description	SWEL?
LIS4538	REACTOR VESSEL WATER LEVEL (ATWS TRIP)	
LT4397A	RCS/TORUS WATER LEVEL TRANSMITTER	
LT4397B	RCS/TORUS WATER LEVEL TRANSMITTER	
PT2106	CS/LOOP A PRESSURE TRANSMITTER	
PT2126	CS/LOOP B PRESSURE TRANSMITTER	
PS4593A	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	
PS4593B	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	
PS4593C	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	
PS4593D	RECIRC PUMP ATWS HIGH VESSEL PRESSURE TRIP	
MO4423	MS/MS LINE DRAIN INBOARD ISOLATION	
MO4441	FV/RX FEEDWATER LOOP A INLET STOP CHECK	
MO4442	FV/RX FEEDWATER LOOP B INLET STOP CHECK	
CV4639	RR/RECIRC SAMPLE LINE INBOARD ISOLATION	
CV4640	RR/RX RECIRC SAMPLE LINE OUTBOARD ISOLATION	
SV4639	RR/CV-4639 NITROGEN SUPPLY ISOL	
SV4640	RR/CV-4640 CONTROL AIR SUPPLY ISOL	
CV1804A	CRD/"A" RECIRC PUMP MINI-PURGE SUPPLY ISOL	YES
CV1804B	CRD/"B" RECIRC PUMP MINI-PURGE SUPPLY ISOL	YES
SV1804A	CRD/CV-1804A CONTROL AIR SUPPLY ISOL	
SV1804B	CRD/CV-1804B CONTROL AIR SUPPLY ISOL	
MO2400	RCIC/RCIC STEAM SUPPLY INBOARD ISOL	
MO2401	RCIC/RCIC STEAM SUPPLY OUTBOARD ISOL	
MO2404	RCIC/RCIC TURBINE STEAM SUPPLY ISOLATION	YES
MO2238	HPCI/STEAM SUPPLY INBOARD ISOL	
MO2239	HPCI/STEAM SUPPLY OUTBOARD ISOL	
HV2201	HPCI/HPCI TURBINE STOP VALVE	
SV2259	HPCI/HPCI TURBINE REMOTE TRIP VALVE	
CV4357	TORUS HARD PIPE VENT LINE ISOLATION	YES
MO1908	RHR/RHR SHUTDOWN COOLING SUCTION ISOLATION	YES
MO2069	RHR/LOOP A TORUS INTAKE ISOLATION VALVE	
MO2012	RHR/RHR PUMP A ISOLATION VALVE	
MO2011	RHR/RHR PUMP A ISOLATION VALVE	
1P229A	RHR/RHR PUMP A	
MO2015	RHR/RHR PUMP C ISOLATION VALVE	
MO2016	RHR/RHR PUMP C ISOLATION VALVE	
1P229C	RHR/RHR PUMP C	YES
MO2009	RHR/RHR PUMPS 1P-229A/C MIN FLOW. BYPASS	
MO2030	RHR/LOOP A HX BYPASS VALVE	
MO2029	RHR/LOOP A HX ISOLATION VALVE	
1E201A	RHR/LOOP A HEAT EXCHANGER	
PSE4357	TORUS HARD PIPE VENT LINE RUPTURE DISC	YES
SV4357	CV4357 CONTROL AIR SUPPLY ISOLATION	YES
MO2031	RHR/LOOP A HX ISOLATION VALVE	

Equipment ID	Description	SWEL?
MO2001	RHR/LOOP A DRYWELL SPRAY OUTBOARD ISOLATION VALVE	
MO2000	RHR/LOOP A DRYWELL SPRAY INBOARD ISOLATION VALVE	YES
MO2005	RHR/LOOP A TORUS SPRAY OUTBOARD ISOLATION VALVE	
MO2004	RHR/LOOP A LPCI OUTBOARD INJECT VALVE	YES
MO2003	RHR/LOOP A LPCI INBOARD INJECT VALVE	YES
MO2006	RHR/LOOP A TORUS SPRAY INBOARD ISOLATION VALVE	
MO2007	RHR/LOOP A TORUS RETURN ISOLATION VALVE	
MO1989	RHR/LOOP B TORUS INTAKE ISOLATION VALVE	
MO1913	RHR/LOOP B TORUS INTAKE ISOLATION	
MO1912	RHR/RHR PUMP B ISOLATION VALVE	
IP229B	RHR/RHR PUMP B	YES
MO1921	RHR/RHR PUMP D ISOLATION VALVE	
MO1920	RHR/RHR PUMP D ISOLATION VALVE	YES
IP229D	RHR/RHR PUMP D	
MO1935	RHR/RHR PUMPS 1P-229B/D MIN FLOW BYPASS	
MO1940	RHR/LOOP B HX BYPASS VALVE	YES
MO1939	RHRAOOP B HX ISOLATION VALVE	
1E201B	RHR/LOOP B HEAT EXCHANGER	
MO1941	RHR/LOOP B HX ISOLATION VALVE	
MO1903	RHR/LOOP B DRYVELL SPRAY OUTBOARD ISOLATION VALVE	YES
MO1902	RHRAOOP B DRYWELL SPRAY INBOARD ISOLATION VALVE	
MO1932	RHR/LOOP B TORUS SPRAY OUTBOARD ISOLATION VALVE	YES
MO1904	RHRAOOP B LPCI OUTBOARD INJECT VALVE	YES
MO1905	RHRAOOP B LPCI INBOARD INJECT VALVE	
MO1933	RHRAOOP B TORUS SPRAY INBOARD ISOLATION VALVE	
MO1934	RHR/LOOP B TORUS RETURN ISOLATION VALVE	YES
FT1971A	RHRAOOP A FLOW TRANSMITTER	
PT2032	RHR/LOOP A PRESSURE TRANSMITTER	
FT1971B	RHR/LOOP B FLOW TRANSMITTER	
PT1962	RHR/LOOP B PRESSURE TRANSMITTER	
MO2010	RHR/CROSS TIE ISOLATION VALVE	
MO1937	RHR/RHR DRAIN TO WASTE SURGE TANK INBOARD ISOL	
TE4386L	CAC/DRYWELL TEMPERATURE (ELEVATION 830')	
TE4386J	CAC/ORWELL TEMPERATURE (ELEVATION 780')	
TE4324	CNT/TORUS WATER TEMPERATURE 20-220 DEGREES F	YES
TE4325	CNT/TORUS WATER TEMPERATURE 20-220 DEGREES F	YES
MO4424	MS/MS LINE DRAIN OUTBOARD ISOLATION	
MO1909	RHR/RHR SHUTDOWN COOLING OUTBOARD SUCTION ISOL	YES

Equipment ID	Description	SWEL?
MO1900	RKR/RHR OUTBOARD REACTOR HEAD SPRAY ISOL	
MO1936	RHR/RHR DRAIN TO WASTE SURGE TANK OUTBOARD ISOL	
CV2436	RCIC/CONOENSTAE PUHP 1P-228 DISCH DRAIN TO CRW	
SV2436	RCIC/CV-243S CONTROL AIR SUPPLY ISOL	
CV2410	RCIC/RCIC STH SUP DRAIN LINE UPSTREAM AUTO ISOL	
CV2411	RCIC/RCIC SIM SUP DRAIN LINE DOWNSTREAM AUTO ISOL	
SV2410	RCIC/CV-2410 CONTROL AIR SUPPLY ISOL	
SV2411	RCIC/CV-2411 CONTROL AIR SUPPLY ISOL	
MO2115	CS/LOOP A OUTBOARD VESSEL ISOLATION VALVE	
CV3728	DRYWELL EQUIP DRAIN SUMP INBOARD ISOL	
CV3729	DRYWELL EQUIP DRAIN SUMP OUTBOARD ISOL	
CV3704	DRYWELL FLOOR DRAIN SUMP INBOARD ISOL	YES
CV3705	DRYWELL FLOOR DRAIN SUMP OUTBOARD ISOL	YES
CV2211	HPCI/HPCI STM SUP DRAIN LINE UPSTREAM AUTO ISOL	
CV2212	HPCI/HPCI STH SUP DRAIN LINE DOWNSTREAM AUTO ISOL	
SV2211	HPCI/CV-2211 CONTROL AIR SUPPLY ISOLATION	
SV2212	HPCI/CV-2212 CONTROL AIR SUPPLY ISOLATION	
CV2234	HPCI/HPCI CONDENSATE PP DISCH TO CRW INBOARD	YES
SV2234	HPCI/CV-2234 CONTROL AIR SUPPLY ISOLATION	
1Q122-SHEAR	TIP/SHEAR VALVE	
1Q222-SHEAR	TIP/SHEAR VALVE	
1Q322-SHEAR	TIP/SHEAR VALVE	
CV4371A	CAC/CONTAINMENT N2 SUPPLY ISOLATION	
CV4371C	CAC/TORUS/DW VACUUM BKR N2 SUPPLY ISOL	
CV4378A	CAC/N2 COMPRESSOR SUCTION ISOLATION	
CV4378B	CAC/N2 COMPRESSOR SUCTION ISOLATION	
CV5718A	DRYWELL COOLING LOOP A WELL WATER SUPPLY ISOL	
CV5718B	DRYWELL COOLING LOOP B WELL WATER SUPPLY ISOL	
SV5718A	DCW/CV-5718A CONTROL AIR SUPPLY ISOLATION	
SV5718B	DCW/CV-5718B CONTROL AIR SUPPLY ISOLATION	
CV5704A	DCW/DRYWELL COOLING LOOP A WELL WATER RETURN ISOL	
CV5704B	DCW/DRYWELL COOLING LOOP B WELL WATER RETURN ISOL	
SV5704A	DCW/CV-5704A CONTROL AIR SUPPLY ISOLATION	
SV5704B	DCW/CV-5704B CONTROL AIR SUPPLY ISOLATION	
1T105A	CAC/CV-4304 CONTROL AIR SUPPLY ACCUMULATOR	YES
1T105B	CAC/CV-4305 CONTROL AIR SUPPLY ACCUMULATOR	YES

Equipment ID	Description	SWEL?
MO2044A	RHR/RHR HX 1B-201A SHELL SIDE OUTBOARD VENT	
1A3	4160VAC/4160VAC ESSENTIAL SWITCHGEAR	
1X091	480VAC/TRANSFORMER, 480V SWGR, 1A3 TO 1B09	
1B09	480VAC/INTAKE STRUCTURE 480VAC LOAD CENTER	YES
1B91	480VAC/INTAKE STRUCTURE MOTOR CONTROL CENTER	YES
1X031	480VAC/TRANSFORMER, 480VAC SWGR, 1A3 TO 1B03	YES
1B03	480VAC/CONTROL BUILDING, 480VAC LOAD CENTER	
1B32	480VAC/CB 480VAC ESSENTIAL MOTOR CONTROL CENTER	
1B34	480VAC/RB 786' LEVEL 480VAC MOTOR CONTROL CENTER	
1B34A	480VAC/RB 786' LEVEL 480VAC MOTOR CONTROL CENTER	
1B36	480VAC/PUMP HOUSE 480VAC MOTOR CONTROL CENTER	
1B37	480VAC/RB 786' LEVEL 480VAC MOTOR CONTROL CENTER	
1G031/ENG	SBDG/DIESEL GENERATOR, EMER AC PWR TO 1A3	YES
1A4	4160VAC/4160 VAC ESSENTIAL SWITCHGEAR	
1X020	480VAC/TRANSFORMER, 480V SWGR, 1A4 TO 1B20	
1B20	480VAC/INTAKE STRUCTURE 480VAC LOAD CENTER	
1B21	480VAC/INTAKE STRUCTURE MOTOR CONTROL CENTER	
1X041	480VAC/TRANSFORMER, 480V SWGR, 1A4 TO 1B04	
1B04	480VAC/CONTROL BUILDING 480VAC LOAD CENTER	
1B42	480VAC/CONTROL BUILDING MOTOR CONTROL CENTER	YES
1B44	480VAC/RB 757' LEVEL 480VAC MOTOR CONTROL CENTER	
1B44A	480VAC/RB 757' LEVEL 480VAC MOTOR CONTROL CENTER	
1B46	480VAC/PUMP HOUSE 480VAC MOTORCONTROL CENTER	YES
1G021/ENG	SBD6/DIESEL GENERATOR, EMER AC PWR TO 1A4	YES
1D1	125VDC/125VDC DIVISION 1 BATTERY	YES
1D10	125VDC/125VDC DIVISION 1 DISTRIBUTION PANEL # 1	YES
1D11	125VDC/125VDC DIVISION 1 DISTRIBUTION PANEL A	YES
1D12	125VDC/1D1 125VDC DIVISION 1 MAIN BATTERY CHARGER	YES
1D13	125VDC/125VDC DIVISION 1 DISTRIBUTION PANEL C	YES
1D14	125VDC/RCIC SYSTEM 125VDC MOTOR CONTROL CENTER	YES

Equipment ID	Description	SWEL?
1D2	125VDC/125VDC DIVISION 2 BATTERY	YES
1D20	125VDC/125VDC DIVISION 2 DISTRIBUTION PANEL f2	
1D21	125VDC/125VDC DIVISION 2 DISTRIBUTION PANEL B	
1D22	125VDC/1D2 125VDC (DIV 2) MAIN BATTERY CHARGER	
1D23	125VDC/125VDC DIVISION 2 DISTRIBUTION PANEL D	
1D120	125VDC/125VDC BACKUP BATTERY CHARGER	YES
1D4	250VDC/250VDC BATTERY	YES
1D40	250VDC/250VDC DISTRIBUTION PANEL	YES
1D41	250VDC/HPCI 250VDC MOTOR CONTROL CENTER	
1D42	250VDC/RB 757' LEVEL 250VDC MOTOR CONTROL CENTER	YES
1D43	250VDC/1D4 250VDC BATTERY CHARGER	YES
1D44	250VDC/1D4 2S0VDC BATTERY CHARGER	
1D25	120VAC/120 VOLT INSTRUMENT AC POWER SUPPLY	YES
1Y25	IAC/MANUAL BYPASS SWITCH PANEL	
1Y2A	IAC/REGULATING TRANSFORMER	
1Y020	IAC/INSTRUMENT AC 1Y21 MAIN AND TIE BREAKER PANEL	
1Y021	120VAC/120V INSTRUMENT AC DISTRIBUTION PANEL	
1D15	120VAC/120 VOLT INSTRUMENT AC POWER SUPPLY	
1Y15	IAC/MANUAL BYPASS SWITCH PANEL	
1Y1A	IAC/REGULATING TRANSFORMER	
1Y010	IAC/INSTRUMENT AC MI MAIN AND TIE BREAKER PANEL	
1Y011	120VAC/120V INSTRUMENT AC DISTRIBUTION PANEL	
1Y023	120VAC/120V UNINTERRUPTIBLE AC DISTRIBUTION PANEL	
1Y022	120VAC/1Y002 TO 1Y023 AUTOMATIC TRANSFER SWITCH	
1Y004	120VAC/REGULATING TRANSFORMER	
1Y002	IAC/INSTRUMENT AC PANEL 1Y021 SUPPLY TRANSFORMER	
1D45	120VAC/120 VOLT UNINTERRUPTIBLE ACPOWER SUPPLY	
1P099A	ESW/EMERGENCY SERVICE WATER PUMP A	YES
1P099B	ESW/EMERGENCY SERVICE WATER PUMP B	
CV2080	ESW/LOOP A DIESEL COOLER ISOLATION VALVE	YES
CV2081	ESW/LOOP B DIESEL COOLER ISOLATION VALVE	YES
SV2080	ESU/LOOP A DIESEL COOLER ISOLATION BECH-M113/39/F5 VALVE SOLENOID	
SV2081	ESU/LOOP B DIESEL COOLER ISOLATION BECH-M113/39/F5 VALVE SOLENOID	
1VAC015A	RCIC/LOOP A RCIC ROOM COOLING UNIT	YES

Equipment ID	Description	SWEL?
1VAC015B	RCIC/LOOP B RCIC ROOM COOLING UNIT	YES
1VAC014A	HPCI/LOOP A HPCI ROOM COOLING UNIT	
1VAC014B	HPCI/LOOP B HPCI ROOM COOLING UNIT	
CV1956A	ESW/LOOP A DISCHARGE HEADER ISOLATION VALVE	
CV1956B	ESU/LOOP B DISCHARGE HEADER ISOLATION VALVE	
SV1956A	ESW/LOOP A DISCHARGE HEADER ISOLATION VALVE SOLENOID	
SV1956B	ESW/LOOP B DISCHARGE HEADER ISOLATION VALVE SOLENOID	
MO2077	ESU/LOOP A DISCHARGE HEADER ISOLATION VALVE	
MO2078	ESW/LOOP B DISCHARGE HEADER ISOLATION VALVE	
MO1998A	ESW/LOOP A COOLING TOWER DISCHARGE ISOLATION VALVE	
MO1998B	ESU/LOOP B COOLING TOWER DISCHARGE	
FT4938A	ESW/LOOP A FLOW RATE TRANSMITTER	
FT4938B	ESW/LOOP B FLOW RATE TRANSMITTER	
PDI4938A	ESW/LOOP A FLOW ELEMENT DP	
PDI4938B	ESW/LOOP B FLOW ELEMENT DP	
MO2039A	ESW/CB CHILLER 1V-CH-1A WELL WATER SUPPLY ISOLATION	
MO2039B	ESW/CB CHILLER 1V-CH-1B WELL WATER SUPPLY ISOLATION	
1P022A	RHRW/RHR SERVICE WATER PUMP A	
1P022C	RHRW/RHR SERVICE WATER PUMP C	
1P022B	RHRW/RHR SERVICE WATER PUMP B	
1P022D	RHRW/RHR SERVICE WATER PUMP D	
MO2046	RHRWAOOP A PRESSURE CONTROL VALVE	
FT2050	RHRW/LOOP A FLOW RATE TRANSMITTER	
FT1944	RHRW/LOOP B FLOW RATE TRANSMITTER	
1P117A	RWS/RIVER WATER SUPPLY PUMP A	YES
1P117C	RWS/RIVER WATER SUPPLY PUMP C	YES
1P117B	RWS/RIVER WATER SUPPLY PUMP B	YES
1P117D	RWS/RIVER WATER SUPPLY PUMP D	YES
CV4910A	RWS/LOOP A DILUTION FLOW LINE ISOLATION VALVE	
CV4910B	RWS/LOOP B DILUTION FLOW LINE ISOLATION VALVE	YES
SV4910A	RWS/LOOP A DILUTION FLOW LINE ISOLATION VALVE SOLENOID	
SV4910B	RWS/LOOP B DILUTION FLOW LINE ISOLATION VALVE SOLENOID	
CV4909	RWS/RIVER WATER RAOWASTE DILUTION LINE ISOLATION	YES
SV4909	RWS/CV4909 INSTRUMENT AIR SUPPLY ISOLATION	

Equipment ID	Description	SWEL?
CV4915	RWS/LOOP A STILLING BASIN DISCHARGE ISOLATION VALVE	
CV4914	RWS/LOOP B STILLING BASIN DISCHARGE ISOLATION VALVE	
SV4915	RWS/LOOP A STILLING BASIN DISCHARGE ISOL VALVE PILOT	
SV4914	RWS/LOOP B STILLING BASIN DISCHARGE ISOL VALVE PILOT	
FT4917	RWS/LOOP A FLOW RATE TRANSMITTER	
FT4916	RWS/LOOP B FLOW RATE TRANSMITTER	
1T035	DGS/40,000 GAL DIESEL OIL STORAGE TANK	
1P044B	DGS/DIESEL OIL TRANSFER PUMP	
1P044A	DGS/DIESEL OIL TRANSFER PUMP	YES
1T037B	DGS/1,000 GAL DIESEL OIL DAY TANK	YES
1T037A	DGS/1,000 GAL DIESEL OIL DAY TANK	YES
LIS3210	DGS/DIESEL OIL DAY TANK LEVEL SWITCH	
LIS3208	DGS/DIESEL OIL DAY TANK LEVEL SWITCH	
LIS3209	DGS/DIESEL OIL DAY TANK LOW-LOW LEVEL ALARM	
LIS3207	DGS/DIESEL OIL DAY TANK LOW-LOW LEVEL ALARM	
1T115B	DGS/AIR RECEIVER	YES
1T116B	DGS/AIR RECEIVER	YES
1T117B	DGS/AIR RECEIVER	
1T115A	DGS/AIR RECEIVER	YES
1T116A	DGS/AIR RECEIVER	YES
1T117A	DGS/AIR RECEIVER	YES
1E053B	DGS/JACKET WATER COOLER	
1E053A	DGS/JACKET WATER COOLER	
1T113B	DGS/JACKET WATER EXPANSION TANK	YES
1T113A	DGS/JACKET WATER EXPANSION TANK	YES
1T114B	DGS/LUBE OIL MAKE-UP TANK	
1T114A	DGS/LUBE OIL MAKE-UP TANK	
1VAC030A	CRHVAC/CONTROL ROOM AC UNIT A	YES
1VAC030B	CRHVAC/CONTROL ROOM AC UNIT B	YES
DO6113A	CRHVAC/LOOP A AC EXHAUST DAMPER	
DO6113B	CRHVAC/LOOP B AC EXHAUST DAMPER	
SV6113A	CRHVAC/LOOP A AC EXHAUST DAMPER SOLENOID	
SV6113B	CRHVAC/LOOP B AC EXHAUST DAMPER SOLENOID	
1VRF030A	CRHVAC/EXHAUST FAN A	
1VRF030B	CRHVAC/EXHAUST FAN B	
DO6127A	CRHVAC/LOOP A EXHAUST FAN DAMPER	
DO6127B	CRHVAC/LOOP B EXHAUST FAN DAMPER	
SV6127A	CRHVAC/LOOP A EXHAUST FAN DAMPER SOLENOID	
SV6127B	CRHVAC/LOOP B EXHAUST FAN DAMPER SOLENOID	

