

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-23-M-BF-S-31

Equipment Class: 9

Equipment Description: Aux. Bldg Ventilation Supply Fans

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-BFS-31

Manufacturer, model, Etc. Buffalo Forge Company BL-AEROFOIL, 72P-11504A1

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
Wedge washers were used for some of the anchor bolts. Judged to be ok based on tolerances during construction.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
Anchors are coated; no corrosion is present.
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
(9) 5/8" anchor bolts were used for the fan and motor skids. No concerns found.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
There is adequate clearance for all soft targets.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Conduit and piping running over the fan are adequately supported. Fluorescent lights in the area have positive anchorage (no S-hooks). No ceiling tiles or block walls in the area.
9. Do attached lines have adequate flexibility to avoid damage? Y
Flexible conduit run into the fan motor.
10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? Y
No interactions noted in the walkdown.

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-1-23-M-BF-S-31

Equipment Class: 9

Equipment Description: Aux. Bldg Ventilation Supply Fans

Comment:

Adhesives on some run wire for vibration monitoring were worn out. Judged to be acceptable (no seismic concerns). System engineer was notified.

Evaluated by:

KTM

Date:

Keri Moore

10/15/2012

SMM

SMM

10/15/2012

Seismic Walkdown Checklist (SWC)

Status: **Y**

Equipment ID No **DC-1-23-M-BF-S-35**

Equipment Class: **10**

Equipment Description: **Control Room Ventilation Supply Fans**

Location: Building: **Auxiliary**

Floor El. **154**

Room, Area: **1-GP-35**

Manufacturer, model, Etc. **Trane**

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)? | N |
| 2. Is the anchorage free of bent, broken, missing or loose hardware?
<i>Unit is welded to stiffened channel sections that run along either side. The side channels are each bolted to the floor by (4) 1/2" embedded anchors. Additional support for the inlet-side extension is also provided.</i> | Y |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation?
<i>Surface corrosion noted on support channel on North side of unit. Small area of severe corrosion on northeast corner of the coil section (has no impact on function of fan).</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?
<i>The vendor welds between the base frame of the unit and the four sheet metal base angles is quite small in some cases. The smallest welds are 1-1/2" long 1/8" fillet weld on the inside and a 1-1/2" long 1/16" effective seam weld on the outside. It was found that the as-built calculation DHV-1.3 considered the welds as 1-5/8" long 3/16" effective welds at both ends. For disposition see Attachment 1.</i> | Y |

Interaction Effects

- | | |
|--|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>No visible soft targets. The motor for the belt-driven fan is mounted directly on the unit.</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, piping, and room lighting well supported.</i> | 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?
<i>Flexible joints connect the fan to both the inlet and outlet-side ducting.</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>Electrical connection to solenoid valve (VAC-1-SV-5019) on North side of coil section is very weak and unsupported length of conduit to valve is relatively long. For disposition see Attachment 2.</i> | Y |
|---|---|

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-23-M-BF-S-35

Equipment Class: 10

Equipment Description: Control Room Ventilation Supply Fans

Comment:

Includes Cooling Coil Unit DC-1-23-M-HX-C35 which is integral with the Fan Unit and supported by it.

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/25/2012

DRC

D.R. Hu

10/23/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-M-BF-S-35

Attachment 1, Page 1 of 3

Licensing Basis Evaluation

Issue:

The weld sizes of connecting steel angle between the fan and the base skid are smaller than the analyzed.

Evaluation:

The supply fan S-35 is safety related. The seismic evaluation of the connecting angle is documented in seismic legacy calc # DHV-1.3, Pages 54 thru 61. The connecting angle is L1-1/2x2x3/16, which connects the supply fan and base skid. The skid is anchored to the concrete floor. Based on the original field walk down, the weld size between the supply fan and connecting angle is fillet weld 3/16", 1-1/2" long on both sides. The connection between the angle and base skid are 1/2" \varnothing bolt and a 3/16" fillet weld with 8" long. However, the field walk down has found that the weld size between the supply fan and connecting angle is smaller than that shown in seismic calculation. The weld sizes are fillet welds 1/8" on the left side and 1/16" on the right side (see sketch on Page 2).

The as-found condition is evaluated as shown on Page 3. The results show that the as-found condition has significant margin. Therefore, the as-found condition has no adverse effects on the seismic qualification of supply fan S-35.

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

Recommendation:

Revise calculation no. DHV-1.3 to address the actual weld configuration.

Notification Required: Yes (50511891)

Evaluated by: _____

Patricia Huang

10/23/12

Reviewed by: _____

JH

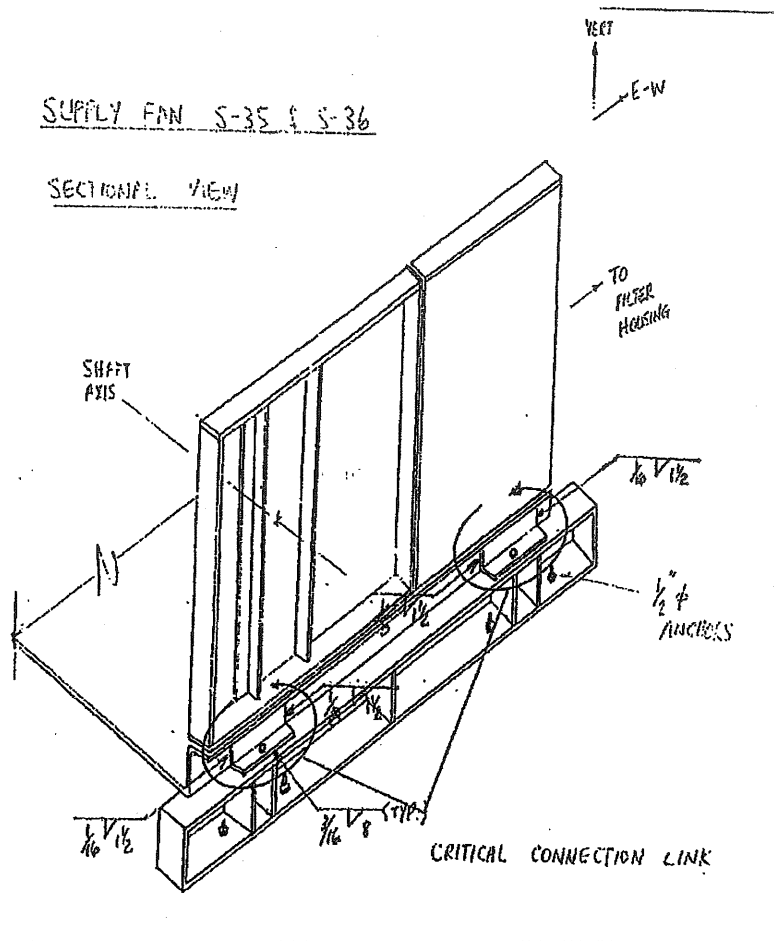
10/23/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-M-BF-S-35

Attachment 1, Page 2 of 3



Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-M-BF-S-35

Attachment 1, Page 3 of 3

Weld between the angle and supply fan:

Weld size: fillet weld 1/8" (left) and 1/16" (right)

Weld length: 1-1/2" on each side,

Electrode: E60XX, 60 ksi

Allowable: $.707 \cdot (1/8 + 1/16) \cdot 1.5 \cdot 3 \cdot 60 = 3.58$ kips

The shear forces on the welds (see Sheet 60 of DHV-1.3)

Longitudinal: 1590 lbs due to uplift

Transverse: 985 lbs due to EW seismic

$1.59 + 0.985 = 2.575$ kips < 3.58 kips "OK"

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-M-BF-S-35

Attachment 2, Page 1 of 1

Licensing Basis Evaluation

Issue:

The electrical conduit providing power to solenoid valve no. SV-5019 (located in the cooling coil supply piping on the north side of Fan No. S-35, is not well supported in the lateral direction.

Evaluation:

The valve (DC-1-23-I-SV-SV-5019) is Design Class I and is seismically qualified. The valve controls the flow of Freon through the cooling coils for the supply fan (see drawing no. 102023, sheet 17, coordinate C-176). The potential exists for the conduit to impose loading on the solenoid operator during a seismic event.

