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November 27, 2012

PG&E Letter DCL-12-119

U.S. Nuclear Regulatory Commission
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10 CFR 50.54(f)

Docket No. 50-323, OL-DPR-82
Diablo Canyon Power Plant Unit 2
Response to Request for Information Pursuant to 10 CFR 50.54(f) Regarding
Recommendation 2.3 Seismic Unit 2

References:

1. NRC Letter, "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012
2. NRC Letter, "Endorsement of Electric Power Research Institute (EPRI) Draft Report 1025286, 'Seismic Walkdown Guidance,'" dated May 31, 2012
3. PG&E Letter DCL-12-065, "Pacific Gas and Electric Company's 120-Day Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding the Seismic Aspects of Recommendation 2.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident," dated July 10, 2012

Dear Commissioners and Staff:

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued Reference 1 to Pacific Gas and Electric Company (PG&E). Enclosure 3 of Reference 1 contains the requested information and required responses associated with Recommendation 2.3 Seismic.

In Reference 1, the NRC requested that each addressee confirm that it will use the industry-developed NRC-endorsed seismic walkdown procedures. Reference 2 documents the NRC's endorsement of EPRI 1025286. In Reference 3, PG&E confirmed that it would use EPRI 1025286, as endorsed by Reference 2, as the basis for the seismic walkdowns at the Diablo Canyon Power Plant (DCPP).



Enclosure 3 of Reference 1 states that within 180 days of the NRC's endorsement of the walkdown process, each addressee will submit its final response for the requested information. Enclosure 3 of Reference 1 also stated that the response should include a list of any areas that are unable to be inspected due to inaccessibility and a schedule for when the walkdown will be completed.

Enclosure 1 of this letter provides PG&E's response to Recommendation 2.3 Seismic for DCP Unit 2 accessible components. PG&E will submit an updated response after inspection of currently inaccessible items.

PG&E is making regulatory commitments (as defined by NEI 99-04) in Enclosure 2 of this letter. This letter includes no revisions to existing regulatory commitments.

If you have any questions, or require additional information, please contact Mr. Terence L. Grebel at (805) 545-4160.

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

Executed on November 27, 2012.

Sincerely,

Edward D. Halpin
Senior Vice President – Chief Nuclear Officer

dmfn/SAPN 50465913

Enclosures

cc: Diablo Distribution
cc/enc: Elmo E. Collins, NRC Region IV
Eric J. Leeds, NRC Director, Office of Nuclear Reactor Regulation
Laura H. Micewski, Acting NRC Senior Resident Inspector
Joseph M. Sebrosky, NRR Project Manager

Response to Recommendation 2.3 Seismic Diablo Canyon Power Plant Unit 2

Acronyms used in this response are defined in Attachment L to this enclosure.

Introduction:

On March 12, 2012, the NRC issued letter, "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident" (Reference 1). Enclosure 3 of Reference 1 contains a request for information related to the results of the seismic design basis walkdowns performed in accordance with NRC Letter, "Endorsement of Electric Power Research Institute (EPRI) Draft Report 1025286, 'Seismic Walkdown Guidance,'" dated May 31, 2012, (Reference 2).

Purpose:

Reference 1 requests that within 180 days of NRC's endorsement of the walkdown procedure, each addressee will submit its final response for the requested information and that the response should include a list of any areas that are unable to be inspected due to inaccessibility and a schedule for when the walkdowns will be completed. This Enclosure contains PG&E's response for the requested information for Unit 2, which includes the results of the walkdowns performed and any further actions required. This response also includes a list of any components that PG&E was unable to inspect due to inaccessibility and a schedule for when PG&E will complete those walkdowns.

NRC Request:

- a. *Describe the plant-specific hazard licensing bases and a description of the protection and mitigation features considered in the licensing basis evaluation*

PG&E Response:

The seismic inputs applicable to the design of DCPD are described in the DCPD UFSAR, Sections 2.5 and 3.7. Since the development of the seismic inputs for DCPD predates the issuance of 10 CFR 100, Appendix A, "Seismic and Geologic Siting Criteria for Nuclear Power Plants," the following DCPD-specific earthquakes are defined:

Design Earthquake

The design earthquake (0.2g) is defined as the maximum size earthquake that can be expected to occur at DCPD during the life of the reactor. The design earthquake is the equivalent of the operating basis earthquake, as described in 10 CFR 100, Appendix A.

Double Design Earthquake

The double design earthquake (0.4g) is defined as the hypothetical earthquake that would produce accelerations twice those of the design earthquake. The double design earthquake is the equivalent of the safe shutdown earthquake, as described in 10 CFR 100, Appendix A.

Hosgri Earthquake

The Hosgri earthquake (0.75g) is defined as the predicted ground motion at DCPD due to a Richter magnitude 7.5 earthquake on the offshore Hosgri fault. The Hosgri earthquake does not correspond to an operating basis earthquake or safe shutdown earthquake.

Long Term Seismic Program

In addition to the above three earthquakes, PG&E implemented a program to reevaluate DCPD's seismic design, as described below. As part of the operating license issuance for DCPD Unit 1, the NRC imposed a license condition that required in part: "PG&E shall develop and implement a program to reevaluate the seismic design bases used for the DCPD."

PG&E's reevaluation effort in response to the license condition was titled the "Long Term Seismic Program." In June 1991, the NRC issued SSER 34, in which the NRC concluded that PG&E had satisfied the license condition described above. In SSER 34, the NRC requested certain confirmatory analyses from PG&E, and PG&E subsequently submitted the requested analyses. The NRC's final acceptance of the LTSP is documented in a letter to PG&E dated April 17, 1992.

Although the LTSP contains extensive databases and analyses that update the basic geologic and seismic information in the UFSAR, the LTSP material does not alter the design bases for DCPD. In SSER 34, the NRC states: "The Staff notes that the seismic qualification basis for Diablo Canyon will continue to be the original design basis plus the Hosgri evaluation basis, along with associated analytical methods, initial conditions, etc."

Classification of SSCs

The classification system applicable to SSCs at DCPD is described in the UFSAR, Section 3.2. Since the development of the classification system for DCPD predates Regulatory Guide 1.29, "Seismic Design Classification," DCPD does not use SC I terminology. Instead, DCPD uses the following classifications:

Design Class I: SSCs necessary to ensure: (a) the integrity of the reactor coolant pressure boundary, (b) the capability to shut down the reactor and maintain it in a safe

shutdown condition, or (c) the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to the guideline exposures of 10 CFR 100 are classified as Design Class I. Design Class I SSCs are designed for the design earthquake, double design earthquake, and Hosgri earthquake. Design Class I SSCs correspond to SC I SSCs, as defined in Regulatory Guide 1.29.

Design Class II: SSCs important to reactor operation but not essential to safe shutdown and isolation of the reactor, and failure of which would not result in the release of substantial amounts of radioactivity, are classified as Design Class II. In general, Design Class II SSCs correspond to non-SC I SSCs, as defined in Regulatory Guide 1.29. Some Design Class II SSCs are required for the operation of certain Design Class I features and are designed for the double design earthquake or the Hosgri earthquake.

Therefore, as discussed above, all Design Class I and selected Design Class II components that are designed for the double design earthquake or the Hosgri earthquake are scoped in as equivalent to SC I for the purpose of this evaluation.

Codes, Standards, and Methodology

Given the above considerations regarding Design Class I and II equipment, some of the major codes and standards used include:

- (1) ANSI B31.1, "Power Piping" (1967 Edition up to and including 1973 Addenda)
- (2) ANSI B31.7, "Nuclear Power Piping" (1969 Edition with 1970 Addenda)
- (3) ACI-318-63, "Building Code Requirements for Reinforced Concrete"
- (4) AISC, Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings (1969)
- (5) IEEE 344-1971, "IEEE Recommended Practices for Seismic Qualification of Class I Electric Equipment for Nuclear Power Generating Stations." Specific cases have been supplemented by seismic qualification criteria per IEEE 344-1975.

Additional codes and standards are identified in the UFSAR.

NRC-approved methodologies were used for design, construction, and any modification of seismic-related SSCs at DCP Unit 2. The various methodologies used for the SSCs are identified in the UFSAR.

NRC Request:

- b. *Present information related to the implementation of the walkdown process*

PG&E Response:

Personnel Qualifications:

The development of the various teams of personnel for the DCPD seismic walkdown effort was consistent with EPRI 1025286, Section 2.

The equipment selection personnel were responsible for identifying the sample of SSCs to be walked down in accordance with the guidance of EPRI 1025286, Section 4. The equipment selection personnel were selected based on their knowledge of the following areas:

- (1) plant operations
- (2) plant documentation
- (3) associated SSCs
- (4) the IPEEE program

The SWEs were responsible for the required walkdown inspections per the approved plant procedures and/or practices. The SWEs were required to have the following qualifications:

- (1) a degree in mechanical or civil/structural engineering or equivalent
- (2) experience in seismic engineering as it applies to nuclear power plants
- (3) successful completion of either the NTTF 2.3 seismic walkdown training course or the SQUG walkdown training course

The licensing basis reviewers were responsible for the performance of evaluations of potentially adverse seismic conditions identified during the walkdowns against the licensing basis for the SSCs. They were selected based on having knowledge and experience in the following areas:

- (1) the seismic licensing bases of DCPD
- (2) seismic qualification methods and documentation used at DCPD
- (3) the DCPD requirements and procedures for entering documentation into the plant records system and the CAP

The peer review personnel were responsible for collectively reviewing the following:

- (1) the SWEL for scope
- (2) a sample of completed SWCs and AWCs to validate the process and to identify and communicate any lessons learned for the remaining walkdown efforts

- (3) LBEs and the decisions on entering potentially adverse seismic conditions into CAP
- (4) this response being submitted to the NRC to determine that the objectives and requirements of the NRC and the endorsed EPRI guidance were met

The peer reviewers included members of the teams above and other plant personnel that have expertise in related plant processes.

Attachment A to this enclosure provides a summary of the qualifications of each of the team members and a table of activities that they performed.

SWEL Development

The process for selecting the DCCP SSCs for the SWEL included appropriate variety of classes of equipment, environments, primary and secondary systems, new and replacement equipment, and other elements consistent with EPRI 1025286, Section 3.

The DCCP SWELs were developed for the following two groups of SSCs:

- (1) a sample of SSCs required to safely shutdown the reactor and maintain containment integrity (SWEL-1)
- (2) a sample of SSCs required to support SFP-related processes including components that could potentially allow rapid drain-down of the SFP in the event of an earthquake (SWEL-2)

Development of SWEL-1

The development of the SWEL-1 followed a process defined in EPRI 1025286 through the application of the following four screens:

- (1) Screen No. 1 – Seismic Category I
- (2) Screen No. 2 - Equipment or System
- (3) Screen No. 3 - Support for Five Safety Functions
- (4) Screen No. 4 - Sample Considerations

Screen No. 1 – Seismic Category I

Screen No. 1 narrowed the scope of SSCs included in SWEL-1 from the total population of SSCs to those that are classified as SC I, where SC I is defined in Regulatory Guide 1.29. However, as discussed in the UFSAR Section 3.2.1, the licensing basis for the seismic classification system for DCCP does not include Regulatory Guide 1.29, so SSCs are not explicitly classified as SC I. However, as discussed in the UFSAR Section 3.2.1, the licensing basis for the seismic classification system for SSCs meets the intent of Safety Guide 29, which uses the term “Category I” for “all structures,

systems, and components important to safety” that must remain functional in the event of a safe shutdown earthquake.

The application of Screen No. 1 was based on the equivalency between DCPD's classification system and SC I as discussed previously in this enclosure. Design Class I SSCs and those Design Class II SSCs that have been seismically qualified for double design earthquake or Hosgri earthquake screened-in under Screen No. 1.

Screen No. 2 - Equipment or Systems

Screen No. 2 narrowed the scope of SSCs in SWEL-1 by selecting only those SSCs that do not regularly undergo inspections to confirm that their configuration continues to be consistent with the DCPD licensing basis. The following types of SSCs screened-out of SWEL-1 under Screen No. 2:

- (1) SC I - equivalent structures
- (2) containment penetrations (SWEL-1 includes certain CIVs)
- (3) SC I - equivalent piping systems

Screen No. 3 - Support for the Five Safety Functions

Screen No. 3 narrowed the scope of SSCs in the SWEL-1 to those that are associated with maintaining the following five safety functions:

- (1) reactor reactivity control
- (2) reactor coolant pressure control
- (3) reactor coolant inventory control
- (4) decay heat removal
- (5) containment function

Screen No. 3 was applied in two steps: (1) application to the output of Screen No. 2 and (2) application to the “previous equipment list.” These steps are described in the following subsections.

(1) Application to the Output of Screen No. 2

The application of Screen No. 3 to the output from Screen No. 2 was completed and the list of SSCs that screen-in through the application of Screen No. 3 served as input to Screen No. 4.

(2) Application to the Previous Equipment List

In accordance with EPRI 1025286, Section 3, DCPD used "previous equipment lists" as part of the application of Screen No. 3. DCPD used a combination of all SSCs from the following previous equipment lists that are SC I-equivalent.

- (a) DCPPI IPEEE, completed in 1994, and documented in the "Individual Plant Examination for External Events Report for Diablo Canyon Power Plant Units 1 and 2 in Response to Generic Letter 88-20 Supplement 4."
- (b) UFSAR, Appendix 9.5G, "Equipment Required for Safe Shutdown," includes a tabulation of the minimum equipment required to bring the plant to a cold shutdown condition.

Screen No. 4 - Sample Considerations

Screen No. 4 modifies the scope of the SWEL-1 from that selected in Screen No. 3 to sufficiently represent a broad population of SC I-equivalent SSCs in order to meet the overall objective of the seismic walkdowns. The following five sample selection attributes were applied under Screen No. 4:

- (1) a variety of types of systems
- (2) major new and replacement equipment
- (3) a variety of types of equipment
- (4) a variety of environments
- (5) equipment enhancements associated with the IPEEE program (note that no vulnerabilities were identified during the implementation of the IPEEE program for DCPPI)

Finalization of the SWEL-1

The SWEL-1 was finalized to include representative item(s) from each of the above five attributes. In addition, the risk significance of specific SSCs was considered in the final selection process. See Attachment C of this enclosure for the final SWEL-1 list.

Development of SWEL-2

The development of the DCPPI SWEL-2 followed a process defined by EPRI 1025286 through the application of the following four screens:

- (1) Screen No. 1 – Seismic Category I
- (2) Screen No. 2 - Equipment or System
- (3) Screen No. 3 - Sample Considerations
- (4) Screen No. 4 - Rapid Drain-Down

Screen No. 1 – Seismic Category I

Screen No. 1 narrowed the scope of SFP-related SSCs included in the SWEL-2 from the total population of SFP-related SSCs at DCPPI to those that are classified as SC I, where SC I is defined in Regulatory Guide 1.29. Since Regulatory Guide 1.29 is not

directly applicable to DCPD, the screening was based on equivalency between DCPD's classification system and SC I.

Screen No. 2 - Equipment or Systems

Screen No. 2 narrowed the scope of SSCs in the DCPD SWEL-2 by selecting only those that do not regularly undergo inspections to confirm that their configuration continues to be consistent with the DCPD licensing basis. The following types of SSCs were screened-out of the SWEL-2 under Screen No. 2:

- (1) SC I - equivalent structures
- (2) SC I - equivalent piping systems

Screen No. 3 - Sample Considerations

Screen No. 3 modified the scope of the SWEL-2 from that selected in Screen No. 2 to sufficiently represent a broad population of SC I-equivalent SSCs in order to meet the overall objective of the seismic walkdowns. The following sample selection attributes were applied under Screen No. 3:

- (1) a variety of types of systems
- (2) major new and replacement equipment
- (3) a variety of types of equipment
- (4) a variety of environments

Screen No. 4 - Rapid Drain-down

Screen No. 4 identified items that could allow the SFP to drain rapidly. The scope of these items was typically limited to hydraulic lines connected to the SFP and the equipment connected to those lines.

All piping entering the SFP was added to the SWEL-2 to verify that siphoning of water from the SFP was not possible.

SFP Penetrations

EPRI 1025286 requires for Screen No. 4 that penetrations below about 10 feet above the top of the fuel assemblies be evaluated for rapid drain-down. At DCPD there are no such penetrations.

SFP Configurations Associated with Refueling Outages

Drain-down flow paths that could exist as a result of the various SFP configurations associated with refueling outages at DCPD were investigated. SSCs associated with these flow paths were added to the SWEL-2.

Finalization of the SWEL-2

The SWEL-2 was finalized to include representative item(s) having each of the attributes associated with Screen No. 3 and all items associated with potential rapid drain-down.

The Unit 2 components that were excluded from the SWEL-2 are listed in Table 1 below:

Table 1: Unit 2 Components Excluded from the SWEL-2 Listing

Component	Basis for Exclusion
Refueling water purification pump	Not required for SFP inventory control or cooling.
Refueling water purification filter	Not required for SFP inventory control or cooling.
SFP demineralizers and resin traps	Not required for SFP inventory control or cooling, inaccessible due to high radiation levels.
Spent fuel storage racks	Racks are free-standing (no anchorage to SFP), are passive (no moving parts), and are not classified as targets in the SISIP.
Cask pit platform	Used for anchorage of spent fuel transfer cask during cask loading operations. No functional relationship to SFP cooling or inventory control.
New fuel storage rack	Not located in SFP.
SFP bridge crane	No functional relationship to SFP inventory control or cooling.
New fuel elevator	No functional relationship to SFP inventory control or cooling.
480-V electric power	Provides power to the SFPCS pumps, but components from this system have already been included in the SWEL-1.
120-V electric power	Provides power for SFP-related instrumentation, but components from this system have already been included in the SWEL-1.
SFP cooling system pressure instrumentation	No functional relationship to SFP inventory control or cooling.
FHBVS fire dampers	Associated with fires, not seismic events.
FHBVS fan air monitors	Not required for operation of FHBVS.
FHBVS emergency exhaust section	Post-accident mitigation components; not required for normal operation of FHBVS.
FHBVS normal roughing and HEPA filters	Post-accident mitigation components; not required for normal operation of FHBVS.

Combination of the SWEL-1 and the SWEL-2

Based on the guidance in EPRI 1025286, Figure 1-3, "Seismic Walkdowns, Area Walk-Bys, and Licensing Evaluations," the final DCPD SWEL is the combination of SWEL-1 and SWEL-2.