Equipment ID	Description	SWEL?
DO6109A	CRHVAC/LOOP A RECIRCULATION DAMPER	
DO6109B	CRHVAC/LOOP B RECIRCULATION DAMPER	
AV6133A	CRHVAC/LOOP A RECIRCULATION DAMPER CONTROL VALVE	
AV6133B	CRHVAC/LOOP B RECIRCULATION DAMPER CONTROL VALVE	
SL6109A	CRHVAC/LOOP A SIGNAL LIMITER	
SL6109B	CRHVAC/LOOP B SIGNAL LIMITER	
TT6111A	CRHVAC/LOOP A OUTSIDE TEMPERATURE TRANSMITTER	
TT6111B	CRHVAC/LOOP B OUTSIDE TEMPERATURE TRANSMITTER	
TT6109A	CRHVAC/LOOP A MIXED AIR TEMPERATURE TRANSMITTER	
TT6109B	CRHVAC/LOOP B MIXED AIR TEMPERATURE TRANSMITTER	
CV6116A	CRHVAC/LOOP A COOLING COIL BYPASS VALVE	
CV6116B	CRHVAC/LOOP B COOLING COIL BYPASS VALVE	
ZC6116A	CRHVAC/LOOP A COOLING COIL BYPASS POSITION CONTROLLER	
ZC6116B	CRHVAC/LOOP B COOLING COIL BYPASS POSITION CONTROLLER	
PCV6116A	CRHVAC/LOOP A COOLING COIL BYPASS PRESSURE CONTROL VLV	
PCV6116B	CRHVAC/LOOP B COOLING COIL BYPASS PRESSURE CONTROL VLV	
SL6116A	CRHVAC/LOOP A SIGNAL LIMITER	
SL6116B	CRHVAC/LOOP B SIGNAL LIMITER	
TT6114A	CRHVAC/LOOP A AC UNIT DISCHARGE TEMPERATURE TRANSMITTER	
TT6114B	CRHVAC/LOOP B AC UNIT DISCHARGE TEMPERATURE TRANSMITTER	
1VEF030A	CRHVAC/BATTERY ROOM EXHAUST FAN A	YES
1VEF030B	CRHVAC/BATTERY ROOM EXHAUST FAN B	YES
1VEF030C	CRHVAC/BATTERY ROOM EXHAUST FAN C	
1K003	HVIA/HVAC INSTRUMENT AIR COMPRESSOR A	
1K004	HVIA/HVAC INSTRUMENT AIR COMPRESSOR B	YES
PS7335A	HVIA/LOOP A PRESSURE SWITCH	
PS7335B	HVIA/LOOP B PRESSURE SWITCH	
1VS012	HVIA/LOOP A RECEIVER	
1VS013	HVIA/LOOP B RECEIVER	
SV7333A	HVIA/LOOP A RECEIVER ISOLUTION VALVE	
SV7333B	HVIA/LOOP B RECEIVER ISOLUTION VALVE	
1VCH001A	CRHVAC/CONTROL BUILDING CHILLER A	YES
1VCP030A	CRHVAC/CB HVAC CHILLED WATER PUMP	
1VCH001B	CRHVAC/CONTROL BUILDING CHILLER B	
1VCP030B	CRHVAC/CB HVAC CHILLED WATER PUMP	
TCV6924A	CRHVAC/CHILLER A TEMPERATURE CONTROL VALVE	

Equipment ID	Description	SWEL?
TCV6924B	CRHVAC/CHILLER B TEMPERATURE CONTROL VALVE	
1VHX031A	CRHVAC/NON-ESSENTIAL COOLING HX A	
1VHX031B	CRHVAC/NON-ESSENTIAL COOLING HX B	YES
CV6919A	CRHVAC/NON-ESSENTIAL COOLING HX A INLET ISOL VALVE	
CV6919B	CRHVAC/NON-ESSENTIAL COOLING HX B INLET ISOL VALVE	
CV6920A	CRHVAC/NON-ESSENTIAL COOLING HX A OUTLET ISOL VALVE	
CV6920B	CRHVAC/NON-ESSENTIAL COOLING HX B OUTLET ISOL VALVE	
SV6920A	CRHVAC/NON-ESSENTIAL COOLING HX A ISOL SOLENOID	
SV6920B	CRHVAC/NON-ESSENTIAL COOLING HX B ISOL SOLENOID	
DO6106A	CRHVAC/1VAC030A MAXIMUM AIR SUPPLY DAMPER	
DO6106B	CRHVAC/1VAC030B MAXIMUM AIR SUPPLY CB DAMPER	
DO6112A	CRHVAC/1VAC030A MINIMUM AIR SUPPLY DAMPER	
DO6112B	CRHVAC/1VAC030B MINIMUM AIR SUPPLY DAMPER	
AV6134A	CRHVAC/VALVE, AIR, CB H&V, DO6106A	
AV6134B	CRHVAC/VALVE, AIR, CB H*V, D06106B	
SV6109A	CRHVAC/VALVE, SOL, CB H&V, AV6134A & AV6133A	
SV6109B	CRHVAC/VALVE, SOL, CB H*V, & AV6133B	
DO6123A	CRHVAC/CB HVAC OUTSIDE AIR INTAKE DAMPER	
DO6123B	CRHVAC/CB HVAC OUTSIDE AIR INTAKE DAMPER	
SV6110A	CRHVAC/D06123A CONTROL AIR SUPPLY	
SV6110B	CRHVAC/D06123B CONTROL AIR SUPPLY	
DO6107A	CRHVAC/DAMPER, CB H&V, CNTR BLDG EXH	
DO6107B	CRHVAC/DAMPER, CB H&V, CNTR BLDG EXH	
SV6107A	CRHVAC/VALVE, SOL, CB H&V, D06107A	
SV6107B	CRHVAC/VALVE, SOL, CB H&V, D06107B	
DO7709A	HVAC/INTAKE STRUCTURE VENT FAN A INTAKE DAMPER	
DO7710A	HVAC/INTAKE STRUCTURE VENT FAN A INTAKE DAMPER	
DO7711A	HVAC/INTAKE STRUCTURE VENT FAN A INTAKE DAMPER	
DO7709B	HVAC/INTAKE STRUCTURE VENT FAN B INTAKE DAMPER	
DO7710B	HVAC/INTAKE STRUCTURE VENT FAN B INTAKE DAMPER	
DO7711B	HVAC/INTAKE STRUCTURE VENT FAN B INTAKE DAMPER	
1VSF050	HVAC/INTAKE STRUCTURE VENT FAN A	
1VSF051	HVAC/INTAKE STRUCTURE VENT FAN B	

Equipment ID	Description	SWEL?
DO7713A	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	
DO7716A	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	
DO7713B	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	
DO7716B	HVAC/INTAKE STRUCTURE PENTHOUSE EXHAUST DAMPER	
DO7712A	HVAC/SUPPLY FAN 1VSF50 RETURN AIR INLET DAMPER	
DO7712B	HVAC/SUPPLY FAN 1VSFS1 RETURN AIR INLET DAMPER	
1VSF056A	HVAC/SW PUMP ROOM VENTILATION FAN A	
1VSF056B	HVAC/SW PUMP ROOM VENTILATION FAN B	
DO7539A	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER A	
DO7539B	HVAC/SW PUMP ROOM VENT FAN INLET DAMPER B	
SV7539A	HVAC/SW PMP RM VENT FAN INLET DAMPER A SOLENOID	
SV7539B	HVAC/SW PMP RM VENT FAN INLET DAMPER B SOLENOID	
DO7538A	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER A	
DO7538B	HVAC/SW PUMP ROOM VENT FAN OUTLET DAMPER B	
SV7538A	HVAC/SW PMP RM VENT FAN OUTLET DAMPER A SOLENOID	
SV7538B	HVAC/SW PMP RM VENT FAN OUTLET DAMPER B SOLENOID	
DO7536U	HVAC/SW PUMP ROOM EXHAUST DAMPER	
DO7536V	HVAC/SW PUMP ROOM EXHAUST DAMPER	
SV7536	HVAC/SW PUMP ROOM EXHAUST DAMPER SOLENOID	
DO7537U	HVAC/SW PUMP ROOM EXHAUST DAMPER	
DO7537V	HVAC/SW PUMP ROOM EXHAUST DAMPER	
SV7537	HVAC/SW PUMP ROOM EXHAUST DAMPER SOLENOID	
1VAC011	HVAC/RHR & CS ROOM AC UNIT A	YES
1VAC012	HVAC/RHR & CS ROOM AC UNIT B	
DO7000A1	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	
DO7000B1	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	
SV7000A	HVAC/EMER DIESEL RM VENT INLET DAMPER SOLENOID	
SV7000B	HVAC/EMER DIESEL RM VENT INLET DAMPER SOLENOID	
DO7000A2	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	
DO7000B2	HVAC/EMER DIESEL ROOM VENT INLET DAMPER	
SV7001A	HVAC/EMER DIESEL RM VENT INLET DAMPER SOLENOID	
SV7001B	HVAC/EMER DIESEL RM VENT INLET DAMPER SOLENOID	

Equipment ID	Description	SWEL?
DO7001A1	HVAC/VENTILATION FAN 1V-SF-20 RETURN AIR DAMPER	
DO7001B1	HVAC/VENTILATION FAN 1V-SF-21 RETURN AIR DAMPER	
I/E4396C	POWER SUPPLY.WR CNTMNT LVL XMTR	
I/E4396D	POWER SUPPLY,WR CNTMNT LVL XMTR	
I/E4397A	POWER SUPPLY,WIDE RANGE TORUS LEVEL	
I/E4397B	POWER SUPPLY,WIDE RANGE TORUS LEVEL	
I/E4398A	POWER SUPPLY,NR DW PRESSURE	
I/E4398B	POWER SUPPLY,NR DW PRESSURE	
I/E4399A	POWER SUPPLY.WR DW PRESS XMTR	
I/E4399B	POWER SUPPLY.WR DW PRESS XMTR	
I/E4599A	POWER SUPPLY.WR DW PRESS XMTR	
I/E4599B	POWER SUPPLY.WR DW PRESS XMTR	
LI4397A	TORUS WATER LEVEL INDICATOR,1.5 TO 16F	
LI4397B	TORUS WATER LEVEL INDICATOR,1.5 TO 16F	
LI4539	INDICATOR,LVL,RPS	
LI4540	INDICATOR,LVL,RPS	
LI4565B	INDICATOR,POST-ACCIDENT RPV SHROUD LEVEL	
LI4565C	INDICATOR, POST ACCIDENT RPV SHROUD LEVEL	
LR4396A	TORUS WATER LEVEL RECORDER	
LR4396B	TORUS WATER LEVEL RECORDER	
LR4565A	RECORDER,POST ACCIDENT RPV SHROUD LEVEL	
LR4565B	RECORDER,POST ACCIDENT RPV SHROUD LEVEL	
LS4565A	LEVEL SWITCH.RHR INTERLOCK	
LS4565B	LEVEL SWITCH.RHR INTERLOCK	
LS4565C	LEVEL SWITCH.RHR INTERLOCK	
LS4565D	LEVEL SWITCH.RHR INTERLOCK	
LT4396C	DW PRESSURE (TO FOR CONT WTR LEVEL INST)	
DO7001A2	HVAC/VENTILATION FAN 1V-SF-20 RETURN AIR DAMPER	
DO7001B2	HVAC/VENTILATION FAN 1V-SF-21 RETURN AIR DAMPER	
1VSF020	HVAC/EMER DIESEL ROOM VENT FAN	
1VSF021	HVAC/EMER DIESEL ROOM VENT FAN	
DO7002A1	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	
DO7002B1	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	
DO7002A2	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	
DO7002B2	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	
DO7002A3	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	
DO7002B3	HVAC/EMER DIESEL ROOM VENT EXHAUST DAMPER	
SV7002A	HVAC/EMER DIESEL RM VENT EXHAUST DAMPER SOLENOID	
SV7002B	HVAC/EMER DIESEL RM VENT EXHAUST DAMPER	

Equipment ID	Description	SWEL?
	SOLENOID	
1C019	SMP/PROCESS INSTRUMENTATION EQUIPMENT BOARD	
1C003	HPCI/RB & DW COOLING & ISOLATION CONTROL PANEL	
1C018	FW/FW & RECIRC CONTROL PANEL	
1C004	RWCU/RWCU & RECIRC CONTROL PANEL	
1C009	DRM/ACCIDENT MONITORING PANEL	
1C056	RPS/RPS INSTRUMENTATION PANEL	
1C056A	RPS/RX VESSEL LEVEL AND PRESS INSTR PNL	
1C005	CRD/REACTOR CONTROL PANEL	
1C055	RPS/RPS INSTRUMENTATION PANEL	
1C055A	RPS/RX VESSEL LEVEL AND PRESS INSTR PNL	
1C388	RSD/ALTERNATE SHUTDOWN PANEL	
1C008	BLD/GENERATOR AND AUXILIARY POWER PANEL	YES
1C129A	RHR/RHR LOOP A INSTRUMENTATION RACK	YES
1C129B	RHR/RHR LOOP B INSTRUMENTATION RACK	YES
1C120	HPCI/HPCI INSTRUMENTATION RACK	YES
1C128	RCIC INSTRUMENTATION RACK	
1C133A	CRHVAC/IVAC030A UNIT CONTROL PANEL	
1C133B	CRHVAC/IVAC030B UNIT CONTROL PANEL	
1C026	HVAC/TB & CB HVAC CONTROL PANEL	YES
1C033	RHR/DIVISION II RHR, CS & AUTO BLOWDOWN RELAY	YES
1C043	CS/DIVISION I CORE SPRAY RELAY VERTICAL BOARD	YES
1C422B	RSD/REMOTE SHUTDOWN FUSE PANEL	
1C351	4160VAC/ESSENTIAL BUS 1A3 DEGRADED VOLT DETECTOR	
1C006	CDS/FEEDWATER AND CONDENSATE CONTROL PANEL	
1C091	SBDG/SBDG 1G-31 GAUGE BOARD	
1C092	SBDG/SBDG 1G-21 GAUGE BOARD	YES
1C031	PNL/TURBINE GENERATOR RELAY PANEL	YES
1C352	4160VAC/ESSENTIAL BUS 1A4 DEGRADED VOLT DETECTOR	
1C058	RVR/RECIRC PUMP 1P201B INSTRUMENTATION RACK	
1C093	480VAC/SBDG 1G-31 CONTROL PANEL	YES
1C094	SBDG/SBDG 1G-21 CONTROL PANEL	YES
1C151	HVAC/EMER DIESEL ROOM VENT CONTROL CABINET	
1C152	HVAC/EMER DIESEL ROOM VENT CONTROL CABINET	YES
1C429A	CRHVAC/CONTROL BUILDING CHILLER A CONTROL PANEL	
1C429B	CRHVAC/CONTROL BUILDING CHILLER B CONTROL PANEL	
1C010	PROCESS RADIATION MONITOR VERTICAL BOARD	

Equipment ID	Description	SWEL?
1C011	AREA RADIATION MONITOR VERTICAL BOARD CONTROL	
1C013	T.I.P. (REACTOR NEUTRON MAPPING) CONTROL VERTICAL	YES
1C014	MSIV-LEAKAGE CONTROL PANEL	
1C016	REACTOR PROTECT SYSTEM TEST & MONITOR VERT BRD	
1C024	VERT BOARD	YES
1C029	EXCESS FLOW CHECK VALVES CONTROL PANEL	
1C035	PANEL, CAD	
1C121A	JET PUMP INSTRUMENT RACK	
1C121B	JET PUMP INSTRUMENT RACK	
1C122	INSTRUMENT RACK	
1C218A	PRIMARY CONTAINMENT H2-O2 ANALYZER PANEL	
1C218B	PRIMARY CONTAINMENT H2-O2 ANALYZER PANEL	
1C219A	PRIMARY CONTAINMENT RAD MONITORIN PANEL	
1C219B	PRIMARY CONTAINMENT RAD MONITORIN PANEL	
1C390	ALTERNATE SHUTDOWN CAPABILITY SYSTEM	
1C027	CONTROL ROD POSITION INFORMATION CABINET	
1C156	SUPPLY FAN 1V-SF-50 CONTROL PANEL	
1C157	SUPPLY FAN 1V-SF-51 CONTROL PANEL	
1C142	CONT ATMOSPHERE CONTROL INSTRUMENT PANEL	
1C015	CHAN A PRIMARY ISOL & RX PROTECTION VERTICAL BRD	
1C017	CHAN B PRIMARY ISOL & RX PROTECTION VERTICAL BRD	
1C126A	MAIN STEAM INSTRUMENT RACK	YES
1C126B	MAIN STEAM INSTRUMENT RACK	YES
1C057	RX RECIRC PUMP IP-201A INSTRUMENT RACK	
1L08	CRL/480V/277V LIGHTING PANEL	
AN8181A	INDICATOR, ANALYZER, CACS, CONT O2 MONITOR	
AN8181B	INDICATOR, ANALYZER, CACS, CONT O2 MONITOR	
AN8182A	INDICATOR, ANALYZER, CACS, CONT O2 MONITOR	
AN8182B	INDICATOR, ANALYZER, CACS, CONT O2 MONITOR	
AR4381A	RECORDER,ANALYZER CACS CONT H2	
AR4381B	RECORDER,ANALYZER CACS CONT O2	
AR4382A	RECORDER,ANALYZER CACS CONT H2	
AR4382B	RECORDER,ANALYZER CACS CONT O2	
E/E4396C	VOLTAGE TO VOLTAGE CONVERTER FOR DV PRESSURE PI4	
E/E4396D	VOLTAGE TO VOLTAGE CONVERTER FOR DV PRESSURE PI4	
E/S2207	POWER SUP,ELEC,HPCI,PT2207	
E/S2309	INVERTER, HPCI PROCESS INSTRUMENTATION	
E/S2403	POWER SUP,ELEC,RCIC,1S2O3 STM SUP PT2403	
E/S2509	INVERTER,DC TO AC.RCIC PUMP,1P216,DISCHA	
E/S4565A	POWER SUPPLY TO DIVISION I FOX NEST	