The instrumentation schematic for the valve control (see drawing no. 102035, sheet 24H, coordinate E-240H) indicates that the valve control is "Energize to Open". Therefore, loss of power or damage to the solenoid operator could result in unintentional closure of the valve, and loss for Freon flow to the cooling coils.

However, the as-found installed condition is in accordance with the requirements of DCM T-8 (Design Class IE Electrical Raceway Supports) and Drawing No. 050029 (Notes, Symbols and Typical Details for Raceway & Wires), which permits a maximum conduit cantilever length of 4 feet beyond the last support (drawing 050029, sheet 138, Note 41) (the actual cantilever length is 35.4" per field measurement) and requires the installation of flexible conduits (drawing 050029, sheet 10, Note 25) (there is 7-1/2" of flexible conduit per field measurement) at all connections "to motors" and "instrument devices" (e.g., the solenoid-operated valve). Therefore, the installation is per the design requirements.

Recommendation:

Acceptable as-is.

Notification Required: No

Evaluated by: wrh

William R. Hone

10/12/12

Reviewed by: SMW

Scott M. Williams

10/22/12

Seismic Walkdown Checklist (SWC)

Status: N

Equipment ID No DC-1-23-M-BF-S-43

Equipment Class: 9

Equipment Description: 480-V Switchgear Ventilation Supply Fans

Location: Building: Auxiliary

Floor El. 163

Room, Area: 1-E43

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 |
| 2. Is the anchorage free of bent, broken, missing or loose hardware?
<i>Anchor bolts are intact. Bolts connecting the fan support saddles to the base pedestal are intact.</i> | Y |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation?
<i>See comments section</i> | N |
| 4. Is the anchorage free of visible cracks in the concrete near the anchors?
<i>No concrete cracks observed</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.)
<i>The fan anchorage configuration is consistent with the design information</i> | Y |
| 6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions?
<i>The connection of the fan to the pedestal is degraded due to corrosion, but as-found condition is acceptable. See comments section.</i> | Y |

Interaction Effects

- | | |
|--|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>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>No overhead components.</i> | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Flex conduit is adequate. No significant relative displacements are expected.</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: N

Equipment ID No DC-1-23-M-BF-S-43

Equipment Class: 9

Equipment Description: 480-V Switchgear Ventilation Supply Fans

Comment:

The bottom flanges of the fan saddle supports have significant corrosion. Steel material has delaminated. Also significant corrosion of the interior 1" wide lip of the pedestal base plate. Surface corrosion was also observed on the bottom edge of the perimeter of the pedestal base plate, on the stiffener plates, and anchor bolts. Corrosion observed on the bottom of the transition piece between the damper and the fan.

The as-found condition of the steel saddle support is acceptable for seismic loading. At the section with the significant corrosion, sufficient sound material remains to resist the seismic forces. See Attachment No. 1 for disposition.

Evaluated by:

DKN

Daniel K. Nelson

Date:

10/24/2012

DRC

D.J.R. Jr.

10/23/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-M-BF-S-43

Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Significant corrosion and metal delamination on saddle support, corrosion on base plate and stiffener plates, corrosion on transition from fan to damper.

Evaluation:

The corrosion is primarily on the metal surface, resulting in paint loss and some flaking of the base metal, but does not result in a significant loss in metal area. A review of the seismic calculation (D-HV-1.8-1) indicates that the stress levels in the base and pedestal are very low relative to the allowable stresses. Therefore, the corrosion does not compromise the structural integrity of the fan and it will be able to perform its intended functions.

Recommendation:

Clean and recoat corroded areas.

Notification Required: Yes (50509228)

Evaluated by:

William A. Hone

9/26/12

Reviewed by:

D. J. ...

10/22/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-23-M-HX-CR35

Equipment Class: 10

Equipment Description: Control Room Ventilation Air Conditioning Condensers

Location: Building: Auxiliary

Floor El. 154

Room, Area: 1-CR-35

Manufacturer, model, Etc. Trane

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
The unit is bolted to (4) base structural channel members by (4) 1/2" bolts (1 at each corner of the main section). This appears to be the weak point in the anchorage load path. Each of the stiffened support channels is bolted to the raised concrete pad by (2) 1/2" bolts (8 total). The inlet extension has an additional support at the two corners that provide vertical and lateral restraint. These are welded to the embedded angle frame that envelopes the raised pad.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
Moderate level of surface corrosion all around base of unit as well as the anchor bolts. The pneumatic actuators as well as the copper tubing and brazed copper pipe are also moderately corroded.
4. Is the anchorage free of visible cracks in the concrete 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
Anchorage is consistent with drawing 443333-1.
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
Soft targets limited to small diameter copper tubing and all overhead items appear to be adequately anchored.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Room lighting supported by pipe sections with ball and socket connections, or in one case closed hook. All have safety chains for additional protection. Reinforced masonry wall forming West wall of room has additional support at both the base and the top. Conduit and pipe in room is well supported.
9. Do attached lines have adequate flexibility to avoid damage? Y
Flexible hose connections at all connections to unit.
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-1-23-M-HX-CR35

Equipment Class: 10

Equipment Description: Control Room Ventilation Air Conditioning Condensers

Comment:

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/14/2012

DRC

D.R.H.

10/10/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-23-P-D-VAC-1-FCV-5045

Equipment Class: I

Equipment Description: 480-V Switchgear Ventilation Shutoff (Discharge) Dampers

Location: Building: Auxiliary

Floor El. 163

Room, Area: 1-E43

Manufacturer, model, Etc. Quality Air Design, Asco 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>Mild surface corrosion. See Attachment No. 1 for disposition.</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? | Y |

Interaction Effects

- | | |
|---|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>No likely 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>Ductwork is braced and anchored.</i> | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>Both the fan and attached duct have very stiff supports.</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-1-23-P-D-VAC-1-FCV-5045

Equipment Class: Z

Equipment Description: 480-V Switchgear Ventilation Shutoff (Discharge) Dampers

Comment:

1-FCV-5045 is a line mounted damper. The actuator unit is mounted on the north side of the damper. The damper is mounted in-line between fan 1-S43 and the duct.

Mild to significant corrosion was observed on the supporting steel, linkage, ducting, damper, and duct support base plate. See Attachment No. 1 for disposition.

Evaluated by:

DKN

Daniel K. ...

Date:

10/24/2012

DRC

D.R.C.

10/23/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-FCV-5045

Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Varying degrees of (surface to significant) of coatings and material degradation was noted on damper and actuator. Material corrosion was noted on the supporting steel, mechanical linkages, ducting, base plates and to top cover of the damper housing.

Evaluation:

The condition as note do not affect seismic qualification of the component to perform its function based on the current inspections.

Recommendation:

The coatings/corrosion needs to be cleaned, inspected, and repaired.

Notification Required: Yes (50510116)

Evaluated by: William R. Hone 9/26/12

Reviewed by: J.R. [Signature] 10/22/12

Seismic Walkdown Checklist (SWC)

Status: N DEC
+ 11/19/12

Equipment ID No DC-1-23-P-D-VAC-1-MOD-10

Equipment Class: 8

JRK 11/20/12

Equipment Description: Control Room Ventilation Supply Fan Discharge Dampers

Location: Building: Auxiliary

Floor El. 154

Room, Area: 1-CP-35

Manufacturer, model, Etc. Barber Colman Electric Actuator

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)? | N |
| <i>The damper duct and actuator support frame are supported off the floor.</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? | 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 |
| <i>Actuator support frame and actuator mounting is consistent with drawing 513521-1.</i> | |
| 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?

Very heavy unsupported channel stiffeners both top and bottom add substantial weight to the system which is cantilevered off the connecting duct. For disposition see Attachment 1.

N
DEC
JRK 11/20/12 11/19/12

Seismic Walkdown Checklist (SWC)

Status: N ^{DRC} 11/11/12

Equipment ID No DC-1-23-P-D-VAC-1-MOD-10

Equipment Class: B

Equipment Description: Control Room Ventilation Supply Fan Discharge Dampers

~~TRK~~ 11/20/12

Comment:

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/25/2012

DRC

DRM

10/23/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No, DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

Page 1 of 18

Licensing Basis Evaluation

Issue:

Motor Operated Damper DC-1-23-P-D-VAC-1-MOD-10 was modified by adding structural steel channel stiffeners (approximately 19# per linear foot) on the top and bottom of the damper. The channel sections also extend to and stiffen the damper immediately adjacent to MOD-10 (DC-1-23-P-D-VAC-1-MOD-10A). Reference PG&E Drawing 59353 for a layout of the dampers. The concern is that the heavy channel stiffeners may adversely impact the seismic qualification of the ducting/duct supports associated with the MOD Dampers.