Requested Summary Lists

- (1) Attachment B to this enclosure provides the Unit 2 SWEL-1 Base List 1, which is the equipment coming out of Screen No. 3 and entering Screen No. 4 of the SWEL-1.
- (2) Attachment C to this enclosure provides the Unit 2 SWEL-1 list, which is the equipment coming out of Screen No. 4 selected for seismic walkdown.
- (3) Attachment D to this enclosure provides the Unit 2 SWEL-2 Base List 2 of the equipment coming out of Screen No. 2 and entering Screen No. 3 SWEL-2.
- (4) Attachment E to this enclosure provides the Unit 2 SWEL-2 Rapid Drain-Down list of equipment coming out of Screen No. 4 determined to potentially cause SFP to rapidly drain-down.
- (5) Attachment F to this enclosure provides the Unit 2 SWEL-2 list, which is a combination of the equipment coming out of Screens No. 3 and No. 4.

The system diversity of these lists is shown below in Table 2 and the equipment class diversity is shown in Table 3:

Table 2: Unit 2 Diablo Canyon Power Plant System Diversity Listing (SWEL-1)

System No.	System Description	Selected Equipment Count
03	Feedwater	6
04	Turbine Steam Supply	9
08	Chemical and Volume Control	7
09	Safety Injection	5
10	Residual Heat Removal	5
14	Component Cooling Water	6
17	Salt Water	2
21	Diesel Engine Generator	21
23	Ventilation and Air Conditioning	20
25	Compressed Air	1
36	Eagle 21	2
38	Solid State Protection	4
41	Reactor Control Rods	1
43	Plant Annunciators	1
63	4.16-kV Electrical	3
64	480-V Electrical	3
65	120-V Instrument AC	3
67	125-V and 250-Vdc	4
96	Multiple System Panels	9

Total 112

Table 3: Unit 2 Diablo Canyon Power Plant Equipment Class Diversity Listing (SWEL-1)

Class	Class Title	Selected Equipment Count
0	Miscellaneous	11
1	Motor Control Centers	1
2	Low Voltage Switchgear	3
3	Medium Voltage Switchgear	1
4	Transformers	3
5	Horizontal Pumps	6
6	Vertical Pumps	2
7	Fluid Operated Valves	16
8	Motor Operated Valves, Solenoid Operated Valves	14
9	Fans	4
10	Air Handlers	5
11	Chillers	0 ¹
12	Air Compressors	1
13	Motor Generators	0 ²
14	Distribution Panels	3
15	Batteries on Racks	1
16	Battery Chargers and Inverters	2
17	Engine Generators	2
18	Instruments on Racks	4
19	Temperature Sensors	2
20	Instrumentation and Control Panels and Racks	23
21	Tanks and Heat Exchangers	8
Total		112

Notes:

1. DCPD does not have any chillers, since there is not a chilled-water system. Seismically-qualified air conditioning systems at DCPD use Freon-based cooling coils, condensers, and compressors.
2. The only motor generators at DCPD are those for the control rod drive system, which are not seismically qualified (excluded at Screen No. 1), so they cannot be included in the seismic walkdowns.

Summary of Walkdown Process

An SWC or an AWC package was prepared for each item on the SWEL. The actual walkdowns and walk-bys were performed by a minimum of two qualified SWEs.

Each walkdown or walk-by package contains, as a minimum, the following:

- (1) SWC or AWC, as appropriate
- (2) relevant drawings (components, locations, etc.)
- (3) location (unit, area, etc.)
- (4) relevant anchorage details (for components subject to configuration verification)
- (5) relevant technical information

Each component walkdown and area walk-by was completed by a team of at least two qualified SWEs. Any potentially adverse seismic conditions identified by the team were noted in the SWCs and AWCs. For each of the potentially adverse seismic-related conditions and observations, a LBE was performed to determine the component's ability to perform its required function. If this evaluation resulted in no potentially adverse seismic conditions, no further action was necessary and the results were documented in the walkdown checklists. For seismic conditions or observations that were determined to be adverse, the condition or observation was documented in the walkdown checklist and entered into the CAP. Other non-seismic related items identified during the team walkdowns were documented on the checklists and entered into the CAP.

The LBEs were performed by DCPD cognizant engineers and subject to a peer review. Potentially adverse seismic conditions that could not readily be resolved were entered into the CAP. The peer review team consisted of a minimum of two individuals and any comments were addressed.

NRC Request:

- c. *Present a list of plant-specific vulnerabilities (including any seismic anomalies, outliers, or other findings) identified by the IPEEE and a description of the actions taken to eliminate or reduce them (including their completion dates)*

PG&E Response:

As provided in PG&E Letter DCL 94-133, "Response to Generic Letter 88-20 Supplement 4, 'Individual Plant Examination of External Events for Severe Accident Vulnerabilities,'" dated June 27, 1994, (Reference 3), based on the results presented in the IPEEE study, no vulnerabilities with regard to seismic induced core damage exist at DCPD. There were other completed plant improvements that have a beneficial impact on the PRA that were included in the SWEL development.

NRC Request:

- d. *Results of the walkdown including key findings and identified degraded, non-conforming, or unanalyzed conditions. Include a detailed description of the actions taken or planned to address these conditions using the guidance in Regulatory Issues Summary 2005-20, Rev 1, Revision to NRC Inspection Manual Part 9900 Technical Guidance, "Operating Conditions Adverse to Quality or Safety," including entering the condition in the corrective action program.*

PG&E Response:

The completed walkdowns (SWEL-1 and SWEL-2 combined) for Unit 2 was comprised of 106 SWCs and 54 AWCs. Sixteen potentially adverse seismic conditions were identified, placed in CAP and evaluated. The engineering evaluations were completed and the conditions did not adversely affect the performance of any required safety function. In one instance a component was conservatively declared inoperable (due to anchorage degradation) and it was repaired and returned to service; subsequent evaluation showed that the component would have performed its seismic safety function. The CAP status of these items is identified in Attachment G of this enclosure.

Attachment H of this enclosure provides a listing of components that were inaccessible in accordance with EPRI 1025286 and could not be inspected prior to submittal of this response. These inaccessible items will be inspected prior to the end of the next refueling outage for Unit 2 (2R17). 2R17 is currently scheduled to be completed in March 2013. An update from those inspections will be submitted within 60 days following the completion of 2R17.

Attachment I of this enclosure contains the SWCs including any associated LBEs.

Attachment J of this enclosure contains AWCs including any associated LBEs.

In summary, there were no deficiencies entered into CAP for Unit 2 that resulted in any safety related SSCs being inoperable or non-functional.

NRC Request:

- e. *Discuss any planned or newly installed protection and mitigation features*

PG&E Response:

There are currently no planned or newly-installed changes to the plant as a result of implementing this seismic walkdown guidance.

NRC Request:

- f. Results and any subsequent actions taken in response to the peer review*

PG&E Response:

Various members of the peer review team reviewed the entire process of the DCCP seismic walkdown guidance as well as each element. Peer reviewers did not review their own work. The peer review process included reviewing the following:

- (1) the selection of the SSCs in the SWEL
- (2) a sample of the SWCs and the AWCs
- (3) the LBEs and decisions for entering the potentially adverse conditions into CAP
- (4) the submittal response

Attachment K of this enclosure provides a table that corresponds to each of these activities and includes the results of the reviews and any actions taken to address those results.

References:

1. NRC Letter dated March 12, 2012, "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3 of the Near Term Task Force Review of Insights from the Fukushima Dai-ichi Accident"
2. NRC Letter, "Endorsement of Electric Power Research Institute (EPRI) Draft Report 1025286, 'Seismic Walkdown Guidance,'" dated May 31, 2012
3. PG&E Letter DCL 94-133, dated June 27, 1994, Response to Generic Letter 88-20. Supplement 4, "Individual Plant Examination of External Events for Severe Accident Vulnerabilities"

Attachment List

Attachment	Title
A	Seismic Walkdown Equipment List Team Personnel Qualifications
B	Unit 2: Seismic Walkdown Equipment List-1 Base List 1
C	Unit 2: Seismic Walkdown Equipment List-1
D	Unit 2: Seismic Walkdown Equipment List-2 Base List 2
E	Unit 2: Seismic Walkdown Equipment List-2 Rapid Drain-Down List
F	Unit 2: Seismic Walkdown Equipment List- 2
G	Unit 2: Potentially Adverse Seismic Conditions Entered into the Corrective Action Program
H	Unit 2: Inaccessible Component List
I	Unit 2: Seismic Walkdown Checklists
L	Unit 2: Area Walk-By Checklists
K	Unit 2: Summary Findings of the Peer Reviews
L	List of Acronyms

Attachment A

Seismic Walkdown Equipment List Team Personnel Qualifications

The following contains a brief summary of the industry and educational qualification of the personnel that were directly involved with the equipment selection, seismic walkdowns, licensing basis reviews, individual plant examination of external events reviews, and peer reviews.

Team Members

Nozar Jahangir, PE is DCP's manager of project engineering and the seismic project team lead. Mr. Jahangir is a degreed civil engineer and has over 30 years in the nuclear power industry at DCP involved in plant seismic design and qualifications.

William Horstman, PE is a DCP senior civil engineer on the Fukushima response project. Mr. Horstman is a degreed civil engineer specializing in structural engineering. Mr. Horstman has 32 years of experience in the commercial nuclear power industry, including over 22 years at DCP, where he has provided services in civil engineering, seismic design, seismic analysis, license amendments, design criteria development, and licensing basis impact evaluations.

David Miklush is a degreed mechanical engineer with 34 years of experience in the nuclear industry at DCP. Mr. Miklush was licensed as an operator for both units at DCP for 7 years. Mr. Miklush has also served as operations director, maintenance director, and engineering director.

Patrick Huang, PE is a degreed civil engineer and has over 30 years of experience in the nuclear industry. Mr. Huang has worked for DCP performing seismic equipment qualification for 23 years.

Matthew Sage is a degreed mechanical engineer and provided engineering support for this project.

Scott Maze, PE is a degreed civil engineer and has over 23 years of structural engineering experience including experience in seismic design, most of that in support of DCP.

David Cryer is a degreed mechanical engineer, and has over 34 years in the nuclear power industry. Most of Mr. Cryer's work has been for DCP in seismic qualification of equipment and pipe support.

Thomas Kipp is a degreed aeronautical engineer and has 42 years of experience in the nuclear power industry in fields including PRA, fragility analysis, and the LTSP at DCPD.

Kevin Moore is a degreed structural engineer with over a year of experience in the nuclear power industry, including work at several nuclear generating stations. Mr. Moore also participated in seismic walkdowns for San Onofre Nuclear Generating Station.

Fred Grant is a degreed engineer specializing in mechanics of structures and has 7 years of experience in mechanical and structural engineering. Four of Mr. Grant's years in the industry have been dedicated to seismic walkdowns and seismic fragility analysis.

Krishna Amirineni, PE is a degreed civil engineer and with 4 years of seismic structural engineering experience in the nuclear power industry.

David Nakaki, Ph.D, PE is a degreed engineer with 25 years in the nuclear power industry. Mr. Nakaki has been involved with DCPD LTSP program in developing equipment fragility evaluations since the 1980s.

Nathan Barber is a degreed nuclear engineer with 10 years of experience in PRA at DCPD.

Murrell Evans provided operations support for this project. Mr. Evans has 36 years of experience in the nuclear industry, over 31 of which have been in support of DCPD, including holding positions as an operations shift manager and maintenance operation support manager.

Philippe Soenen is a degreed mechanical engineer and has 10 years of licensing experience in the nuclear industry, most of that in support of DCPD. Mr. Soenen is a licensing supervisor.

Thomas Baldwin, PE is a degreed mechanical engineer with 26 years of experience with DCPD, holding positions such as a design engineer, senior reactor operator; engineering supervisor, procedure services manager, and licensing manager.

Personnel	SWE Training	Personnel Functions and Qualifications							
	EPRI / SQUG	SWE	ESP	Ops	Ops / Systems	IPEEE	Licensing Basis Reviewer	PEER Reviewer (see note)	Support Personnel
Individuals									
Nozar Jahangir	EPRI	x					x	1, 2, 3	
William Horstman	EPRI	x	x				x	2, 3	
Scott Maze	EPRI	x					x	3	
David Cryer	EPRI	x					x	3	
David Miklush	N/A		x	x	X			4	
Murrell Evans	N/A			x				1	
David Nakaki	SQUG	x							
Thomas Kipp	SQUG	x							
Kevin Moore	Both	x							
Fred Grant	EPRI	x							
Krishna Amirineni	EPRI	x					x	1, 2, 3	x
Nathan Barber	N/A					x		1	
Matthew Sage	N/A								x
Patrick Huang	N/A						x	3	
Philippe Soenen	N/A							4	
Thomas Baldwin	N/A							4	
System Engineers	N/A				x				x

Note: There are four peer review activities listed below. The numbers correspond to the review performed

1. Peer review of the selection of the SSCs in the SWEL
2. Peer review of a sample of the SWCs and the AWCs
3. Peer review of the LBEs and the decisions for entering the potentially adverse conditions into CAP
4. Review of the submittal report

Attachment B
Unit 2: Seismic Walkdown Equipment List-1 Base List 1

Component	EPRI 1025286 Screen No. 3 (Five SF or CF)					IPEEE (Y/N)	SSEL (Y/N)	Remarks
	RRC	RCPC	RCIC	DHR	CF			
	(Y/N)	(Y/N)	(Y/N)	(Y/N)	(Y/N)			
Volume control tank outlet to CCP suction valves (LCV-112B, LCV-112C)	Y	Y	Y	N	Y	Y	Y	Flow path pressure boundary and CIVs
Emergency borate valve to charging pump flow path (8104)	Y	Y	Y	N	Y	N	Y	Added from SSEL.
Valves in flow path to RCS through regenerative Hx (8107, 8108, 8145, 8146, 8147, 8148)	Y	Y	Y	N	Y	N	Y	Added from SSEL.
Charging pump discharge FCV-128	Y	Y	Y	N	Y	N	Y	Added from SSEL.
RCP seal water relief valve (RV-8121)	Y	Y	Y	N	Y	N	Y	Added from SSEL.
RWST to charging pump suction valves (8805A, 8805B)	N	N	N	N	Y	Y	Y	Valves in the recirculation between RHR SI and CCP are not safe shutdown equipment; only valves that are CIVs are included.
RWST to SI pump suction valves (8976)	N	N	N	N	Y	Y	N	Valves in the recirculation between RHR SI and CCP are not safe shutdown equipment; only valves that are CIVs are included.
RHR discharge to charging pump suction valves (8804A, 8804B)	N	N	N	N	Y	Y	N	Valves in the recirculation between RHR SI and CCP are not safe shutdown equipment; only valves that are CIVs are included.
Charging pump injection valves (8801A, 8801B, 8803A, 8803B)	N	N	N	N	Y	Y	Y	Valves in the recirculation between RHR SI and CCP are not safe shutdown equipment; only valves that are CIVs are included.

Component	EPRI 1025286 Screen No. 3 (Five SF or CF)					IPEEE (Y/N)	SSEL (Y/N)	Remarks
	RRC	RCPC	RCIC	DHR	CF			
	(Y/N)	(Y/N)	(Y/N)	(Y/N)	(Y/N)			
Containment recirculation suction valves (8982A, 8982B)	N	N	N	N	Y	Y	N	Valves in the recirculation between RHR SI and CCP are not safe shutdown equipment; only valves that are CIVs are included.
Accumulator outlet valves to cold leg valve	N	N	N	N	Y	N	Y	Added from SSEL.
CCW pumps	N	N	Y	Y	Y	Y	Y	Safe shutdown equipment
CCW Hxs	N	N	Y	Y	Y	Y	Y	Safe shutdown equipment
CCW surge tank	N	N	Y	Y	Y	Y	Y	Safe shutdown equipment
CCW header A and B FCVs (FCV-430, FCV-431)	N	N	N	N	Y	Y	Y	CIVs only
SG blowdown isolation valves (FCV-151, 157, 160, 244, 246, 248, 250, 760, 761, 762, 763)	N	N	N	N	Y	N	Y	Added from SSEL.
CCW pump auxiliary lube oil pumps (CCWAP1, CCWAP2, CCWAP3)	N	N	Y	Y	Y	N	Y	Added from SSEL.
DG fuel off shutoff valves (LCV-85 to LCV-90)	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
Emergency DG, including engines	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
DG main lead terminal/box	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG air start receiver	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG inlet air filter	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG inlet silencer	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG exhaust silencer	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DFODT	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG radiator/water pump	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
4160-V switchgear (Bus F, G, H)	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
ASW pump overcurrent relays	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
ASW pump undervoltage relays	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment

Component	EPRI 1025286 Screen No. 3 (Five SF or CF)					IPEEE (Y/N)	SSEL (Y/N)	Remarks
	RRC	RCPC	RCIC	DHR	CF			
	(Y/N)	(Y/N)	(Y/N)	(Y/N)	(Y/N)			
CCW pump undervoltage relay	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
CCW pump overcurrent relays	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
4160-V load center transformer overcurrent relays (51HF10 to 51HH10)	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
CCP overcurrent relays	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
AFW motor driven pump overcurrent relays	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
Startup transformer overcurrent relays (Bus F, G, H)	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
ASW pump control transfer switch relay	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
CCW pump control transfer switch relays	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
4160-V potential transformers (Bus F, G, H)	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG shutdown relays	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG overcurrent Relays	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG oil pressure timer relays	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG overcrank timer relays	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG oil pressure relays	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG jacket water temperature trip relays	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG engine start relays	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG overcrank relays	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG excitation cubicle	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
DG control panel	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
Safeguard relay panel (Bus F, G, H)	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
480-V breaker cabinets (load centers) (SPF to SPH)	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
CCW FCV Motor Control Contactors	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment

Component	EPRI 1025286 Screen No. 3 (Five SF or CF)					IPEEE (Y/N)	SSEL (Y/N)	Remarks
	RRC	RCPC	RCIC	DHR	CF			
	(Y/N)	(Y/N)	(Y/N)	(Y/N)	(Y/N)			
CCW FCV control switches (FCV-430 , FCV-431)	Y	Y	Y	Y	Y	N	Y	Added from SSEL.
480-V auxiliary relay panel	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
4160-V/480-V transformers (THF10 to THH10)	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
Instrument breaker panels (PY21 to PY26)	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
120-V inverters (IY21 to IY24)	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
125-Vdc batteries (BAT21 to BAT23)	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
Battery racks	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
Battery chargers (BTC21, BTC22, BTC221, BTC231, BTC232)	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
125-V and 250-Vdc switchgear/breaker panels (SD21 to SD23)	Y	Y	Y	Y	Y	Y	Y	Safe shutdown equipment
Nuclear auxiliary relay rack	Y	Y	Y	Y	Y	Y		Safe shutdown equipment
SSPS	Y	N	Y	Y	Y	Y	N	Safe shutdown equipment
Auxiliary safeguards cabinet	Y	N	Y	Y	Y	Y	N	Safe shutdown equipment
Process control and protection system	N	Y	Y	N	Y	Y	N	Safe shutdown equipment
Process control and protection instrument racks (P1A to P1C)	N	Y	Y	N	Y	Y	N	Safe shutdown equipment
Main control boards (2VB1 to 2VB5) and control console (1 to 3)	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
Hot shutdown panel	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
Containment fan coolers	N	N	N	N	Y	Y	N	Safe shutdown equipment
Containment purge valves (RCV-11, RCV-12, FCV-660, FCV-661)	N	N	N	N	Y	Y	N	Safe shutdown equipment
Auxiliary building supply fans (S-37, S-38)	N	Y	Y	Y	Y	Y	N	Safe shutdown equipment