Equipment ID	Description	SWEL?
E/S4565B	POWER SUPPLY TO DIVISION II FOX NEXT	
E/S4599A	POWER SUP,ELEC,NONNUCINST,PT4599A	
E/S4599B	POWER SUP,ELEC,NONNUCINST,PT4599B	
LT4396D	DW PRESSURE (TO LY-4396B FOR CONT WTR LEVEL INST)	
LY4396A	CONTAINMENT WATER LEVEL SUMMER	
LY4396B	CONTAINMENT WATER LEVEL SUMMER	
LY4539	REACTOR LEVEL SIGNAL CONDITIONER LY4539	
LY4540	RX VESSEL LEVEL INSTR SIGNAL CONDITIONER	
LY4565A	LEVEL CONVERTER	
LY4565B	LEVEL CONVERTER	
LY4565C	LEVEL CONVERTER	
LY4565D	LEVEL CONVERTER	
PI2207	INDICATOR,PRESS,HPCI TURBIKE STEAM SUPPLY	
PI2403	INDICATOR,PRESS,RC1C,1S2O3 STN SUP LINE	
PI4396C	DV PRESSURE IKD.1C-03	
PI4396D	DW PRESSURE IND, 1C-03	
PI4398A	INDICATOR,PRESS,SPS,W,PRIMARY CONTAINMENT	
PI4398B	INDICATOR,PRESS,SPS,DV,PRIMARY CONTAINMENT	
PI4599A	INDICATOR,PRESS,NONNUCINST,IT201 REACTOR VESSEL	
PI4599B	INDICATOR,PRESS,NONNUCINST,IT201 REACTOR VESSEL	
PR4398A	RECORDER.PRESS.SPS.OW.PRIHARY CONTAINMENT	
PR4398B	RECORDER.PRESS.SPS.DW.PRIHARY CONTAINMENT	
PT2207	HPCI TURBINE STEAM INLET PRESSURE	
PT2403	RCIC TURBINE STEAM SUPPLY PRESSURE	
PT4398A	DRYWELL PRESSURE	
PT4398B	DRYWELL PRESSURE	
PT4399A	DRYWELL PRESSURE	
PT4399B	DRYWELL PRESSURE	
RE9184A	DRYWELL AREA RADIATION MONITOR	
RE9184B	DRYWELL AREA RADIATION MONITOR	
RE9185A	TORUS CHAMBER AREA RADIATION DETECTOR	
RE9185B	TORUS CHAMBER AREA RADIATION DETECTOR	
RIM9184A	INDICATOR,RAD,DW RADHON,DRYWELL AREA	
RIM9184B	INDICATOR,RAD,DW RADHON,DRYWELL AREA	
RIM9185A	INDICATOR,RAO,DW RADMON.TORUS CHAMBER AREA	
RIM9185B	INDICATOR,RAO,DW RADMON.TORUS CHAMBER AREA	
RR9184A	RECORDER,RAD,DW RADHON	
RR9184B	RECORDER,RAD,DW RADHON	
SV1870A	SCRAN DISCH VOLUME VENT AND DRAIN VALVE CONTROL	
SV1870B	SCRAN DISCH VOLUME VENT AND DRAIN VALVE	

Equipment ID	Description	SWEL?
	CONTROL	
SV3704	CV-3704 CONTROL AIR SUPPLY ISOLATION	
SV3705	CV-3705 CONTROL AIR SUPPLY ISOLATION	
SV3728	CV-3728 CONTROL AIR SUPPLY ISOLATION	
SV3729	CV-3729 CONTROL AIR SUPPLY ISOLATION	
SV4300	CV-4300 CONTROL AIR SUPPLY ISOLATION	
SV4300X	CV-4300 CONTROL AIR SUPPLY ISOLATION	
SV4301	CV-4301 CONTROL AIR SUPPLY ISOLATION	
SV4302	CV-4302 CONTROL AIR SUPPLY ISOLATION	
SV4302X	CV-4302 CONTROL AIR SUPPLY ISOLATION	
SV4303	CV-4303 CONTROL AIR SUPPLY ISOLATION	
SV4304	CV-4309 CONTROL AIR SUPPLY ISOLATION	
SV4305	CV-4305 CONTROL AIR SUPPLY ISOLATION	
SV4306	CV-4306 CONTROL AIR SUPPLY ISOLATION	
SV4307	CV-4307 CONTROL AIR SUPPLY ISOLATION	
SV4308	CV-4308 CONTROL AIR SUPPLY ISOLATION	
SV4309	CV-4309 CONTROL AIR SUPPLY ISOLATION	
SV4310	CV-4310 CONTROL AIR SUPPLY ISOLATION	
SV4311	CV-4311 CONTROL AIR SUPPLY ISOLATION	
SV4312	CV-4312 CONTROL AIR SUPPLY ISOLATION	
SV4313	CV-4313 CONTROL AIR SUPPLY ISOLATION	
SV4331A	LOWER DRYWELL SPRAY CAO N2 INBOARD ISOLATION	
SV4331B	LOWER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	
SV4332A	UPPER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	
SV4332B	UPPER DRYWELL SPRAY CAD N2 OUTBOARD ISOLATION	
SV4333A	WEST TORUS SPRAY HDR CAD N2 SUPPLY INBOARD	
SV4333B	WEST TORUS SPRAY HDR CAD N2 SUPPLY OUTBOARD ISOL	
SV4334A	NORTH TORUS SPRAY HEADER CAD N2 SUPPLY INBD ISOL	
SV4334B	NORTH TORUS SPRAY HEADER CAD N2 SUPPLY INBD ISOL	
SV4371A	CV-4371A CONTROL AIR SUPPLY ISOLATION	
SV4371C	CV-4371C CONTROL AIR SUPPLY ISOLATION	
SV4378A	CV-4378A CONTROL AIR SUPPLY ISOLATION	
SV4378B	CV-4378B CONTROL AIR SUPPLY ISOLATION	
SV4594A	LOOP A JET PUMP SAMPLE LINE INBOARD ISOLATION	
SV4594B	LOOP B JET PUMP SAMPLE LINE INBOARD ISOLATION	
SV4595A	LOOP A JET PUMP SAMPLE LINE OUTBOARD ISOLATION	
SV4595B	LOOP B JET PUMP SAMPLE LINE OUTBOARD ISOLATION	
SV8101A	DRYWELL #1 SAMPLE LINE ISOLATION	

Equipment ID	Description	SWEL?
SV8101B	DRYWELL #1 SAMPLE LINE ISOLATION	
SV8102A	DRYWELL #1 SAMPLE LINE ISOLATION	
SV8102B	DRYWELL #1 SAMPLE LINE ISOLATION	
SV8103A	DRYWELL #2 SAMPLE LINE ISOLATION	
SV8103B	DRYWELL #2 SAMPLE LINE ISOLATION	
SV8104A	DRYWELL #2 SAMPLE LINE ISOLATION	
SV8104B	DRYWELL #2 SAMPLE LINE ISOLATION	
SV8105A	DRYWELL SAMPLE RETURN LINE ISOLATION	
SV8105B	DRYWELL SAMPLE RETURN LINE ISOLATION	
SV8106A	DRYWELL SAMPLE RETURN LINE ISOLATION	
SV8106B	DRYWELL SAMPLE RETURN LINE ISOLATION	
SV8107A	CAM SYS A TORUS SAMPLE LINE INBOARD ISOL	
SV8107B	CAM SYS B TORUS SAMPLE LINE INBOARD ISOL	
SV8108A	CAM SYS A TORUS SAMPLE LINE OUTBOARD ISOL	
SV8108B	CAM SYS B TORUS SAMPLE LINE OUTBOARD ISOL	
SV8109A	CAM SYS A TORUS SAMPLE RETURN INBOARD IS	
SV8109B	CAM SYS B TORUS SAMPLE RETURN INBOARD IS	
SV8110A	CAM SYS A TORUS SAMPLE RETURN OUTBOARD I	
SV8110B	CAM SYS B TORUS SAMPLE RETURN OUTBOARD I	
SV8772A	PASS LIQ SAMPLE RETURN TO TORUS INBD ISO	
SV8772B	PASS LIQ SAMPLE RETURN TO TORUS OUTBD IS	
1B3219	RWCU INLET INBOARD ISOLATION MO-2700	
1B3220	MAIN STEAM LINE DRAIN INBD ISOLATION MO-4423	
1B3233	HPCI/RCIC TURB EXHAUST VACUUM BKR HO-2290A	
1B3411	CS PUMP 1P-211A OUTBOARD TORUS SUCTION HO-2100	
1B3413	CORE SPRAY LOOP A INBD INJECTION VALVE MO-2117	
1B3414	CORE SPRAY LOOP A TEST BYPASS VALVE MO-2112	
1B3415	CORE SPRAY PUMP 1P-211A MIN FLOW BYPASS MO-2104	
1B3417	RWCU RETURN HDR OUTBOARD ISOLATION MO-2740	
1B3419	RHR LOOP A DRYWELL SPRAY INBD ISOLATION MO-2000	
1B3420	RKR LOOP A DRYWELL SPRAY OUTBD ISOLATION MO-2001	
1B3423	RHR LOOP A TORUS CLNG & SPRAY ISOLATION MO-2005	
1B3424	RHR LOOP A TORUS SPRAY HDR ISOLATION MO-2005	
1B3425	RHR LOOP A TORUS CLNG & TEST RETURN ISOL MO-2007	
1B3426	RKR PUMPS 1P-229VC MIN FLOW BYPASS MO-2009	
1B3428	RHR PUMP 1P-229A TORUS SUCTION VALVE MO-2012	
1B3429	RHR PUHP 1P-229C TORUS SUCTION VALVE HO-2015	

Equipment ID	Description	SWEL?
1B3438	RHR LOOP B S/D COOLING INBD ISOLATION HO-1908	
1B3448	RHR LOOP A TORUS SUCTION ISOLATION MO-2069	
1B3449	CS PUMP 1P-211A INBOARD TORUS SUCTION HO-2147	
1B3451	RKR HX 1E201A SHELL SIDE VENT OUTBD ISOL HO-2044	
1B3452	RHR HX 1E201A SHELL SIDE VENT INBD ISOL MO-2044B	
1B3453	HPCI STEAH SUPPLY INBD ISOLATION HO-2233	
1B3493	RHR LOOP A LPCI INBOARD INJECTION VALVE HO-2003	
1B3701	MSIV-LCS LINE A INBOARD BLEED VALVE MO-8401A	
1B3702	MSIV-LCS LINE B INBOARD BLEED VALVE MO-8401A	
1B3703	MSIV-LCS LINE C INBOARD BLEED VALVE MO-8401A	
1B3704	MSIV-LCS LINE D INBOARD BLEED VALVE MO-8401A	
1B4208	RBCCW INLT TO DW EQUIP DRAIN SUMP HX MO-4841B	
1B4209	RCIC TURBINE STEAM SUPPLY ISOLATION MO-2400	
1B4224	RBCCW RETURN FROM EQUIP DRAIN SUMP HX MO4841A	
1B4232	HPCI/RCIC TURB EXHAUST VACUUM BREAKER MO-2290B	
1B4411	CS PUMP 1P211B OUTBOARD TORUS SUCTION MO-2120	
1B4413	CORE SPRAY LOOP B INBD INJECTION VALVE MO-2137	
1B4414	CORE SPRAY LOOP B TEST BYPASS VALVE MO-2132	
1B4415	CS PUMP 1P-211B MINIMUM FLOW BYPASS MO-2124	
1B4419	RHR LOOP B DRYWELL SPRAY INBD ISOLATION MO-1902	
1B4420	RHR LOOP B DRYWELL SPRAY OUTBD ISOLATION MO-1903	
1B4424	RHR PUMP 1P-229B TORUS SUCTION VALVE MO-1913	
1B4426	RHR PUMP 1P-229D TORUS SUCTION VALVE MO-1921	
1B4427	RHR LOOP B TORUS CLNG & SPRAY ISOLATION MO-1932	
1B4428	RKR LOOP B TORUS SPRAY HDR ISOLATION MO-1933	
1B4429	RHR LOOP B TORUS CLNG & TEST RETURN ISOL MO-1934	
1B4430	RHR PUMPS 1P-229B/D MIN FLOW BYPASS MO-1935	
1B4440	RKR LOOP B TORUS SUCTION ISOLATION MO-1989	
1B4441	CS PUMP 1P-211B INBOARD TORUS SUCTION MO-	

Equipment ID	Description	SWEL?
	2146	
1B4443	RKR HX 1E201B SHELL SIDE VENT QUTBD ISOL MO-1949	
1B4444	RHR HX 1E201B SHELL SIDE VENT INBD ISOL MO-1949B	
1B4493	RHR LOOP B LPCI INBOARD INJECTION VALVE MO-1905	
1D1401	RCIC TURBINE STM SUPPLY OUTBO ISOLATION HO-2401	
1D1406	RCIC PUMP MINIMUM FLOW BYPASS VALVE MO-2510	
1D1408	RCIC FEEDWATER INJECTION VALVE MO-2512	
1D1410	RCIC PUMP TORUS SUCTION INBD ISOLATION MO-2516	
1D1411	RCIC PWP TORUS SUCTION OUTBD ISOLATION HO-2517	
1D4101	HPCI OUTBOARD TORUS SUCTION HO-2322	
1D4102	HPCI INBOARD TORUS SUCTION MO-2321	
1D4103	HPCI MINIMUM FLOW BYPASS HO-2318	
1D4106	HPCI INJECTION VALVE MO-2312	
1D4109	HPCI OUTBOARD STEAM LINE ISOLATION MO-2239	
1D4203	MAIN STEAM LINE DRAIN OUTBO ISOLATION MO-4424	
1D4204	RWCU SUCTION OUTBOARD ISOLATION MO-2701	
1D4206	RHR LOOP B SHUTDOWN CLG OUTBD SUCTION MO-1909	
1Q122-BALL	A' TIP BALL VALVE	
1Q222-BALL	B' TIP BALL VALVE	
1Q322-BALL	C' TIP BALL VALVE	
HS2130	PT1962, FT2130, LITS4540 TRAN SW	
1S266	VALVE, INJECTION, NMS, TIP POSN CHG MECH 1S218	
1S801	Fuel Storage Pool	
GBB023*	RHR Discharge to fuel pool storage	
HBB025*	Drain FP skimmer surge tank to RHR	
V34-0001*	FP cooling sys RHR supply isolation	
V34-0048*	FP cooling sys RHR return isolation	
V34-0092*	Fuel storage pool RHR return vent	

*SC1 Equipment associated with Fuel Pool Cooling

C Seismic Walkdown Checklists (SWCs)

Table C-1. Summary of Seismic Walkdown Checklists

Equipment ID	SWEL Item No.	Equip Class	Equipment Description	Equipment Location	Area Walkby No.	Anchorage Check
1A3 (*)	7	3	4160VAC Switchgear	CB-757	CB-01	N
1B09 (*)	6	2	480VAC IS Load Center	IS-767	IS-02	N
1B42 (*)	1	1	480VAC CB MCC	CB-757	CB-02	Y
1B46 (*)	3	1	480VAC MCC	PH-761	PH-01	N
1B91 (*)	2	1	480VAC intake MCC	IS-767	IS-02	N
1C008	72	20	Aux power panel	CB-786	CB-06	N
1C013	73	20	TIP control board	CB-786	CB-06	Y
1C024	74	20	Vertical board	CB-786	CB-06	Y
1C026	75	20	HVAC TB & CB Cont panel	CB-786	CB-06	N
1C031	76	20	Turbine generator relay panel	CB-786	CB-06	N
1C033	77	20	RHR Div II, CS panel	CB-786	CB-06	Y
1C043	78	20	CS Div I Core Spray vertical board	CB-786	CB-06	Y
1C092	80	20	SBDG Gauge board	TB-757	TB-01	Y
1C093	82	20	480VAC SBDG Control panel	TB-757	TB-02	Y
1C094 (*)	81	20	SBDG 1G-21 control panel	TB-757	TB-01	N
1C120	66	18	HPCI instrument rack	RB-HPCI	RB-08	Y
1C126A	67	18	Main steam instrument rack	RB-757	RB-12	Y
1C126B	68	18	Main steam instrument rack	RB-757	RB-13	N
1C129A	65	18	RHR loop A instrument rack	RB-SECR	RB-07	Y
1C129B	64	18	RHR loop B instrument rack	RB-NWCR	RB-05	Y
1C152	79	20	SBDG vent control cabinet	TB-757	TB-01	N
1D1	57	15	125VDC Div 1 Battery	CB-757	CB-05	Y
1D2	55	15	125VDC Div 2 Battery	CB-757	CB-03	N
1D4	56	15	250VDC Battery	CB-757	CB-04	Y
1D10	51	14	125 VDC Div 1 Dist panel	CB-757	CB-01	N
1D11	52	14	125VDC div 1 distribution panel A	CB-757	CB-01	N
1D12	58	16	125 VDC div 1 battery 1D1 charger	CB-757	CB-01	Y
1D13	53	14	125VDC div 1 distribution panel C	CB-757	CB-01	N
1D14 (*)	5	1	125VDC RCIC MCC	RB-786	RB-15	N
1D25	61	16	120VAC instrument AC power supply	CB-757	CB-02	N
1D40	54	14	250VDC distribution panel	CB-757	CB-02	N
1D42 (*)	4	1	250 VDC MCC	RB-757	RB-12	N
1D43	60	16	250 VDC battery 1D4 charger	CB-757	CB-01	Y
1D120	59	16	125VDC back-up charger	CB-757	CB-01	Y
1G021/ENG	62	17	SBDG	TB-757	TB-01	N
1G031/ENG	63	17	SBDG	TB-757	TB-02	N
1K004	50	12	HVAC Instrument air compressor B	RB-786	RB-16	Y
1P044A	9	5	Diesel oil transfer pump	YARD-757	YD-01	N
1P099A	12	6	ESW pump A	PH-761	PH-02	Y
1P117A	11	6	RWS pump A	IS-767	IS-02	Y
1P117B	10	6	RWS pump B	IS-767	IS-01	Y
1P117C	16	6	RWS pump C	IS-767	IS-02	Y

Equipment ID	SWEL Item No.	Equip Class	Equipment Description	Equipment Location	Area Walkby No.	Anchorage Check
1P117D	17	6	RWS pump D	IS-767	IS-01	Y
1P211A	14	6	CS pump A	RB-SECR	RB-07	Y
1P229B	13	6	RHR pump B	RB-NWCR	RB-05	Y
1P229C	15	6	RHR pump C	RB-SECR	RB-07	Y
1R002A	83	21	MSIV Accumulator	RB-CRD RR	RB-11	Y
1R002C	95	21	MSIV Accumulator	RB-CRD RR	RB-11	Y
1T037A	94	21	1000 gal diesel oil day tank	TB-757	TB-04	N
1T037B	92	21	1000 gal diesel oil day tank	TB-757	TB-03	N
1T105A	93	21	CAV/CV4304 Control Air Supply Accumulator	RB-NECR	RB-04	Y
1T105B	96	21	CAV/CV4305 Control Air Supply Accumulator	RB-NECR	RB-04	Y
1T113A	88	21	Jacket water expansion tank	TB-757	TB-02	N
1T113B	85	21	Jacket water expansion tank	TB-757	TB-01	Y
1T115A	89	21	Diesel air receiver tank	TB-757	TB-02	N
1T115B	86	21	Diesel air receiver tank	TB-757	TB-01	Y
1T116A	90	21	Diesel air receiver	TB-757	TB-02	N
1T116B	87	21	Diesel air receiver	TB-757	TB-01	Y
1T117A	91	21	Diesel air receiver	TB-757	TB-02	N
1VAC011	46	10	HVAC/RHR & CS ROOM AC Unit A	RB-NWCR	RB-06	N
1VAC015A	47	10	RCIC/LOOP A RCIC Room Cooling Unit	RB-RCIC	RB-09	N
1VAC015B	48	10	RCIC/LOOP B RCIC Room Cooling Unit	RB-RCIC	RB-09	N
1VAC030A	44	10	CRHVAC, AC unit	CB-800	CB-07	Y
1VAC030B	45	10	CRHVAC, AC unit	CB-800	CB-07	Y
1VCH001A	49	11	Control building chiller A	RB-812	RB-17	N
1VEF030A	42	9	Bat. Room exhaust fan	CB-800	CB-07	Y
1VEF030B	43	9	Bat. Room exhaust fan	CB-800	CB-07	Y
1VHX031B	84	21	Non-essential cooling HX	RB-812	RB-17	N
1X031 (*)	8	4	480VAC Transformer	CB-757	CB-01	N
CV1804A	22	7	CRD/ A recirc pump mini purge supply	RB-757	RB-13	N/A
CV1804B	23	7	CRD/ B recirc pump mini purge supply	RB-757	RB-13	N/A
CV2080	28	7	ESW loop A diesel cooler isolation	TB-757	TB-02	N/A
CV2081	27	7	ESW loop B diesel cooler isolation	TB-757	TB-01	N/A
CV2234	21	7	HPCI cond ppg discharge to CRW isol	RB-HPCI	RB-08	N/A
CV3704	18	7	RS/DW floor drain sump inb-isolation	BAY-8	RB-02	N/A
CV3705	19	7	RS/DW floor drain sump out-isolation	BAY-8	RB-02	N/A
CV4357	20	7	Torus hard pipe vent line isolation	RB-NECR	RB-04	N/A
CV4415	26	7	MS/Main steam isolation valve (MSIV)	DW-757	DW-01	N/A
CV4909	25	7	RWS/River water radwaste dilution isolation	PH-727	PH-03	N/A
CV4910B	24	7	RWS/Loop B dilution isolation valve	PH-727	PH-03	N/A
MO1903	29	8	RHR B drywell spray out-isolation	BAY-14	RB-03	N/A
MO1904	38	8	RHR B LPCI out-inject valve	RB-RHR VR	RB-10	N/A
MO1908	39	8	RHR shutdown cooling suction isolation	DW-775	DW-02	N/A
MO1909	40	8	RHR shutdown cooling out-suction isolation	RB-RHR VR	RB-10	N/A
MO1920	33	8	RHR pump D isolation valve	RB-NWCR	RB-05	N/A
MO1932	30	8	RHR/LOOP B Torus spray outboard isolation	BAY-14	RB-03	N/A
MO1934	31	8	RHR/LOOP B Torus return isolation	BAY-13	RB-03	N/A
MO1940	34	8	RHR/LOOP B Hx bypass valve	RB-NWCR	RB-06	N/A
MO2000	41	8	RHR A inb-drywell spray valve	RB-786	RB-15	N/A
MO2003	36	8	RHR/LOOP A LPCI inboard inject	RB-RHR VR	RB-10	N/A

Equipment ID	SWEL Item No.	Equip Class	Equipment Description	Equipment Location	Area Walkby No.	Anchorage Check
MO2004	37	8	RHR Loop A LPCI Inject valve	RB-RHR VR	RB-10	N/A
MO2404	35	8	RCIC Turbine steam supply isolation	RB-RCIC	RB-09	N/A
PSE4357	97	0	Torus hard pipe vent line rupture disc	RB-NECR	RB-04	N/A
PT4599A	69	18	SRV/RCS PT	RB-786	RB-14	N
SV4357	32	8	CV4357 control air supply isolation	RB-NECR	RB-04	N/A
TE4324	71	19	Torus water temp	BAY-15	RB-03	N/A
TE4325	70	19	Torus water temp	BAY-4	RB-01	N/A

(*) Deferred. See Appendix E.