Evaluation:

A review of the seismic calculation for the ducting/duct supports associated with the MOD Dampers (Calculation HV-86, Revision 0) shows that the additional mass from the channel sections was not considered in the qualification of the ducting/duct supports. A copy of this calculation has been revised (marked up) such that it now accounts for this extra mass. This markup is found under sheets 2 thru 18. The mark up demonstrates that the ducting/duct supports would remain seismically qualified (with significant margin) if the additional mass from the channel stiffeners is considered.

Therefore, this condition has no impact on the operation of DCCPP.

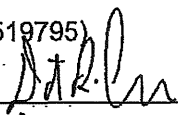
Recommendation:

Calculation HV-86 will require formal revision to account for the additional mass from the channel stiffeners.

Notification Required: Yes (50519795)

Evaluated by:

DRC



10/22/2012

Reviewed by:

WJH



10/22/12

5/12 P_{9a} = $\frac{1}{2}(70.5)(24+45)(2)(.0075) + \frac{1}{2}(70)(24+45)(2)(.0075)$ #
 = 111.7 #
 (1/2 WT OF SPANS @ 1 & 2)
 6/8 P_{9b} = $2(7) + 48 + \frac{(70)(20)(2)(.0075)(6 + \frac{1}{2}(12+27)(.14))}{(WT OF DAMPERS + (WT OF SPAN @ + \frac{1}{2} WT OF @))}$ = 138.4 #
 7/14 P_{7f} = $\frac{(1/2)(27)(.0075)(70)(2)(2)(.14)}{(WT OF \frac{1}{2} SPANS 6, 10)}$ = 39 #
 2 B P₆ = $\frac{[1/2(70)(24+45)(2)(.0075) + 1/2(20.75)(12+10)(2)(.0075)]}{+ 1/2(17)(24+45)(2)(.0075)}$ #
 = 76.4 #
 (1/2 WT OF SPANS 7 & 8 + ADDITIONAL WEIGHT ASSUMED FOR THE 12"x10" DUCT.)

11 P₉ = $\frac{[(1/2)(10)(24+45)(2)(.0075) + (1/2)(82.5)(24+45)(2)(.0075)]}{+ 150}$ #
 = 212.0 #
 (1/2 WT OF SPANS 10, 11 + WT OF SUPPORT # 33)
 15 P₆ = $\frac{[(1/2)(70)(24+45)(2)(.0075) + (1/2)(26.75)(36+20)(2)(.0075)]}{+ 71}$ #
 = 159.2 #
 (1/2 WT OF SPANS 14 & 15 + WT OF SUPPORT # 50)
 16 P₆ = $\frac{[(1/2)(26.75)(36+20)(2)(.0075) + 1/2(2.25)(36+20)(2)(.0075)]}{+ 40 + 53}$ #
 = 114.4 #
 (1/2 WT OF SPAN 15 & 16 + WT OF HANGER + DAMPER)
 17 P₇ = $\frac{[(1/2)(17.5)(36+20)(2)(.0075)]}{(1/2 WT OF SPAN 17) + (WT OF SUPPORT # 2)}$ #
 = 99 #

SUMMARY OF K VALUES (AS CALCD. ON THE FOLLOWING PAGES):

JOINT	KFX = KFY = 16.67 (p. 4)
4	KFX = 36.36; KFY = 250; FIXED IN 2-DIR. (pp. 25-27)
11	KFX = 11.43; KFY = 19.05; 2-DIR. (p. 38-43)
15	KFX = KFY = 94.24; KFY = 6.16 (p. 4)
17	KFX = KFY = 16.67 (p. 4)

* ACTUAL IS 23.50, SAY OK.

Tributary weight for Duct Support No. 30
 P₄ = 176.4 lbs.
 $\frac{1}{2}(P_2 + P_3) = \frac{1}{2}(87 \text{ lbs.} + 17 \text{ lbs.}) = 52 \text{ lbs.}$
 $\frac{1}{2}(P_5 + P_6 + P_7) = \frac{1}{2}(111.7 \text{ lbs.} + 138.4 \text{ lbs.} + 39 \text{ lbs.}) = 144.5 \text{ lbs.}$
 $\frac{1}{2}(P_8) = 38.2 \text{ lbs.}$
 P₃₀ = 176.4 lbs + 144.5 lbs + 52 lbs + 38.2 lbs = 411.1 lbs.
 adding two 70" stiffeners at w = 19 #
 P'₃₀ = 411.1 lbs. + $\frac{1}{2}(2 \times 70" / 12 \times 19 \text{ #}) = 522 \text{ lbs.}$
 % increase = $\frac{522}{411.1} = 127\%$

Tributary weight for Duct Support No. 33N
 P₁₁ = 210.0 lbs.
 $\frac{1}{2}(P_{12} + P_{13} + P_{14}) = \frac{1}{2}(111.7 \text{ lbs.} + 138.4 \text{ lbs.} + 39 \text{ lbs.}) = 144.5 \text{ lbs.}$
 $\frac{1}{2}(P_5 + P_6 + P_7) = \frac{1}{2}(111.7 \text{ lbs.} + 138.4 \text{ lbs.} + 39 \text{ lbs.}) = 144.5 \text{ lbs.}$
 $\frac{1}{2}(P_8) = 38.2 \text{ lbs.}$
 P₃₃ = 210.0 lbs + 2 x 144.5 lbs + 38.2 lbs = 537.2 lbs.
 adding two 70" stiffeners at w = 19 #
 P'₃₃ = 537.2 lbs. + $\frac{1}{2}(2 \times 70" / 12 \times 19 \text{ #}) = 648 \text{ lbs.}$
 % increase = $\frac{648}{537.2} = 121\%$ ← use 127%

Diablo Canyon Power Plant, Unit 1
 Seismic Walkdown Checklist (SWC)

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

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Sheet 32/81

Date: 9/27/12

Markups By: BMO4

REVISED BY: BMO4
REVISED DATE: 11/1/12
REVISED FOR: DC-10

GENERAL COMPUTATION SHEET

59853-2, 3, 4, 30, 32N, 32W
12-7
12/16/82
VBL

LOW FACTORS:
VERTICAL, LF = $\frac{1.070}{1.004} = 1.071$
TRANSVERSE, LF = $\frac{1.039}{1.004} = 1.035$
LONGITUDINAL, LF = $\frac{1.055}{1.004} = 1.050$

CHECK SUPPORT MEMBER STRESSES, FOR EXTERIOR PIPES
AREA P = $.002 \times 207.5 + .002 \times 303.3 + .0038 \times 12.3 = 1.186$ K
SHEAR Y = $.001 \times 1513 = 0.151$ K
SHEAR Z = $.002 \times 303.3 + 0 = 0.607$ K
MY = $.0459 \times 303.3 + .0038 \times 12.3 = 13.93$ K-K
MZ = $.0112 \times 1513 = 0.169$ K-K

BENDING STRESS
 $f_{1x} = \frac{M_y}{S_y} = \frac{13.93}{1.93} = 7.218$ ksi
 $f_{2x} = \frac{M_z}{S_z} = \frac{0.155}{0.213} = 0.728$ ksi
 $\Sigma f_x = 7.218 + 0.728 = 7.946$ ksi
 $F_x = 1.6 (1.6)(7.946) = 20.46$ KSI

ANAL. STRESS
 $f_{1y} = \frac{1.186}{1.59} = 0.746$ ksi
 $\frac{F_y}{K} = \frac{2(2705+7.08)}{250} = 17.4$
 $F_y = 1.6 (1.6)(17.4) = 44.8$

INTERACTION EQN
 $\frac{7.946}{1008} + \frac{17.766}{34.56} = 0.3 < 1.0$ ok
 $F_x = 1.6 (1.6)(20.46) = 65.5$