Component	EPRI 1025286 Screen No. 3 (Five SF or CF)					IPEEE (Y/N)	SSEL (Y/N)	Remarks
	RRC	RCPC	RCIC	DHR	CF			
	(Y/N)	(Y/N)	(Y/N)	(Y/N)	(Y/N)			
480-V switchgear room supply fans (S-45, S-46)	N	Y	Y	Y	Y	Y	N	Safe shutdown equipment
Auxiliary building exhaust fans (E-45, E-46)	N	Y	Y	Y	Y	Y	N	Safe shutdown equipment
Auxiliary building shutoff (discharge) dampers (FCV-5045, FCV-5046)	N	Y	Y	Y	Y	Y	N	Safe shutdown equipment
Auxiliary building backdraft dampers (BDD-45, BDD-46)	N	Y	Y	Y	Y	Y	N	Safe shutdown equipment
ASW pump control switch relays	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
ASW pump control switch relays at hot shutdown panel	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
CCW pump control switch relays	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
CCW pump control switch relays at hot shutdown panel	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment
Auxiliary transformer overcurrent relays (Bus F, G, H)	Y	Y	Y	Y	Y	Y	N	Safe shutdown equipment

Attachment C
Unit 2: Seismic Walkdown Equipment List-1

Component	System No.	Equipment Class	Environment	New or Replacement (Y/N)	Safety Function					Risk Significance (Y/N)	SSEL (Y/N)	IPEEE (Y/N)	IPEEE Enhancement (Y/N)	Walkdown Package No.	Remarks
					RRC	RCPC	RCIC	DHR	CF						
AFW lead 1 temperature element	3	19	MIE	N	N	N	N	N	N	N	N	N	DC-2-03-I-E-TE-117	Added for variety of types of systems and variety of equipment types (19).	
TD AFW pump 1	3	5	MIE	N	N	N	N	Y	N	Y	Y	N	DC-2-03-M-PP-AFWP1		
AFW pump 2 (Motor- Driven)	3	5	MIE	N	N	N	N	Y	N	Y	Y	N	DC-2-03-M-PP-AFWP2		
TD AFW pump discharge to SG LCV-110	3	7	OE	N	N	N	N	N	Y	N	N	Y	DC-2-03-P-VOH-FW-2-LCV-110		
AFW pump discharge to SG LCV-115	3	7	MIE	N	N	N	N	N	Y	N	N	Y	DC-2-03-P-VOH-FW-2-LCV-115	Added based on peer review.	
TD AFW pump discharge to SG LCV-106	3	8	OE	N	N	N	N	N	Y	N	N	Y	DC-2-03-P-VOM-FW-2-LCV-106	Added based on peer review.	
Isolation valve FCV-95 control switch contactor (supply to TD AFW pump)	4	1	MIE	N	N	N	N	Y	N	N	N	N	DC-2-04-LD30		
Stop valve FCV-152 on supply to TD AFW pump 1	4	0	MIE	N	N	N	N	Y	N	N	Y	N	DC-2-04-P-V-MS-2-FCV-152	Added from SSEL. Special type of control valve for steam turbine.	
MS FCV-41	4	7	OE	N	N	N	N	Y	N	N	Y	Y	DC-2-04-P-VOA-MS-2-FCV-41		
MS PORV No. PCV-20 (10% Dump)	4	7	OE	N	N	N	N	Y	N	N	Y	Y	DC-2-04-P-VOA-MS-2-PCV-20		
Isolation valves on supply to TD AFW pump (FCV-37)	4	8	MIE	N	N	N	N	Y	N	N	Y	N	DC-2-04-P-VOM-MS-2-FCV-37	Added from SSEL.	
MSSV RV-13	4	7	MIE	N	N	N	N	Y	N	N	N	Y	DC-2-04-P-VR-MS-2-RV-13		
MSSV RV-3	4	7	OE	N	N	N	N	Y	N	N	N	Y	DC-2-04-P-VR-MS-2-RV-3		
MSSV RV-61	4	7	MIE	N	N	N	N	Y	N	N	N	Y	DC-2-04-P-VR-MS-2-RV-61		
MSSV RV-8	4	7	OE	N	N	N	N	Y	N	N	N	Y	DC-2-04-P-VR-MS-2-RV-8		
Boric acid storage tank No. 1 level transmitter No. LT-102	8	18	MIE	N	Y	N	Y	N	N	N	Y	N	DC-2-08-I-T-LT-102	Added from SSEL and variety of systems. Mounted in local panel No. XLT102.	
Seal water Hx	8	21	MIE	N	Y	Y	Y	N	N	N	N	N	DC-2-08-M-HX-SWHE1	Added based on recommendation from PRA group. Variety of equipment types (21). Added for variety of systems.	
CCP 1 (emergency)	8	5	MIE	N	Y	Y	Y	N	N	Y	Y	Y	DC-2-08-M-PP-CCP1	Includes subcomponent: AP1	
CCP 3 (normal)	8	5	MIE	Y	Y	Y	Y	N	N	N	Y	Y	DC-2-08-M-PP-CCP3	Originally a reciprocal charging pump, replacement dissimilar to CCP1. Major modification	

Component	System No.	Equipment Class	Environment	New or Replacement (Y/N)	Safety Function					Risk Significance (Y/N)	SSEL (Y/N)	IPEEE (Y/N)	IPEEE Enhancement (Y/N)	Walkdown Package No.	Remarks
					RRC	RCPC	RCIC	DHR	CF						
Boric acid blender inlet valve no. FCV-110A	8	7	MIE	Y	N	N	N	N	Y	N	N	Y	N	DC-2-08-P-VOA-CVCS-2-FCV-110A	Added based on modification. Seismically supported valve
Emergency borate valve to charging pump (8104)	8	8	MIE	N	Y	Y	Y	N	Y	N	Y	N	N	DC-2-08-P-VOM-CVCS-2-8104	Added from SSEL. Seismically supported
Volume control tank outlet to CCP suction valve No. LCV-112B	8	8	MIE	N	Y	Y	Y	N	Y	N	Y	Y	N	DC-2-08-P-VOM-CVCS-2-LCV-112B	
SI pump 1	9	5	MIE	N	N	N	N	N	N	Y	N	Y	Y	DC-2-09-M-PP-SIP1	Added due to association with LTSP/IPEEE modification.
Containment recirculation sump, sump strainer, trash rack, and vortex suppressor	9	0	ICE	Y	N	N	Y	Y	Y	N	N	N	N	DC-2-09-M-STR-STR-RHR1	Added as major modification.
SI accumulator No. 1	9	21	ICE	N	N	N	N	N	N	N	N	Y	N	DC-2-09-M-TK-AT1	Added for variety of environments.
RWST to charging pump suction valve No. 8805A	9	8	MIE	N	N	N	N	N	Y	N	Y	Y	N	DC-2-09-P-VOM-SI-2-8805A	
SI pump suction valves from RWST (8923A)	9	8	MIE	N	N	N	N	N	Y	N	N	N	Y	DC-2-09-P-VOM-SI-2-8923A	Added due to association with LTSP/IPEEE modification.
RHR Hx 1	10	21	MIE	N	N	N	N	Y	N	N	Y	Y	N	DC-2-10-M-HX-RHE1	
RHR pump 2	10	6	MIE	N	N	N	N	Y	N	Y	Y	Y	N	DC-2-10-M-PP-RHRP2	
RHR pump suction valve 8700A	10	8	MIE	N	N	N	N	Y	N	N	N	Y	N	DC-2-10-P-VOM-RHR-2-8700A	
RHR pump recirculation valve FCV-641A	10	8	MIE	Y	N	N	N	Y	N	N	N	Y	N	DC-2-10-P-VOM-RHR-2-FCV-641A	Added based on peer review.
RHR pump recirculation valve FCV-641B	10	8	MIE	Y	N	N	N	Y	N	N	N	Y	N	DC-2-10-P-VOM-RHR-2-FCV-641B	
CCW header A FCV-430	14	8	MIE	Y	N	N	N	N	N	N	Y	Y	Y	DC-2-14-E-P-VOM-CCW-2-FCV-430	Associated with LTSP/IPEEE modification.
CCW Hx output thermocouple TE-6	14	19	MIE	N	N	N	N	Y	N	N	Y	N	N	DC-2-14-I-E-TE-6	Added for variety of equipment (19). Electrical location code XTE-006
CCW Hx 1	14	21	MIE	N	N	N	Y	Y	Y	Y	Y	Y	N	DC-2-14-M-HX-CCWHE1	
CCW pump 1	14	5	MIE	N	N	N	Y	Y	Y	Y	Y	Y	N	DC-2-14-M-PP-CCWP1	Includes subcomponent: CCWAP1
CCW surge tank	14	21	OE	N	N	N	Y	Y	Y	N	Y	Y	N	DC-2-14-M-TK-CCWST1	
CCW Hx FCV-365	14	7	MIE	Y	N	N	N	N	N	N	Y	N	N	DC-2-14-P-VOA-CCW-2-FCV-365	Added from SSEL.
ASW pump 1	17	6	SWIE	N	N	N	Y	Y	N	Y	Y	Y	N	DC-2-17-M-PP-ASP1	
ASW FCV-602	17	7	MIE	N	N	N	Y	Y	N	N	Y	Y	N	DC-2-17-P-VOA-SW-2-FCV-602	
DG No. 1 lube oil electric heater	21	0	DIE	Y	Y	Y	Y	Y	Y	N	N	N	N	DC-2-21-E-HT-LOH1	New component

Component	System No.	Equipment Class	Environment	New or Replacement (Y/N)	Safety Function					Risk Significance (Y/N)	SSEL (Y/N)	IPEEE (Y/N)	IPEEE Enhancement (Y/N)	Walkdown Package No.	Remarks
					RRC	RCPC	RCIC	DHR	CF						
DG No. 1 control panel	21	20	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-E-PNL-GQD21	Includes relay Nos. - SDR-11/SDR-21 - OCT1-11/OCT1-21 - ESR1-11/ESR1-21 - JWTR-11/JWTR-21 - OPR-11/OPR-21 - OPT1-11/OPT1-21 - OCR-11/OCR-21
DG No. 3 control panel	21	20	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-E-PNL-GQD23	DG 2-3 associated with a major modification credited in the IPEEE SPRA, and is dissimilar from other DGs. Includes relay Nos. - SDR-13/SDR-23 - OCT1-13/OCT1-23 - ESR1-13/ESR1-23 - JWTR-13/JWTR-23 - OPR-13/OPR-23 - OPT1-13/OPT1-23 - OCR-13/OCR-23
DG No. 1 excitation cubicle	21	20	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-E-PNL-SED21	
DG No. 3 excitation cubicle	21	20	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-E-PNL-SED23	DG 2-3 associated with a major modification credited in the IPEEE SPRA, and is dissimilar from other DGs.
DG No. 1 DC power supply transfer switches	21	14	DIE	N	Y	Y	Y	Y	Y	N	N	N	N	DC-2-21-E-S-EQD-21	Added for variety of types of equipment (14).
DG No. 3 DC power supply transfer switches	21	14	DIE	N	Y	Y	Y	Y	Y	N	N	N	N	DC-2-21-E-S-EQD-23	Added for variety of types of equipment (14). DG 2-3 associated with a major modification credited in the IPEEE SPRA, and is dissimilar from other DGs.
DG No. 1 engine	21	17	DIE	N	Y	Y	Y	Y	Y	Y	Y	Y	N	DC-2-21-M-EN-DEG1	Includes subcomponents: - DFODT1 - JWP1 - Main Lead Terminal Box - Generator
DG No. 3 engine	21	17	DIE	N	Y	Y	Y	Y	Y	Y	Y	Y	N	DC-2-21-M-EN-DEG3	Includes subcomponents: - DFODT3 - JWP3 - Main Lead Terminal Box DG 2-3 associated with a major modification credited in the IPEEE SPRA, and is dissimilar from other DGs.
DG No. 1 radiator A	21	17S	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-M-HX-JWR1A	
DG No. 3 radiator A	21	17S	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-M-HX-JWR3A	

Component	System No.	Equipment Class	Environment	New or Replacement (Y/N)	Safety Function					Risk Significance (Y/N)	SSEL (Y/N)	IPEEE (Y/N)	IPEEE Enhancement (Y/N)	Walkdown Package No.	Remarks
					RRC	RCPC	RCIC	DHR	CF						
DG No. 1 exhaust silencer	21	0	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-M-MISC-ES1	
DG No. 3 exhaust silencer	21	0	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-M-MISC-ES3	DG 2-3 associated with a major modification credited in the IPEEE SPRA, and is dissimilar from other DGs.
DG No. 1 inlet silencer	21	0	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-M-MISC-IS1	
DG No. 3 inlet silencer	21	0	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-M-MISC-IS3	DG 2-3 associated with a major modification credited in the IPEEE SPRA, and is dissimilar from other DGs.
DG No. 1 air start receiver A	21	21	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-M-TK-AR1A	
DG No. 3 air start receiver A	21	21	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-M-TK-AR3A	DG 2-3 associated with a major modification credited in the IPEEE SPRA, and is dissimilar from other receivers.
DG No. 1 inlet air filter	21	0	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-P-FL-CAF1	
DG No. 3 inlet air filter	21	0	DIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-21-P-FL-CAF3	DG 2-3 associated with a major modification credited in the IPEEE SPRA, and is dissimilar from other DGs.
DG No. 1 fuel off shutoff valve header A	21	7	DIE	N	Y	Y	Y	Y	Y	N	Y	Y	N	DC-2-21-P-V-DEG-2-LCV-89	
DG No. 3 fuel off shutoff valve header A	21	7	DIE	N	Y	Y	Y	Y	Y	N	Y	Y	N	DC-2-21-P-VOA-DEG-2-LCV-87	DG 2-3 associated with a major modification credited in the IPEEE SPRA, and is dissimilar from other DFODTs.
Post-LOCA sampling room ventilation duct heater No. 29A	23	0	MIE	N	N	N	N	N	N	N	N	N	N	DC-2-23-E-HT-2EH-29A	Added based on recommendation from PRA group. Added for variety of systems and for a variety of types of equipment (10).
Control room ventilation control cabinet No. CCR1	23	20	MIE	N	N	N	N	N	N	N	N	Y	N	DC-2-23-E-PNL-CRC6	
CFCU SI system and auto bus transfer relay cabinet, Bus F	23	20	MIE	Y	Y	Y	Y	Y	Y	N	N	N	N	DC-2-23-E-PNL-PCCFC1	Added as new component. Includes relay nos.: - 2F1, 2F1A, 2F2, 2F2A - 4HFXF1, 4HFXF2 Located in 480V switchgear room Bus F
Control room ventilation air conditioning compressor CP-37	23	12	DIE	N	N	N	N	N	N	N	N	Y	N	DC-2-23-M-BC-CP-37	Added for variety of environments.
Auxiliary building ventilation exhaust fan E-1	23	9	DIE	N	N	Y	Y	Y	Y	N	N	N	N	DC-2-23-M-BF-2E-1	Added for safety function.
Control room ventilation supply fan S-37	23	10	DIE	N	N	Y	Y	Y	Y	Y	N	Y	N	DC-2-23-M-BF-2S-37	Includes coil cooling units C35/C37 as subcomponents.
Containment fan cooler No. 1	23	10	ICE	N	N	N	N	N	Y	N	N	Y	N	DC-2-23-M-BF-CFC2-1	

Component	System No.	Equipment Class	Environment	New or Replacement (Y/N)	Safety Function					Risk Significance (Y/N)	SSEL (Y/N)	IPEEE (Y/N)	IPEEE Enhancement (Y/N)	Walkdown Package No.	Remarks
					RRC	RCPC	RCIC	DHR	CF						
ASW pump compartment exhaust fan E-104	23	9	SWIE	N	Y	Y	Y	Y	Y	N	Y	N	N	DC-2-23-M-BF-E-104	Added from SSEL. Added for variety of environments.
480-V switchgear ventilation exhaust fan E-45	23	10	OE	N	N	Y	Y	Y	Y	N	Y	Y	N	DC-2-23-M-BF-E-45	
Auxiliary building ventilation supply fan S-33	23	9	DIE	N	N	Y	Y	Y	Y	N	N	N	N	DC-2-23-M-BF-S-33	Added for safety function.
480-V switchgear ventilation supply fan S-45	23	9	OE	N	N	Y	Y	Y	Y	N	Y	Y	N	DC-2-23-M-BF-S-45	
Control room ventilation air conditioning condenser CR37	23	10	DIE	N	N	N	N	N	N	N	N	Y	N	DC-2-23-M-HX-CR37	Added for variety of environments. Variety of types of equipment (10)
480-V switchgear ventilation shutoff (discharge) damper FCV-5045	23	7	OE	N	N	Y	Y	Y	Y	N	N	Y	N	DC-2-23-P-D-VAC-2-FCV-5045	Associated with IPEEE modification.
Control room ventilation supply fan suction damper No. MOD-10	23	8	DIE	N	N	N	N	N	N	N	N	N	N	DC-2-23-P-D-VAC-2-MOD-10	Added based on recommendation from PRA group.
Control room ventilation supply fan suction damper No. MOD-9	23	8	DIE	N	N	N	N	N	N	N	N	N	N	DC-2-23-P-D-VAC-2-MOD-9	Added based on recommendation from PRA group.
Control room ventilation filter FU39	23	18	DIE	N	N	N	N	N	N	N	N	N	N	DC-2-23-P-FL-FU41	Added based on recommendation from PRA group.
Containment purge valve FCV-660	23	7	ICE	N	N	N	N	N	Y	N	N	Y	N	DC-2-23-P-VOA-VAC-2-FCV-660	
Containment purge valve RCV-11	23	7	ICE	N	N	N	N	N	Y	N	N	Y	N	DC-2-23-P-VOA-VAC-2-RCV-11	
Hydrogen monitoring system supply valve FCV-238	23	8	ICE	N	N	N	N	N	Y	N	N	N	N	DC-2-23-P-VOS-VAC-2-FCV-238	Added for variety of equipment types (8)
Post-LOCA sample system return line to containment valve FCV-700	23	8	MIE	N	N	N	N	N	Y	N	N	N	N	DC-2-23-P-VOS-VAC-2-FCV-700	Added for variety of equipment types (8)
ASW FCV-602 backup air accumulator	25	21	MIE	N	N	N	Y	Y	N	N	N	N	N	DC-2-25-M-TK-BUAS-602	Added for variety of systems.
Auxiliary relay rack No. RNARA	36	20	MIE	N	N	Y	N	N	N	N	N	Y	N	DC-2-36-E-PNL-RNARA	
Process control and protection system - process control rack No. 1A	36	18	MIE	N	N	Y	Y	N	Y	N	N	Y	Y	DC-2-36-I-PNL-RNO1A	Associated with IPEEE modification.
SSPS - input relay cabinet No. RNSIA	38	20	MIE	N	Y	N	Y	Y	Y	Y	N	Y	N	DC-2-38-I-PNL-RNSIA	
SSPS - logic cabinet No. RNSLA	38	20	MIE	N	Y	N	Y	Y	Y	Y	N	Y	N	DC-2-38-I-PNL-RNSLA	
SSPS - output relay cabinet No. RNSOA	38	20	MIE	N	Y	N	Y	Y	Y	Y	N	Y	N	DC-2-38-I-PNL-RNSOA	