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1A3 (SWEL Item #7)

Equipment Class: (03) Medium Voltage Switchgear

Equipment Description: 4160VAC Switchgear

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Unknown

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Unknown

4. Is the anchorage free of visible cracks in the concrete near the anchors? Unknown

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Unknown

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1A3 (SWEL Item #7)

Equipment Class: (03) Medium Voltage Switchgear

Equipment Description: 4160VAC Switchgear

Interaction Effects

- | | |
|---|---------|
| 7. Are soft targets free from impact by nearby equipment or structures? | Unknown |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | Unknown |
| 9. Do attached lines have adequate flexibility to avoid damage? | Unknown |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Unknown |

Other Adverse Conditions

- | | |
|--|---------|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Unknown |
|--|---------|

Comments

Anchorage is internal. Item not walked down since panel was not opened due to electrical hazard. Seismic walkdown deferred – this issue has been entered into the station's action tracking program.

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1B09 (SWEL Item #81)

Equipment Class: (02) Low Voltage Switchgear

Equipment Description: 480VAC IS Load Center

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): IS, 767.00 ft, IS-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Unknown

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Unknown

4. Is the anchorage free of visible cracks in the concrete near the anchors? Unknown

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Unknown

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1B09 (SWEL Item #81)

Equipment Class: (02) Low Voltage Switchgear

Equipment Description: 480VAC IS Load Center

Interaction Effects

- | | |
|---|---------|
| 7. Are soft targets free from impact by nearby equipment or structures? | Unknown |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | Unknown |
| 9. Do attached lines have adequate flexibility to avoid damage? | Unknown |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Unknown |

Other Adverse Conditions

- | | |
|--|---------|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Unknown |
|--|---------|

Comments

Anchorage is internal. Item not walked down since panel was not opened due to electrical hazard. Seismic walkdown deferred – this issue has been entered into the station's action tracking program.

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1B42 (SWEL Item #1)

Equipment Class: (1) Motor Control Centers

Equipment Description: 480VAC CB MCC

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Bottom panels opened to access anchorage.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per Calculation 1B42 that was generated during the SQUG program implementation.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1B42 (SWEL Item #1)

Equipment Class: (1) Motor Control Centers

Equipment Description: 480VAC CB MCC

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead raceways and ductwork well supported.
Nearby block wall seismically analyzed per drawing BECH-C660, Rev. 6.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|---|---------|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Opened cubicles: 1B4227, 1B4228, 1B4202. Internal components well mounted. Other cubicles were not opened since equipment is energized and needed for plant operation. Where accessible, per above, vertical panels bolted to adjacent panels.</i> | Unknown |
|---|---------|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	
	_____		_____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1B46 (SWEL Item #3)

Equipment Class: (1) Motor Control Centers

Equipment Description: 480VAC MCC

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): PH, 761.00 ft, PH-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Mounted with 4 bolts.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes
*Surface corrosion observed and judged not to reduce material thickness.
Judged to be acceptable.*

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1B46 (SWEL Item #3)

Equipment Class: (1) Motor Control Centers

Equipment Description: 480VAC MCC

Interaction Effects

- | | | |
|-----|--|-----|
| 7. | Are soft targets free from impact by nearby equipment or structures?
<i>Overhead unit heater well supported.</i> | Yes |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead raceways well supported.</i> | Yes |
| 9. | Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. | Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | | |
|-----|--|---------|
| 11. | Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Top and middle cubicles opened. No internal components. Other cubicles were not opened since equipment is energized and needed for plant operation. 1/4" gap between panel and wall. Per SEWS the panel has no essential relays. Therefore, the gap is judged to be acceptable.</i> | Unknown |
|-----|--|---------|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	_____
_____		_____	

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1B91 (SWEL Item #2)

Equipment Class: (1) Motor Control Centers

Equipment Description: 480VAC intake MCC

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): IS, 767.00 ft, IS-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Two anchor bolts front and back in each bay. A few do not have full thread engagement but are judged to be acceptable.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1B91 (SWEL Item #2)

Equipment Class: (1) Motor Control Centers

Equipment Description: 480VAC intake MCC

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
*Overhead conduit and piping well supported.
Open S-hooks on light fixture does not cause a credible collapse on equipment.*
9. Do attached lines have adequate flexibility to avoid damage? Yes
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Unknown
*Opened cubicles 1B9103 & 1B9105. Internal components well mounted.
Bay attached to adjacent bay in 1B9103. Other cubicles were not opened since equipment is energized and needed for plant operation.
Completion of seismic walkdown deferred – this issue has been entered into the station's action tracking program.*

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C008 (SWEL Item #72)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: Aux power panel

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 786.00 ft, CB-06

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C008 (SWEL Item #72)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: Aux power panel

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead raceways and light fixtures well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Panel opened. Internal components well mounted.
Panel connected to 1C007 & 1C009. No seismic interaction.
Light bulb protection cages secured to porcelain socket with friction clamps.
Judged to be acceptable, but tightening clamps is recommended. The FIN team has tightened all loose light bulb cages.</i> | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	_____
_____	_____	_____	_____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C013 (SWEL Item #73)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: TIP control board

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 786.00 ft, CB-06

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per Calculation 1C013 that was generated during the SQUG program implementation.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C013 (SWEL Item #73)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: TIP control board

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead raceways and light fixtures well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
*Panel opened. Internal components well mounted.
Panel bolted to nearby panel 1C37.*

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C024 (SWEL Item #74)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: Vertical board

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 786.00 ft, CB-06

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per Calculation 1C024 that was generated during the SQUG program implementation.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C024 (SWEL Item #74)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: Vertical board

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead raceways and light fixtures well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|---|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Panel opened. Internal components well mounted.
Panel bolted to nearby panel 1C25.
Light bulb cages tug tested and judged to be acceptable.
The FIN team has tightened all loose light bulb cages.</i> | Yes |
|---|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C026 (SWEL Item #75)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: HVAC TB & CB Cont panel

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 786.00 ft, CB-06

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C031 (SWEL Item #76)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: Turbine generator relay panel

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 786.00 ft, CB-06

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | No |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware? | Yes |
| 3. | Is the anchorage free of corrosion that is more than mild surface oxidation? | Yes |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchors? | Yes |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | Not Applicable |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Yes |

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C031 (SWEL Item #76)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: Turbine generator relay panel

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|---|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Panel opened. Light bulb cages tug tested and judged to be acceptable.</i> | Yes |
|---|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C033 (SWEL Item #77)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: RHR Div II, CS panel

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 786.00 ft, CB-06

Manufacturer/Model: _____

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Per Note 2 on SEWS, anchorage for 1C033 is bounded by calculation for 1C026. Anchorage verified per Calculation 1C026 that was generated during the SQUG program implementation and drawing APED-H11-044, Rev. 17.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C033 (SWEL Item #77)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: RHR Div II, CS panel

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Nearby block wall seismically analyzed per drawing BECH-C664, Rev. 12.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|---|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Wireway cover partially dislodged and judged to be acceptable.
Panel opened. Internal components well mounted.
Attached to nearby panel 1C42 & 1C38.</i> | Yes |
|---|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C043 (SWEL Item #78)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: CS Div I Core Spray vertical board

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 786.00 ft, CB-06

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per Calculation 1C043 that was generated during the SQUG program implementation.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C092 (SWEL Item #80)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: SBDG Gauge board

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Mounted on 2 vibration isolators at the top and 3 at the bottom.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable
Gauge board welded to skid.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per drawing M015-059, Rev. 4.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C092 (SWEL Item #80)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: SBDG Gauge board

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead exhaust duct is well-supported and judged to be acceptable.
Adjacent masonry wall has been seismically analyzed per drawing BECH-C205, Rev. 23.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Flexible hoses judged to be acceptable.
Attached conduits have adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
Panel was opened. Internal components are well-mounted. Ladder stored nearby; relocated by plant personnel.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C093 (SWEL Item #82)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: 480VAC SBDG Control panel

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per Calculation 1C093 that was generated during the SQUG program implementation.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C093 (SWEL Item #82)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: 480VAC SBDG Control panel

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduits, light fixtures, fire protection piping, and ducts are well-supported and judged to be acceptable.</i>

<i>Adjacent masonry wall seismically analyzed per drawing BECH-C205, Rev. 23.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?

<i>Long conduit spans with bends have adequate flexibility.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Opened 5 panels with doors on 9-26-12. Internal components were well-mounted. 4 panels with screw mounts were not removed to view anchorage due to electrical safety concerns.</i>

<i>Four screw mount panels were opened on 10-12-12, viewed by DNC and MM. No internal mounting or interaction concerns.</i> | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini on 9/26/2012, D. Carter & M. Monsef on 10/12/2012

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C093 (SWEL Item #82)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: 480VAC SBDG Control panel

Evaluated by: _____ Detailed signed records of the checklists are available at
the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C094 (SWEL Item #81)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: SBDG 1G-21 control panel

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | No |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?

<i>Anchorage is interior to the cabinet. Cabinet consists of 9 bays.
Anchorage of south 5 bays were viewed.
Anchorage on north 4 bays were not accessible since bay doors was not opened due to electrical hazard.</i> | Unknown |
| 3. | Is the anchorage free of corrosion that is more than mild surface oxidation?

<i>No corrosion at anchorage in 5 south bays.
Anchorage in 4 north bays not accessible.</i> | Unknown |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchors?

<i>Minor cracking in grout pad at anchorage in 5 south bays judged to be acceptable.
Anchorage in 4 north bays not accessible.</i> | Unknown |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | Not Applicable |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Unknown |

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C094 (SWEL Item #81)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: SBDG 1G-21 control panel

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Adjacent masonry wall has been seismically analyzed per drawing BECH-C205, Rev. 23.
Overhead conduits, fire protection piping, and ducts are well-supported and judged to be acceptable.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Long conduit spans with bends have adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Unknown
Opened 5 south bays with doors. Internal components were well-mounted. Due to electrical hazard, did not open 4 panels with screw mounts to view interior.
Completion of seismic walkdown deferred – this issue has been entered into the station's action tracking program.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/26/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C120 (SWEL Item #66)

Equipment Class: (18) Instruments on Racks

Equipment Description: HPCI instrument rack

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 716.00 ft, RB-08

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
*2 – 1/2" anchor bolts per frame.
4 bays, last bay bolted to 3-bay frame.*

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per calculation 1C056 that was generated during the SQUG program implementation. The SEWS states that 1C120 is bounded by 1C056.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C120 (SWEL Item #66)

Equipment Class: (18) Instruments on Racks

Equipment Description: HPCI instrument rack

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C126A (SWEL Item #67)

Equipment Class: (18) Instruments on Racks

Equipment Description: Main steam instrument rack

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 757.00 ft, RB-12

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
4 frames each with 1/2" anchor bolts.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C126A (SWEL Item #67)

Equipment Class: (18) Instruments on Racks

Equipment Description: Main steam instrument rack

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes

Neutron shield blocks restrained by frame. If top layer is dislodged, blocks will fall between the top I beam flange/web. Judged to be acceptable.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes

*Overhead conduits well supported.
Nearby block wall seismically analyzed per drawing BECH-C405 Rev. 13.*

9. Do attached lines have adequate flexibility to avoid damage? Yes

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C126B (SWEL Item #68)

Equipment Class: (18) Instruments on Racks

Equipment Description: Main steam instrument rack

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 757.00 ft, RB-13

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | No |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?

<i>6 frames each anchored with 2 - 1/2" anchor bolts.</i> | Yes |
| 3. | Is the anchorage free of corrosion that is more than mild surface oxidation? | Yes |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchors? | Yes |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | Not Applicable |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Yes |

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C126B (SWEL Item #68)

Equipment Class: (18) Instruments on Racks

Equipment Description: Main steam instrument rack

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead raceways well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Rack with 4 bays, end bay separate but bolted to other three bays.
Nearby scaffolds well restrained.
Cart on wheels located behind rack. Cart lifted off floor near rack such that wheels are off the floor. Cart is mildly top heavy. Recommend securing top of cart to heavy pipe support; performed by plant personnel. No immediate seismic concern.
Temp. power supply on wheels in front of rack secured to column judged acceptable.</i> | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	
	_____		_____
	_____		_____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C129A (SWEL Item #65)

Equipment Class: (18) Instruments on Racks

Equipment Description: RHR loop A instrument rack

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 716.00 ft, RB-07

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | Yes |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware? | Yes |
| 3. | Is the anchorage free of corrosion that is more than mild surface oxidation? | Yes |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchors? | Yes |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)
<i>3 frames with (2) 3/8" bolts for each frame.
 Anchorage verified per SEWS which states that the anchorage is bounded by Calculation 1C056 that was generated during the SQUG program implementation.</i> | Yes |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Yes |

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C129A (SWEL Item #65)

Equipment Class: (18) Instruments on Racks

Equipment Description: RHR loop A instrument rack

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>Nearby HX 1E-201A well supported.</i> | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduits, cable trays, and light fixtures well supported.
Masonry wall seismically analyzed per drawing BECH-C401, Rev. 10.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Nearby scaffold under construction well restrained.</i> | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C129B (SWEL Item #64)

Equipment Class: (18) Instruments on Racks

Equipment Description: RHR loop B instrument rack

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 716.00 ft, RB-05

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
3 frames with (2) 3/8" bolts for each frame. Verified per SEWS which states that anchorage is bounded by 1C056 anchorage.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C129B (SWEL Item #64)

Equipment Class: (18) Instruments on Racks

Equipment Description: RHR loop B instrument rack

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
Nearby HX 1E-201B well supported.
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead raceways, pipes, and light fixtures well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C152 (SWEL Item #79)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: SBDG vent control cabinet

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Mounted with 4 internal anchors.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1C152 (SWEL Item #79)

Equipment Class: (20) Instrumentation and Control Panels and Cabinets

Equipment Description: SBDG vent control cabinet

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits well-supported and judged to be acceptable.
Adjacent masonry wall seismically analyzed per drawing BECH-C205, Rev. 23.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached lines mounted to same wall and judged to be acceptable.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
Nearby scaffold is adequately restrained.
Panel opened. Internal components are well-mounted.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/25/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D1 (SWEL Item #57)

Equipment Class: (15) Batteries on Racks

Equipment Description: 125VDC Div 1 Battery

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-05

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Missing anchorage consistent with analyzed configuration as shown on page 4 of Calculation 1D1 that was generated during the SQUG program implementation.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes
Minor cracks in grout. Judged acceptable.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Bolt head flat-to-flat is 7/8", which is a 1/2" bolt per AISC Manual of Steel Construction, and is the same bolt size as analyzed in Calculation 1D1.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D1 (SWEL Item #57)

Equipment Class: (15) Batteries on Racks

Equipment Description: 125VDC Div 1 Battery

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| | |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduit and ductwork well supported.</i>
<i>Nearby block walls are seismically analyzed per drawing BECH-C660, Rev. 6.</i> | Yes |
| | |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Cable from conduit has sufficient slack.</i> | Yes |
| | |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter and N. Juraydini - 9/24/12

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D2 (SWEL Item #55)

Equipment Class: (15) Batteries on Racks

Equipment Description: 125VDC Div 2 Battery

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-03

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | No |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?

<i>One missing bolt in west most frame of the south bank, 3rd from the south. Judged to be acceptable since bounded by configuration of 1D1.</i> | Yes |
| 3. | Is the anchorage free of corrosion that is more than mild surface oxidation? | Yes |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchors? | Yes |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | Not Applicable |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Yes |

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D2 (SWEL Item #55)

Equipment Class: (15) Batteries on Racks

Equipment Description: 125VDC Div 2 Battery

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| | |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduit and ductwork well supported.
Nearby block wall seismically analyzed per drawing BECH-C660, Rev. 6.</i> | Yes |
| | |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Cable for conduit at wall has sufficient slack.</i> | Yes |
| | |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D4 (SWEL Item #56)

Equipment Class: (15) Batteries on Racks

Equipment Description: 250VDC Battery

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-04

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes
Minor crack in grout is judged to be acceptable.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per Calculation M87-46 Rev 0, which applies to the 250 VDC battery racks.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D4 (SWEL Item #56)

Equipment Class: (15) Batteries on Racks

Equipment Description: 250VDC Battery

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduit and ductwork well supported.
Masonry wall seismically analyzed per drawing BECH-C660, Rev. 6.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached cable is flexible.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
Eyewash well mounted.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D10 (SWEL Item #51)

Equipment Class: (14) Distribution Panels

Equipment Description: 125 VDC Div 1 Dist panel

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Mounted to floor with 4 bolts. Attached to Unistrut on block wall with 2 bolts. Unistrut anchors not accessible.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D10 (SWEL Item #51)

Equipment Class: (14) Distribution Panels

Equipment Description: 125 VDC Div 1 Dist panel

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead raceways well supported.
Nearby block wall seismically analyzed per drawing BECH-C660, Rev. 6.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached to same wall.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
Lower panel opened. No internal mounting or interaction concerns. Top panel has relay and was not opened, but was viewed from below.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D11 (SWEL Item #52)

Equipment Class: (14) Distribution Panels

Equipment Description: 125VDC div 1 distribution panel A

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
*Mounted to Unistrut on wall with four bolts.
Unistrut anchor to wall not accessible.*

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D11 (SWEL Item #52)

Equipment Class: (14) Distribution Panels

Equipment Description: 125VDC div 1 distribution panel A

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead raceways well supported.
Nearby block wall seismically restrained per drawing BECH-C660, Rev. 6.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached to same block wall.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
Panel opened. Internal components well mounted.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D12 (swell item #58)

Equipment Class: (16) Inverters

Equipment Description: 125 VDC div 1 battery 1D1 charger

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes
Minor chipping in grout judged to be acceptable.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
6 - 3/4" anchor bolts each base plate.
Anchorage verified per Calculation 1D120 that was generated during the SQUG program implementation, which the SEWS states is applicable to 1D12.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D12 (swell item #58)

Equipment Class: (16) Inverters

Equipment Description: 125 VDC div 1 battery 1D1 charger

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Top panel opened. Internal components well mounted. Lower panel inaccessible.</i> | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D13 (SWEL Item #53)

Equipment Class: (14) Distribution Panels

Equipment Description: 125VDC div 1 distribution panel C

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
*Mounted to Unistrut on wall with four bolts.
Unistrut anchor to wall not accessible.*

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D13 (SWEL Item #53)

Equipment Class: (14) Distribution Panels

Equipment Description: 125VDC div 1 distribution panel C

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead raceways well supported.
Nearby block wall seismically analyzed per drawing BECH-C660, Rev. 6.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached to same wall.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Panel opened. Internal components well mounted.</i> | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	
	_____		_____
	_____		_____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D14 (SWEL Item #5)

Equipment Class: (1) Motor Control Centers

Equipment Description: 125VDC RCIC MCC

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 786.00 ft, RB-15

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
1 plug weld in front and back of each bay.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D14 (SWEL Item #5)

Equipment Class: (1) Motor Control Centers

Equipment Description: 125VDC RCIC MCC

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
*Overhead raceways and HVAC ductwork well supported.
Nearby masonry block wall seismically analyzed per drawing BECH-C412, Rev. 22.*
9. Do attached lines have adequate flexibility to avoid damage? Yes
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Unknown
*Opened cubicles 1D1410, 1D1405, 1D1402. Internal components well mounted. Attachment to adjacent bay observed in 1D1410 & 1D1405. Other cubicles were not opened since equipment is energized and needed for plant operation.
Completion of seismic walkdown deferred – this issue has been entered into the station's action tracking program.*

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D25 (SWEL Item #61)

Equipment Class: (16) Inverters

Equipment Description: 120VAC instrument AC power supply

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes
Minor cracks in grout judged to be acceptable.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D25 (SWEL Item #61)

Equipment Class: (16) Inverters

Equipment Description: 120VAC instrument AC power supply

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead raceways well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Panel opened. Internal components well mounted.</i> | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D40 (SWEL Item #54)

Equipment Class: (14) Distribution Panels

Equipment Description: 250VDC distribution panel

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Anchored with four anchors to floor and two to the wall.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D40 (SWEL Item #54)

Equipment Class: (14) Distribution Panels

Equipment Description: 250VDC distribution panel

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
*Overhead cable trays and conduit well supported.
Block wall is seismic per drawing BECH-C660, Rev. 6.*
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached to wall. No concerns.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
Lower panel opened. No internal mounting or interaction concerns. Top panel has relay and was not opened, but was viewed from below.