Interaction Equation:
 $0.3(127\%) = 0.38 < 1.0$ ok

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

Page 5 of 18

Sheet 34/81

Date: 9/27/12

Markups By: BMO4

PACIFIC GAS AND ELECTRIC COMPANY
GENERAL COMPUTATION SHEET

SHEET NO. 34 OF 81 SHEETS
REV. HV-88
LOCATION REV.0

PROJECT: VAC DUCTS AND SUPPORTS, AUXILIARY BLDG.
59353-2, 3, 4, 30, 32A, 32B
 DRAWN BY: RJT DATE: 10/6/82 CHECKED BY: VEL

EVALUATE MEMBER ⓐ 2 1/2 x 2 x 3/8 $S_x = -.781$
 $S_y = .271$
 $I_z = .488$
 $L = 28.50'$

(V+EW) LOAD.
MEMBER FORCES ⓐ
 (USE THE SAME LOAD FACTORS
 PARAL = 0 (NEGLECTABLE)
 BY INSPECTION, ALL FORCES = 0
 MEMBER IS OK FOR BOTH LOAD
 COMBINATIONS $\Sigma(V+EW)$ AND $\Sigma(V+ND)$

EVALUATE MEMBERS ⓑ AND ⓓ 2 1/2 x 2 1/2 x 1/4
 $A = 119$ $J = .394$
 $I_z = .481$
 (USE THE SAME LOAD FACTORS:
 AXIAL $P = 0.004 \times 13.3 = 0.05 K$
 $M_z = .00408 \times 13.3 = 0.05 K'$

$\Sigma(V+NE)$ USE THE SAME LOAD FACTORS:
 AXIAL $P = .004 \times 200.3 = 0.801 K$
 $M_z = .00408 \times 200.3 = 0.817 K'$

AXIAL STRESS
 $f_A = \frac{P}{A} = \frac{.801}{119} = 0.673 \text{ KSI}$
 $\frac{M_z}{R} = \frac{2.0 (415)}{.891} = 169$ $F_A = 16 (5.23) = 8.37 K'$

BENDING STRESS
 $f_B = \frac{M}{J} = \frac{.817}{.394} = 2.074 \text{ KSI}$
 $F_B = 16 (1.6 F_B) = 34.56$

INTERACTION EQ'N
 $\frac{0.673}{8.37} + \frac{2.074}{34.56} = 0.14 < 1.0 \text{ OK}$

MEMBERS ⓑ & ⓓ ARE OK.

Interaction Equation:

$$0.14(1.27) = 0.18 < 1.0 \text{ ok}$$

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

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Sheet 35/81

Date: 9/27/12

Markups By: BMO4

PACIFIC GAS AND ELECTRIC COMPANY
 GENERAL COMPUTATION SHEET
 SHEET NO. 35 OF 81
 HV-76
 REV. 0

HVAC DUCTS AND SUPPORTS, AUXILIARY BLDG.
 SP552-2, 3, 4, 30, 32N, 32N
 DCT 12/16/82 VRL

CHECK DUCT SUPPORT CONNECTIONS

JOINT 2 & 3

VERTICAL + E.W. LOADING (TRANSV.)

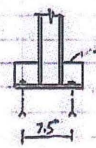
$F_x = 0$
 $F_y = .002 \times 267.5 + .002 \times 303.3 + .0039 \times 13.3 = 1.185$
 $F_z = .002 \times 303.3 + 0 = .607$
 $M_x = .0059 \times 303.3 + .00029 \times 13.3 = 13.93$
 $M_y = M_z = 0$

VERTICAL + NS LOADING (LONGITUDINAL)

$F_x = .0001(200.8) = \text{NEGLECTABLE}$
 $F_y = .002 \times 267.5 + .002 \times 49 + .0039 \times 200.2 = .759$
 $F_z = .002 \times 49 = .098$
 $M_x = .0059 \times 49 + .00029 \times 13.3 = 2.254$
 $M_y = M_z = 0$

BY COMPARISON, V + EW LOAD IS MORE CRITICAL.
 INVESTIGATE!

TENSION / BOLT = $\frac{1.185}{2} + \frac{13.93}{7.62}$
 $= 2.45 \text{ K/BOLT}$
 SHEAR / BOLT = $\frac{.607}{2} = .304 \text{ K}$



3/8" ϕ BOLTS $f_c = 4000 \text{ ksi}$
 $P_n = 5.6 \text{ K}$
 $V_n = 3.0 \text{ K}$

INTERACTION:
 $\left(\frac{2.45}{3.6}\right)^{1/2} + \left(\frac{.304}{3.0}\right)^{1/2} = 0.55 < 1.00$
 $\therefore \text{OK}$

CHECK: $L3 \times 3 \times 5/16 \quad S = .707 \text{ IN}^3$
 $f_b = \frac{M}{S} = \frac{13.93}{.707} = 19.70 \text{ ksi} < 34.56 \text{ ksi}$
 $\therefore \text{OK}$

Interaction Equation:
 $0.55(127\%) = 0.70 < 1.0 \text{ ok}$
 Check $L3 \times 3 \times 5/16$
 $19.70(1.27) = 25.0 \text{ ksi} < 34.56 \text{ ksi ok}$

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

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Sheet 36/81

Date: 9/27/12

Markups By: BMO4

36 of 81
REV. 0

GENERAL COMPUTATION SHEET

ARC DUCTS AND SUPPORTS, AUXILIARY BLDG.
59853-2, 3, 4, 50, 52N, 32N
REV. 12/16/82 VBL

CHECK WELD CAPACITY

(CONDUCTIVE WELD PROPERTIES: AGE WELD TO VULNERABILITY CALCULATIONS)



$$A_w = 2(1/2) \times 4 = 4 \text{ in}^2$$

$$S_w = 4(1/2) \times 4 = 8 \text{ in}^2$$

$$A_w = 2 \times 1/2 \times 4 = 4 \text{ in}^2$$

$$f_x = \frac{1.85}{7.2} = 0.257$$

$$f_y = \frac{1.97}{9.07} = 0.217$$

$$f_z = \frac{1.71}{3.2} = 0.534$$

$$f = \sqrt{f_x^2 + f_y^2} = 1.71$$

Weld Req'd: $0.07(1.27) = 0.09" < 0.25" \text{ ok}$

$0.07(1.27) = 0.09" < 0.25" \text{ ok}$

CHECK JOINTS (1) & (2)

VERTICAL + SW. LOADING

$$F_x = 1.002(13.3) = 13.3 \text{ k}$$

$$F_y = 1.002(13.3) = 13.3 \text{ k}$$

$$F_z = 1.002(200.5) = 200.5 \text{ k}$$

Pull-out/Bolt = $0.681(1.27) = 0.865" < 3.6" \text{ ok}$

REFER TO CALL OF BOLTS FOR JOINTS

NOTE: AS A RESULT OF A PRELIMINARY ANALYSIS OF THESE JOINTS, THE BOLTED CONNECTION WAS FOUND INADEQUATE, THESE JOINTS WILL BE MODIFIED BY MAKING IT A WELDED CONNECTION. AS SHOWN ON SHEET 60 OF THIS CALCULATION. NOTE THAT THIS HAS BEEN TAKEN INTO CONSIDERATION IN THE STEEL FRAME ANALYSIS ON PP 26-30.