Component	System No.	Equipment Class	Environment	New or Replacement (Y/N)	Safety Function					Risk Significance (Y/N)	SSEL (Y/N)	IPEEE (Y/N)	IPEEE Enhancement (Y/N)	Walkdown Package No.	Remarks
					RRC	RCPC	RCIC	DHR	CF						
SSPS - test cabinet No. RNSTA	38	20	MIE	N	Y	N	Y	Y	Y	Y	N	Y	N	DC-2-38-I-PNL-RNSTA	
Reactor trip switchgear/control panel No. B1	41	20	MIE	N	Y	N	N	N	N	N	N	Y	N	DC-2-41-E-PNL-PORTB1	Includes breakers and relays: - 52RTA, 52RTB - 27UVXA, 27UVXB
Process control and protection system - computer input rack No. RNCI1	43	18	MIE	N	N	Y	Y	N	Y	N	N	Y	Y	DC-2-43-I-PNL-RNCI1	Associated with IPEEE modification.
4160-V switchgear, Bus G	63	3	MIE	Y	Y	Y	Y	Y	Y	N	Y	Y	N	DC-2-63-E-LC-SHG	Breakers replaced as part of major modification. Includes relays: - 51XHG14, 51XHG13 - 51HG9, 51HG8, 51HG7, 51HG12 - 51HG6, 51HG5, 51HG10, 51HG13, 51HG14 - 27DCHG12, 27DCHG8 - 43HG12-TS
4160-V safeguard relay panels	63	20	MIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-63-E-PNL-RHG	
4160-V potential transformer, Bus G	63	4	MIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-63-E-XF-SHG22PT	
480-V breaker cabinets (Load Centers), Bus F	64	2	MIE	N	Y	Y	Y	Y	Y	N	Y	Y	N	DC-2-64-E-LC-SPF	Includes subcomponent relays: - 42-1F-11/42-2F-11 - 42-1F-23/42-2F-23
Auxiliary relay panel	64	20	MIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-64-E-PNL-ARP	Associated with 480-V motor control centers.
4160-V/480-V transformer No. THF10	64	4	MIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-64-E-XF-THF10	
120-Vac instrument breaker panel No. PY21	65	2	MIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-65-E-LC-PY21	
120-VacC inverter No. IY21	65	16	MIE	Y	Y	Y	Y	Y	Y	N	Y	Y	N	DC-2-65-E-UPS-IY21	
Regulating transformer No. TRY21	65	4	MIE	Y	Y	Y	Y	Y	Y	N	N	N	N	DC-2-65-E-XF-TRY21	Added for variety of types of equipment (4) and as replacement equipment.
125-Vdc batteries and battery rack No. BAT21	67	15	MIE	Y	Y	Y	Y	Y	Y	N	Y	Y	N	DC-2-67-E-BT-BAT21	Batteries and racks replaced as part of major modification.
125-Vdc battery charger No. BTC21	67	16	MIE	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	DC-2-67-E-BTC-BTC21	
125-Vdc distribution panel No. PD25	67	14	MIE	N	N	N	N	N	N	N	N	N	N	DC-2-67-E-LC-PD25	No safety function, but seismically qualified. Added for a variety of types if equipment (14).
125-Vdc switchgear/breaker panel No. SD21	67	2	MIE	N	Y	Y	Y	Y	Y	N	Y	Y	N	DC-2-67-E-LC-SD21	
Control console No. CC1	96	20	MIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-96-E-PNL-2CC1	

Component	System No.	Equipment Class	Environment	New or Replacement (Y/N)	Safety Function					Risk Significance (Y/N)	SSEL (Y/N)	IPEEE (Y/N)	IPEEE Enhancement (Y/N)	Walkdown Package No.	Remarks
					RRC	RCPC	RCIC	DHR	CF						
Main control board No. VB1	96	20	MIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-96-E-PNL-2VB1	Includes control switch Nos.: - 9003A-CS, 9003B-CS - 8923A-CS, 8923B-CS - FCV-430-CS, FCV-431-CS - CCWP1-CS, CCWP2-CS, CCWP3-CS - ASP1-CS, ASP2-CS
Hot shutdown panel	96	20	MIE	N	Y	Y	Y	Y	Y	N	N	Y	N	DC-2-96-E-PNL-HSP	Includes control switch Nos.: - CCWP1-CSH, CCWP2-CSH, CCWP3-CSH - ASP1-CSH, ASP2-CSH
Mechanical panel No. PM-101 (CCW supply header instrumentation)	96	20	MIE	N	N	N	N	Y	N	N	Y	N	N	DC-2-96-M-PNL-PM-101	Contains transmitter Nos.: - FT-65, FT-68, FT-69
Mechanical panel No. PM-103 (SG No. 1 instrumentation)	96	20	OE	Y	N	N	N	N	N	N	Y	N	N	DC-2-96-M-PNL-PM-103	Added from SSEL. Contains transmitter Nos.: - PT-514, PI-518
Mechanical panel No. PM-185 (condensate storage tank instrumentation)	96	20	MIE	Y	N	N	N	N	N	N	Y	N	N	DC-2-96-M-PNL-PM-185	Contains transmitter No. LT-40.
Mechanical panel No. PM-45 (SG level instrumentation)	96	20	MIE	Y	N	N	N	N	N	N	Y	N	N	DC-2-96-M-PNL-PM-45	Contains transmitter No. LT-529.
Mechanical panel No. PM-79 (reactor level/wide range pressure instrumentation)	96	20	ICE	N	N	N	Y	Y	N	N	Y	N	N	DC-2-96-M-PNL-PM-79	Contains transmitter No. PT-403.
Mechanical panel No. PM-89 (RC loop 2 cold leg instrumentation)	96	20	ICE	N	N	N	Y	Y	N	N	Y	N	N	DC-2-96-M-PNL-PM-89	Contains transmitter No. PT-460.

Attachment D
Unit 2: Seismic Walkdown Equipment List-2 Base List 2

Component
Quick opening transfer tube closure
Spent fuel pool pumps
Spent fuel pool heat exchanger
Spent fuel pool pump transfer switches
Spent fuel pool cooling system temperature instrumentation
Fuel handling building ventilation system supply fans
Fuel handling building ventilation system fan flow control damper
Fuel handling building ventilation system mode dampers
Fuel handling building ventilation system backdraft dampers (fan shutoff dampers)
Fuel handling building ventilation system normal exhaust fan
Fuel handling building ventilation system normal backdraft dampers (fan shutoff dampers)
Fuel handling building ventilation system normal fan flow control damper

Attachment E
Unit 2: Seismic Walkdown Equipment List-2 Rapid Drain-Down List

Spent Fuel Pool Rapid Drain-Down Equipment List	
Component	Comments
QOTTC	Verify condition of QOTTC
SFP fill piping from hold-up tank recirculation pumps	Verify that pipe terminates above elevation 122 ft and check for anti-siphon hole.
Suction piping to SFP pumps	Verify that the SFP wall penetration is above elevation 122 ft.
Return piping from SFPCS Hxs	Verify that anti-siphon hole is present and unobstructed.
SFP skimmer suction piping	Verify that suction point is above elevation 122 ft.
SFP skimmer return piping	Verify that termination point is above elevation 122 ft.
Fuel transfer tube expansion joint	Verify condition of expansion joint.
Return piping from makeup water transfer pumps	Verify that removable spool has been removed or that submerged termination of pipe is above elevation 122 ft.

Attachment F
Unit 2: Seismic Walkdown Equipment List- 2 List

Component	System No.	Equipment Class	Environment	S-Q (Y/N)	Rapid Drain-down	New or Replacement (Y/N)	W/D Package No.	Remarks
SFP fill piping from hold-up tank recirculation pumps	8	0	MIE	N	Y	N	DC-2-08-P-P-LINE-1119	Verify that pipe terminates above elevation 122 ft and check for anti-siphon hole.
SFPC temperature instrumentation	13	19	MIE	Y	N	N	DC-2-13-I-I-TI-653	Mounted on SFPCS Hx outlet piping.
SFP Hx	13	21	MIE	Y	N	N	DC-2-13-M-HX-SFPHE1	
SFP pump 1	13	5	MIE	Y	N	N	DC-2-13-M-PP-SFPP1	
SFP pump transfer switch No. 2	13	1	MIE	Y	N	N	DC-2-13-SFPPTS1	
SFP skimmer suction piping line-1080	13	0	MIE	N	Y	N	DC-2-13-P-P-LINE-1080	Verify that suction point is above elevation 122 ft.
SFP skimmer suction piping line-1118	13	0	MIE	N	Y	N	DC-2-13-P-P-LINE-1118	Verify that suction point is above elevation 122 ft.
SFP skimmer return piping line-1121	13	0	MIE	N	Y	N	DC-2-13-P-P-LINE-1121	Verify that termination point is above elevation 122 ft.
SFP skimmer return piping line-1122	13	0	MIE	N	Y	N	DC-2-13-P-P-LINE-1122	Verify that termination point is above elevation 122 ft.
SFP skimmer return piping line 1123	13	0	MIE	N	Y	N	DC-2-13-P-P-LINE-1123	Verify that termination point is above elevation 122 ft.
Suction piping to SFP pumps	13	0	MIE	Y	Y	N	DC-2-13-P-P-LINE-154	Verify that the SFP wall penetration is above elevation 122 ft.

Component	System No.	Equipment Class	Environment	S-Q (Y/N)	Rapid Drain-down	New or Replacement (Y/N)	W/D Package No.	Remarks
Return piping from SFPCS Hxs	13	21	MIE	N	Y	N	DC-2-13-P-P-LINE-159	Verify that anti-siphon hole is present and unobstructed.
Return piping from makeup water transfer pump (line-2242)	16	0	MIE	N	Y	N	DC-2-16-P-P-LINE-2242	Verify that removable spool has been removed or that submerged termination of pipe is above elevation 122 ft.
FHBVS normal exhaust Fan E-4	23	9	DIE	Y	N	N	DC-2-23-M-BF-2E-4	Similar SSCs in a damp indoor environment have been included in the SWEL-1.
Fuel transfer tube expansion joint	42	0	MIE	Y	Y	N	DC-2-42-M-EJ-FTC-2-EJ2	
QOTTC	42	0	ICE	Y	Y	N	DC-2-42-M-MISC-QOTTC	

Attachment G
Unit 2: Potentially Adverse Seismic Conditions Entered into the
Corrective Action Program

Description	Walkdown SWC/AWC	Finding	Status
Damper stiffener channels not shown on drawing	2-CP-37	Configuration	Note
Loose clamps on conduit No. K8115	2-E-45	Degraded - Other	Note
Loss of shim on RR 2025-8RT	2-FCV-41	Degraded-Other	Note
Gap issue at valve MS-2-FCV-25 (clearance to the adjacent bracket)	DC-2-04-P-VOA-MS-2-FCV-41	Configuration	Note
Clearance between hand wheel for MS-2-1020 & MS-2-FCV-41	DC-2-04-P-VOA-MS-2-FCV-41	Configuration	Note
CCW Hx 2-1 support: cracked concrete (edge of pedestal)	DC-2-14-M-HX-CCWHE1	Degraded-Other	Note
Use of finger shims on hanger No. 28-44R (Not shown on drawing)	DC-2-17-M-PP-ASP1	Configuration	Note
Anchorage anomaly on DG 2-3 exhaust silencer (washer too small for elongated hole)	DC-2-21-M-MISC-ES3	Configuration	Note
Weld size discrepancy for Fan 2S-37	DC-2-23-M-BF-2S-37	Configuration	Note
Fan S-33: Corroded skid & anchor bolts on one corner.	DC-2-23-M-BF-S-33	Degraded-Corrosion	Closed
Damper stiffener channels not shown on drawing	DC-2-23-P-D-VAC-2-MOD-10	Configuration	Note
Incorrect drawing for FU41 support anchor (calculation reflects as-built)	DC-2-23-P-FL-FU41	Configuration	Note
Panel RNARA base connection weld anomaly	DC-2-36-E-PNL-RNARA	Configuration	Note
Panel RNARB base connection weld anomaly (EOC during RNARA inspection)	DC-2-36-E-PNL-RNARA - EOC	Configuration	Note
UPS IY21 mounting bolts connecting the transformer to grating (missing screws)	DC-2-65-E-UPS-IY21	Configuration	Note
Potential interaction between light fixture & rack RNO1A	DC-2-99-I-PNL-RNO1A	Spatial Interaction - SISI	Note

Note: In accordance with EPRI 1025286, these conditions have been entered into the CAP. These items are open and have been prioritized in accordance with CAP guidance.

Attachment H
Unit 2: Inaccessible Component List

Component	Seismic Walkdown Checklist No.	Area Walkdown Checklist No.	Outage
DG No. 2-1 control panel	DC-2-21-E-PNL-GQD21	2-DEG-21	2R17
DG No. 2-1 excitation cubicle	DC-2-21-E-PNL-SED21	2-DEG-21	2R17
DG No. 2-1 radiator No. 1A	DC-2-21-M-HX-JWR1A	2-DEG-21	2R17
DG No. 2-3 control panel	DC-2-21-E-PNL-GQD23	2-DEG-23	2R17
DG No. 2-3 excitation cubicle	DC-2-21-E-PNL-SED23	2-DEG-23	2R17
DG No. 2-3 radiator No. 3A	DC-2-21-M-HX-JWR3A	2-DEG-23	2R17
480-V breaker cabinet (load center) Bus F	DC-2-64-E-LC-SPF	2-MCC-F	2R17
4160-V/480-V transformer No. THF10	DC-2-64-E-XF-THF10	2-MCC-F	2R17
Reactor trip switchgear/control panel No. PORTB1	DC-2-41-E-PNL-PORTB1	2-PORTB1	2R17
Mechanical panel No. PM-89 (RC Loop 2 cold leg instrumentation)	DC-2-96-M-PNL-PM-89	2-PM-89	2R17
SI accumulator No. 2-1	DC-2-09-M-TK-AT1	2-SIAT1	2R17
Containment recirculation sump, sump strainer, trash rack, and vortex suppressor	DC-2-09-M-STR-STR-RHR1	2-STR-RHR1	2R17
QOTTC	DC-2-42-M-MISC-QOTTC	2-QOTTC	2R17
Hydrogen monitoring system supply valve VAC-2-FCV-238	DC-2-23-P-VOS-VAC-2-FCV- 238	2-FCV-238	2R17
Containment purge valve VAC-2-RCV-11	DC-2-23-P-VOA-VAC-2-RCV- 11	2-PEN62	2R17
Containment purge valve VAC-2-FCV-660	DC-2-23-P-VOA-VAC-2-FCV- 660	2-PEN61	2R17
Mechanical panel No. PM-45 (SG level instrumentation)	DC-2-96-M-PNL-PM-45	2-PM-45	2R17
Containment fan cooler No. 2-1	DC-2-23-M-BF-CFC2-1	2-CFC21	2R17
125-Vdc switchgear/breaker panel No. SD21	DC-2-67-E-LC-SD21	2-BTC21	2R17
4160-V switchgear Bus G	DC-2-63-E-LC-SHG	2-4KV-G	2R17
4160-V safeguard relay panel Bus G	DC-2-63-E-PNL-RHG	2-4KV-G	2R17
4160-V potential transformer Bus F	DC-2-63-E-XF-SHF22PT	2-4KV-G	2R17

Attachment I
Unit 2: Seismic Walkdown Checklists

SWC Number	Number of SWC Checklist pages	Number of LBEs	Number of LBE pages
DC-2-03-I-E-TE-117	2	0	0
DC-2-03-M-PP-AFWP1	2	0	0
DC-2-03-M-PP-AFWP2	2	0	0
DC-2-03-P-VOH-FW-2-LCV-110	2	2	2
DC-2-03-P-VOH-FW-2-LCV-115	2	0	0
DC-2-03-P-VOM-FW-2-LCV-106	2	0	0
DC-2-04-LD30	2	0	0
DC-2-04-P-V-MS-2-FCV-152	2	0	0
DC-2-04-P-VOA-MS-2-FCV-41	2	3	3
DC-2-04-P-VOA-MS-2-PCV-20	2	0	0
DC-2-04-P-VOM-MS-2-FCV-37	2	0	0
DC-2-04-P-VR-MS-2-RV-13	2	0	0
DC-2-04-P-VR-MS-2-RV-3	2	0	0
DC-2-04-P-VR-MS-2-RV-61	2	0	0
DC-2-04-P-VR-MS-2-RV-8	2	0	0
DC-2-08-I-T-LT-102	2	0	0
DC-2-08-M-HX-SWHE1	2	0	0
DC-2-08-M-PP-CCP1	2	0	0
DC-2-08-M-PP-CCP3	2	0	0
DC-2-08-P-P-LINE-1119	2	0	0
DC-2-08-P-VOA-CVCS-2-FCV-110A	2	0	0
DC-2-08-P-VOM-CVCS-2-8104	2	0	0
DC-2-08-P-VOM-CVCS-2-LCV-112B	2	0	0
DC-2-09-M-PP-SIP1	2	0	0
DC-2-09-P-VOM-SI-2-8805A	2	0	0
DC-2-09-P-VOM-SI-2-8923A	2	0	0
DC-2-10-M-HX-RHE1	2	0	0
DC-2-10-M-PP-RHRP2	2	0	0
DC-2-10-P-VOM-RHR-2-8700A	2	0	0
DC-2-10-P-VOM-RHR-2-FCV-641A	2	0	0
DC-2-10-P-VOM-RHR-2-FCV-641B	2	0	0
DC-2-13-I-I-TI-653	2	0	0
DC-2-13-M-HX-SFPHE1	2	0	0
DC-2-13-M-PP-SFPP1	2	0	0
DC-2-13-P-P-LINE-1080	2	0	0