Comments

Seismic Walkdown Team: D. Carter & M. Monsef - 10/12/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D42 (SWEL Item #4)

Equipment Class: (1) Motor Control Centers

Equipment Description: 250 VDC MCC

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 757.00 ft, RB-12

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | No |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?

<i>Total 4 anchor bolts on clip each bay front and back.</i> | Yes |
| 3. | Is the anchorage free of corrosion that is more than mild surface oxidation? | Yes |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchors? | Yes |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | Not Applicable |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Yes |

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D42 (SWEL Item #4)

Equipment Class: (1) Motor Control Centers

Equipment Description: 250 VDC MCC

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead raceways, ductwork, and piping well supported.
Nearby masonry block wall seismically analyzed per drawing BECH-C405, Rev. 13.
9. Do attached lines have adequate flexibility to avoid damage? Yes
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Unknown
Opened cubicles 1D4207 and 1D4202. Internal components well mounted.
Bay attached to adjacent bay. Other cubicles were not opened since equipment is energized and needed for plant operation.
Completion of seismic walkdown deferred – this issue has been entered into the station's action tracking program.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D43 (SWEL Item #60)

Equipment Class: (16) Inverters

Equipment Description: 250 VDC battery 1D4 charger

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage (6 - 3/4" anchor bolts at each baseplate) verified per Calculation 1D120 that was generated during the SQUG program implementation, which the SEWS states is applicable to 1D43.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D43 (SWEL Item #60)

Equipment Class: (16) Inverters

Equipment Description: 250 VDC battery 1D4 charger

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
Panel in contact with fireproofing on backside. Judged to be acceptable since fireproofing is soft.
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
*Overhead raceways well supported.
Nearby block wall seismically analyzed per drawing BECH-C660, Rev. 6.*
9. Do attached lines have adequate flexibility to avoid damage? Yes
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
Opened panel on 10/12/12, witnessed by DNC and MM. No internal mounting or interaction issues.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D120 (SWEL Item #59)

Equipment Class: (16) Inverters

Equipment Description: 125VDC back-up charger

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes
Minor surface corrosion on left baseplate judged to be acceptable.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes
Minor cracks in grout judged to be acceptable.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
*6 - 3/4" anchor bolts each base plate.
Verified per Calculation 1D120 that was generated during the SQUG program implementation.*

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1D120 (SWEL Item #59)

Equipment Class: (16) Inverters

Equipment Description: 125VDC back-up charger

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Panel opened. Internal components well mounted.</i> | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1G021/ENG (SWEL Item #62)

Equipment Class: (17) Engine-Generators

Equipment Description: SBDG

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes
Minor cracks in grout. Judged acceptable.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1G021/ENG (SWEL Item #62)

Equipment Class: (17) Engine-Generators

Equipment Description: SBDG

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Nearby masonry walls seismically analyzed per drawing BECH-C205, Rev. 23.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Nearby scaffolding well restrained.</i> | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter and N. Juraydini - 9/25/12

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1G031/ENG (SWEL Item #63)

Equipment Class: (17) Engine-Generators

Equipment Description: SBDG

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes
Minor cracking in grout judged to be acceptable.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1G031/ENG (SWEL Item #63)

Equipment Class: (17) Engine-Generators

Equipment Description: SBDG

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Adjacent masonry wall seismically analyzed per drawing BECH-C205, Rev. 23.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage? | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/24/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1K004 (SWEL Item #50)

Equipment Class: (12) Air Compressors

Equipment Description: HVAC Instrument air compressor B

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 786.00 ft, RB-16

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes
Spalling in anchor bolt as shown in Calculation 1K-004 that was generated during the SQUG program implementation. Judged to be acceptable.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per Calculation 1K-004.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1K004 (SWEL Item #50)

Equipment Class: (12) Air Compressors

Equipment Description: HVAC Instrument air compressor B

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits and piping well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached conduit is flexible.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P044A (SWEL Item #9)

Equipment Class: (5) Horizontal Pumps

Equipment Description: Diesel oil transfer pump

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): YARD, 757.00 ft, YD-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Pump mounted to flange of tank.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes
Minor surface corrosion judged acceptable.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P044A (SWEL Item #9)

Equipment Class: (5) Horizontal Pumps

Equipment Description: Diesel oil transfer pump

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead junction boxes and piping are well-supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached with flexible conduits.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/27/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P099A (SWEL Item #12)

Equipment Class: (6) Vertical Pumps

Equipment Description: ESW pump A

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): PH, 761.00 ft, PH-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per drawing BECH-C017, Rev 24, and drawing BECH-C685, Rev 6.
Note 8 of drawing BECH-C016, Rev. 21, requires double-nuts on vibrating equipment. None were observed. However, this is judged to be acceptable since no loose hardware was observed. This issue has been entered into the station's action tracking program.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P099A (SWEL Item #12)

Equipment Class: (6) Vertical Pumps

Equipment Description: ESW pump A

Interaction Effects

- 7. Are soft targets free from impact by nearby equipment or structures? Yes

- 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduit, HVAC duct, & piping well supported.
No masonry walls.
Overhead light fixture not a credible seismic concern.

- 9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached conduit is flexible.

- 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

- 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P117A (SWEL Item #11)

Equipment Class: (6) Vertical Pumps

Equipment Description: RWS pump A

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): IS, 767.00 ft, IS-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | Yes |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware? | Yes |
| 3. | Is the anchorage free of corrosion that is more than mild surface oxidation? | Yes |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchors? | Yes |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)
<i>Anchorage verified per drawing BECH-C016, Rev. 21, & drawing BECH-C027, Rev. 5. Note 8 on drawing BECH-C016, Rev. 21, requires double nuts on vibration equipment. None were observed. This is judged to be acceptable since no loose hardware was observed. This issue has been entered into the station's action tracking program.</i> | Yes |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Yes |

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P117A (SWEL Item #11)

Equipment Class: (6) Vertical Pumps

Equipment Description: RWS pump A

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
Overhead louver well supported.
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead light fixture and conduit well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached conduit is flexible.
Attached piping has adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P117B (SWEL Item #10)

Equipment Class: (6) Vertical Pumps

Equipment Description: RWS pump B

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): IS, 767.00 ft, IS-01

Manufacturer/Model: _____

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | Yes |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware? | Yes |
| 3. | Is the anchorage free of corrosion that is more than mild surface oxidation? | Yes |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchors?

<i>Minor chipping in pedestal judged to be acceptable.</i> | Yes |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)

<i>Anchorage per drawings BECH-C016, Rev. 21 and BECH-C027, Rev. 5.</i>

<i>Note 8 of drawing BECH-C016, Rev. 21, requires double-nuts on vibrating equipment. None were observed. However, this is judged to be acceptable since no loose hardware was observed. This issue has been entered into the station's action tracking program.</i> | Yes |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Yes |

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P117B (SWEL Item #10)

Equipment Class: (6) Vertical Pumps

Equipment Description: RWS pump B

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
Overhead louver well-supported and judged to be acceptable.
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits and light fixtures well-supported and judged to be acceptable.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached piping has adequate flexibility.
Flexible conduits are judged to be acceptable.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P117C (SWEL Item #16)

Equipment Class: (6) Vertical Pumps

Equipment Description: RWS pump C

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): IS, 767.00 ft, IS-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per drawing BECH-C016, Rev. 21, & drawing BECH-C027, Rev. 5. Note 8 on drawing BECH-C016, Rev. 21, requires double nuts on vibration equipment. None were observed. This is judged to be acceptable since no loose hardware was observed. This issue has been entered into the station's action tracking program.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P117C (SWEL Item #16)

Equipment Class: (6) Vertical Pumps

Equipment Description: RWS pump C

Interaction Effects

- | | | |
|-----|---|-----|
| 7. | Are soft targets free from impact by nearby equipment or structures?

<i>Overhead louver well supported.
Nearby heater 1V-UH-52B well supported.</i> | Yes |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?

<i>Overhead conduit and light fixtures well supported.
S hook for light fixture between 1P117A & B is slightly open. Judged to be acceptable.</i> | Yes |
| 9. | Do attached lines have adequate flexibility to avoid damage?

<i>Attached conduit is flexible.
Attached lines have adequate flexibility.</i> | Yes |
| 10. | Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | | |
|-----|--|-----|
| 11. | Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|-----|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	_____
_____		_____	

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P117D (SWEL Item #17)

Equipment Class: (6) Vertical Pumps

Equipment Description: RWS pump D

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): IS, 767.00 ft, IS-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes
Some corrosion on baseplate judged to be acceptable.

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per drawing BECH-C016, Rev. 21, & drawing BECH-C027, Rev. 5. Note 8 on drawing BECH-C016, Rev. 21, requires double nuts on vibration equipment. None were observed. This is judged to be acceptable since no loose hardware was observed. This issue has been entered into the station's action tracking program.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P117D (SWEL Item #17)

Equipment Class: (6) Vertical Pumps

Equipment Description: RWS pump D

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>Overhead louver well supported.</i> | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Bug zappers above PI-2909D has open S-hooks. Collapse not credible and judged to be acceptable.
Overhead piping well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.
Attached piping has adequate flexibility.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P211A (SWEL Item #14)

Equipment Class: (6) Vertical Pumps

Equipment Description: CS pump A

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 716.00 ft, RB-07

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | Yes |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware? | Yes |
| 3. | Is the anchorage free of corrosion that is more than mild surface oxidation? | Yes |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchors? | Yes |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)
<i>Anchorage verified per drawing BECH-C017, Rev. 24, & Drawing BECH-C539, Rev. 5. Note 8 on drawing BECH-C016, Rev. 21, requires double nuts on vibration equipment. None were observed. This is judged to be acceptable since no loose hardware was observed. This issue has been entered into the station's action tracking program.</i> | Yes |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Yes |

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P211A (SWEL Item #14)

Equipment Class: (6) Vertical Pumps

Equipment Description: CS pump A

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Masonry wall seismically analyzed per drawing BECH-C401, Rev. 10.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached conduit is flexible.
Attached piping has adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
Nearby scaffold well restrained.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P229B (SWEL Item #13)

Equipment Class: (6) Vertical Pumps

Equipment Description: RHR pump B

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 716.00 ft, RB-05

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per drawing MECH-C017, Rev. 24, & Drawing BECH-C539, Rev. 5. Note 8 on drawing BECH-C016, Rev 21 requires double nuts on vibration equipment. None were observed. This is judged to be acceptable since no loose hardware was observed. This issue has been entered into the station's action tracking program.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P229B (SWEL Item #13)

Equipment Class: (6) Vertical Pumps

Equipment Description: RHR pump B

Interaction Effects

- 7. Are soft targets free from impact by nearby equipment or structures? Yes

- 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits, light fixtures, and piping well supported.
Masonry wall seismically analyzed per drawing BECH-C400, Rev. 8.

- 9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached conduit is flexible.

- 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

- 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P229C (SWEL Item #15)

Equipment Class: (6) Vertical Pumps

Equipment Description: RHR pump C

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 716.00 ft, RB-07

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per Drawing BECH-C017, Rev 24 & BECH-C539, Rev 5. Note 8 in drawing BECH-C016, Rev. 21, requires double nuts on vibration equipment. None were observed. However, this is judged to be acceptable since no loose hardware was observed. This issue has been entered into the station's action tracking program.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1P229C (SWEL Item #15)

Equipment Class: (6) Vertical Pumps

Equipment Description: RHR pump C

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| | |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Masonry wall seismically analyzed per drawing BECH-C401, Rev. 10.</i> | Yes |
| | |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduits are flexible.
Attached piping has adequate flexibility.</i> | Yes |
| | |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	
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Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1R002A (SWEL Item #83)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: MSIV Accumulator

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 757.00 ft, RB-11

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes
Hairline cracks in concrete judged to be acceptable.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per drawings BECH-C017, Rev. 24, and M048-001, Rev. 2.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1R002A (SWEL Item #83)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: MSIV Accumulator

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Nearby block wall seismically analyzed per drawing BECH-C405, Rev. 13.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached piping has adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1R002C (SWEL Item #95)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: MSIV Accumulator

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 757.00 ft, RB-11

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage verified per drawings BECH-C017, Rev. 24, and M048-001, Rev. 2.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1R002C (SWEL Item #95)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: MSIV Accumulator

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Nearby block wall seismically analyzed per drawing BECH-C405, Rev. 13.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached piping has adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T037A (SWEL Item #94)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: 1000 gal diesel oil day tank

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-04

Manufacturer/Model: _____

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No
Four 1" bolts on each side.

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T037A (SWEL Item #94)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: 1000 gal diesel oil day tank

Interaction Effects

- | | | |
|-----|--|-----|
| 7. | Are soft targets free from impact by nearby equipment or structures?
<i>Overhead ducts are well-supported and judged to be acceptable.</i> | Yes |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Adjacent masonry wall has been seismically analyzed per drawing BECH-C205, Rev. 23.</i> | Yes |
| 9. | Do attached lines have adequate flexibility to avoid damage?
<i>Attached piping has adequate flexibility.</i> | Yes |
| 10. | Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | | |
|-----|--|-----|
| 11. | Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|-----|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/27/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	
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Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T037B (SWEL Item #92)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: 1000 gal diesel oil day tank

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-03

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Four 1" bolts on each side.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T037B (SWEL Item #92)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: 1000 gal diesel oil day tank

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>Overhead ducts are well-supported.</i> | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Masonry wall has been seismically analyzed per drawing BECH-C205, Rev. 23.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached piping has adequate flexibility.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/26/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	
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Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T105A (SWEL Item #93)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: CAV/CV4304 Control Air Supply Accumulator

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 716.00 ft, RB-04

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
*3 - 1/2" bolts. Available bolt hole is 3/4" per drawing M048-001, Rev. 2.
SEWS accepted anchorage using judgment. Seismic walkdown team concurs.*

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T105A (SWEL Item #93)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: CAV/CV4304 Control Air Supply Accumulator

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits and piping well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
SEWS confirms that 3/4" copper piping attached to the top of the tank is not a seismic concern.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T105B (SWEL Item #96)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: CAV/CV4305 Control Air Supply Accumulator

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 716.00 ft, RB-04

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
*3 - 1/2" bolts. Available bolt hole is 3/4" per drawing M048-001, Rev. 2.
SEWS accepted anchorage using judgment. Seismic walkdown team concurs.*

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T105B (SWEL Item #96)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: CAV/CV4305 Control Air Supply Accumulator

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduits and piping well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>SEWS confirms that 3/4" copper piping attached to the top of the tank is not a seismic concern.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T113A (SWEL Item #88)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Jacket water expansion tank

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Lower right nut is not fully-tightened but has full thread engagement and is judged to be acceptable.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T113A (SWEL Item #88)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Jacket water expansion tank

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes

No interaction concerns with sight glass.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes

Overhead light fixtures, conduits, and piping well-supported and judged to be acceptable.

Adjacent masonry wall seismically analyzed per drawing BECH-C205, Rev. 23.

9. Do attached lines have adequate flexibility to avoid damage? Yes

Piping attached to the same wall and is judged to be acceptable.

Flexible connections are judged to be acceptable.

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/25/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T113B (SWEL Item #85)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Jacket water expansion tank

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage per SEWS.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T113B (SWEL Item #85)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Jacket water expansion tank

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes

Light fixture attached to rigid support at one end and blocked from contact with tank's sight glass at other end by masonry wall. Judged to be acceptable.

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes

Adjacent masonry wall seismically analyzed per drawing BECH-C205, Rev. 23.

9. Do attached lines have adequate flexibility to avoid damage? Yes

Flexible connections judged to be acceptable.

Piping attached to same wall and judged to be acceptable.

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T115A (SWEL Item #89)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Diesel air receiver tank

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Four 3/4" cast in place anchors.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes
Minor chipping in concrete pad judged to be acceptable.

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T115A (SWEL Item #89)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Diesel air receiver tank

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits and piping are well-supported and judged to be acceptable.
Adjacent masonry wall seismically analyzed per drawing BECH-C205, Rev. 23.
9. Do attached lines have adequate flexibility to avoid damage? Yes
1/8" gap in 3/4" line clamp near valve V-32-37 provides adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/25/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T115B (SWEL Item #86)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Diesel air receiver tank

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage per drawings BECH-C016, Rev. 21, and M15-058, dated 12-27-71.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T115B (SWEL Item #86)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Diesel air receiver tank

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead duct well-supported and judged to be acceptable.
Adjacent masonry wall has been seismically analyzed per drawing BECH-C205, Rev. 23.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Overhead pipe in contact with conduit 2M607 judged to be acceptable.
Gap in pipe support clamp near valve V-32-49 provides adequate flexibility in 3/4" pipe.
Gap at pipe support near valve V-32-48 provides adequate flexibility in 3/4" pipe.
Attached overhead piping has adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/25/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T116A (SWEL Item #90)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Diesel air receiver

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Four 3/4" cast in place anchors.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T116A (SWEL Item #90)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Diesel air receiver

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Adjacent masonry wall seismically analyzed per drawing BECH-C205, Rev. 23.
Overhead conduits and piping are well-supported and judged to be acceptable.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached piping has adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T116B (SWEL Item #87)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Diesel air receiver

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
Anchorage per drawings BECH-C016, Rev. 21, and M15-058, dated 12-27-71.

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T116B (SWEL Item #87)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Diesel air receiver

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Adjacent masonry wall has been seismically analyzed per drawing BECH-C205, Rev. 23.
Overhead ducts are well-supported and judged to be acceptable.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached piping has adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T117A (SWEL Item #91)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Diesel air receiver

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Four 3/4" cast in place anchors.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1T117A (SWEL Item #91)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Diesel air receiver

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
Overhead air handling unit is well-supported and judged to be acceptable.
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits and fire protection piping is well-supported and judged to be acceptable.
9. Do attached lines have adequate flexibility to avoid damage? Yes
SEWS notes for tank state that seismic displacements of the tank are minimal. It is judged that the minimal tank displacements will not adversely affect the attached lines.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/25/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VAC011 (SWEL Item #46)

Equipment Class: (10) Air Handlers

Equipment Description: HVAC/RHR & CS ROOM AC Unit A

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 734.00 ft, RB-06

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | No |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?