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

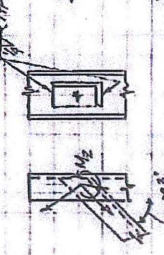
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Sheet 37/81

Date: 9/27/12

Markups By: BMO4

37 of 81 SHEETS
 GENERAL COMPUTATION SHEET
 DATE: 12/6/12
 VRL
 FORCES & MOMENTS < 5.7
 HANG DUCTS AND SUPPORTS, AUXILIARY BLDG.
 59253-2, 5, 4, 30, 38A, 38B
 10-07
 REVD
 MARKUPS BY: BMO4



$\sum (M_{12})$
 $M_{12} = 0.001 (25.5) = .025 \text{ k-ft}$
 $Area = .004 (12.5) = .05 \text{ k}$
 $\sum (M_{12})$
 $M_{12} = .001 (200.3) = .20 \text{ k-ft}$
 $Area = .004 (200.3) = .80 \text{ k}$
 SEE ATTACHED FOR MORE INFO GIVEN IN LOCAL COORDINATES
 AND WE WANT TO CHECK WELD ON GLOBAL PLANE,
 DIVIDE FORCES BY 201.577
 $M_{12} = .20 / 201.577 = 1.536 \text{ in-k}$ CHECK
 $Area = .80 / 201.577 = 1.489 \text{ k}$ (CONTINUED)
 WELD PROPERTIES
 $A_w = 2(2.5) = 5.0$
 $S_w = 6(1) = 24(2.5) = 117 \text{ in}^3$
 $f_t = \frac{1.489}{5.0} + \frac{1.536}{117} = 0.431$
 $WELD REQ'D = \frac{0.431}{16(1.77)(2)} = 0.018 \text{ in}$
 $2 \times 1/8 \text{ WELD}$
 $\therefore \text{OK}$

Weld Req'd:
 $0.018 \text{ in} (1.27) = 0.023 \text{ in} < 1/16 \text{ in}$ OK

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

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Sheet 45/81

Date: 9/27/12

Markups By: BMO4

GENERAL COMPUTATION SHEET
 Hvac DUCTS AND SUPPORTS, AUXILIARY SLOG
 59823-2, 3, 4, 50, 50A, 53A
 Duct
 EVALUATE MEMBER 1, 2, 3, 5, 6

MARKUPS: 45, 81
 H-26
 REV 10

POINTS
 AXIAL LOAD: $P = .002(62) + .003(3915) + .004(1048) = 2.447 \text{ K}$
 SHEAR $V = .007(3915) + .0023(215) = 0.742 \text{ K}$
 SHEAR $V = .0015(215) = .323 \text{ K}$
 MY = $.0018(62) + .0032(3915) + .0105(215) = 0.340 \text{ K-ft}$
 MZ = $.0250(3915) + .0030(215) = 9.83 \text{ K-ft}$

BENDING STRESS:
 $f_x = \frac{M_y}{S_x} = \frac{0.340}{2.10} = 0.162 \text{ ksi}$
 $f_z = \frac{M_z}{S_z} = \frac{9.83}{2.10} = 4.681 \text{ ksi}$
 TOTAL STRESS: $f_t = 2.447 + 0.995 \text{ ksi}$
 $\frac{F_t}{F} = \frac{2.0(5107+592)}{119} = 104$
 $F_t = 16(104) = 1664 \text{ ksi}$

INTERAXIAL BEND:
 $\frac{0.162}{0.995} + \frac{0.995}{19.95} = 0.183 < 1.0 \text{ OK}$
SHEAR STRESS:
 $f_v = \frac{0.742}{3 \times 2.15} = 0.116 \text{ ksi} < 0.507 = 2088 \text{ psi}$
 $\therefore \text{OK}$

Interaction Equation:
 $0.183(1.27) = 0.232 < 1.0 \text{ OK}$

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

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Sheet 46/81

Date: 9/27/12

Markups By: BMO4

46-81
HY-86
REV 0

GENERAL COMPUTATION SHEET

HYD. BUYS AND SUPPORTS, AUXILIARY BLDG.

59252-2, 3, 4, 30, 32A, 32B
DCT 12/16/82 VRL

$\Sigma(V+HS \text{ LOAD})$

LOAD FACTORS

VERTICAL, $LF_1 = \frac{2.063}{.004} + \frac{.451}{.004} = 6.31$

TRANSVERSE, $LF_2 = \frac{.015}{.004} = 3.75$

LONGITUDINAL, $LF_3 = \frac{.556}{.004} = 14$

COMPLETE MEMBER VALUES TO THOSE OF $\Sigma(V+EW)$
AND BY INSPECTOR MEMBERS ARE OK.

EVALUATE MEMBERS @ $\frac{1}{2}$ @ $L \times B \times \frac{3}{8}$

$\Sigma(V+EW)$

FORCES

AXIAL $P = .0001(3915) + .0004(215) = 0.392 \text{ K}$

SHEAR $V = .00172(3915) + .0004(215) = 0.685 \text{ K}$

SHEAR $Z = .00050(215) = .108 \text{ K (NEG.)}$

$M_y = .00021(3915) + .00044(215) = .101 \text{ K}$

$M_z = .0245(3915) + .00071(215) = 9.59 \text{ K}$

BENDING STRESS

$f_{bz} = \frac{M_z}{S_y} = \frac{9.59}{1.23} = 7.80 \text{ KSI}$

$f_{by} = \frac{M_y}{S_x} = \frac{.101}{.734} = .138 \text{ KSI}$

$\Sigma f_b = 7.938 \text{ KSI}$

$F_b = 34.56 \text{ KSI}$

AXIAL STRESS

$f_a = \frac{.392}{2.76} = 0.142 \text{ KSI}$

$\frac{F_c}{T} = \frac{7.0(22)}{0.554} = 101 \quad F_c = 12(12.55) = 20.56 \text{ KSI}$

INTERACTION EQUATION

$\frac{7.938}{34.56} + \frac{.158}{20.56} = 0.24 < 1.00 \quad \text{OK}$

SHEAR STRESS - NEGLIGIBLE

Interaction Equation:
 $0.24(1.27) = 0.30 < 1.0 \text{ ok}$

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

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Sheet 48/81

Date: 9/27/12

Markups by: BMO4

48 81
 PLUMBING & ELECTRIC COMPANY
 GENERAL COMPUTATION SHEET
 Hvac DUCTS AND SUPPORTS, AUXILIARY BLOC
 57853-2, 3, 4, 50 322N, 320N
 12/15/82 VISL

DUCT SUPPORT CALCULATIONS

$\Sigma (V + EW)$

$$F_y = .002 (621) + .0020 (3915) + .00453 (25) = 2.447 \text{ K}$$

$$F_x = .00199 (3915) = .779 \text{ K}$$

$$M_x = .00018 (621) + .00022 (3915) + .00502 (25) = .927 \text{ in-K}$$

$$M_y = .00001 (621) + .00035 (3915) + .00167 (25) = .155 \text{ in-K}$$

$$M_z = .0187 (3915) + .00091 (25) = 7.32 \text{ in-K}$$

$\Sigma (V + WS)$

$$F_y = .002 (621) + .0050 (3915) + .00453 (25) = 1.55 \text{ K}$$

$$F_x = 1.02 \text{ K}$$

$$M_x = .00018 (621) + .00022 (3915) + .00502 (25) = 2.355 \text{ in-K}$$

$$M_y = .00001 (621) + .00035 (3915) + .00167 (25) = .1275 (3915) + .00091 (25) = 1.09 \text{ in-K}$$

CHECK $\Sigma (V + EW) - \text{GRADE CRITICAL}$

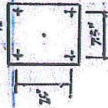
$$\frac{7.32 \text{ in-K}}{1.55 \text{ K}} = 4.72 < 7.22 = 1.182 \text{ ft/foot}$$

$$\frac{1.09 \text{ in-K}}{1.55 \text{ K}} = 0.703 < 0.155 = 0.205 \text{ ft/foot}$$

$$\frac{2.355 \text{ in-K}}{1.55 \text{ K}} = 1.52 < 2.05 = 0.16 < 1.00$$

$$\frac{1.182 \text{ ft/foot}}{2.05} + \frac{0.16 \text{ ft/foot}}{2.05} = 0.16 < 1.00$$