SWC Number	Number of SWC Checklist pages	Number of LBEs	Number of LBE pages
DC-2-13-P-P-LINE-1118	2	0	0
DC-2-13-P-P-LINE-1121	2	0	0
DC-2-13-P-P-LINE-1122	2	0	0
DC-2-13-P-P-LINE-1123	2	0	0
DC-2-13-P-P-LINE-154	2	0	0
DC-2-13-P-P-LINE-159	2	0	0
DC-2-13-SFPPTS1	2	0	0
DC-2-14-E-P-VOM-CCW-2-FCV-430	2	0	0
DC-2-14-I-E-TE-6	2	0	0
DC-2-14-M-HX-CCWHE1	2	2	2
DC-2-14-M-PP-CCWP1	2	0	0
DC-2-14-M-TK-CCWST1	2	1	1
DC-2-14-P-VOA-CCW-2-FCV-365	2	0	0
DC-2-16-P-P-LINE-2242	2	0	0
DC-2-17-M-PP-ASP1	2	2	2
DC-2-17-P-VOA-SW-2-FCV-602	2	0	0
DC-2-21-E-HT-LOH1	2	0	0
DC-2-21-E-S-EQD-21	2	0	0
DC-2-21-E-S-EQD-23	2	0	0
DC-2-21-M-EN-DEG1	2	0	0
DC-2-21-M-EN-DEG3	2	1	1
DC-2-21-M-MISC-ES1	2	0	0
DC-2-21-M-MISC-ES3	2	1	1
DC-2-21-M-MISC-IS1	2	0	0
DC-2-21-M-MISC-IS3	2	0	0
DC-2-21-M-TK-AR1A	2	0	0
DC-2-21-M-TK-AR3A	2	0	0
DC-2-21-P-FL-CAF1	2	0	0
DC-2-21-P-FL-CAF3	2	0	0
DC-2-21-P-V-DEG-2-LCV-89	2	0	0
DC-2-21-P-VOA-DEG-2-LCV-87	2	0	0
DC-2-23-E-HT-2EH-29A	2	0	0
DC-2-23-E-PNL-CRC6	2	0	0
DC-2-23-E-PNL-PCCFC1	2	0	0
DC-2-23-M-BC-CP-37	2	0	0
DC-2-23-M-BF-2E-1	2	0	0
DC-2-23-M-BF-2E-4	2	0	0
DC-2-23-M-BF-2S-37	2	2	4

SWC Number	Number of SWC Checklist pages	Number of LBEs	Number of LBE pages
DC-2-23-M-BF-E-104	2	0	0
DC-2-23-M-BF-E-45	2	1	1
DC-2-23-M-BF-S-33	2	2	2
DC-2-23-M-BF-S-45	2	1	1
DC-2-23-M-HX-CR37	2	2	2
DC-2-23-P-D-VAC-2-FCV-5045	2	1	1
DC-2-23-P-D-VAC-2-MOD-10	2	1	18
DC-2-23-P-D-VAC-2-MOD-9	2	0	0
DC-2-23-P-FL-FU41	2	1	1
DC-2-23-P-VOS-VAC-2-FCV-700	2	0	0
DC-2-25-M-TK-BUAS-602	2	0	0
DC-2-36-E-PNL-RNARA	2	1	5
DC-2-38-I-PNL-RNSIA	2	0	0
DC-2-38-I-PNL-RNSLA	2	0	0
DC-2-38-I-PNL-RNSOA	2	0	0
DC-2-38-I-PNL-RNSTA	2	0	0
DC-2-42-M-EJ-FTC-2-EJ2	2	1	1
DC-2-43-I-PNL-RNCI1	2	0	0
DC-2-64-E-PNL-ARP	2	0	0
DC-2-65-E-LC-PY21	2	0	0
DC-2-65-E-UPS-IY21	2	1	3
DC-2-65-E-XF-TRY21	2	0	0
DC-2-67-E-BT-BAT21	2	0	0
DC-2-67-E-BTC-BTC21	2	0	0
DC-2-67-E-LC-PD25	2	0	0
DC-2-96-E-PNL-2CC1	2	0	0
DC-2-96-E-PNL-2VB1	2	0	0
DC-2-96-E-PNL-HSP	2	0	0
DC-2-96-M-PNL-PM-101	2	0	0
DC-2-96-M-PNL-PM-103	2	0	0
DC-2-96-M-PNL-PM-185	2	0	0
DC-2-96-M-PNL-PM-79	2	0	0
DC-2-99-I-PNL-RNO1A	2	1	1

Note: Pages include applicable portions of the checklists and LBE required by EPRI 1025286 guidelines.

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-03-I-E-TE-117

Equipment Class: 19

Equipment Description: AFW Lead Temperature Element

Location: Building: Pipeway

Floor El. 115

Room, Area: 2-TE117

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
No broken, bent, or missing hardware
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
Some minor surface corrosion on lower anchor. No issues.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No cracks near the anchors.
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
Potential soft target is the flex line. No credible interaction sources.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Structural steel, conduit, and pipe are all well supported.
9. Do attached lines have adequate flexibility to avoid damage? Y
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
The component is relatively sheltered by other pipes and supports. It would be difficult to hit if items did fall from above

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-03-IE-TE-117

Equipment Class: 19

Equipment Description: AFW Lead Temperature Element

Comment:

Evaluated by:

DKN

Daniel Halpern

Date:

10/17/2012

SMM

Scott Miller

10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-03-M-PP-AFWP1

Equipment Class: 5

Equipment Description: AFW Pump No. 1 (Turbine-Driven)

Location: Building: Auxiliary

Floor El. 100

Room, Area: 2-AFWP1

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL Items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All anchor bolts are present and in good condition.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
No corrosion is present.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
Very mild spalling has occurred on the concrete pedestal. No structural issues. No cracks in concrete or pedestal.
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
No issues were identified.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No credible sources could impact soft targets.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Overhead piping and cable trays looked adequately secured. Lights are wall mounted. No ceiling tiles or block walls in the area.
9. Do attached lines have adequate flexibility to avoid damage? Y
All attached lines appear to have adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No issues were identified.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-03-M-PP-AFWP1

Equipment Class: 5

Equipment Description: AFW Pump No. 1 (Turbine-Driven)

Comment:

Evaluated by:

KTM

Date:

Keri Moore

10/15/2012

SMM

Scott M. Moore

10/18/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-03-M-PP-AFWP2

Equipment Class: 5

Equipment Description: AFW Pump No. 2 (Motor- Driven)

Location: Building: Auxiliary

Floor El. 100

Room, Area: 2-AFWP2

Manufacturer, model, Etc. Louis Allis COGS 600HP Motor: Byron Jackson 3X6X9E-9STG Pump

Instructions for Completing Checklist

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Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? Y
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
Some minor spalling or chipping of concrete pad around perimeter. Judged to be structurally insignificant.
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y
(6) 1-1/4" anchor bolts through skid.
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
Some lube oil reservoirs at ends of pump and motor and some flexible tubing may be considered soft targets. Judged to be well protected and no visible sources that would fail to impact them.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
9. Do attached lines have adequate flexibility to avoid damage? Y
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-03-M-PP-AFWP2

Equipment Class: 5

Equipment Description: AFW Pump No. 2 (Motor- Driven)

Comment:

Evaluated by:

FFG

Fred Grant

Date:

10-16-12

SMM

Scott M. M...

10/22/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-03-P-VOH-FW-2-LCV-110

Equipment Class: Z

Equipment Description: AFW Pump Discharge to Steam Generator Level Control Valves

Location: Building: Pipeway

Floor El. 115

Room, Area: 2-LCV-110

Manufacturer, model, Etc. ASCO NH92W6002E2RND304XXX00X18

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. Is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
4. Is the anchorage free of visible cracks in the concrete near the anchors? N/A
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y

Interaction Effects

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

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Operator is braced against steel structure. Pipe is free to slide in axial direction. Pipe is braced in axial direction after 1 bend about 10" beneath floor grating and about 4' from valve. Differential displacement between anchor points may stress yoke. See Attachment 1 for disposition.

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-03-P-VOH-FW-2-LCV-110

Equipment Class: Z

Equipment Description: AFW Pump Discharge to Steam Generator Level Control Valves

Comment:

Minor surface corrosion on valve and it's supports judged to be insignificant. Pipe to the north of the valve (Line 575) is corroded. See Attachment 2 for disposition.

Evaluated by:

FFG

Date:

Fred Grant

10-24-12

SMM

Scott Miller

10/22/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 2

Equipment No. DC-2-03-P-V-FW-2-LCV-110

Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Operator is braced against steel structure. Pipe is free to slide in axial direction. Pipe is braced in axial direction after 1 bend about 10" beneath floor grating and about 4' from valve. Differential displacement between anchor points may stress yoke.

Evaluation:

Current piping stress analysis, G-016-02, takes into account the differential motion between the above supports. The seismic anchor motion (SAM) analysis has been performed for DE, DDE, and HOSGRI earthquakes. The valve operator load is qualified as part of valve operator qualification. Hence the issue has been resolved.

It should be noted that the relative displacement between two civil beams is less than 1/16 inch. Therefore it is not a significant issue.

Notification Required: No

Evaluated by:

Patrick Huang

10/22/12

Reviewed by:

[Signature]

10/22/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 2

Equipment No. DC-2-03-P-VOH-FW-2-LCV-110

Attachment 2, Page 1 of 1

Licensing Basis Evaluation

Issue:

Inlet piping for valve no. FW-2-LCV-110 (Line No. 575) has significant surface corrosion.

Evaluation:

Condition considered to be surface corrosion that will not compromise the structural integrity of the pipe. Cleaning and repainting recommended.

Notification Required: Yes (50509305)

Evaluated by: William R. Hare WRH 8/28/12

Reviewed by: Scott Miller SXM 10/22/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-03-P-VOH-FW-2-LCV-115

Equipment Class: Z

Equipment Description: AFW Pump Discharge to Steam Generator Level Control Valves

Location: Building: Auxiliary

Floor El. 115

Room, Area: 2-AFWP2

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All attaching bolts are present and in good condition.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
No corrosion is present.
4. Is the anchorage free of visible cracks in the concrete near the anchors? N/A
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
No issues were identified.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No credible sources can impact soft targets.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
All overhead equipment and lights are adequately secured. No block walls or ceiling tiles in the area.
9. Do attached lines have adequate flexibility to avoid damage? Y
All attached lines use flexible conduit.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No interaction issues were identified.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-03-P-VOH-FW-2-LCV-115

Equipment Class: I

Equipment Description: AFW Pump Discharge to Steam Generator Level Control Valves

Comment:

45" operator height to the center of the pipe. 2" diameter pipe at valve/pipe interface and widens to 3" diameter pipe. Seismic bracing in both lateral directions at top of yoke.

Evaluated by:

KTM

Date:

Heri Mone

10/15/2012

SMM

Scott M. M...

10/10/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-03-P-VOM-FW-2-LCV-106

Equipment Class: 8

Equipment Description: Turbine-Driven AFW Pump Discharge to Steam Generator Level Control Valves

Location: Building: Pipeway

Floor El. 115

Room, Area: 2-LCV-110

Manufacturer, model, Etc. Limitorque

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All attaching bolts are present.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
Mild surface corrosion was seen near valve/pipe connection. Notification of corrosion had already been identified. Judged to be ok.
4. Is the anchorage free of visible cracks in the concrete near the anchors? N/A
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
No issues were identified.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No credible sources were identified that could impact soft targets.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
All overhead equipment and lighting appear to be properly secured.
9. Do attached lines have adequate flexibility to avoid damage? Y
Attached lines use flexible conduit.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No interaction issues were found.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-03-P-VOM-FW-2-LCV-106

Equipment Class: B

Equipment Description: Turbine-Driven AFW Pump Discharge to Steam Generator Level Control Valves

Comment:

3" line reduced to 2" at valve. Valve is braced laterally by a box frame on the valve body. Pipe is supported about 2' from valve/pipe connection.

Evaluated by:

KTM

Keri Moore

Date:

10/15/2012

SMM

Scott M. M...

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-LD30

Equipment Class: 1

Equipment Description: Isolation Valve FCV-95 Control Switch Contactor (Supply to Turbine-Driven AFW Pump)

Location: Building: Auxiliary

Floor El. 115

Room, Area: 2-LD30

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL Items requiring such verification)? Y
2. Is the anchorage free of bent, broken, missing or loose hardware?
All anchor bolts appear to be in good condition. Y
3. Is the anchorage free of corrosion that is more than mild surface oxidation?
No corrosion is present. Y
4. Is the anchorage free of visible cracks in the concrete near the anchors?
No visible cracks in the wall behind the panel. Y
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y
(4) 1/2" anchor bolts at each corner mounting the panel to the wall. (6) 1/2" anchor bolts attaching the interior mounting plate to the panel itself.
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions?
No issues were identified. Y

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures?
No soft targets exist. Y
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment?
Block walls in the room are properly restrained. Lights are rod hung. Overhead distribution systems appear to be properly secured. Y
9. Do attached lines have adequate flexibility to avoid damage?
Attached lines appear to have adequate flexibility. Y
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects?
No seismic interaction issues were identified. Y

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-LD30

Equipment Class: 1

Equipment Description: Isolation Valve FCV-95 Control Switch Contactor (Supply to Turbine-Driven AFW Pump)

Comment:

Evaluated by:

KTM

Date:

Keri Munn

10/15/2012

SMM

Scott M. Munn

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-V-MS-2-FCV-152

Equipment Class: 0

Equipment Description: Stop Valve on Supply to Turbine-Driven AFW Pump No. 1

Location: Building: Auxiliary

Floor El. 100

Room, Area: 2-AFWP1

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
Anchorage to the pipeline appears to be adequate.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
Anchorage is free of corrosion that is more than mild surface oxidation.
4. Is the anchorage free of visible cracks in the concrete near the anchors? N/A
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
No issues were identified.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
Soft targets are free from impact by nearby equipment and structures.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Valve is protected overhead by explosion barrier.
9. Do attached lines have adequate flexibility to avoid damage? Y
No flexibility issues were identified. All electrical connections are made with flex conduit.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No adverse seismic interaction effects were found.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-V-MS-2-FCV-152

Equipment Class: Q

Equipment Description: Stop Valve on Supply to Turbine-Driven AFW Pump No. 1

Comment:

Operator height is 32" from the center line of the attaching pipe. Pipe is heavily insulated so the diameter could not be measured. Pipe has about a 10" diameter with insulation.

Evaluated by:

KTM

Date:

Keri Moore

10/15/2012

SMM

Scott M. M...

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: N

Equipment ID No: DC-2-04-P-VOA-MS-2-FCV-41

Equipment Class: Z

Equipment Description: MS Isolation Valves

Location: Building: Pipeway

Floor El. 115

Room, Area: 2-FCV-41

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

- | | |
|--|-----|
| 1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. Is the anchorage free of bent, broken, missing or loose hardware? | N/A |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation? | N/A |
| 4. Is the anchorage free of visible cracks in the concrete near the anchors? | N/A |
| 5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | N/A |
| 6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Y |

Interaction Effects

- | | |
|--|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>Adjacent valve FCV-25 diaphragm has less than 1/8" clearance to steel plates welded to the actuator of FCV-41. Contact is not expected to result in failure of 2-FCV-41. See Attachment No. 1 for disposition.</i> | N |
| 8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Conduit has adequate flexibility</i> | Y |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | N |

Other Adverse Conditions

- | | |
|---|---|
| 11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? | Y |
|---|---|

Seismic Walkdown Checklist (SWC)

Status: N

Equipment ID No DC-2-04-P-VOA-MS-2-FCV-41

Equipment Class: I

Equipment Description: MS Isolation Valves

Comment:

2-FCV-41 is a line mounted valve. No real anchorage. However, the mounting to the pipe has surface corrosion. See Attachment No. 2 for disposition. Hand wheel for adjacent valve MS-2-1020 has 1/4" clearance to the actuator flange. In addition, there is severe corrosion on MS-2-1020. The proximity of MS-2-1020 is not likely to damage FCV-41 but impact could damage MS-2-1020. See Attachment No. 3 for disposition.

See Attachment No. 1 for disposition of the corrosion.

Evaluated by:

DKN

Daniel K. Nelson 10/23/2012

Date:

SMM

Scott M. M... 10/24/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 2

Equipment No. DC-2-04-P-VOA-MS-2-FCV-41

Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

The gap between the edge of the air operator on valve no. MS-2-FCV-25 and the support for the limit switch on valve no. MS-2-FCV-41 is approximately 1/8". This gap may not be sufficient to accommodate the differential seismic displacement between the valve operator and the limit switch support.

Evaluation:

Based on a comparison of the strength/stiffness of the limit switch support and the air operator, it is judged that the potential impact would result in local denting of the air operator, without impairing its ability to perform the required function.

Limit switch support should be modified to provide sufficient clearance for differential seismic displacements.

Notification Required: Yes (50513337)

Evaluated by:

W.P. Hone

9/18/12

Reviewed by:

Scott Mills

10/22/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 2

Equipment No. DC-2-04-P-VOA-MS-2-FCV-41

Attachment 2, Page 1 of 1

Licensing Basis Evaluation

Issue:

Surface corrosion was noted at the connection between valve no. MS-2-FCV-41 and the associated main steam piping.

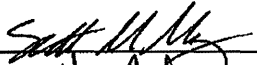
Evaluation:

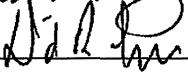
Based on a review of the extent of corrosion, the current condition is not sufficiently severe to impact the ability of the valve to perform its design function (retaining pressure boundary of the piping system) or allow the valve to fail during an earthquake in such a way that it could impact SISIP targets in the vicinity.

Therefore, this condition does not impact the operation of DCPD.

The piping and valve body should be cleaned and painted.

Notification Required: Yes (50514671)

Evaluated by:  10/22/12

Reviewed by:  10/22/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 2

Equipment No. DC-2-04-P-VOA-MS-2-FCV-41

Attachment 3, Page 1 of 1

Licensing Basis Evaluation

Issue:

The gap between the handwheel on valve no. MS-2-1020 and the actuator on valve no. MS-2-FCV-41 is approximately 1/4". This gap may not be sufficient to accommodate the differential seismic displacement between the handwheel and the actuator. In addition, there is severe corrosion on the yoke, bonnet, and packing on valve no. MS-2-1020.