<i>Equipment mounted on floor grating with washer plates. Mounting bolts viewed from below and are: 2 bolts on short side, 4 bolts on long side. Back side bolts not accessible from above but viewed from below. All bolts are 1/2" except one 3/8", judged acceptable.</i> | Yes |
| 3. | Is the anchorage free of corrosion that is more than mild surface oxidation? | Yes |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchors? | Not Applicable |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | Not Applicable |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Yes |

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VAC011 (SWEL Item #46)

Equipment Class: (10) Air Handlers

Equipment Description: HVAC/RHR & CS ROOM AC Unit A

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Located near ceiling, therefore, no overhead equipment.
Connections made with flexible conduits are acceptable.
Attached rigid conduit and piping have adequate flexibility.
9. Do attached lines have adequate flexibility to avoid damage? Yes
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter and N. Juraydini - 9/24//12

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VAC015A (SWEL Item #47)

Equipment Class: (10) Air Handlers

Equipment Description: RCIC/LOOP A RCIC Room Cooling Unit

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 724.50 ft, RB-09

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Mounted to steel frame with 4 rod hangers. Frame attached to floor steel beams.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VAC015A (SWEL Item #47)

Equipment Class: (10) Air Handlers

Equipment Description: RCIC/LOOP A RCIC Room Cooling Unit

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Fire protection line is adequately supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached lines have adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VAC015B (SWEL Item #48)

Equipment Class: (10) Air Handlers

Equipment Description: RCIC/LOOP B RCIC Room Cooling Unit

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 724.50 ft, RB-09

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Mounted to steel frame with 4 rod hangers. Frame attached to floor steel beams.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VAC015B (SWEL Item #48)

Equipment Class: (10) Air Handlers

Equipment Description: RCIC/LOOP B RCIC Room Cooling Unit

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Fire protection line well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached lines have adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VAC030A (SWEL Item #44)

Equipment Class: (10) Air Handlers

Equipment Description: CRHVAC, AC unit

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 800.00 ft, CB-07

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Surface corrosion is judged to be acceptable.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
West side has bolts with a 3/4" flat-to-flat dimension. The bolts are therefore 1/2" bolts.
East side has 1/2" expansion anchors.
Per Outline Licensing Basis Seismic Requirements Review Sheet that is attached to the SEWS, Calculation 1VAC030B that was generated during the SQUG program implementation provides the evaluation of the anchorage. Per Calculation 1VAC030B, the anchorage evaluation considers four 1/2" shell anchors for each pad, and uses GIP allowables. The GIP allowables for 1/2" shell and 1/2" expansion anchors are the same. Therefore, the evaluation condition envelopes the as built configuration.

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VAC030A (SWEL Item #44)

Equipment Class: (10) Air Handlers

Equipment Description: CRHVAC, AC unit

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes

8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits, HVAC ductwork, & FP piping well supported.

9. Do attached lines have adequate flexibility to avoid damage? Yes

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VAC030B (SWEL Item #45)

Equipment Class: (10) Air Handlers

Equipment Description: CRHVAC, AC unit

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 800.00 ft, CB-07

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | Yes |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware? | Yes |
| 3. | Is the anchorage free of corrosion that is more than mild surface oxidation?

<i>Surface corrosion is judged to be acceptable.</i> | Yes |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchors? | Yes |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.)

<i>West side bolts are 1/2" expansion anchors.
East side bolts are 1/2" expansion bolts, except the north east corner, which has bolts with a 3/4" flat-to-flat dimension. This means they are 1/2" bolts.
Anchorage verified per calculation 1VAC030B that was generated during the SQUG program implementation.</i> | Yes |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Yes |

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VAC030B (SWEL Item #45)

Equipment Class: (10) Air Handlers

Equipment Description: CRHVAC, AC unit

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits, HVAC ductwork, & FP piping well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VCH001A (SWEL Item #49)

Equipment Class: (11) Chillers

Equipment Description: Control building chiller A

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 812.00 ft, RB-17

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VCH001A (SWEL Item #49)

Equipment Class: (11) Chillers

Equipment Description: Control building chiller A

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Adjacent masonry wall has been seismically analyzed per drawing BECH-C417, Rev. 12.
Overhead raceways and piping are well-supported and judged to be acceptable.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached lines have adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/27/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VEF030A (SWEL Item #42)

Equipment Class: (9) Fans

Equipment Description: Bat. Room exhaust fan

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 800.00 ft, CB-07

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Anchors sheared off above the nut. No seismic concerns.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
*Fan anchor bolts verified per drawing M064055<2>, Rev. 1
Motors east side anchor bolts are 5/8", match drawing M064-055<1>, Rev. 5
Motors west side anchor bolts are 3/4", exceed drawing M064-055<1>, Rev. 5,
and are acceptable.*

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VEF030A (SWEL Item #42)

Equipment Class: (9) Fans

Equipment Description: Bat. Room exhaust fan

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits, HVAC ductwork, & FP piping well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached conduit is flexible. No seismic concern with ductwork attachments.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VEF030B (SWEL Item #43)

Equipment Class: (9) Fans

Equipment Description: Bat. Room exhaust fan

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 800.00 ft, CB-07

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Anchors sheared off above the nut. No seismic concerns.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Yes
*Fan anchor bolts verified per drawing M064055<2>, Rev. 1
Motors east side anchor bolts are 5/8", match drawing M064-055<1>, Rev. 5
Motors west side anchor bolts are 3/4", exceed drawing M064-055<1>, Rev. 5,
and are acceptable.*

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VEF030B (SWEL Item #43)

Equipment Class: (9) Fans

Equipment Description: Bat. Room exhaust fan

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits, HVAC ductwork, & FP piping well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached conduit is flexible. No seismic concern with ductwork attachments.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes
-

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
-

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VHX031B (SWEL Item #84)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Non-essential cooling HX

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 812.00 ft, RB-17

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes
Heat exchanger mounted on steel frame which is mounted to floor.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1VHX031B (SWEL Item #84)

Equipment Class: (21) Tanks and Heat Exchangers

Equipment Description: Non-essential cooling HX

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
Insulation in contact with platform ladder judged to be acceptable.
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits are well-supported and judged to be acceptable.
Adjacent masonry wall seismically analyzed per drawing BECH-C417, Rev. 12.
9. Do attached lines have adequate flexibility to avoid damage? Yes
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1X031 (SWEL Item #8)

Equipment Class: (04) Transformers

Equipment Description: 480VAC Transformer

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): CB, 757.00 ft, CB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Unknown

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Unknown

4. Is the anchorage free of visible cracks in the concrete near the anchors? Unknown

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Unknown

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: 1X031 (SWEL Item #8)

Equipment Class: (04) Transformers

Equipment Description: 480VAC Transformer

Interaction Effects

- | | |
|---|---------|
| 7. Are soft targets free from impact by nearby equipment or structures? | Unknown |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | Unknown |
| 9. Do attached lines have adequate flexibility to avoid damage? | Unknown |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Unknown |

Other Adverse Conditions

- | | |
|--|---------|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Unknown |
|--|---------|

Comments

Anchorage is internal to enclosure around transformer. Item not walked down since enclosure was not opened due to electrical hazard. Seismic walkdown deferred – this issue has been entered into the station's action tracking program.

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV1804A (SWEL Item #22)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: CRD/ A recirc pump mini purge supply

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 757.00 ft, RB-13

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV1804A (SWEL Item #22)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: CRD/ A recirc pump mini purge supply

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead raceways well supported.
Overhead conduit attached with friction clamp and judged to be acceptable.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached tubing is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV1804B (SWEL Item #23)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: CRD/ B recirc pump mini purge supply

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 757.00 ft, RB-13

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV1804B (SWEL Item #23)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: CRD/ B recirc pump mini purge supply

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead raceways well supported.
Overhead conduit attached with friction clamp and judged to be acceptable.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached conduit is flexible.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV2080 (SWEL Item #28)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: ESW loop A diesel cooler isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV2080 (SWEL Item #28)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: ESW loop A diesel cooler isolation

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Adjacent masonry wall seismically analyzed per drawing BECH-C205, Rev. 23.
Overhead piping is well-supported and judged to be acceptable.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Flexible conduit and tubing track are judged to be acceptable.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/25/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV2081 (SWEL Item #27)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: ESW loop B diesel cooler isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): TB, 757.00 ft, TB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Yes

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV2081 (SWEL Item #27)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: ESW loop B diesel cooler isolation

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
|
 | |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Adjacent masonry wall has been seismically analyzed per drawing BECH-C205, Rev. 23.</i> | Yes |
|
 | |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Flexible conduit and tubing track judged to be acceptable.</i> | Yes |
|
 | |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/25/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV2234 (SWEL Item #21)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: HPCI cond ppg discharge to CRW isol

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 716.00 ft, RB-08

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Not Applicable

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV2234 (SWEL Item #21)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: HPCI cond ppg discharge to CRW isol

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead raceways and piping well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached to flexible conduit and tubing.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
Nearby scaffold well restrained.

Comments

Seismic Walkdown Team: D. Carter and N. Juraydini - 9/27/12

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV3704 (SWEL Item #18)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: RS/DW floor drain sump inb-isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 749.00 ft, RB-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV3704 (SWEL Item #18)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: RS/DW floor drain sump inb-isolation

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduits well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV3705 (SWEL Item #19)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: RS/DW floor drain sump out-isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 749.00 ft, RB-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV3705 (SWEL Item #19)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: RS/DW floor drain sump out-isolation

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduits well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV4357 (SWEL Item #20)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: Torus hard pipe vent line isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 750.00 ft, RB-04

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV4357 (SWEL Item #20)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: Torus hard pipe vent line isolation

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduits and piping well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|---|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Nearby scaffold well braced.</i> | Yes |
|---|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV4415 (SWEL Item #26)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: MS/Main steam isolation valve (MSIV)

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): DW, 757.00 ft, DW-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV4415 (SWEL Item #26)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: MS/Main steam isolation valve (MSIV)

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead pipes, conduit, and cable trays are well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached tubes and conduit are flexible.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
Pipe located 2" from valve operator near top of springs. Support for pipe about 1' away. No interaction concerns.

Comments

Seismic Walkdown Team: D. Carter & M. Monsef - 10/12/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV4909 (SWEL Item #25)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: RWS/River water radwaste dilution isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): PH, 727.00 ft, PH-03

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV4909 (SWEL Item #25)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: RWS/River water radwaste dilution isolation

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduit and piping well supported</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV4910B (SWEL Item #24)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: RWS/Loop B dilution isolation valve

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): PH, 727.00 ft, PH-03

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: CV4910B (SWEL Item #24)

Equipment Class: (7) Fluid-Operated Valves

Equipment Description: RWS/Loop B dilution isolation valve

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduit and piping well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached conduit is flexible.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
Overhead scaffold well supported.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1903 (SWEL Item #29)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR B drywell spray out-isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 749.00 ft, RB-03

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Not Applicable

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1903 (SWEL Item #29)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR B drywell spray out-isolation

Interaction Effects

- | | | |
|-----|--|-----|
| 7. | Are soft targets free from impact by nearby equipment or structures?
<i>Operator body approximately 1/2" from handrail. Judged acceptable.</i> | Yes |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduits and pipes well supported.</i> | Yes |
| 9. | Do attached lines have adequate flexibility to avoid damage?
<i>Attached with flexible conduit.</i> | Yes |
| 10. | Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | | |
|-----|--|-----|
| 11. | Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|-----|--|-----|

Comments

Seismic Walkdown Team: D. Carter and N. Juraydini - 9/25/12

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	
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Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1904 (SWEL Item #38)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR B LPCI out-inject valve

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 765.00 ft, RB-10

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1904 (SWEL Item #38)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR B LPCI out-inject valve

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Nearby block wall seismically analyzed per drawings BECH-C405, Rev. 13, and BECH-C406, Rev. 16</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1908 (SWEL Item #39)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR shutdown cooling suction isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): DW, 775.00 ft, DW-02

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1908 (SWEL Item #39)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR shutdown cooling suction isolation

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead ductwork well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & M. Monsef - 10/12/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1909 (SWEL Item #40)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR shutdown cooling out-suction isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 765.00 ft, RB-10

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1909 (SWEL Item #40)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR shutdown cooling out-suction isolation

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Nearby block wall seismically analyzed per drawings BECH-C405, Rev. 13, and BECH-C406, Rev. 16</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment?
<i>Nearby ladder leaning on wall sufficient distance from valve.</i> | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1920 (SWEL Item #33)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR pump D isolation valve

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 716.00 ft, RB-05

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1920 (SWEL Item #33)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR pump D isolation valve

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduits and piping well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1932 (SWEL Item #30)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR/LOOP B Torus spray outboard isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 747.00 ft, RB-03

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1932 (SWEL Item #30)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR/LOOP B Torus spray outboard isolation

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduits well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1934 (SWEL Item #31)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR/LOOP B Torus return isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 746.00 ft, RB-03

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1940 (SWEL Item #34)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR/LOOP B Hx bypass valve

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 733.00 ft, RB-06

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO1940 (SWEL Item #34)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR/LOOP B Hx bypass valve

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduits and piping well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO2000 (SWEL Item #41)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR A inb-drywell spray valve

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 786.00 ft, RB-15

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO2000 (SWEL Item #41)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR A inb-drywell spray valve

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead raceways and piping well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached conduit is flexible.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO2003 (SWEL Item #36)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR/LOOP A LPCI inboard inject

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 761.00 ft, RB-10

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO2003 (SWEL Item #36)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR/LOOP A LPCI inboard inject

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Nearby block wall seismically analyzed per drawings BECH-C405, Rev. 13, and BECH-C406, Rev. 16</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO2004 (SWEL Item #37)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR Loop A LPCI Inject valve

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 761.00 ft, RB-10

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO2004 (SWEL Item #37)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RHR Loop A LPCI Inject valve

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Nearby block wall seismically analyzed per drawings BECH-C405, Rev. 13, and BECH-C406, Rev. 16</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO2404 (SWEL Item #35)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RCIC Turbine steam supply isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 722.00 ft, RB-09

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: MO2404 (SWEL Item #35)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: RCIC Turbine steam supply isolation

Interaction Effects

- | | |
|--|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead raceways and piping well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduits are flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: PSE4357 (SWEL Item #97)

Equipment Class: (0) Other

Equipment Description: Torus hard pipe vent line rupture disc

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 750.00 ft, RB-04

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: PSE4357 (SWEL Item #97)

Equipment Class: (0) Other

Equipment Description: Torus hard pipe vent line rupture disc

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits well supported.
9. Do attached lines have adequate flexibility to avoid damage? Not Applicable
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
No label in the field. Component verified per location on drawing ISO-HBC-140-01 Rev. 1.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: PT4599A (SWEL Item #69)

Equipment Class: (18) Instruments on Racks

Equipment Description: SRV/RCS PT

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 786.00 ft, RB-14

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Yes

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Yes

4. Is the anchorage free of visible cracks in the concrete near the anchors? Yes

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: PT4599A (SWEL Item #69)

Equipment Class: (18) Instruments on Racks

Equipment Description: SRV/RCS PT

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead conduits well supported.</i> | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Tubing attached to same wall.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: SV4357 (SWEL Item #32)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: CV4357 control air supply isolation

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 750.00 ft, RB-04

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: SV4357 (SWEL Item #32)

Equipment Class: (8) Motor-Operated and Solenoid-Operated Valves

Equipment Description: CV4357 control air supply isolation

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduits and piping well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached conduit is flexible.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes
Nearby scaffold well supported.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: TE4324 (SWEL Item #71)

Equipment Class: (19) Temperature Sensors

Equipment Description: Torus water temp

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 726.00 ft, RB-03

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: TE4324 (SWEL Item #71)

Equipment Class: (19) Temperature Sensors

Equipment Description: Torus water temp

Interaction Effects

- | | |
|---|-----|
| 7. Are soft targets free from impact by nearby equipment or structures? | Yes |
| 8. Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | Yes |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached conduit is flexible.</i> | Yes |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Yes |

Other Adverse Conditions

- | | |
|--|-----|
| 11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? | Yes |
|--|-----|

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: TE4325 (SWEL Item #70)

Equipment Class: (19) Temperature Sensors

Equipment Description: Torus water temp

Project: Duane Arnold SWEL

Location (Bldg, Elev, Room/Area): RB, 725.00 ft, RB-01

Manufacturer/Model:

Instructions for Completing Checklist

This checklist may be used to document the results of the Seismic Walkdown of an item of equipment on the SWEL. The space below each of the following questions may 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 anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? No

2. Is the anchorage free of bent, broken, missing or loose hardware? Not Applicable

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Not Applicable

4. Is the anchorage free of visible cracks in the concrete near the anchors? Not Applicable

5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Not Applicable

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Yes

Status: Y N U

Seismic Walkdown Checklist (SWC)

Equipment ID No.: TE4325 (SWEL Item #70)

Equipment Class: (19) Temperature Sensors

Equipment Description: Torus water temp

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Yes
8. Are overhead equipment, distribution systems; ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? Yes
Overhead conduit and piping well supported.
9. Do attached lines have adequate flexibility to avoid damage? Yes
Attached conduit is flexible.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Yes

Other Adverse Conditions

11. Have you looked for and found no adverse seismic conditions that could adversely affect the safety functions of the equipment? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

D Area Walk-By Checklists (AWCs)

Table D-1. Summary of Area Walk-By Checklists

Area Walk-By#	Description	Equipment ID
CB-01	CB,1ST FL 1A3 ESSNTL SWGR RM	1A3
		1X031
		1D10
		1D120
		1D12
		1D43
		1D13
		1D11
CB-02	CB,1ST FL 1A4 ESSNTL SWGR RM	1D25
		1D40
		1B42
CB-03	CB,1ST FL 1D2 BATTERY ROOM	1D2
CB-04	CB,1ST FL 1D4 BATTERY ROOM	1D4
CB-05	CB,1ST FL 1D1 BATTERY ROOM	1D1
CB-06	CB,3RD FL CONTROL ROOM AND BACK PANEL	1C008
		1C043
		1C033
		1C031
		1C026
		1C024
CB-07	CB HVAC ROOM	1VEF030B
		1VAC030B
		1VAC030A
		1VEF030A
DW-01	DRYWELL – 757	CV4415
DW-02	DRYWELL – 775	MO1908
IS-01	INTAKE STRUCTURE SOUTH PUMP ROOM	1P117B
		1P117D
IS-02	INTAKE STRUCTURE NORTH PUMP ROOM	1B91
		1B09
		1P117A
		1P117C
PH-01	PH SOUTH SERVICE WATER PUMP ROOM	1B46
PH-02	PH NORTH SERVICE WATER PUMP ROOM	1P099A
PH-03	PH BASEMENT	CV4909
		CV4910B

Area Walk-By#	Description	Equipment ID
RB-01	TORUS BAY 4, 716'	TE4325
RB-02	TORUS BAY 8, 716'	CV3705
		CV3704
RB-03	TORUS BAYS 13, 14, AND 15, 716'	MO1934
		MO1932
		MO1903
		TE4324
RB-04	RB NE CORNER ROOM	SV4357
		CV4357
		PSE4357
		1T105A
		1T105B
RB-05	RB NW CORNER ROOM	1P229B
		1C129B
		MO1920
RB-06	RB NW CORNER ROOM PLATFORM (732 & 734)	MO1940
		1VAC011
RB-07	RB SE CORNER ROOM	1C129A
		1P229C
		1P211A
RB-08	RB HPCI ROOM	1C120
		CV2234
RB-09	RB RCIC ROOM	MO2404
		1VAC015A
		1VAC015B
RB-10	RB,1ST FL RHR VALVE ROOM	MO2003
		MO2004
		MO1904
		MO1909
RB-11	RB,1ST FL CRD REPAIR ROOM	1R002A
		1R002C
RB-12	RB,1ST FL NORTH SIDE	1C126A
		1D42
RB-13	RB,1ST FL SOUTH SIDE	CV1804B
		CV1804A
		1C126B
RB-14	RB,2ND FL NORTH SIDE	PT4599A
RB-15	RB,2ND FL SOUTH SIDE	1D14
		MO2000
RB-16	RB,2ND FL SSGT ROOM A & B	1K004
RB-17	RB,3RD FL CB CHILLERS AREA	1VCH001A
		1VHX031B

Area Walk-By#	Description	Equipment ID
TB-01	TB,1ST FL 1G021 DIESEL GENERATOR RM	1T115B
		1T116B
		1C094
		1G021/ENG
		1C092
		CV2081
		1C152
		1T113B
TB-02	TB,1ST FL 1G031 DIESEL GENERATOR RM	1G031/ENG
		1T115A
		1T117A
		1C093
		1T116A
		CV2080
		1T113A
TB-03	TB,1ST FL 1G021 DAY TANK ROOM	1T037B
TB-04	TB,1ST FL 1G031 DAY TANK ROOM	1T037A
YD-01	SOUTH PROT AREA, DIESEL FUEL OIL STRG	1P044A

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-01 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes
Anchorage for 1B03, 1X31, 1A3, & 1B32 is internal and not accessible.