Interaction Equation:
 $0.16(1.27) = 0.20 < 1.0 \text{ ok}$



OK

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

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Sheet 48/81

Date: 9/27/12

Markups By: BMO4

GENERAL COMMENTS: HISS, ...
 THIS CURVE AND SUPPORTS, ANALYZED PER ...
 12/12/2012

DC 10/12/2012
 34,566 ksi

$$f_u = 11.24 \text{ ksi}(1.27) = 14.3 \text{ ksi} < 14.8 \text{ ksi}$$

$$f_u = 11.24 \text{ ksi} < 34,566 \text{ ksi}$$

CHOOSE WEARER CONNECTION



WELD PROPERTIES
 $A_{weld} = f(\theta) = 72$
 $A_{weld} = 72$
 $A_{weld} = 72$

$$f_u = \frac{2.447 + 7.22 + .387}{12} = 0.661 \text{ ksi}$$

$$f_u = \frac{2.779}{6} = 0.463$$

$$f_u = 4.56 = 1.51 \text{ ksi}$$

$$\text{WELD METALS} = \frac{1.58}{12(7)(6)} = 0.00116$$

Weld Detail

$$0.0358(1.27) = 0.046 < 1/8" \text{ fillet ok}$$

Weld Detail
 0.0358(1.27) = 0.046 < 1/8" fillet ok

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

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Sheet 51/81

Date: 9/27/12

Markups By: BMO4

51-81
11/28/12
REVISION

GENERAL COMPUTATION SHEET
APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

$$f_a = \frac{0.836}{0.836} = 1.0$$

APPLY PRESSURE LOADS TO DUCTS

$$I_g = 2 \left(\frac{1000 \times 200}{12} \right) \times 1.0 (4 \times 0.001) / 12 = 482 \text{ IN}^4$$

$$A = 2 \left(\frac{2.4 \times 16}{12} \right) (0.001) = 4.81 \text{ IN}^2$$

$$R = \frac{1.7}{1.7} = 1.0$$

$$K = \frac{2.0 (78.5 \times 10^4)}{10.57} = 3053$$

$$C_c = \frac{1.0}{1.0} = 1.0$$

$$G = \frac{1.0}{1.0} = 1.0$$

$$\frac{G}{1.0} = \frac{1.0}{1.0} = 1.0$$

$$\frac{G}{1.0} = \frac{1.0}{1.0} = 1.0$$

$$\frac{G}{1.0} = \frac{1.0}{1.0} = 1.0$$

$$F_a = \left[\frac{0.836 (1.0) (30)}{1.0} \right] \left[\frac{0.836 (30) (30)}{1.0} \right] \left[\frac{0.836 (30) (30)}{1.0} \right] = 4.75 \text{ ksi} > 1.5 \text{ ksi (L27)} = 1.91 \text{ ksi ok}$$

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

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APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

F_a = 4.75 ksi > 1.5 ksi (L27) = 1.91 ksi ok

F_a =

= 4.75 ksi > 1.5 ksi (L27) = 1.91 ksi ok

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

APPLY PRESSURE LOADS TO DUCTS

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APPLY PRESSURE LOADS TO DUCTS

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

Page 14 of 18

Sheet 52/81

Date: 9/27/12

Markups By: BMO4

PACIFIC CALIFORNIA ENGINEERING CONTRACTORS
GENERAL COMPUTATION SHEET

SHEET NO. 52 OF 81
REV. NO. HV-86
REV. 0

H.M.C. DUCTS AND SUPPORTS, AUXILIARY BLDG.
59253-2, 3, 4, 30, 32N, 33N
ISCT 12/6/82 VISL

$f_{\text{PMT}} = \frac{.1310(30000)}{.62} = 6336 \text{ psi} = 6.336 \text{ ksi}$

A 13.0 CHECK DUCT SHEET STRESSES

$f_{\text{PM}} + f_{\text{V}} + f_{\text{CH}} \leq 0.96 F_y$
 $6.336 + 5.171 + 0.282 = 11.789 \text{ ksi} < 0.96 (30) = 28.80 \text{ ksi}$
 OK

A 13.2 SHEAR STRESSES

$f_v = 0.350$
 $f_h = 0.433$
 $\tau = 0.783 \text{ ksi} < 0.58 F_y = 17.4 \text{ ksi}$
 OK

A 14.0 APPLY PRECISE LOADS TO DUCT STIFFENERS AND CHECK STRESSES

A 14.1 CRITICAL STRESS IN DUCT STIFFENERS

A.M.P. $f_{\text{PMT}} = \frac{M_{\text{MAX}}}{S_x} \leq 0.96 F_y$

STIFFENER: $2 \frac{1}{2} \times 1 \frac{1}{2} \times \frac{1}{8}$
 $A_x = .359 \text{ in}^2$
 $I_x = .078 \text{ in}^4$
 $y_x = .421$
 $j = 30"$

$\alpha = 90^\circ \quad \gamma_j = 30"$

$M_{\text{MAX}} = \frac{(5 - j^2/a^2) P_m j a^2}{24}$
 $= \frac{(5 - 30^2/10^2) (.1310) (30) (45)^2}{24}$
 $= 984.5 \text{ in-in} = .985 \text{ in-k}$

Duct Sheet Stress

11.789 ksi (1.27) = 15.0 ksi < 0.96 (30 ksi) or 28.80 ksi ok

Shear Stress

0.783 (1.27) = 0.99 ksi < 0.58 F_y = 17.4 ksi ok

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

Page 15 of 18

Sheet 55/81

Date: 9/27/12

Markups By: BMO4

PACIFIC ENGINEERING COMPANY
 GENERAL COMPUTATION SHEET
 SHEET NO. 55 OF 81
 PROJECT NO. 14-86
 DRAWING NO. RENO

HMC DUCTS AND SUPPORTS, AUXILIARY BLOC
59352-2.3.2, 2.30, SEN, SEN
A 11.2
A 11.2.1.2 AXIAL STRESSES
VR
 $f_a = \frac{0.5996}{1.25} = 0.484 \text{ ksi}$

Axial Buckling

A 11.2.1.6 AXIAL BUCKLING
 $f_a = 2 \left[\frac{(0.009 \times 10^3)}{12} \right] + 2 (24 \times 0.009) \left(\frac{1}{12} \right) = 112.3$
 $A_g = 2 (2.4716) (0.009) = 2.992$

$R = \sqrt{\frac{f_a}{f_y}} = 6.85$
 $C_u = \frac{1.072 E}{f_y} = 138$
 $\frac{C_u}{R} = \frac{138}{6.85} = 20.0$
 $\frac{K L}{R} = \frac{210 (0.05 \times 2075)}{6.85} = 105$

$F_{a1} = \left[\frac{2075 (0.545) (50)}{1.592} \right] \left[\frac{1.6}{1.6} \right] = 8.64 \text{ ksi}$
 $* > 0.484 \text{ ksi}$

8.64 ksi > 0.484 ksi (1.27) = 0.615 ksi ok

A 11.2.1.10 APPLY PRESSURE LOADS TO 5000
 A 11.2.1
 $f_{a2} = \frac{5000 (0.009)}{2152} = 0.216 \text{ psi}$
 $R_{a2} = 0.009 + 0.0095 + 0.0095 (3.1)$
 $= 0.1310$
 $f_{a2} = \frac{1310 (5000)}{2152} = 5489 \text{ psi}$
 $= 5.49 \text{ ksi}$

* ACTUALLY, $f_a = \frac{P_{axial}}{A_g}$ BUT SAME IF IS OK.
 USING EFFECTIVE AREA FOR
 AXIAL STRESS, IT IS
 APPROPRIATE.

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

Page 16 of 18

Sheet 56/81

Date: 9/27/12

Markups By: BMO4

PACIFIC GAS AND ELECTRIC COMPANY
GENERAL COMPUTATION SHEET

56-81
REV-86
REV-10

HVAC DUCTS AND SUPPORTS, AUXILIARY BLDG.
59353-2, 3, 4, 33, 32A, 32B
ACT 12/16/82 VBL

A 13.0 CHECK DUCT SHEET STRESSES

$$f_{ax} + f_{cy} + f_{cz} \leq 0.96 F_y$$

$$5.49 + 1.982 + .484 = 7.956 \text{ ksi} < 1.16 F_y = 28.80 \text{ ksi} \therefore \text{OK}$$

Duct Sheet Stresses

$$7.956 \text{ ksi} (1.27) > 10.10 \text{ ksi} < 0.96 F_y \text{ or } 28.8 \text{ ksi} \text{ ok}$$

A 13.2 SHEAR STRESSES

$$f_v = 0.241 \text{ ksi} < .58 F_y = 17.4 \text{ ksi} \therefore \text{OK}$$

$$f_h = 0.294 \text{ ksi} < 17.4 \therefore \text{OK}$$

Shear Stresses

$$= 0.24(1.27) = 0.306 \text{ ksi} < 17.4 \text{ ksi ok}$$

$$= 0.294(1.27) = 0.373 \text{ ksi} < 17.4 \text{ ksi ok}$$

A 14.0 APPLY PRESSURE LOADS TO DUCT STIFFENERS
SEE SH. 52, 53 FOR COMPARISON, THIS IS
MORE CRITICAL THAN STIFFENERS FOR
24" x 16" DUCT. \therefore OK.