Evaluation:

Based on a comparison of the strength/stiffness of the handwheel and the valve actuator, it is judged that the potential impact would, at worst, result in local damage to the handwheel, without impairing the pressure boundary of valve no. MS-2-1020 or the ability of valve no. MS-2-FCV-41 to function.

The extent of corrosion on valve no. MS-2-1020 is not sufficient to compromise the structural integrity of the valve at this time.

Valve no. MS-2-1020 should be replaced and the orientation of the stem/handwheel should be modified to provide sufficient clearance from the actuator on MS-2-FCV-41.

Notification Required: Yes (50513374 for gap and 50513511 for corrosion)

Evaluated by: Wm P. He 9/19/12

Reviewed by: Scott H. He 10/22/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-VOA-MS-2-PCV-20

Equipment Class: Z

Equipment Description: MS Power Operated Relief Valves (10% Dump)

Location: Building: Pipeway

Floor El. 134

Room, Area: 2-PCV-20

Manufacturer, model, Etc. Vulcan

Instructions for Completing Checklist

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

Anchorage

- | | |
|--|-----|
| 1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. Is the anchorage free of bent, broken, missing or loose hardware? | N/A |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation? | N/A |
| 4. Is the anchorage free of visible cracks in the concrete near the anchors? | N/A |
| 5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | N/A |
| 6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Y |

Interaction Effects

- | | |
|--|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>Tubing and gages are potential soft targets. However there are no credible interaction sources.</i> | Y |
| 8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>The conduit in the area is well supported. The shed roof overhead provides some protection. No masonry walls.</i> | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>The attached tubing and conduit have adequate flexibility.</i> | Y |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Y |

Other Adverse Conditions

- | | |
|---|---|
| 11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? | Y |
|---|---|

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-VOA-MS-2-PCV-20

Equipment Class: 7

Equipment Description: MS Power Operated Relief Valves (10% Dump)

Comment:

MS-2-PCV-20 is line mounted. Therefore, it has no real anchorage. There is some minor surface corrosion on the valve yoke and bolts. No issues.

Evaluated by:

DKN

Daniel Halim

Date:

10/17/2012

SMM

Scott Miller

10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-VOM-MS-2-FCV-37

Equipment Class: 8

Equipment Description: Isolation Valves on Supply to Turbine-Driven AFW Pump

Location: Building: Pipeway

Floor El. 124

Room, Area: 2-FCV-37

Manufacturer, model, Etc. Limitorque (SMB size-00)

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. Is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All attaching bolts are present.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
Valve body and anchor bolts appear to have surface corrosion. Corrosion has already been identified in tag no. 50289378. Judged to be ok.
4. Is the anchorage free of visible cracks in the concrete near the anchors? N/A
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
No issues were identified.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No credible sources to impact soft targets.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Overhead grating would prevent overhead equipment from collapsing on the valve.
9. Do attached lines have adequate flexibility to avoid damage? Y
Attached lines use flexible conduit.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No seismic interaction issues were found.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-VOM-MS-2-FCV-37

Equipment Class: 8

Equipment Description: Isolation Valves on Supply to Turbine-Driven AFW Pump

Comment:

Attaching pipe is insulated and could not be measured. Pipe is supported vertically and laterally (perpendicular to the length of the pipe) about 1' from the valve connection.

Evaluated by:

KTM

Date:

Keri Moore

10/15/2012

SMM

[Signature]

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-VR-MS-2-RV-13

Equipment Class: Z

Equipment Description: MS Safety Valves

Location: Building: Auxiliary

Floor El. 140

Room, Area: 2-RV-13

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

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

2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All attaching bolts are present.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
Surface corrosion is visible on the anchorage. Judged to be ok.

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

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

6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
No issues were identified.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
Overhead security grating protects the soft targets on the valve. Grating itself is adequately supported.

8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Nothing is likely to collapse on the equipment.

9. Do attached lines have adequate flexibility to avoid damage? Y
Attached line uses a flexible conduit.

10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No issues were identified.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-VR-MS-2-RV-13

Equipment Class: Z

Equipment Description: MS Safety Valves

Comment:

Evaluated by:

KTM

Heri Moore

Date:

10/15/2012

SMM

Scott Miller

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-VR-MS-2-RV-3

Equipment Class: 7

Equipment Description: MS Safety Valves

Location: Building: Pipeway

Floor El. 115

Room, Area: 2-PCV-20

Manufacturer, model, Etc. Dresser

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. Is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? N/A
3. Is the anchorage free of corrosion that is more than mild surface oxidation? N/A
4. Is the anchorage free of visible cracks in the concrete near the anchors? N/A
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures?
No credible interaction sources. Y
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment?
Structural steel framing is rugged. Shed roof overhead provides protection Y
9. Do attached lines have adequate flexibility to avoid damage?
Attached tubing has adequate flexibility Y
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-VR-MS-2-RV-3

Equipment Class: Z

Equipment Description: MS Safety Valves

Comment:

The valve is line mounted. Therefore, no anchorage. Inlet pipe is 6" Outlet pipe is 10"

Evaluated by:

DKN

Daniel H. H. H.

Date:

10/17/2012

SMM

Scott M. M.

10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-VR-MS-2-RV-61

Equipment Class: Z

Equipment Description: MS Safety Valves

Location: Building: Auxiliary

Floor El. 140

Room, Area: 2-RV-13

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware?
All attaching bolts are present. Y
3. Is the anchorage free of corrosion that is more than mild surface oxidation?
Very minor corrosion is seen on the valve. Judged to be ok. Y
4. Is the anchorage free of visible cracks in the concrete near the anchors? N/A
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions?
No issues were identified. Y

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures?
Overhead security grating protects the soft targets on the valve. Grating itself is adequately supported. Y
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment?
Nothing is likely to collapse on the equipment. Y
9. Do attached lines have adequate flexibility to avoid damage?
Attached line uses a flexible conduit. Y
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects?
No issues were identified. Y

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-VR-MS-2-RV-61

Equipment Class: Z

Equipment Description: MS Safety Valves

Comment:

Evaluated by:

KTM

Keri Mover

Date:

10/15/2012

SMM

Scott M. Mover

10/12/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-VR-MS-2-RV-8

Equipment Class: Z

Equipment Description: MS Safety Valves

Location: Building: Pipeway

Floor El. 115

Room, Area: 2-PCV-20

Manufacturer, model, Etc. Dresser

Instructions for Completing Checklist

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

Anchorage

- | | |
|--|-----|
| 1. Is the anchorage configuration verification required (i.e. Is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. Is the anchorage free of bent, broken, missing or loose hardware? | N/A |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation? | N/A |
| 4. Is the anchorage free of visible cracks in the concrete near the anchors? | N/A |
| 5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | N/A |
| 6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Y |

Interaction Effects

- | | |
|--|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>Only the drain line tubing is a potential soft target. However there are no credible interaction sources.</i> | Y |
| 8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead steel framing is rugged. No other potential interaction sources.</i> | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached tubing has adequate flexibility</i> | Y |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Y |

Other Adverse Conditions

- | | |
|---|---|
| 11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? | Y |
|---|---|

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-04-P-VR-MS-2-RV-8

Equipment Class: Z

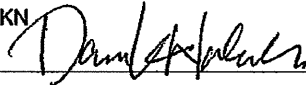
Equipment Description: MS Safety Valves

Comment:

The valve is line mounted. Therefore, it has no anchorage. Some surface corrosion on the valve body and pipe flange. No significant issues.

Evaluated by:

DKN



Date:

10/17/2012

SMM



10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-I-T-LT-102

Equipment Class: 18

Equipment Description: Boric Acid Storage Tank No. 1 Level Transmitter

Location: Building: Auxiliary

Floor El. 115

Room, Area: 2-LT-102

Manufacturer, model, Etc. Rosemount

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e, is the item one of the 50% of SWEL items requiring such verification)? N
- Transmitter has a flange with (4) bolts that is mounted to a pipe flange that is part of a valve/pipe run welded to the tank.* Y
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
4. Is the anchorage free of visible cracks in the concrete near the anchors? N/A
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y

Interaction Effects

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

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y
- A coiled cable was hung on transmitter that was removed.*

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-I-T-LT-102

Equipment Class: 18

Equipment Description: Boric Acid Storage Tank No. 1 Level Transmitter

Comment:

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/14/2012

DRC

D. J. R. Kipp

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-M-HX-SWHE1

Equipment Class: 21

Equipment Description: Seal Water Heat Exchanger

Location: Building: Auxiliary

Floor El. 85

Room, Area: 2-SWHE1

Manufacturer, model, Etc. Atlas Industrial

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? Y
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All anchorage is present and in good condition.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
No corrosion is present on the anchorage.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No visible cracks in the concrete.
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y
(4) 3/4" anchor bolts (2 on each side of the heat exchanger). One end of the heat exchanger is single nutted and the opposite end is double nutted where the slotted holes are.
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
No issues were identified.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No credible sources can impact soft targets.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Nothing is likely to collapse on the equipment.
9. Do attached lines have adequate flexibility to avoid damage? Y
All attached lines appear to have adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No seismic interaction issues were identified.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-M-HX-SWHE1

Equipment Class: 21

Equipment Description: Seal Water Heat Exchanger

Comment:

Evaluated by:

KTM

Keri Meyer

Date:

10/16/2012

SMM

Scott M. Miller

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-M-PP-CCP1

Equipment Class: 5

Equipment Description: Centrifugal Charging Pump No. 1 (Emergency)

Location: Building: Auxiliary

Floor El. 73

Room, Area: 2-CCP1

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e, is the item one of the 50% of SWEL Items requiring such verification)? Y
No notes.
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All anchorage is in good condition.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
All anchor bolts are coated and no corrosion is present.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No visible cracks were seen. Grout overflow or coatings repair on north side noted; however not a structural issue.
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y
(16) 1" anchor bolts. 6 on each side of the pump and 2 on each end. See drawing 439519 for details.
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
No adverse seismic conditions were seen for the anchorage.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No sources were identified that could impact soft targets.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Overhead HVAC ducting and lights were adequately restrained.
9. Do attached lines have adequate flexibility to avoid damage? Y
All attached lines appear to have adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No interaction effects to note.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y
No issues.

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-M-PP-CCP1

Equipment Class: 5

Equipment Description: Centrifugal Charging Pump No. 1 (Emergency)

Comment:

Includes subcomponent DC-2-08-M-PP-AP1. Yellow substance appeared to be leaking from a flexible conduit attached to the pump. The leak had previously been identified and maintenance arrived during the walkdown to clean up the apparent oil.

Evaluated by:

KTM

Date:

Keri Mover

10/15/2012

SMM

Scott M. M...

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-M-PP-CCP3

Equipment Class: 5

Equipment Description: Centrifugal Charging Pump No. (Normal)

Location: Building: Auxiliary

Floor El. 73

Room, Area: 2-CCP3

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. Is the item one of the 50% of SWEL Items requiring such verification)? Y
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All 12 anchor bolts are present and securely fastened.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
Anchors are coated and no corrosion is present.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No cracks were identified.
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y
(12) 7/8" anchor bolts on the skid attaching to the concrete pedestal.
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
No issues were identified.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No credible sources to impact soft targets on the pump.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Overhead monorail has a support on the ceiling that is missing a rod that connects the monorail to the support. Another support with a rod attached is adjacent to the support with the missing rod. The adjacent support with the rod attached was found to be an upgraded design and the original support was left abandoned in place.
9. Do attached lines have adequate flexibility to avoid damage? Y
Attached lines use flexible conduit.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No interaction effects to note.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y
A substance seems to be leaking from the pump. A notification had already been written.

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-M-PP-CCP3

Equipment Class: 5

Equipment Description: Centrifugal Charging Pump No. 8(Normal)

Comment:

Evaluated by:

KTM

Keri Moore

Date:

10/15/2012

SMM

Sgt. M. M.

10/18/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-08-P-P-LINE-1119 Equipment Class¹² 0. (Other)

Equipment Description: SFP Fill Piping from Hold-up Tank Recirculation Pumps

Location: Bldg. Auxiliary Floor El. 140' Room, Area Unit 2 Fuel Handling Area

Manufacturer, Model, Etc. (optional but recommended) n/a

Instructions for Completing Checklist

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

Anchorage

- | | | |
|----|--|-----|
| 1. | Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, anchorage is not applicable. | N/A |
| 3. | Is the anchorage free of corrosion that is more than mild surface corrosion? | N/A |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchorage? | N/A |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which anchorage configuration verification is required.) | N/A |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | N/A |

Interaction Effects

- | | | |
|-----|--|-----|
| 7. | Are soft targets free from impact by nearby equipment or structures?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, seismic interaction effects are not applicable. | N/A |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | N/A |
| 9. | Do attached lines have adequate flexibility to avoid damage? | N/A |
| 10. | Based on the above seismic interaction evaluations, is the equipment free of potentially adverse seismic interaction effects? | N/A |

¹² Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-08-P-P-LINE-1119 Equipment Class¹² 0. (Other)

Equipment Description: SFP Fill Piping from Hold-up Tank Recirculation Pumps

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the plant equipment? N/A

This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, safety functions are not applicable.

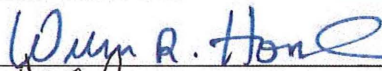
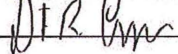
Comments (Additional pages may be added as necessary)

This SWC applies to potential SFP rapid drain-down through the fill piping which enters the fuel transfer canal area of the SFP. Drawing no. 500936 specifies that a 1/2" diameter anti-siphon hole be provided in the pipe at elev. 136'-3". An underwater video camera was used to inspect the submerged pipe. Visual observation of the camera's image on a monitor verified the presence of the hole and its approximate elevation (just below the girth weld between the vertical section of the pipe and the elbow). Since the hole is located significantly more than 10' above the spent fuel assemblies stored in the SFP (approx. elevation 122'), rapid drain-down of the SFP inventory through this pipe is not possible.

Evaluated by:

WRH

DRC

Date:

10/04/2012

10/04/2012

¹²Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-P-VOA-CVCS-2-FCV-110A

Equipment Class: 7

Equipment Description: Boric Acid Blender Inlet valve

Location: Building: Auxiliary

Floor El. 100

Room, Area: 2-LCV112B

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

- | | |
|--|-----|
| 1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. Is the anchorage free of bent, broken, missing or loose hardware?
<i>No broken, bent, or missing hardware.</i> | Y |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation?
<i>Only some minor surface corrosion on pipe support anchors and base plates</i> | Y |
| 4. Is the anchorage free of visible cracks in the concrete near the anchors?
<i>No cracks observed near the pipe support anchors.</i> | Y |
| 5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | N/A |
| 6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Y |

Interaction Effects

- | | |
|--|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>The only potential soft targets are the air lines. However there are no credible interaction sources</i> | Y |
| 8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Conduit and piping are well supported. Duct is braced. Lights have safety chains.</i> | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached air lines have adequate slack.</i> | Y |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Y |

Other Adverse Conditions

- | | |
|---|---|
| 11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? | Y |
|---|---|

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-P-VOA-CVCS-2-FCV-110A

Equipment Class: 7

Equipment Description: Boric Acid Blender Inlet valve

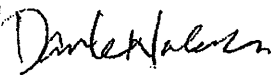
Comment:

Valve 2-FCV-110A is a line mounted cylindrically shaped AOV. The pipe is well supported adjacent to the valve.

This valve is in the same room as valves 2-LCV-112B and 2-8104.

Evaluated by:

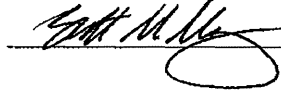
DKN



Date:

10/17/2012

SMM



10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-P-VOM-CVCS-2-8104

Equipment Class: 8

Equipment Description: Emergency Borate Valve to Charging Pump

Location: Building: Auxiliary

Floor El. 100

Room, Area: 2-LCV112B

Manufacturer, model, Etc. Limitorque actuator

Instructions for Completing Checklist

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

Anchorage

- | | |
|--|-----|
| 1. Is the anchorage configuration verification required (i.e. Is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. Is the anchorage free of bent, broken, missing or loose hardware?
<i>No bent, broken, or missing hardware</i> | Y |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation?
<i>No significant corrosion observed.</i> | Y |
| 4. Is the anchorage free of visible cracks in the concrete near the anchors? | Y |
| 5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | N/A |
| 6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Y |

Interaction Effects

- | | |
|--|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>Operator has a cylindrical plastic cover piece. However, there are no credible interaction sources.</i> | Y |
| 8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Conduit and pipe are well supported. Overhead lighting is restrained by a safety chain. No masonry walls.</i> | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Piping is very well supported adjacent to the valve.</i> | Y |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Y |

Other Adverse Conditions

- | | |
|---|---|
| 11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? | Y |
|---|---|

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-P-VOM-CVCS-2-8104

Equipment Class: 8

Equipment Description: Emergency Borate Valve to Charging Pump

Comment:

The valve operator is braced in the NS direction by a steel strut that is anchored to a concrete wall. The strut is anchored to the wall by 4- 1/2 inch Hilti HDI shell anchors. The valve yoke is restrained in the EW direction by a field fabricated steel strut that is connected to the adjacent pipe support. The pipe support is very rugged and is fabricated from 5x3 tube steel. The support is anchored to the concrete floor with 4 - 1 inch Hilti Kwik Bolts.

Evaluated by:

DKN

Daniel K. Nichols

Date:

10/17/2012

DRC

A. J. R. Smith

10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-P-VOM-CVCS-2-LCV-112B

Equipment Class: 8

Equipment Description: Volume Control Tank Outlet to Centrifugal Charging Pump Suction Valves

Location: Building: Auxiliary

Floor El. 100

Room, Area: 2-LCV112B

Manufacturer, model, Etc. Anchor valve company, Limitorque actuator

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? N/A
The valve is line-mounted and has no anchorage. No bent, broken, or missing hardware in the valve mounting.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? N/A
No significant corrosion.
4. Is the anchorage free of visible cracks in the concrete near the anchors? N/A
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No credible interaction sources.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Conduit is well supported. Overhead lighting has a safety chain restraint. HVAC duct is braced. No masonry walls.
9. Do attached lines have adequate flexibility to avoid damage? Y
Attached cables have adequate slack. The pipe is well supported adjacent to the valve.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No credible interaction sources.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-08-P-VOM-CVCS-2-LCV-112B

Equipment Class: 8

Equipment Description: Volume Control Tank Outlet to Centrifugal Charging Pump Suction Valves

Comment:

2-LCV-112B is a line mounted valve with no other supports for the valve yoke.