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
No flood sources.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
No combustibles.
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-01 (see Table D-1 for location)

7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
Breaker near 1B0304 well restrained by chain to building steel.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes
Light fixture S hooks open above 1X3235, 1D120, & 1C529. Collapse judged not to be credible.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-02 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes
Anchorage for 1C-352, 1C-422A, 1B15 internal and not accessible.

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
No flood sources.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
No combustibles.

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

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-02 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-03 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes
Eyewash, EMCC-18, R2-J-8, 1D6, 1V-FD-032 well supported.

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

 3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Yes
Overhead ductwork, conduits, cable trays, and light fixtures well supported.

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Eyewash station well supported.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
No combustibles.

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

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-03 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-04 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | | |
|----|---|-----|
| 1. | Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?
<i>1D93 well mounted.</i> | Yes |
| 2. | Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Yes |
| 3. | Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?
<i>Overhead conduit and ductwork well supported.</i> | Yes |
| 4. | Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Yes |
| 5. | Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?
<i>Eyewash well mounted.</i> | Yes |
| 6. | Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? | Yes |
| 7. | Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? | Yes |
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-04 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-05 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | | |
|----|--|-----|
| 1. | Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?
<i>Panels, emergency light, and nearby battery rack 1D5 well supported.</i> | Yes |
| 2. | Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Yes |
| 3. | Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appears to be inside acceptable limits)?
<i>Overhead ductwork, conduits, and light fixtures well supported.</i> | Yes |
| 4. | Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?
<i>Light fixture support chain in contact with ductwork. Judged acceptable.</i> | Yes |
| 5. | Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?
<i>Eye wash station well supported.</i> | Yes |
| 6. | Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? | Yes |
| 7. | Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? | Yes |
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-06 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Yes
Control room acoustic and egg crate tile well supported.

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Drain pipes above 1C08 judged well supported.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-06 (see Table D-1 for location)

-
- | | | |
|----|--|-----|
| 7. | Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? | Yes |
| | <i>2 of 4 storage cabinets anchored. Judged to be acceptable since they are not near safety related equipment.</i> | |
| 8. | Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Yes |

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	_____
	_____		_____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-07 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | | |
|----|--|-----|
| 1. | Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?
<i>Supports for conduit N990B SE of 1VAC030A use friction clamps – judged to be acceptable.</i>
<i>Supports for conduits 1N930 & 1N925 NE of 1VAC030A use friction clamps – judged to be acceptable because of load redistribution.</i>
<i>Supports for copper line NW of 1VAC030A use friction clamps – judged to be acceptable.</i>
<i>Supports for conduit at rack across area door 415 use friction clamps – judged to be acceptable.</i> | Yes |
| 2. | Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Yes |
| 3. | Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Yes |
| 4. | Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?
<i>Supports for light fixture east of 1VAC030B use friction clamps – judged to be acceptable.</i> | Yes |
| 5. | Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?
<i>Fire protection line on North wall is well supported. Pipe has Victaulic couplings. No concerns with leaks due to seismic event.</i>
<i>Threaded fire protection pipe above 1VAC030A/B well supported. No seismic concern.</i> | Yes |
| 6. | Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? | Yes |
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area CB-07 (see Table D-1 for location)

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

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes
Block wall C-665-4N near area door 415 seismically analyzed per drawing BECH-C665, Rev. 6.
Open S-hooks at light fixture in hallway west side of room. No room for light fixture to swing and disengage. Judged to be acceptable.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area DW-01 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Threaded pipe in area is well supported and judged to be acceptable.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

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

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area DW-01 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & M. Monsef - 10/12/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area DW-02 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

 3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Yes
Lighting conduit attached to duct with clamps oriented incorrectly. No soft targets in the area. Judged to be acceptable.

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

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

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area DW-02 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & M. Monsef - 10/12/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area IS-01 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes
*IC-157 anchorage not accessible.
Area unit heaters and fan well supported.
Anchorage for 1B21: 2 – ¼" anchor bolt each bay front and back.
Opened panels 1B2102 & 1B2104. Internal components well mounted.
Attached to adjacent panels.*

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
*Drain line with Victaulic coupling above 1B20 & 1B21 has adequate support.
No flooding concern.*

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
No combustibles.
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area IS-01 (see Table D-1 for location)

-
7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area IS-02 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes
*Anchorage for 1B09 & 1C156 not accessible.
Area heaters & fan unit well supported.
Conduit support near 1P117A has 3 bolts versus 2 for conduit support near 1P117C. Judged to be acceptable.*

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
*Drain line with Victaulic coupling above 1B09 & 1B91 has adequate support.
No flooding concern.*

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
No combustibles.

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

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area IS-02 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area PH-01 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes
*1S90B has 7 of 8 bolts installed. This issue has been entered into the station's action tracking program for resolution.
Anchorage of 1C-161 not accessible.*

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Piping well supported.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
No combustibles.
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area PH-01 (see Table D-1 for location)

-
7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
Scaffold near 1S-S9B well restrained.
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes
Masonry wall above door 515 seismically analyzed per drawing BECH-C684, Rev. 18.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area PH-02 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

 3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Yes
Overhead raceways, HVAC ductwork, & piping well supported.

 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Yes
Drain pipe on east wall with Victaulic coupling well supported.

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Piping well supported.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
Scaffold near door 515 well braced.
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area PH-02 (see Table D-1 for location)

-
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes
Masonry wall at west end seismically analyzed per drawing BECH-C684, Rev. 18.
-

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area PH-03 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Yes
Piping well supported.

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Floor drain pipe with Victaulic coupling judged to be acceptable.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area PH-03 (see Table D-1 for location)

-
- | | | |
|------|--|-----|
| 7. | Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)?
<i>Scaffold above CV-4901B well supported.</i>
<i>No seismic concerns with ladders stored near V-42-12.</i> | Yes |
|
 | | |
| 8. | Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Yes |

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:
	<hr/>	<hr/>

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-01 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
Recommend securing barrels when full near TE-4397A.
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-01 (see Table D-1 for location)

-
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-02 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

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

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-02 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-03 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-03 (see Table D-1 for location)

-
7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
Nearby scaffold well restrained.
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter and N. Juraydini - 9/25/12

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-04 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Yes
Block wall near rack IC-57 seismically analyzed per drawing BECH-C405, Rev. 13.

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-04 (see Table D-1 for location)

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| 7. | Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? | Yes |
| | <i>Scaffold near rack IC-57 well supported.</i> | |
| | <i>Scaffold below stairway well supported.</i> | |
| | ... | |
| 8. | Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Yes |

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	_____
	_____		_____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-05 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-05 (see Table D-1 for location)

-
7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
Scaffold above MO-2120 well restrained.
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-06 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

 3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appears to be inside acceptable limits)? Yes
HVAC ductwork well supported.
Loose clamp found above valve MO-1949B for conduit for fire detector. No seismic concerns. This issue has been entered into the station's action tracking program to install the missing fastener.
Light fixture near 1E-201B supported by 2 friction clamps. Judged acceptable.
 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Yes

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Stainless steel pipe vertically supported by friction clamps. No lateral restraints. Pipe carries breathing air, therefore, no spray concerns. No concern with pipe collapse.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

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

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-06 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter and N. Juraydini – 9/25/12

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-07 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
Scaffolds well supported.
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-07 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes
Pipe support attached to block wall near 1P-211A judged to be acceptable.

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/25/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-08 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Yes
Masonry wall by door is about 8' high and 18" wide. Wall is verified as a seismic wall by drawing BECH-C600, Rev 9.

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-08 (see Table D-1 for location)

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- | | | | |
|----|--|--|-----|
| 7. | Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? | | Yes |
| | <i>Typical scaffold for outage and various items around due to outage. No concerns.</i> | | |
| | <i>Trolley hook and pendant tied off and judged to be acceptable.</i> | | |
| 8. | Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | | Yes |

Comments

Seismic Walkdown Team: D. Carter & M. Monsef - 10/12/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	_____
	_____		_____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-09 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes
Anchorage for 1P-227, 1C-439, and 1C-107A/B not accessible.

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Yes
*Operator for MO-2575 at least 1/2" from threaded elbow below V-33-846.
Judged to be acceptable since piping lateral restraints restrict movement.*

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Fire protection line well supported.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
Scaffolds in room well restrained.
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-09 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-10 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes
EQ-263 junction box supported by 2 – 3/16" rod hangers, which are bent. Judged to be acceptable.

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Overhead piping well supported.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

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

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-10 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-11 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?
Nearby block wall seismically analyzed per drawing BECH-C405, Rev. 13. Yes

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-11 (see Table D-1 for location)

-
- | | | |
|----|--|-----|
| 7. | Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? | Yes |
| | <i>Ladder and other components stored near 1R002B & D. No seismic concerns. This issue has been entered into the station's action tracking program. Hoist near 1R002B has its wheels clamped.</i> | |
| 8. | Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Yes |

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/24/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	_____
	_____		_____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-12 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes
IC-72 anchorage not accessible.

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Yes
Top of IC-372 in contact with MCC 1B43. See attached evaluation for acceptance of condition.

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-12 (see Table D-1 for location)

-
- | | | |
|----|---|-----|
| 7. | Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)?
<i>Portable step ladder on wheels stored in proximity to IC-72, which is a non-safety panel per station documents.</i>
<i>Wheels of carts near door 233 not chocked, although carts are restrained with chains.</i>
<i>Cable tie off with rope below 1XL60 judged to be acceptable.</i> | Yes |
| 8. | Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Yes |

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:
_____	_____	_____
_____	_____	_____

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-12

During Fukushima Seismic Walkdowns, it was observed MCC 1B43 and panel 1C372 are installed very close to each other and they may contact each other in an earthquake event.

Purpose:

The purpose of this evaluation is to identify the safety related components in the MCC and the panel that are sensitive (e.g.; relays) and susceptible to chatter during an earthquake event due to close proximity of the components to each other.

Evaluation:

For MCC 1B43:

Per NAMS, the MCC is 'SR' and Siesmic Class 'I'. The MCC function is QL4, but procured and maintained for possible QL1 use. Therefore, it is concluded that there is no sensitive component located in the MCC.

For panel 1C372:

Per NAMS, the panel is 'SR' and Siesmic Class 'I'. Per field walkdown, three components are located on the panel, PT4368A, PT4368B & PDI4316. Per NAMS, all of those components are non-seismic. Therefore, it is concluded that there is no sensitive component located on the panel.

Conclusion:

Therefore, there is no essential sensitive component located in the MCC 1B43 and the panel 1C372 that is susceptible to chatter due to these components becoming in contact during an earthquake.

Prepared by: Detailed signed records of
the checklists are available

Reviewed by: at the site.

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-13 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | | |
|----|---|-----|
| 1. | Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?
<i>Anchor bolt for 1T-128 does not have full thread engagement, but judged to be acceptable.</i>
<i>Anchorage for 1D41 inaccessible.</i> | Yes |
| 2. | Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Yes |
| 3. | Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Yes |
| 4. | Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Yes |
| 5. | Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Yes |
| 6. | Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? | Yes |
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-13 (see Table D-1 for location)

-
- | | | |
|----|---|-----|
| 7. | Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)?
<i>Scaffolds well restrained.</i>
<i>Vertical cylinder bottles tied to column.</i>
<i>Hoist for overhead crane well restrained.</i>
<i>Temporary power cables well secured.</i>
<i>Recommend tightly securing nitrogen bottle at top end. Performed by plant personnel.</i> | Yes |
| 8. | Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Yes |

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-14 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes
Gap between bottom-most washer and base plate for conduit support across from far end of rack 1C56. Judged to be acceptable.
Anchorage for 1A601 & 1A602 are inaccessible.

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
Scaffolds in front of 1A601 & 1A602 well restrained.
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-14 (see Table D-1 for location)

-
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-15 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | | |
|----|--|-----|
| 1. | Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?
<i>Anchorage for 1C502 not accessible. Vertical cylinder bottles tied to 1C502.
Anchorage for 1C-503 & 1C-504 not accessible.
Anchorage for 1B34, 1B34A, and 1B37 not accessible.
Above equipment non-safety per plant documents.</i> | Yes |
| 2. | Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Yes |
| 3. | Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?
<i>Approximately 16 feet of unsupported conduit spans from MO2000 to 1C465, conduit attached to P1000 Unistrut, which is attached to columns with friction clamps. No sag is observed with conduits. Judged to be acceptable.</i> | Yes |
| 4. | Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Yes |
| 5. | Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?
<i>Fire protection piping well supported.</i> | Yes |
| 6. | Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? | Yes |
| 7. | Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? | Yes |
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-15 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-16 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

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

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-16 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini – 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-17 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes
Anchorage for 1B14 and 1C166 not accessible.

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

 3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Yes
Overhead raceways, piping, and HVAC ducts are well-supported and judged to be acceptable.

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Fire protection line with Victaulic coupling is well-supported and judged to be acceptable.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area RB-17 (see Table D-1 for location)

-
- | | | |
|----|--|-----|
| 7. | Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)?
<i>Tool cart in front of 1C166 is adequately restrained.</i> | Yes |
| 8. | Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Yes |

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/27/2012

Evaluated by:	Detailed signed records of the checklists are available at the site.	Date:	_____
	_____		_____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area TB-01 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Drain line with Victaulic couplings at ceiling near south wall. Judged acceptable.
Fire protection line well supported.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

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

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area TB-01 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes
Overhead monorail hoists well secured.
Tool carts near door 130 well secured.

Comments

Seismic Walkdown Team: D. Carter and N. Juraydini - 9/26/12

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area TB-02 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Drain line with Victaulic coupling at south wall judged to be acceptable.

Fire protection line is well-supported and judged to be acceptable.

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area TB-02 (see Table D-1 for location)

-
7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? Yes
Overhead monorail hoists are adequately restrained.

Tool carts near door 131 are adequately restrained.
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/25/2012

Evaluated by: _____ Detailed signed records of the checklists are available at the site. _____ Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area TB-03 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Yes
Rear anchors of 1T-114B not accessible.

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes
Drain line with Victaulic couplings is well-supported and judged to be acceptable.

Overhead fire protection line is well-supported and judged to be acceptable.
 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

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

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area TB-03 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area TB-04 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | | |
|----|--|-----|
| 1. | Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?
<i>Rear anchors of 1T114A not accessible.</i> | Yes |
| 2. | Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Yes |
| 3. | Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Yes |
| 4. | Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?
<i>Vertical pipe for V-32-125 is in contact with HVAC duct. Both are rigidly supported to the same wall. Judged to be acceptable.</i> | Yes |
| 5. | Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?
<i>Overhead drain line with Victaulic coupling is well-supported and judged to be acceptable.</i>

<i>Overhead fire protection line is well-supported and judged to be acceptable.</i> | Yes |
| 6. | Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? | Yes |
| 7. | Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? | Yes |
-

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area TB-04 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/26/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area YD-01 (see Table D-1 for location)

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Yes

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

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

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Yes

 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Yes

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

Status: Y N U

Area Walk-By Checklist (AWC)

Location (Bldg, Elev, Room/Area): Walk-by Area YD-01 (see Table D-1 for location)

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Yes

Comments

Seismic Walkdown Team: D. Carter & N. Juraydini - 9/27/2012

Evaluated by: Detailed signed records of the checklists are available at the site. Date: _____

E Plan for Future Seismic Walkdown of Inaccessible Equipment

As identified in the SWEL for DAEC in Appendix C, nine (9) items have been deferred until the next scheduled outage for each equipment item. Table E-1 summarizes the reasons each item was deferred. Action Requests (AR's) have been initiated to identify these deferred components and to provide a schedule for the future Seismic Walkdowns for these items.

Table E-1. Summary of Inaccessible Equipment

Component ID	Description	Reason for Inaccessibility
1A3	4160VAC Switchgear	Equipment energized – equipment outage required Current schedule for equipment outage is in RFO25 (Fourth quarter of 2016)
1B09	480VAC IS Load Center	Equipment energized – equipment outage required. Current schedule for equipment outage is in second quarter of 2013.
1X031	480VAC Transformer	Equipment energized – equipment outage required. Current schedule for equipment outage is in RFO25 (Fourth quarter of 2016)
1C094	SBDG 1G-21 control panel	Equipment energized – equipment outage required. Current schedule for equipment outage is in first quarter of 2014.
1B42	480VAC CB MCC	Equipment energized & needed for plant operation. Anchorage was verified but not all sections of MCC opened. Equipment outage required. Current plan is to complete inspections by RFO25 (Fourth quarter of 2016)
1B46	480VAC MCC	Equipment energized & needed for plant operation. Anchorage was verified but not all sections of MCC opened. Equipment outage required. Current plan is to complete inspections by RFO25 (Fourth quarter of 2016)
1B91	480VAC Intake MCC	Equipment energized & needed for plant operation. Anchorage was verified but not all sections of MCC opened. Equipment outage required. Current schedule for equipment outage is in second quarter of 2013.
1D14	125VDC RCIC MCC	Equipment energized & needed for plant operation – Anchorage was verified but not all sections of MCC opened. Equipment outage required. Current plan is to complete inspections by RFO25 (Fourth quarter of 2016)

Component ID	Description	Reason for Inaccessibility
1D42	250VDC MCC	Equipment energized & needed for plant operation. Anchorage was verified but not all sections of MCC opened. Equipment outage required. Current plan is to complete inspections by RFO25 (Fourth quarter of 2016)

F Peer Review Report

This appendix includes the Peer Review Team's report, including the signed Peer Review Checklist for SWEL from Appendix F of the EPRI guidance document. (Ref. 2)

**Peer Review Report for the
Seismic Walkdown Inspection of Duane Arnold Energy
Center (NRC Near Term Task Force Recommendation 2.3)**

Duane Arnold Energy Center

November 2012

Prepared by:	<u>Kenneth Chew</u> Kenneth Chew (Engineering)	<u>11/9/2012</u> Date
Reviewed by:	<u>Jerry Whittle</u> Jerry Whittle (Engineering)	<u>11/9/12</u> Date
Reviewed by:	<u>M. Monsef</u> Mohsen Monsef (Engineering)	<u>11/9/2012</u> Date

1. Introduction

This report documents the peer review of the seismic walkdowns performed for Duane Arnold Energy Center (DAEC) in September and October 2012, in support of the NRC Near Term Task Force (NTTF) Recommendation 2.3. This document describes the peer review team and process (Section 3), the peer review of the SWEL selection (Section 4), and the peer review of the seismic walkdown (Section 5).

The peer review was performed consistent with Section 6 of the EPRI-TR-1025286^(REF 1) guidance document and addresses the following specific activities:

- Review of the selection of components for the Seismic Walkdown Equipment List (Section 4)
- Review of a sample of the checklists prepared for the Seismic Walkdowns & Walk-Bys (Section 5.1)
- Review of any licensing basis evaluations (Section 5.2)
- Review of the decisions for entering the potentially adverse conditions in to the plant's Corrective Action Plan (Section 5.2)
- Review of the final submittal report (Section 6).

2. Background

This peer review covers three portions of the seismic walkdown: (a) the preparation of the SWEL, (b) the actual walkdown, and (c) the final submittal report.

The Seismic Walkdown Equipment List (SWEL) was prepared in July and August and finalized in November, based on revisions that occurred after the walkdowns. Section 3 describes the process of peer reviewing the SWEL.

The majority of the seismic walkdowns occurred on September 24-28 with one team. The two components inside the drywell and three deferred "guarded/energized" equipment items were walked down on October 12th, during the refueling outage 23. The peer review of the walkdowns occurred on September 24, 26 and 27. This portion of the peer review is documented in Section 4.