CHECK 36" x 20" DUCT. (SPANS 15, 16, SEE SH. 2)

VERTICAL (SH. 10)

$$\text{SHEAR } E = 0.121 \times 3.10 = .375 \text{ K}$$

$$M_y = 1.319 \times 3.10 = 4.09 \text{ K-F}$$

EAST-WEST (SH. 12)

$$\text{AXIAL} = .0884 \times 3.10 = 0.274 \text{ K}$$

$$\text{SHEAR } Y = .1174 \times 3.10 = .364 \text{ K}$$

$$M_z = 4.225 \times 3.10 = 13.11 \text{ K-F}$$

NORTH-SOUTH

$$\text{AXIAL} = .00216 (2.20) = .005 \text{ K}$$

$$\text{SHEAR } Y = .085 (2.20) = .187 \text{ K}$$

$$M_z = .787 (2.20) = 1.725 \text{ K-F}$$

BY COMPARISON, EV + EW IS MORE CRITICAL.

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

Page 17 of 18

Sheet 58/81

Date: 9/27/12

Markups By: BMC04

PACIFIC GAS AND ELECTRIC COMPANY
GENERAL COMPUTATION SHEET

HVAC DUCTS AND SUPPORTS, AUXILIARY BLDG
59352-2, 3, 4, 30, 32N, 33N

ISCT DATE: 12/7/82 VBL

A 13.0. CHECK DUCT SHEET STRESSES
 $f_{all} = f_{en} + f_{sh} \leq 0.96 F_y$
 $6.504 + 1825 + .345 = 8.077 \text{ ksi} < 0.96 (F_y)$
 $= 21.86 \text{ ksi}$

∴ OK

A 13.2. SHEAR STRESSES
(NEGLIGIBLE)

A 14.0. REF. TO SH 52, 53 FOR QUALIFICATION
OF DUCT STIFFENERS.

CONCLUSION:
THE HVAC DUCTS AND DUCT SUPPORTS WERE
FOUND TO BE ACCEPTABLE WITH THE FOLLOWING
MODIFICATIONS TO BE MADE IN THE FIELD.
(REQUIRED)

1. SUPPT # 59352-20: WELD DIAGONAL BRACES
(2 1/2" x 2 1/2" x 1/4") TO THE VERTICAL MEMBERS
(C2 x 5.4) AS SHOWN ON P. 60 OF THIS
CALC.
2. ADD NEW SUPPORTS # 59353-32N AND 33N
AS SHOWN ON PP. 61-65 OF THIS
CALC.

Conclusion:

After accounting for existing stiffener weight on HVAC spans 5 and 6, the ducting and associated duct supports are ok.

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-D-VAC-1-MOD-10

Attachment 1

Page 18 of 18

A 11.0 Apply Seismic and Dead Loads to Duct
Check 70" x 20" Rectangular Duct (Spans 5 and 6)

Vertical Load

Shear $z = 0.178^k(1.27)(3.10) = 0.7^k$
Torsional = 0
 $M_y = 2.15^{in-k}(1.27)(3.10) = 8.46^{in-k}$

East West Load

Axial $P = 0.178^k(1.27)(3.10) = 0.7^k$
Shear $Y = 0$
 $M_x = 0$

North South Load

Axial $P = 0$
Shear $Y = 0.178^k(1.27)(2.20) = 0.5^k$
 $M_x = 2.15^{in-k}(1.27)(2.20) = 6.0^{in-k}$

By comparison, the more critical combination load will be (EV + NS)

A 11.1.a. Bending Stresses (See Sheet 7 of HV-36)

$S_x = 1015.044/10 = 101.5 \text{ in}^3$
 $S_y = 89.897/35 = 2.57 \text{ in}^3$

$f_b = 8.46/101.5 + 6.0/2.57 = 2.42 \text{ ksi}$

A 11.1.b. Shear Stress

$A_{xy} = 2(70)0.0359 = 5.03 \text{ in}^2$
 $A_{xz} = 2(20)0.0359 = 1.44 \text{ in}^2$

$f_{vy} = 0.7^k/1.44 + 0 = 0.49 \text{ ksi}$
 $f_{vz} = 0.5^k/5.03 + 0 = 0.099 \text{ ksi}$

A 11.2.a Axial Stresses

$f_t = P/A_1 = 0.7/0.926 = 0.756 \text{ ksi}$

A 11.2.b Axial Buckling (See Sheet 9 of HV-4)

$f_m = P/A_m$ where $A_m = 2(ht+wt)$
 $= 2(70 + 20)0.0359$
 $= 6.46 \text{ in}^2$

$f_{mz} = 0.7/6.46 = 0.11 \text{ ksi} < 1.6F_a \text{ ok}$

A 12.0 Apply Pressure Loads to Ducts

$P_{RC} = \frac{30000(0.0359)}{2.52} \sqrt{\frac{30000}{29000000}(\frac{1}{16} + \frac{1}{32})} = 0.796 \text{ ksi}$

$P_{MT} = P_M + P_D + P_E = 0.092 + 0.0114 + 0.0359 = 0.1387 \text{ psi}$

$f_{mt} = P_{MT}F_y/P_{RC} = 0.1387(30,000)/0.796 = 5.41 \text{ ksi}$

A 13.0 Check Duct Stresses

$5.41 + 0.756 + 2.42 = 8.59 \text{ ksi} < 28.80 \text{ ksi}$

A 13.2 Shear Stresses

$f_t = 0.49 + 0.099 = 5.89 \text{ ksi ok (i.e., } < 17.4 \text{ ksi)}$

A 14.0 Apply Pressure Loads (See AISC 7th for angle and channel properties)

L1x1x1/8" and MC 8x18.7

$f_{MT} = M_{max}/S_x < 0.96 F_y$
Stiffener type: MC8x18.7 atop two angles. (above and below ducting).

$M_{max} = \frac{(3-f^2/a^2)P_{MT}(j)a^2}{j} = \frac{(3-24^2/70^2)0.1387(24)70^2}{24} = 1959 \text{ lb-in}$

$S_x = I_x(h_a + t - \bar{y})$
where h_a = height of composite stiffener = 1" + 2.9" = 3.9"
 $t = 0.0359"$

$I_x = 5.0 + 12(0.0359)(1.86 - 0.0359/2)^2 + 5.97(2.0 + 0.0359 - 1.86)^2 = 6.64$

I_x is about 5.0 in⁴ by engineering judgement
 $b_x = 12$ or $1/2j$

$y_c = 2.0$ in by engineering judgment

$\bar{y} = \frac{12^{0.0359/2} + 5.96(2.0 + 0.0359)}{5.96 + 12^{0.0359}} = 1.86$

$S_x = 6.64(3.9 + 0.0359 - 1.86) = 13.79$

bending stress on stiffener

$f_{MT} = M_{max}/S_x = 1959/13.79 = 0.142 \text{ ksi} < 0.96 F_y = 28.8 \text{ ksi ok}$

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-23-P-D-VAC-1-MOD-9

Equipment Class: 8

Equipment Description: Control Room Ventilation Supply Fan Suction Dampers

Location: Building: Auxiliary

Floor El. 154

Room, Area: 1-CP-35

Manufacturer, model, Etc. Barber Colman 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? 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.) N/A
Actuator support frame and actuator anchorage is consistent with drawing 515850-1.

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
Overhead items consist of conduit and a copper pipe that are well supported.

8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Nearby room lighting fixture is restrained by (2) rods with ball and socket connections to the ceiling.

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-1-23-P-D-VAC-1-MOD-9

Equipment Class: 8

Equipment Description: Control Room Ventilation Supply Fan Suction Dampers

Comment:

Damper system consists of an in-line rectangular damper plus a separately supported actuator. The ducting has an insulating cover and the duct/damper connection could not be seen. However, the damper appears to be well restrained in the duct. The ducting below the damper is secured to the floor while the ducting above the damper is supported from the ceiling. The separately mounted damper actuator is bolted by (3) 3/16" bolts threaded into a plate that is welded to a Unistrut frame that is bolted to the ceiling. The Unistrut frame is braced in both horizontal directions. The actuator and damper mechanisms are connected by an approximately 5/16" diameter rod that is about 4' in length. It appears that the flexibility of the rod is sufficient to accommodate the relative horizontal displacement of the floor at 154' and the ceiling at 163' which based on Hosgri DCM C-28, is less than 0.02".