Evaluated by:

DKN

[Signature]

Date:

10/17/2012

DRC

[Signature]

10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-09-M-PP-SIP1

Equipment Class: 5

Equipment Description: SI Pump No. 1

Location: Building: Auxiliary

Floor El. 85

Room, Area: 2-SIP1

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. Is the item one of the 50% of SWEL items requiring such verification)? Y
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All anchorage appears to be in good condition.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
No corrosion is present.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No visible cracks in the concrete.
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y
(10) 5/8" anchor bolts are consistent with plant documentation. See drawing 443481 for details.
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
No adverse anchorage conditions seen.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No credible sources to impact soft targets on pump.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
No block walls in the area. Lighting is ball and socket type to allow movement. HVAC duct anchorage adequate.
9. Do attached lines have adequate flexibility to avoid damage? Y
All attached lines have adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No seismic interaction issues to note.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y
No issues.

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-09-M-PP-SIP1

Equipment Class: 5

Equipment Description: SI Pump No. 1

Comment:

Evaluated by:

KTM

Heri Maw

Date:

10/15/2012

SMM

Scott M. M...

10/18/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-09-P-VOM-SI-2-8805A

Equipment Class: 8

Equipment Description: RWST to Charging Pump Suction Valves

Location: Building: Auxiliary

Floor El. 85

Room, Area: 2-FCV-365

Manufacturer, model, Etc. Lmtorque (D-L200)

Instructions for Completing Checklist

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

Anchorage

- | | |
|--|-----|
| 1. Is the anchorage configuration verification required (i.e, is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. Is the anchorage free of bent, broken, missing or loose hardware?
<i>All attaching bolts are in good condition.</i> | Y |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation?
<i>No corrosion is present.</i> | Y |
| 4. Is the anchorage free of visible cracks in the concrete near the anchors? | N/A |
| 5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | N/A |
| 6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions?
<i>8" pipe is rigidly restrained with wall mounted plate near the MOV and pipe interface. No struts or attachments to valve body.</i> | Y |

Interaction Effects

- | | |
|---|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>No credible sources could impact soft targets on the valve.</i> | Y |
| 8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>No overhead equipment is likely to collapse on the valve. No ceiling tiles or block walls in the area. Wall mounted bulb lighting is adequately supported and will not affect valve.</i> | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>All attached lines have adequate flexibility.</i> | Y |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects?
<i>No issues were identified. Valve wheel is about 1" from the wall. Judged to be adequate clearance due to the rigid anchorage near the valve-piping interface.</i> | Y |

Other Adverse Conditions

- | | |
|---|---|
| 11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? | Y |
|---|---|

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-09-P-VOM-SI-2-8805A

Equipment Class: 8

Equipment Description: RWST to Charging Pump Suction Valves

Comment:

37" from operator to 8" pipe.

Evaluated by:

KTM

Keri Munn

Date:

10/15/2012

SMM

SMM

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-09-P-VOM-SI-2-8923A

Equipment Class: 8

Equipment Description: SI Pump Suction Valves from RWST

Location: Building: Auxiliary

Floor El. 85

Room, Area: 2-SIP1

Manufacturer, model, Etc. Limitorque SMB (size-00)

Instructions for Completing Checklist

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

Anchorage

- | | |
|--|-----|
| 1. Is the anchorage configuration verification required (i.e, is the item one of the 50% of SWEL Items requiring such verification)? | N |
| 2. Is the anchorage free of bent, broken, missing or loose hardware?
<i>All attachment bolts appear to be in good condition.</i> | Y |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation?
<i>No corrosion is present.</i> | Y |
| 4. Is the anchorage free of visible cracks in the concrete near the anchors? | N/A |
| 5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | N/A |
| 6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions?
<i>No adverse anchorage conditions were identified.</i> | Y |

Interaction Effects

- | | |
|--|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>No sources were identified that could impact soft targets.</i> | Y |
| 8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>No equipment is likely to impact the valve.</i> | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Attached lines appear to have adequate flexibility.</i> | Y |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects?
<i>No seismic interaction effects to note.</i> | Y |

Other Adverse Conditions

- | | |
|--|---|
| 11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment?
<i>No issues.</i> | Y |
|--|---|

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-09-P-VOM-SI-2-8923A

Equipment Class: 8

Equipment Description: SI Pump Suction Valves from RWST

Comment:

32 inch distance from middle of operator to piping. 6" pipe diameter.

Evaluated by:

KTM

Keri Mann

Date:

10/15/2012

SMM

[Signature]

10/10/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-10-M-HX-RHE1

Equipment Class: 21

Equipment Description: RHR Heat Exchanger No. 1

Location: Building: Auxiliary

Floor El. 73

Room, Area: 2-RHE1

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? Y
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
Anchorage is in good condition.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
No corrosion is present.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No visible cracks in the concrete.
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y
(4) 1-1/4" anchor bolts at the base of the heat exchanger and horizontal restraints at both the top and bottom of the heat exchanger are installed per the details shown in drawings 451596 and 439620.
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
The only soft target is a valve at the top of the heat exchanger but there are no sources for interaction.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
No overhead equipment, distribution systems, ceiling tiles, or lighting exists in the room. The room does not have block walls.
9. Do attached lines have adequate flexibility to avoid damage? Y
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No potentially adverse seismic interaction effects.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-10-M-HX-RHE1

Equipment Class: 21

Equipment Description: RHR Heat Exchanger No. 1

Comment:

Evaluated by:

KTM

Ken Moore

Date:

10/22/2012

SMM

[Signature]

10/23/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-10-M-PP-RHRP2

Equipment Class: 6

Equipment Description: RHR Pump No. 2

Location: Building: Auxiliary

Floor El. 60

Room, Area: 2-RHRP2

Manufacturer, model, Etc. Westinghouse VSW1

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? Y
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
Pump has dead load sliding support - sliding on embedded plate on grout pad. Motor is braced with two snubbers. Snubbers connected to frames that are anchored to the floor and adjacent wall. Snubber support frame anchorage matches Drawing No 051401 Sheets 23 and 24.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
9. Do attached lines have adequate flexibility to avoid damage? Y
CCW cooling line to seal water cooler has a flexible fitting but the fixed segment is close to the snubber attachment bracket on the motor. Gap between bracket and water line is about 1/2". Judged acceptable since snubbers are expected to restrain bracket motion during seismic event.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-10-M-PP-RHRP2

Equipment Class: 6

Equipment Description: RHR Pump No. 2

Comment:

Pump and base concealed by insulation.

Evaluated by:

FFG

Fred Grant

Date:

10-16-12

SMM

Scott M. M...

10/22/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-10-P-VOM-RHR-2-8700A

Equipment Class: 8

Equipment Description: RHR Pump Suction Valves

Location: Building: Auxiliary

Floor El. 73

Room, Area: 2-8700A

Manufacturer, model, Etc. Limitorque SMB-0

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e, is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? N/A
3. Is the anchorage free of corrosion that is more than mild surface oxidation? N/A
4. Is the anchorage free of visible cracks in the concrete near the anchors? N/A
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
No issues were identified.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No nearby equipment or structures that can impact the soft targets.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
All overhead conduit lines are securely attached to the ceiling.
9. Do attached lines have adequate flexibility to avoid damage? Y
Flexible conduit runs into the valve.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No seismic interaction issues.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-10-P-VOM-RHR-2-8700A

Equipment Class: 8

Equipment Description: RHR Pump Suction Valves

Comment:

Motor operator is 57" horizontal from center line of pipe. 14" pipe diameter.

Evaluated by:

KTM

Date:

Keri Munn

10/15/2012

SMM

Scott Munn

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-10-P-VOM-RHR-2-FCV-641A

Equipment Class: 8

Equipment Description: RHR Pump Recirculation Valves

Location: Building: Auxiliary

Floor El. 62

Room, Area: 2-FCV-641A

Manufacturer, model, Etc. Limitorque

Instructions for Completing Checklist

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

Anchorage

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

2. Is the anchorage free of bent, broken, missing or loose hardware? Y
No broken, bent or missing hardware.

3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
No corrosion observed

4. Is the anchorage free of visible cracks in the concrete near the anchors? N/A
The valve is line mounted with no other restraint

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

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

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
The only potential soft targets are the plastic cylinder over the position indicator and the cables. However there are no credible interaction sources.

8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Duct and pipe are well supported. The lights are conduit hung with ball and socket connections at the ceiling. No issues.

9. Do attached lines have adequate flexibility to avoid damage? Y
Power cables have adequate slack

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

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y
No other concerns

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-10-P-VOM-RHR-2-FCV-641A

Equipment Class: 8

Equipment Description: RHR Pump Recirculation Valves

Comment:

Evaluated by:

DKN

Daniel Haluta

Date:

10/17/2012

SMM

Scott M. Kelly

10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-10-P-VOM-RHR-2-FCV-641B

Equipment Class: B

Equipment Description: RHR Pump Recirculation Valves

Location: Building: Auxiliary

Floor El. 64

Room, Area: 2-RHRP2

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

- | | |
|--|-----|
| 1. Is the anchorage configuration verification required (i.e. Is the item one of the 50% of SWEL Items requiring such verification)? | N |
| 2. Is the anchorage free of bent, broken, missing or loose hardware? | Y |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation? | Y |
| 4. Is the anchorage free of visible cracks in the concrete near the anchors? | N/A |
| 5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | N/A |
| 6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Y |

Interaction Effects

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

Other Adverse Conditions

- | | |
|---|---|
| 11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? | Y |
|---|---|

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-10-P-VOM-RHR-2-FCV-641B

Equipment Class: 8

Equipment Description: RHR Pump Recirculation Valves

Comment:

No seismic concerns.

Evaluated by:

FFG



Date:

10-19-12

SMM



10/22/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-13-I-I-TI-653

Equipment Class: 19

Equipment Description: SFPC Temperature Instrumentation

Location: Building: Auxiliary

Floor El. 100

Room, Area: 2-SFPHE1

Manufacturer, model, Etc. Dresser

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the Item one of the 50% of SWEL Items requiring such verification)? N

2. Is the anchorage free of bent, broken, missing or loose hardware? N/A
TI-653 is a small line mounted instrument.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? N/A
No corrosion was observed where the instrument is mounted to the pipe.
4. Is the anchorage free of visible cracks in the concrete near the anchors? N/A

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

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

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No credible interaction sources.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
HVAC duct is braced. Pipe and conduit are well braced. No masonry walls. The adjacent shielding door is top restrained. Lighting is conduit hung pendant lights.
9. Do attached lines have adequate flexibility to avoid damage? Y
The pipe itself is well supported.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-13-I-I-TI-653

Equipment Class: 19

Equipment Description: SFPC Temperature Instrumentation

Comment:

Evaluated by:

DKN

David A. Palmer

Date:

10/17/2012

DRC

J. R. Palmer

10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-13-M-HX-SFPHE1

Equipment Class: 21

Equipment Description: Spent Fuel Pool Heat Exchanger

Location: Building: Auxiliary

Floor El. 100

Room, Area: 2-SFPHE1

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? Y
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
No corrosion observed.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No cracks observed near the anchors.
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y
Consistent with drawing 433222
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
HVAC duct is braced. Pipe and conduit are well braced. No masonry walls. Lights are conduit hung pendant lights. Warning light and PA speaker are supported.
9. Do attached lines have adequate flexibility to avoid damage? Y
The attached piping is supported near the heat exchanger.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
The adjacent shielding door is top restrained.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-13-M-HX-SFPHE1

Equipment Class: 21

Equipment Description: Spent Fuel Pool Heat Exchanger

Comment:

The heat exchanger is supported by two steel saddles. Each saddle is anchored to a concrete pier with 4 - 7/8 inch bolts. The bottom of each bolt is welded to an embedded steel plate anchored in the El. 100 ft concrete floor. One support permits sliding in the long direction.

Evaluated by:

DKN

D. K. N.

Date:

10/17/2012

DRC

D. R. C.

10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-13-M-PP-SFPP1

Equipment Class: 5

Equipment Description: Spent Fuel Pool Pumps

Location: Building: Auxiliary

Floor El. 100

Room, Area: 2-SFPP1

Manufacturer, model, Etc. Goulds

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? Y
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
No bent, broken, or missing hardware.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
No significant corrosion observed
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No cracks observed near the anchors.
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y
The anchorage is consistent with drawing 443222
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
Potential soft targets include the glass oil levelizer and stainless steel tubing. However, no credible interaction sources.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
HVAC duct is braced. Pipe and conduit are well supported. No masonry walls. Overhead crane rail is braced.
9. Do attached lines have adequate flexibility to avoid damage? Y
The attached pipes are well supported near the pump and power cables have flexible attachment.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-13-M-PP-SFPP1

Equipment Class: 5

Equipment Description: Spent Fuel Pool Pumps

Comment:

The pump and motor are mounted to a common steel skid. The skid is anchored to the concrete floor by 6 - 1/2 inch bolts. The bolts are welded to steel insert plates in the floor. A 6 inch concrete pad is placed between the E1-100 floor and the pump skid. The anchor bolts are cast in the pad.

Evaluated by:

DKN

Daniel K. Jones

Date:

10/17/2012

DRC

D. R. Kim

10/19/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-1080 Equipment Class¹² 0. (Other)

Equipment Description: Suction Piping from SFP Skimmer

Location: Bldg. Auxiliary Floor El. 140' Room, Area Unit 2 Fuel Handling Area

Manufacturer, Model, Etc. (optional but recommended) n/a

Instructions for Completing Checklist

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

Anchorage

- | | | |
|----|--|-----|
| 1. | Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, anchorage is not applicable. | N/A |
| 3. | Is the anchorage free of corrosion that is more than mild surface corrosion? | N/A |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchorage? | N/A |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which anchorage configuration verification is required.) | N/A |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | N/A |

Interaction Effects

- | | | |
|-----|--|-----|
| 7. | Are soft targets free from impact by nearby equipment or structures?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, seismic interaction effects are not applicable. | N/A |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | N/A |
| 9. | Do attached lines have adequate flexibility to avoid damage? | N/A |
| 10. | Based on the above seismic interaction evaluations, is the equipment free of potentially adverse seismic interaction effects? | N/A |

¹²Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-1080 Equipment Class¹² 0. (Other)

Equipment Description: Suction Piping from SFP Skimmer

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the plant equipment? N/A

This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, safety functions are not applicable.

Comments (Additional pages may be added as necessary)

This SWC applies to potential SFP rapid drain-down through the suction piping for one of the SFP skimmers, which exits the SFP on its west side. The skimmer is maintained even with the surface of the SFP inventory and includes a short length of flexible hose to permit the skimmer elevation to be adjusted (see drawing no. 500943). Drawing no. 500943 indicates that the centerline of this pipe is at elevation 138'-6". Visual inspection verified that the pipe exits the wall of the SFP at approx. elevation 138' (see photo on sheet 3 for typical configuration) and that the length of the flexible hose is not sufficient to allow the skimmer to sink more than several feet into the SFP. Since the lowest possible elevation that could be reached by the skimmer inside the SFP is located significantly more than 10' above the spent fuel assemblies stored in the SFP (approx. elevation 122'), rapid drain-down of the SFP inventory through this pipe is not possible.

Evaluated by: WRH *William R. Hon* Date: 10/04/2012
DRC *DRC* 10/04/2012

¹² Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-1118 Equipment Class¹² 0. (Other)

Equipment Description: Suction Piping from SFP Skimmer

Location: Bldg. Auxiliary Floor El. 140' Room, Area Unit 2 Fuel Handling Area

Manufacturer, Model, Etc. (optional but recommended) n/a

Instructions for Completing Checklist

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

Anchorage

- | | | |
|----|--|-----|
| 1. | Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, anchorage is not applicable. | N/A |
| 3. | Is the anchorage free of corrosion that is more than mild surface corrosion? | N/A |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchorage? | N/A |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which anchorage configuration verification is required.) | N/A |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | N/A |

Interaction Effects

- | | | |
|-----|--|-----|
| 7. | Are soft targets free from impact by nearby equipment or structures?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, seismic interaction effects are not applicable. | N/A |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | N/A |
| 9. | Do attached lines have adequate flexibility to avoid damage? | N/A |
| 10. | Based on the above seismic interaction evaluations, is the equipment free of potentially adverse seismic interaction effects? | N/A |

¹² Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-1118 Equipment Class¹² 0. (Other)

Equipment Description: Suction Piping from SFP Skimmer

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the plant equipment? N/A

This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, safety functions are not applicable.

Comments (Additional pages may be added as necessary)

This SWC applies to potential SFP rapid drain-down through the suction piping for one of the SFP skimmers, which exits the SFP on its west side. The skimmer is maintained even with the surface of the SFP inventory and includes a short length of flexible hose to permit the skimmer elevation to be adjusted (see drawing no. 500943). Drawing no. 500943 indicates that the centerline of this pipe is at elevation 138'-6". Visual inspection verified that the pipe exits the wall of the SFP at approx. elevation 138' (see photo on sheet 3 for typical configuration) and that the length of the flexible hose is not sufficient to allow the skimmer to sink more than several feet into the SFP. Since the lowest possible elevation that could be reached by the skimmer inside the SFP is located significantly more than 10' above the spent fuel assemblies stored in the SFP (approx. elevation 122'), rapid drain-down of the SFP inventory through this pipe is not possible.

Evaluated by: WRH *W. R. Hone* Date: 10/04/2012
DRC *D. R. Hone* 10/04/2012

¹²Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-1121 Equipment Class¹² 0. (Other)

Equipment Description: Return Piping from SFP Skimmer

Location: Bldg. Auxiliary Floor El. 140' Room, Area Unit 2 Fuel Handling Area

Manufacturer, Model, Etc. (optional but recommended) n/a

Instructions for Completing Checklist

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

Anchorage

- | | | |
|----|--|-----|
| 1. | Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, anchorage is not applicable. | N/A |
| 3. | Is the anchorage free of corrosion that is more than mild surface corrosion? | N/A |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchorage? | N/A |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which anchorage configuration verification is required.) | N/A |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | N/A |

Interaction Effects

- | | | |
|-----|--|-----|
| 7. | Are soft targets free from impact by nearby equipment or structures?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, seismic interaction effects are not applicable. | N/A |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | N/A |
| 9. | Do attached lines have adequate flexibility to avoid damage? | N/A |
| 10. | Based on the above seismic interaction evaluations, is the equipment free of potentially adverse seismic interaction effects? | N/A |

¹² Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-1121 Equipment Class¹² 0. (Other)

Equipment Description: Return Piping from SFP Skimmer

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the plant equipment? N/A

This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, safety functions are not applicable.