Four components could not be inspected entirely with the bus powered or panel energized: essential 4KV switchgear 1A3, 480VAC transformer 1X031, intake structure 480VAC load center 1B09, and 480 VAC B-SBDG control panel 1C094. Consequently, the walkdown inspections for these components were postponed to the next scheduled outage (LCO or RFO) for each component when the component is removed from service for maintenance. The internal inspections of all compartments for five MCC's were not completed due to operational concerns: 480VAC CB MCC 1B42, 480VAC Intake MCC 1B91, 480VAC MCC 1B46, 250VDC MCC 1D42, and 125VDC RCIC MCC 1D14, hence they are also deferred to a later date when each equipment is de-energized/tagged-out. All of these inspection deferrals are also being tracked by the DAEC work tracking system (AR-System).

3. Peer Review Team & Process

The DAEC Peer Review Team consisted of individuals from DAEC Engineering, the fleet PRA group, and the DAEC Operations. These individuals participated in phases of preparation, performance, and review of the seismic walkdowns. This section documents the peer review process and how the Peer Review Team interacted with the Seismic Walkdown Engineering Team.

3.1 Peer Review Team

The affiliation, role, and qualifications for each Peer Review Team member are summarized in the following table:

Name	Group	Role *	Qualifications **
Kenneth Chew	DAEC Engineering	PR Team Lead Walkdown	b, c, e
Jerry Whittle	DAEC Engineering	PR Walkdown	b, c
Stan Guokas	PRA Point Beach	PR Team Lead SWEL	d, e
Mohsen Monsef	DAEC Engineering	PR SWEL	a, b, c, e
Russ Severson	DAEC PRA	SWEL Preparer	d, e
Brad Hopkins	DAEC PRA	SWEL Reviewer	d, e
Glenn Rushworth	DAEC Operations	SWEL Reviewer	e & f

Notes:

* Role: PR (peer review), SWEL (Seismic Walkdown Equipment List)

** Qualifications:

- (a) EPRI NTTF 2.3 Seismic Walkdown Training
- (b) Seismic engineering experience
- (c) Degree in mechanical engineering or civil/structural engineering
- (d) PRA/IPEEE experience
- (e) Knowledge of plant operations, documentation
- (f) Plant Operations member

3.2 Peer Review Process

Peer Review Team Lead

K.Chew served as the Peer Review Team Lead. In that role, he was responsible for coordinating the peer review and assembling this report.

SWEL Preparation

The SWEL list was prepared by a PRA engineer with experience and familiarity with the DAEC IPEEE Report and PRA applications. The SWEL was reviewed by a team that included a PRA engineer, a design engineer, and operations representative. All of these individuals are familiar with the design and layout of the plant and plant documentation.

The personnel that were involved in the peer review of the SWEL are listed in the table provided in Section 3.1.

Seismic Walkdown

The seismic walkdown was conducted with one team of two qualified structural/seismic engineers from Stevenson and Associates and the design engineering. Each member of the seismic walkdown team has completed the EPRI NTTF 2.3 Seismic Walkdown Training course. The Peer Review of the walkdowns was conducted by two engineers with over 30 years of plant experience in civil, structural and Seismic engineering. The ultimate judgments regarding licensing basis were made by a qualified DAEC engineer.

Final Report

The final seismic walkdown report was prepared by the Stevenson & Associates consultants, with review by DAEC representatives from Operations, PRA, and engineering.

4. Peer Review - Selection of Components for SWEL

The purpose of this section is to describe the process used to perform the peer review of the selected components that were included in the Seismic Walkdown Equipment List (SWEL). This peer review was based on review of the SWEL Selection Report ^(REF 2).

The guidance in Section 3: *Selection of SSCs* of the EPRI Technical Report ^(REF 1) was used as the basis for this review. Specifically, this peer review utilized the checklist in Appendix F: *Checklist for Peer Review of SSC Selection of the EPRI Technical Report* in Reference 1. Attachment 1 of this peer review report documents the completed checklist.

The peer reviewers determined that the SSCs selected for the SWEL 1 seismic walkdowns represent a diverse sample of equipment required to perform the five safety functions and to meet the sample selection attributes, including:

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

For SWEL 2 development, the peer reviewers determined and concurred with that there is no seismic category 1 spent fuel related items or any connections that could drain the spent fuel pool below the pool gate to be included on the list. Therefore, the content of SWEL represents the Seismic Walkdown Equipment List (SWEL) for DAEC.

The peer review resulted in no findings or review comments requiring resolution prior to completion of the SWEL Selection Report.

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

5 Peer Review – Seismic Walkdown

The peer review of the seismic walkdown occurred by the peer review team on September 24, 26, & 27, both during the walkdowns and in the office setting as documented in this report.

5.1 Review of Sample Seismic Walkdown & Area Walk-by Checklists

The peer review activity on September 24 was limited to attend the first walkdown team meeting/pre-job briefings in which the safety, objective, schedule, and expectations of the project among other topic were discussed. The peer review activities on September 26 & 27 consisted of observing walkdown inspections and review the SWE Team samples from their Seismic Walkdown Checklist (SWC) and Area Walk-by Checklist (AWC) that they had completed. The peer review observations during the walkdowns allowed for immediate feedback between the walkdown team and the peer reviewers.

Table 5-1 lists the sample of 20 components from the Seismic Walkdown Checklist (SWC) that were discussed in the peer review meetings. These samples represent about 20% of the total SWEL population of 97 components. The sample includes a variety of types of components (e.g.; valve, pump, accumulator/tank, instrument rack, Standby D/G, HVAC unit, MCC, Chiller, DC Distribution panel, Battery, Battery Charger) and component locations (Reactor Building, Control Building, and Turbine Building).

Table 5-2 lists the sample of 4 areas from the Area Walk-by Checklist (AWC) that were discussed in the peer review meetings. These samples represent about 10% of the total AWC population of 36 areas/rooms. These areas included Control Building, Turbine Building, and the Reactor Building.

These tables document observations from the walkdown team that formed the basis for the peer review. The following topics were addressed:

- Anchorage – minor cracks were observed in some of the concrete floors or grout, where components were anchored and were judged acceptable. Bolting hardware also was found to be acceptable, for equipment/component anchorage.
- Electrical Panels, MCCs, Cabinets – The NRC’s Revised Position – Provided to Inspection Branch on September 18, 2012^(REF 3) was followed in the walkdown inspections of the electrical panels, MCCs, cabinets, etc. Electrical cabinets were opened by an assigned electrician and assisted by personnel from Operations. Visual inspections of anchorages and mounting of internal components were performed in accordance with safe work practices. These inspections were well documented on checklists. Seismic Walkdowns are deferred for 4 items (1A3, 1B09, 1X031, and 1C094) and additional inspections are required for 5 items (1B42, 1B91, 1B46, 1D42, and 1D14) until safe access conditions can be provided. These items could not be walked down because they were energized and were required for safe plant operation. Hence, they are considered inaccessible.
- Physical interaction – Several of the samples were examples of close spacing between the SWEL component and a hard object (such as a hand rail) and near a “soft” object (panel with small clearance between back of panel and sprayed on fireproofing, with the potential for interaction. In each case, the spacing was judged adequate, but this did reinforce the importance of careful field examination of each component.
- Seismic housekeeping – Seismic housekeeping was assessed in each area and found to be acceptable. Storage boxes were tied off or separated from equipment in designated areas. Hoist chains and hooks were tied off to prevent any interaction with nearby components. The presence of stanchions to rope off the protected train equipment was noted.
- Seismic scaffolding – A number of areas had temporary scaffolding. In each case, the scaffolding was well braced to provide seismic strength and documented on the scaffolding. This was observed by walkdown team.

- Non-safety piping and components in safety related buildings – Non-Safety piping, conduit, ductwork, raceways and eye wash equipment in walk-by areas was observed to be well supported.

No significant issues were identified from the peer review team discussions.

5.2 Review of Licensing Basis Evaluations & Corrective Action Process

Tables 5-3 and Table 5-4 provides a list of the anomalies encountered during the DAEC seismic walkdown inspections and how they were addressed. The review of these tables demonstrates a thorough and reasonable process for the review of open issues. No licensing basis evaluations were required to be performed. There are no comments offered by the peer review team.

Table 5-1: Table of Sample Components from Seismic Walkdown Checklist (SWC)

Item#	Equip ID	Equipment Description	Peer review team observations of SWCs inspection
1	IB42	480VAC CB MCC	Anchorage satisfactory and configuration confirmed, overhead raceways and ductwork well supported, no adverse seismic conditions identified. Only three compartments of the MCC were opened for internal inspection due to operational concerns. Inspection of the remaining compartments is deferred to a later date when the component is out of service.
5	1D14	125VDC RCIC MCC	Based on anchorage evaluations, the anchorage is free of potential adverse seismic conditions. Overhead raceways and ductwork well supported, Opened three compartments, internal components well mounted and attachment to adjacent panel observed. Inspection of the remaining compartments is deferred to a later date when the component is out of service.
9	1P044A	Diesel Oil Transfer Pump	Pump mounted on flange of tank, minor surface corrosion judged acceptable. Overhead junction boxes and piping are well supported; no adverse seismic conditions identified.
10	1P117B	RWS Pump B	Anchorage satisfactory and configuration confirmed (AR 01807155 issued - regarding issue of not using double nuts on vibrating equipment – Status in Table 5.3), overhead louver, conduits and light fixtures well supported, no adverse seismic conditions identified.
15	1P229C	RHR Pump C	Anchorage satisfactory and configuration confirmed (AR 01807155 issued - regarding issue of not using double nuts on vibrating equipment – no loose hardware was observed – Status in Table 5.3), masonry wall seismic analysis confirmed. Attached conduits and attached piping adequately flexible, no adverse seismic conditions identified.
21	CV2234	HPCI Cond ppg discharge to CRW isol	Overhead raceways and piping well supported, conduit and tubing observed as flexible. Nearby scaffold well restrained. No adverse seismic conditions identified.
22	CV1804A	CRD/A Recirc Pump mini purge supply	Overhead raceways well supported, conduit observed as flexible. No adverse seismic conditions identified
29	MO1903	RHR Drywell Spray Out - isolation	Operator body approximately ½” from handrail, judged acceptable. Overhead conduits and piping well supported, conduit observed flexible. No adverse seismic conditions identified.
35	MO2404	RCIC Turbine Steam supply isolation	Overhead raceways and piping well supported, conduit observed flexible. No adverse seismic conditions identified.
46	1VAC011	HVAC/RHR & CS Room AC Unit A	Equipment mounted on floor grating with washer plates – judged acceptable. No overhead equipment. Connections made with flexible conduits are acceptable. Other attached rigid conduit and piping have adequate flexibility. No adverse seismic conditions identified.
48	1VAC015B	RCIC/LOOP B RCIC Room Cooling Unit	Mounted to steel frame with 4 rod hangers. Frame attached to floor steel beams. Fire Protection piping well supported. Attached lines have adequate flexibility. No adverse seismic conditions identified

Item#	Equip ID	Equipment Description	Peer review team observations of SWCs inspection
49	1VCH001 A	Control Building Chiller A	Anchorage hardware acceptable, no corrosion, no visible concrete cracking near anchors. Adjacent masonry wall seismic analysis confirmed. Overhead raceway and piping are well supported. Attachment lines have adequate flexibility. No adverse seismic conditions identified.
53	ID13	125VDC Div 1 Distribution Panel C	Panel mounted to Unistrut on wall with four bolts. Adjacent masonry wall seismic analysis confirmed. Overhead raceway well supported. Panel opened – internal components well mounted.
57	ID1	125VDC Div 1 Battery	Anchorage satisfactory and configuration confirmed, by anchorage analysis in Calc ID1. Minor cracks observed in grout – judged acceptable. Overhead conduit and ductwork well supported. Nearby block walls are seismically analyzed per drawing BECH-C660.
60	ID43	250 VDC Battery ID4 Charger	Anchorage satisfactory and configuration verified by anchorage analysis in Calc ID120. Back of Panel in contact with fireproofing – judged acceptable since fire proofing is soft. Overhead raceways well supported, nearby block wall seismically analyzed per drawing BECH-C660. Panel opened – no internal mounting or interaction issues.
62	1G021/E NG	SBDG	Minor cracks observed in grout – judged acceptable. Anchorage free of potential adverse seismic conditions. Nearby block wall seismically analyzed per drawing BECH-C205. Nearby scaffolding well restrained.
68	1C126B	Main Steam Instrument Rack	Based on anchorage evaluations, the anchorage is free of potential adverse seismic conditions. Overhead raceways well supported. Nearby scaffolds well restrained
80	1C092	SBDG Gauge Board	Gauge Board support is welded to the D/G skid and the board is mounted on vibration isolators. Anchorage verified per Drawing MO15-059, Rev 4. Overhead exhaust duct well supported – judged acceptable. Adjacent block wall seismically analyzed per drawing BECH-C205. Panel opened. Internal components are well mounted.
86	1T115B	Diesel Air Receiver Tank	Anchorage satisfactory and configuration verified by anchorage analysis per drawings BECH-C016 and M15-058. Overhead duct well supported – judged acceptable. Adjacent block wall seismically analyzed per drawing BECH-C205. Attached overhead piping has adequate flexibility. No adverse seismic conditions identified.
92	1T037B	1000 Gal Diesel Oil Day Tank	Based on anchorage evaluations, the anchorage is free of potential adverse seismic conditions. Overhead ducts are well supported. Masonry block wall seismically analyzed per drawing BECH-C205. Attached piping has adequate flexibility. No adverse seismic conditions identified.

Table 5-2: Table of Sample Areas from Area Walk-by Checklist (AWC)

AREA WALK-BY ROOM	DESCRIPTION	WALKDOWN TEAM OBSERVATIONS
RB-06	RB NW CORNER ROOM PLATFORM (732 & 734)	<p>HVAC ductwork well supported. Loose clamp found above valve MO-1949B for conduit for fire detector. No seismic concerns. AR01806830 initiated to install the missing fastener (Status in Table 5.3).</p> <p>Lighting fixture near 1E-201B supported by 2 friction clamps. Judged acceptable.</p> <p>Stainless steel pipe vertically supported by friction clamps. No lateral restraints. Pipe carries breathing air, therefore, no spray concerns. No concern with pipe collapse.</p> <p>No other seismic conditions that could adversely affect the safety functions of equipment in this area were found.</p>
TB-01	TB, 1 ST FL 1G021 DIESEL GENERATOR RM	<p>Drain line with Victaulic couplings at ceiling near south wall. Judged acceptable.</p> <p>Fire protection line well supported.</p> <p>Overhead monorail hoists were well secured. Tool carts near door 130 well secured.</p>
RB-03	TORUS BAYS 13,14,AND 15,716'	<p>Overhead conduit and piping well secured.</p> <p>No other seismic conditions that could adversely affect the safety functions of equipment in this area were found.</p>
CB-05	CB, 1 ST FL ID1 BATTERY ROOM	<p>Panels, emergency light, and nearby rack well supported.</p> <p>Overhead ductwork, conduits, and light fixtures well supported.</p> <p>Light fixture chain in contact with ductwork. Judged acceptable.</p> <p>Eye wash station well supported.</p>

Table 5-3: Table of Actions Resulting from Seismic Walkdown Inspection							
Equipment ID	Equipment Description	Potentially Adverse Seismic Condition	Degraded	Non conforming	Unanalyzed	Action Taken to Address the Condition	Current Status
1C008	Aux power panel	Slightly loose screw for one of the light bulb cages in the panel.	X			The fixture tug-tested and found seismically acceptable by the walkdown team.	Closed A maintenance representative inspected the light bulb cages in the control room panels & tightened screws as necessary.
1P099A	ESW Pump A	During detailed anchorage review, it was observed that the base plate anchor bolts for the listed pumps do not match the design note on the drawing. The drawing contains a note stating: "Double nuts shall be used for vibrating equipment." Anchor bolts for the listed pumps were observed to have only one nut. Since pumps could be considered vibrating equipment, they would not fully meet this note.		X		Initiated AR	Closed The note on the drawing was considered a generic note and not applicable to the installed pumps. Note was removed from the drawing using the stations' Engineering Change process.
1P117A	RWS Pump A						
1P117B	RWS Pump B						
1P117C	RWS Pump C						
1P117D	RWS Pump D						
1P211A	CS Pump A						
1P229B	RHR Pump B						
1P229C	RHR Pump C						

Table 5-4: Table of Actions Resulting from Area Walk-by Inspections

Area	Potentially Adverse Seismic Condition	Degraded	Non conforming	Unanalyzed	Action Taken to Address the Condition	Current Status
PH-01	1S90B (RHR SW strainer) has 7 of 8 anchor bolts installed.		X		Initiated AR	Closed The existing design documents were revised to reflect the installed condition using stations' Engineering Change process.
RB-06	Missing fastener for clamp for conduit for fire detector.		X		Initiated AR	Closed Installed the missing fastener.
RB-10	Two 3/8" rods supporting EQ263 box are bent.		X		Initiated AR	Open The existing configuration of the rods is currently supporting the box and it is considered acceptable to perform its design function. Work Request has been initiated to fix the box support. Work will be completed per site priority process.
RB-11	Material stored near safety related equipment 1RD002D.		X		Initiated AR	Closed The transient materials were removed from the area.
TB-01	Six out of twelve screws were missing on cover plate for junction box 2J414 (*).		X		Initiated AR	Open The cover plate is considered a protective cover and lack of several screws does not directly affect the structural integrity of the junction box as a whole to perform its function. Work Request has been initiated to install the missing screws. Work will be completed per site priority process.

Table 5-4: Table of Actions Resulting from Area Walk-by Inspections						
Area	Potentially Adverse Seismic Condition	Degraded	Non conforming	Unanalyzed	Action Taken to Address the Condition	Current Status
TB-01	Approximately 1/4" gap under a small bore pipe support base plate for line 1 1/2" HBD-122 (*).		X		Initiated AR	Open Based on the observed condition of the support, the fact that the bolts are not loose, and engineering judgment, the support is capable of taking its design load and performs its design function. Work Request has been initiated to repair the support. Work will be completed per site priority process.
TB-03	Missing 3/8" tubing clamp that supports the tubing for LIS3209 (*).		X		Initiated AR	Open Based on the configuration of the tubing, the overall length of the tubing being only about 45", the rigid connections of the tubing at each end, and engineering judgment, it is determined that the tubing at its present configuration performs its intended safety function. Work Request has been initiated to install the clamp. Work will be completed per site priority process.

* This condition was identified by the resident NRC inspector during his area walk-by.

6 Review Final Submittal Report & Sign-off

The final submittal report has been reviewed by DAEC representatives from engineering, operations, the PRA Group, and the lead peer reviewers and found to meet the requirements of the EPRI 1025286 – Seismic Walkdown Guidance^(REF. 1).

7 References

1. EPRI Technical Report 1025286, *Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic*, June 2012.
2. DAEC Report, *Selection of the DAEC Station Seismic Walkdown Equipment List (SWEL) for the Requirement 2.3 Walkdown*, Rev 1, November 2012
3. NRC's Revised Position on Opening Electrical Panels – Provided to Inspection Branch on September 18, 2012

Attachment 1: Peer Review Checklist

Peer Review Checklist for SWEL

Instructions for Completing Checklist

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

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

Reviewed SWEL, all safety functions adequately represented.

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

- a. Various types of systems? Y N

SWEL1 includes RHR, RCIC, 125VDC, 250VDC, diesel, 480VAC, 4160VAC, HPCI, and torus hard pipe vent.

- b. Major new and replacement equipment? Y N

Major modifications have been incorporated into the SWEL1. Modifications include hard pipe vent, battery chargers, and diesel generators.

- c. Various types of equipment? Y N

20 of the 21 classes of equipment have been included in the SWEL1.

- d. Various environments? Y N

SWEL1 includes mild environments such as control building, turbine building (SBDG Rooms) which is warmer, pumphouse and intake structure which is cooler, and inside containment (Drywell).

- e. Equipment enhanced based on the findings of the IPEEE (or equivalent) program? Y N

SWEL1 represents 12 components enhanced based on the IPEEE.

Peer Review Checklist for SWEL

- f. Were risk insights considered in the development of SWEL 1? Y N
The SWEL1 contains many components from the top 10 risk significant systems.

3. For SWEL 2:

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

There is no SWEL2 since the only seismic components are the spent fuel pool which does not require inspection and the spent fuel pool racks which cannot be readily inspected.

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

Per UFSAR 9.1-41 there are no connections that could drain the spent fuel pool below the pool gate.

4. Provide any other comments related to the peer review of the SWELs.

No additional comments.

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

Peer Reviewer #1: S. Guokas *S. E. Guokas* Date: 11.8.2012

Peer Reviewer #2: M. MONSEE *M. Monsee* Date: 11/8/2012