Comments (Additional pages may be added as necessary)

This SWC applies to potential SFP rapid drain-down through one of the three return pipes for the SFP skimmers, which enters the SFP on its east side. Drawing no. 500936 indicates that the centerline of this pipe is at elevation 137'-6". Visual inspection verified that the pipe enters the wall of the SFP at approx. elevation 138'. Since the elevation of this pipe is located significantly more than 10' above the spent fuel assemblies stored in the SFP (approx. elevation 122'), rapid drain-down of the SFP inventory through this pipe is not possible.

Evaluated by: WRH *William A. Howell* Date: 10/04/2012
DRC *[Signature]* 10/04/2012

¹²Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-1122 Equipment Class¹² 0. (Other)

Equipment Description: Return Piping from SFP Skimmer

Location: Bldg. Auxiliary Floor El. 140' Room, Area Unit 2 Fuel Handling Area

Manufacturer, Model, Etc. (optional but recommended) n/a

Instructions for Completing Checklist

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

Anchorage

- | | | |
|----|--|-----|
| 1. | Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, anchorage is not applicable. | N/A |
| 3. | Is the anchorage free of corrosion that is more than mild surface corrosion? | N/A |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchorage? | N/A |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which anchorage configuration verification is required.) | N/A |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | N/A |

Interaction Effects

- | | | |
|-----|--|-----|
| 7. | Are soft targets free from impact by nearby equipment or structures?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, seismic interaction effects are not applicable. | N/A |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | N/A |
| 9. | Do attached lines have adequate flexibility to avoid damage? | N/A |
| 10. | Based on the above seismic interaction evaluations, is the equipment free of potentially adverse seismic interaction effects? | N/A |

¹² Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-1122 Equipment Class¹² 0. (Other)

Equipment Description: Return Piping from SFP Skimmer

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the plant equipment? N/A

This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, safety functions are not applicable.

Comments (Additional pages may be added as necessary)

This SWC applies to potential SFP rapid drain-down through one of the three return pipes for the SFP skimmers, which enters the SFP on its east side. Drawing no. 500936 indicates that the centerline of this pipe is at elevation 137'-6". Visual inspection verified that the pipe enters the wall of the SFP at approx. elevation 138'. Since the elevation of this pipe is located significantly more than 10' above the spent fuel assemblies stored in the SFP (approx. elevation 122'), rapid drain-down of the SFP inventory through this pipe is not possible.

Evaluated by:	WRH	<u>William R. Hare</u>	Date:	<u>10/04/2012</u>
	DRC	<u>[Signature]</u>		<u>10/04/2012</u>

¹²Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-1123 Equipment Class¹² 0. (Other)

Equipment Description: Return Piping for SFP Skimmer

Location: Bldg. Auxiliary Floor El. 140' Room, Area Unit 2 Fuel Handling Area

Manufacturer, Model, Etc. (optional but recommended) n/a

Instructions for Completing Checklist

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

Anchorage

- | | | |
|----|--|-----|
| 1. | Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, anchorage is not applicable. | N/A |
| 3. | Is the anchorage free of corrosion that is more than mild surface corrosion? | N/A |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchorage? | N/A |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which anchorage configuration verification is required.) | N/A |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | N/A |

Interaction Effects

- | | | |
|-----|--|-----|
| 7. | Are soft targets free from impact by nearby equipment or structures?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, seismic interaction effects are not applicable. | N/A |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | N/A |
| 9. | Do attached lines have adequate flexibility to avoid damage? | N/A |
| 10. | Based on the above seismic interaction evaluations, is the equipment free of potentially adverse seismic interaction effects? | N/A |

¹² Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-1123 Equipment Class¹² 0. (Other)

Equipment Description: Return Piping for SFP Skimmer

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the plant equipment? N/A

This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, safety functions are not applicable.

Comments (Additional pages may be added as necessary)

This SWC applies to potential SFP rapid drain-down through one of the three return pipes for the SFP skimmers, which enters the SFP on its east side. Drawing no. 500936 indicates that the centerline of this pipe is at elevation 137'-6". Visual inspection verified that the pipe enters the wall of the SFP at approx. elevation 138'. Since the elevation of this pipe is located significantly more than 10' above the spent fuel assemblies stored in the SFP (approx. elevation 122'), rapid drain-down of the SFP inventory through this pipe is not possible.

Evaluated by: WRH *William R. Howard* Date: 10/04/2012
DRC *[Signature]* 10/04/2012

¹² Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-154 Equipment Class¹² 0. (Other)

Equipment Description: Suction Piping to SFP Heat Exchangers

Location: Bldg. Auxiliary Floor El. 140' Room, Area Unit 2 Fuel Handling Area

Manufacturer, Model, Etc. (optional but recommended) n/a

Instructions for Completing Checklist

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

Anchorage

- | | | |
|----|--|-----|
| 1. | Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, anchorage is not applicable. | N/A |
| 3. | Is the anchorage free of corrosion that is more than mild surface corrosion? | N/A |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchorage? | N/A |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which anchorage configuration verification is required.) | N/A |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | N/A |

Interaction Effects

- | | | |
|-----|--|-----|
| 7. | Are soft targets free from impact by nearby equipment or structures?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, seismic interaction effects are not applicable. | N/A |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | N/A |
| 9. | Do attached lines have adequate flexibility to avoid damage? | N/A |
| 10. | Based on the above seismic interaction evaluations, is the equipment free of potentially adverse seismic interaction effects? | N/A |

¹² Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-154 Equipment Class¹² 0. (Other)

Equipment Description: Suction Piping to SFP Heat Exchangers

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the plant equipment? N/A

This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, safety functions are not applicable.

Comments (Additional pages may be added as necessary)

This SWC applies to potential SFP rapid drain-down through the suction piping to the SFP heat exchangers, which exits the SFP near its north-west corner. The inlet to the pipe is through a screen/strainer mounted flush with the surface of the west wall of the SFP. Drawing no. 500936 indicates that the centerline of this pipe is at elevation 134'. Visual inspection verified that the pipe exits the wall of the SFP from the Cask Washdown Area at approx. elevation 134' (see photo on sheet 3) and that the screen/strainer does not extend significantly below the water level in the SFP. Since the termination of the pipe inside the SFP is located significantly more than 10' above the spent fuel assemblies stored in the SFP (approx. elevation 122'), rapid drain-down of the SFP inventory through this pipe is not possible.

Evaluated by: WRH Wayne R. Horvath Date: 10/04/2012
DRC [Signature] 10/04/2012

¹²Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-159 Equipment Class¹² 0. (Other)

Equipment Description: Return Piping from SFP Heat Exchangers

Location: Bldg. Auxiliary Floor El. 140' Room, Area Unit 2 Fuel Handling Area

Manufacturer, Model, Etc. (optional but recommended) n/a

Instructions for Completing Checklist

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

Anchorage

- | | | |
|----|--|-----|
| 1. | Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? | N |
| 2. | Is the anchorage free of bent, broken, missing or loose hardware?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, anchorage is not applicable. | N/A |
| 3. | Is the anchorage free of corrosion that is more than mild surface corrosion? | N/A |
| 4. | Is the anchorage free of visible cracks in the concrete near the anchorage? | N/A |
| 5. | Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which anchorage configuration verification is required.) | N/A |
| 6. | Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | N/A |

Interaction Effects

- | | | |
|-----|--|-----|
| 7. | Are soft targets free from impact by nearby equipment or structures?
This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, seismic interaction effects are not applicable. | N/A |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment? | N/A |
| 9. | Do attached lines have adequate flexibility to avoid damage? | N/A |
| 10. | Based on the above seismic interaction evaluations, is the equipment free of potentially adverse seismic interaction effects? | N/A |

¹² Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-2-13-P-P-LINE-159 Equipment Class¹² 0. (Other)

Equipment Description: Return Piping from SFP Heat Exchangers

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the plant equipment? N/A

This SWC applies to potential SFP rapid drain-down through a pipe entering the SFP. Therefore, safety functions are not applicable.

Comments (Additional pages may be added as necessary)

This SWC applies to potential SFP rapid drain-down through the return piping from the SFP heat exchangers, which enters the SFP near its south-east corner. Drawing no. 500936 specifies that a 1/2" diameter anti-siphon hole be provided in the pipe at elev. 136'-3". An underwater video camera was used to inspect the submerged pipe. Visual observation of the camera's image on a monitor verified the presence of the hole and its approximate elevation (just below the girth weld between the vertical section of the pipe and the elbow). Since the hole is located significantly more than 10' above the spent fuel assemblies stored in the SFP (approx. elevation 122'), rapid drain-down of the SFP inventory through this pipe is not possible.

Evaluated by: WRH *Walter R. Horn* Date: 10/04/2012
DRC *D.R. ...* 10/04/2012

¹²Enter the equipment class name from Appendix B: Classes of Equipment

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-13-SFPPTS1

Equipment Class: 1

Equipment Description: Spent Fuel Pool Pump Transfer Switches

Location: Building: Auxiliary

Floor El. 100

Room, Area: 2-LPH79

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e. Is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All anchorage is present and in good condition.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
No corrosion is present.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No cracks in the wall were found near the anchorage.
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
(4) anchor bolts secure the panel to the wall.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No credible sources could impact soft targets on the panel.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Overhead distribution systems and lighting appear to be properly secured. No ceiling tiles or block walls in the area.
9. Do attached lines have adequate flexibility to avoid damage? Y
Attached lines and panel are secured to the wall.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No issues were identified.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-13-SFPPTS1

Equipment Class: 1

Equipment Description: Spent Fuel Pool Pump Transfer Switches

Comment:

Evaluated by:

KTM

Keri Moore

Date:

10/15/2012

SMM

Scott M. M...

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-14-E-P-VOM-CCW-2-FCV-430

Equipment Class: 8

Equipment Description: CCW Flow Control Valve No. FCV-430 (CCW Header A and B Flow Control Valves)

Location: Building: Turbine

Floor El. 85

Room, Area: 2-CCWHE

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

- | | |
|--|-----|
| 1. Is the anchorage configuration verification required (i.e, is the item one of the 50% of SWEL Items requiring such verification)? | N |
| <i>Pipe-mounted 30" butterfly valve between flanges. Yoke is very robust and operator height is 54" (horizontal).</i> | |
| 2. Is the anchorage free of bent, broken, missing or loose hardware? | Y |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation? | Y |
| 4. Is the anchorage free of visible cracks in the concrete near the anchors? | N/A |
| 5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) | N/A |
| 6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? | Y |

Interaction Effects

- | | |
|--|---|
| 7. Are soft targets free from impact by nearby equipment or structures? | Y |
| 8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>Overhead piping, conduit, and junction boxes are well restrained.</i> | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Limited flexibility in electrical line, but it appears to be adequate.</i> | Y |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Y |

Other Adverse Conditions

- | | |
|---|---|
| 11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? | Y |
|---|---|

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-14-E-P-VOM-CCW-2-FCV-430

Equipment Class: 8

Equipment Description: CCW Flow Control Valve No. FCV-430 (CCW Header A and B Flow Control Valves)

Comment:

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/14/2012

KA

A.K. Chaitanya 10/22/12.

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-14-I-E-TE-6

Equipment Class: 19

Equipment Description: CCW Heat Exchanger Output Thermocouples

Location: Building: Turbine

Floor El. 85

Room, Area: 2-CCWHE

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

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

The thermocouple is light in weight and is mounted on the CCW shell-side outlet line by a welded coupling and short sections of 1/2" threaded pipe. Y

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

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

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

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

Consistent with drawing DC 663110-12-2.

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

The thermocouple is mounted on the side of the elbow of the shell -side discharge piping.

Interaction Effects

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

There is about 1/2" clearance between the head of the thermocouple and an adjacent railing but the relative movement should be less.

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

There are two electrical connections to the thermocouple both of which include rubber tube sections. There is limited flexibility in these electrical lines, but it appears to be adequate.

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

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

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-14-I-E-TE-6

Equipment Class: 19

Equipment Description: CCW Heat Exchanger Output Thermocouples

Comment:

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/14/2012

KA

A.K. Chaitanya 10/22/12

Seismic Walkdown Checklist (SWC)

Status: Y N
 KA 11/19/12
 JAK 11/20/12

Equipment ID No DC-2-14-M-HX-CCWHE1

Equipment Class: 21

Equipment Description: CCW Heat Exchanger No. 1

Location: Building: Turbine

Floor El. 85

Room, Area: 2-CCWHE

Manufacturer, model, Etc.

Instructions for Completing Checklist

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Anchorage

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

The CCW Heat Exchanger has (2) saddle supports one of which is fixed and the other sliding. The stiffened sliding support has (3) 1-3/8" bolts located within the diameter of the HX. The support is also stiffened at the outside and is secured by (4) additional 7/8" bolts. The fixed support is similarly anchored but has additional axial braces on either side that stiffen the fixed support. The baseplate for the axial braces is secured by (10) 1-1/4" kwik-bolt expansion anchors.

Y

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

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

Y

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

The pedestal supporting the sliding support exhibits some cracking of the concrete on the east edge of the pedestal. For disposition see Attachment 1.

Y N
 KA 11/19/12
 JAK 11/20/12

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

Y

Anchorage is consistent with Hosgri modification drawing 463683-1 and modification As Built drawing DC 6002998-161.

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

Y

Interaction Effects

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

The HX has no soft targets.

Y

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

There is a reinforced masonry wall near the south end of the HX. However the wall has additional support at the bottom and near the top.

Y

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

Tube-side nozzles penetrate via control valves directly through the floor below and are connected by means of flexible joints. The shell-side piping is well supported.

Y

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

Y

Seismic Walkdown Checklist (SWC)

Status: ^N
X

Equipment ID No DC-2-14-M-HX-CCWHE1

Equipment Class: 21

KA 11-19-12
JRK 11/20/12

Equipment Description: CCW Heat Exchanger No. 1

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

An electrical cable (wiring at end appears to be exposed) is laying on the floor of the pit below the tube-side inlet nozzle (Near valve DC-2-17-P-VOA-SW-2-FCV-602). This may be a grounding cable. Also an electrical cable running to a point near the tube-side inlet nozzle appears to be taut. It is uncertain as to what these cables are connected as access is limited since the pit is designated a confined space. For disposition see Attachment 2.

Comment:

Evaluated by:

TRK

Thomas R. Kips

Date:

10/25/2012

KA

A. @ @ @ @ @

10/23/12.

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 2

Equipment No. DC-2-14-M-HX-CCWHE1

Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

The pedestal supporting the sliding support exhibits some cracking of the concrete on the east edge of the pedestal.

Evaluation:

The support on the sliding end includes holes that are slotted in the North-South direction (Ref. drawing 463683). According to the CCW Heat Exchanger foundation evaluation shown in Civil Calculation No. EQP-306.1, the slotted holes do not provide restraint in the North-South direction, in order to allow for the thermal expansion of heat exchanger. Therefore, forces are not applied to the concrete pedestal in the North-South direction, so there is no adverse effect on the structural integrity of the pedestal.

Recommendation:

Repair the cracks in the concrete pedestal.

Notification Required: Yes (50518781)

Evaluated by:	PWH	<u>Patrice Hwang</u>	<u>10/18/12</u>
Reviewed by:	WRH	<u>William P. H...</u>	<u>10/18/12</u>

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 2

Equipment No. DC-2-14-M-HX-CCWHE1

Attachment 2, Page 1 of 1

Licensing Basis Evaluation

Issue:

- (1) *An electrical cable (wiring at end appears to be exposed) is lying on the floor of the pit below the tube-side inlet nozzle (Near valve no. DC-2-17-P-VOA-SW-2-FCV-602). This may be a grounding cable.*
- (2) *An electrical cable running to a point near the tube-side inlet nozzle appears to be taut. It is uncertain as to what these cables are connected as access is limited since the pit is designated a confined space.*

Evaluation:

The classification of the cables is unknown. Since they are currently undamaged and, based on the location of the cables, displacements associated with a seismic event will not compromise their integrity. Therefore, these issues do not impact safe operation of DCPD.

Recommendation

These electrical cables shall be inspected by electrical maintenance group.

Notification Required: Yes (50519440)

Evaluated by: PWH

Patrick Huang

10/19/12

Reviewed by: WRH

William R. Hone

10/19/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-14-M-PP-CCWP1

Equipment Class: 5

Equipment Description: CCW Pump No. 1

Location: Building: Auxiliary

Floor El. 73

Room, Area: 2-CCWP1

Manufacturer, model, Etc. Bingham

Instructions for Completing Checklist

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Anchorage

1. Is the anchorage configuration verification required (i.e. is the item one of the 50% of SWEL items requiring such verification)? Y
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All anchorage is in good condition.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
No corrosion is present.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No visible cracks in the area.
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y
Anchorage is consistent with plant drawings. See document 6003029 sheets 99 through 105 for details.
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
No issues.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No credible sources in the area.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Overhead light is chain hung with a second safety chain attached to prevent it from falling.
9. Do attached lines have adequate flexibility to avoid damage? Y
All attached lines have adequate flexibility.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No interaction effects to note.

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-14-M-PP-CCWP1

Equipment Class: 5

Equipment Description: CCW Pump No. 1

Comment:

Includes subcomponent DC-2-20-M-PP-CCWAP1.

Evaluated by:

KTM

Date:

Kei Moun

10/15/2012

SMM

Scott M. M...

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-14-M-TK-CCWST1

Equipment Class: 21

Equipment Description: CCW Surge Tank

Location: Building: Auxiliary

Floor El. 163

Room, Area: 2-CCWST1

Manufacturer, model, Etc.

Instructions for Completing Checklist

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

Anchorage

1. Is the anchorage configuration verification required (i.e, is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
- The CCW Surge Tank is supported on two stiffened saddle supports that are welded to the tank shell through doubler plates. One of the supports is fixed and the other is a sliding support. The fixed support is anchored to the support pedestal by (6) 1-1/2" embedded bolts and through bolts. The fixed saddle is stiffened axially by structural members that run from the outside base of the support to the vertical center of the tank on either side. The sliding support is anchored by (4) 1-1/2" through bolts. The view of the anchorage is limited by a skirt that covers the lower half of the tank. Horizontal displacement of the tank is restrained by large structural side restraints located on both sides of the tank and at both ends. These side restraints are anchored to the roof slab and contact the tank at its vertical center.*
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
- Surface corrosion on base plates associated with lateral braces on the east and west sides of the CCW Surge Tank. See Attachment 1 for disposition.*
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) N/A
- What could be seen of the anchorage is consistent with drawings 446511-1 and 463694-1.*
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
- The tank is outside having no soft targets. All components located on the West side of the tank are well supported.*
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? N/A
9. Do attached lines have adequate flexibility to avoid damage? Y
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y

Other Adverse Conditions

11. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment? Y

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-2-14-M-TK-CCWST1

Equipment Class: 21

Equipment Description: CCW Surge Tank

Comment:

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/25/2012

DRC

D. R. Linn

10/25/2012