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/14/2012

DRC

J.R. Lee

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: N

Equipment ID No DC-1-23-P-FL-FU39

Equipment Class: 18

Equipment Description: Control Room Ventilation Filter Unit

Location: Building: Auxiliary

Floor El. 154

Room, Area: 1-CP-35

Manufacturer, model, Etc. American Air Filter

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

The base channels for the Filter unit which have been stiffened at four (4) places along the length of the filter are welded to the outside of the top flanges of I-beam sections that are each anchored by (4) 1/2" embedded anchors on either side (8 total). Y

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

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

Drawing 443333-1 indicates that the anchor bolts should be 5/8" in diameter. Calculation D-HVAC-5.11-1 calculates anchor bolt stress based on 1/2" anchor bolts. Because of the location of the weld between the channel flange and the I-beam flange the load path for vertical loads and side-to-side overturning forces is not directly through the axes of the members creating rotational moments. However, the referenced calculation applies the loads properly. For disposition see Attachment 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

Only soft targets are short runs of small diameter copper tubing located on one side of the filter unit. A nearby room lighting fixture appears to be the only credible falling source but it is supported by pipe section with ball and socket connection.

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

Overhead conduit, fire water piping, and junction boxes are well supported. Reinforced masonry wall has additional support both at the base and the top.

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

Temporary scaffold adjacent to the filter is properly restrained and the paperwork is current.

Seismic Walkdown Checklist (SWC)

Status: N

Equipment ID No DC-1-23-P-FL-FU39

Equipment Class: 18

Equipment Description: Control Room Ventilation Filter Unit

Comment:

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/25/2012

DRC

D. R. L.

10/23/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-23-P-FL-FU39

Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

The anchorage for the housing unit are 1/2" diameter bolts contrary to what's shown on Drawing 443333 (detail Section A & detail 2), that shows 5/8" diameter bolts.

Evaluation :

The 1/2" bolts are consistent with the design calculations for this component (Ref. Calc. DHV-5.11). It appears that the drawing is in error and needs to be corrected. An inspection of Unit-2 equipment shows the same condition (i.e. existing 1/2" bolts).

Drawing 443333 is applicable to both units and should be corrected to reflect as-built condition. Since the design calculation reflects the as built condition, there is no adverse impact on the equipment qualification and function.

Recommendation:

Revise Drawing 443333 to reflect the as-found bolting.

Notification Required: Yes (50511308)

Evaluated by:

Patrick Huang 10/23/12

Reviewed by:

A.R. Linn 10/23/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-23-P-VOS-VAC-1-FCV-700

Equipment Class: 8

Equipment Description: Post-LOCA Sample System return line to containment valves

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-FCV700

Manufacturer, model, Etc. Valcor Engineering Corp.

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 |
| <i>Small Instrument valve with tubing secured on both sides of the valve (U-bolts) and the operator (bolted strap) secured to the same mounting bracket. The mounting bracket is anchored to the concrete wall by (4) 1/2" expansion anchors.</i> | Y |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation? | |
| 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? | Y |
| <i>Overhead piping (CCW and fire water), conduit, junction boxes, and cable trays are well supported.</i> | |
| 8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? | Y |
| <i>No masonry block walls in area.</i> | |
| 9. Do attached lines have adequate flexibility to avoid damage? | Y |
| <i>Electrical line to valve has adequate flexibility.</i> | |
| 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-1-23-P-VOS-VAC-1-FCV-700

Equipment Class: 8

Equipment Description: Post-LOCA Sample System return line to containment valves

Comment:

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/14/2012

DRC

D.R. Lu

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-25-M-TK-BUAS-602

Equipment Class: 21

Equipment Description: ASW Flow Control Valve No. FCV-602 Backup Air Accumulator

Location: Building: Turbine

Floor El. 85

Room, Area: 1-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
The anchorage consists of weldments that are substantial and adequately support the air tanks. 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
The accumulators are located in a niche in the concrete wall that protects them from falling objects. Thus the only soft targets for the accumulator tanks is the stainless steel transfer tubing that runs along the wall.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Possible falling sources include the room lighting fixtures, the emergency lighting, and the nearby masonry block wall. The lighting fixtures are adequately restrained and the reinforced masonry wall includes additional support at the base and near the top. The nearby room lighting fixture will likely swing during an earthquake and the support rods will likely impact the SCW piping that is in close proximity. It is judged that such impact could jar the fluorescent tubes loose from the fixture, but these pose no hazard to the tubing. Such impact should not result in falling of the fixture itself.
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-1-25-M-TK-BUAS-602

Equipment Class: 21

Equipment Description: ASW Flow Control Valve No. FCV-602 Backup Air Accumulator

Comment:

Evaluated by:

TRK

Date:

Thomas R. Kipp 10/14/2012

KA

A. G. Chantanya 10/23/2012.

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-36-E-PNL-RNARA

Equipment Class: 20

Equipment Description: Auxiliary Relay Rack

Location: Building: Auxiliary

Floor El. 128

Room, Area: 1-RNARA

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 |
| <i>A false floor is created by a series of W10 wide flange beams that are bolted to the concrete slab by 5/8" expansion anchors spaced on 24" centers with the bolt pattern staggered on either side of the beam. The panel is welded to the flange of beams running along the front and back of the panel. The original welds are 2-1/2" long 3/16" fillet welds spaced on 6" centers. These have been augmented by 3"x2-1/2"x1/2" plate tabs that are welded to the panel on three sides and to the floor beam flange on the bottom. There are two such tabs both front and back.</i> | |
| 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.) | 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 |
| <i>Panel RNAR-A is the center panel of three similar adjacent panels. The panels are connected at the top by plates that span between adjacent panels and are bolted to the top structural members for each. These connecting plates are located both front and back.</i> | |
| 8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? | Y |
| <i>Several layers of conduit run above the panels that appear to be rigidly supported. Conduit runs also enter the top of the panel. Cable trays run above the front and back of the panel and these are also rigidly restrained. A room lighting fixture located on the West side of the panel is hung on very light weight chains which appear marginal. The fixture will very likely impact the panel should it fall. For disposition see Attachment 1.</i> | |
| 9. Do attached lines have adequate flexibility to avoid damage? | Y |
| <i>Connections are via rigid conduit.</i> | |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects? | Y |


 DC
 10/23/12

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-1-36-E-PNL-RNARA

Equipment Class: 20

Equipment Description: Auxiliary Relay Rack

Comment:

Evaluated by:

TRK

Thomas R. Kippe

Date:

10/25/2012

DRC

D. R. Linn

10/23/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-36-E-PNL-RNARA

Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Florescent Light fixture (Located to the West of the Aux. Relay Cabinet) is restrained from the ceiling by light duty chain with open hook.

Evaluation :

This appears to be non standard attachment (compared to other fixtures) relatively weak connection between the chain and the fixture. This should be replaced to avoid SISI and potential personnel safety (Fixture falling on someone because of the open hook and weak connection to the sheet metal fixture).

The SISI concern is with the potential swinging of the fixture into the cabinet in a seismic event; however since there are no soft targets (e.g. Relays) on the door, the potential impact of this light weight source is not anticipated to affect the function of the cabinets.

Recommendation:

Use more robust restraint configuration for light fixture

Notification Required: Yes (50511307)

Evaluated by:

Patrick Huang

10/23/12

Reviewed by:

J.R.M.

10/23/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-38-I-PNL-RNSIA

Equipment Class: 20

Equipment Description: SSPS - Input Relay Cabinet

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-SSPS

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?
<i>All visible anchorage is 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?
<i>Panels are all welded to embedded plates.</i> | 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.)

<i>Panels RNSIA, RNSLA, and RNSOA are part of a continuous cabinet. The bottom of the cabinet has (4) 1/2" x 2-1/2" x 4" A-36 galvanized steel plates welded to embeds on both sides. Previously, there were (5) 1/4" fillet welds with weld lengths of 2-1/2" on both sides of the cabinet. Some of the welds were removed in order to incorporate the plates that were welded to the embeds. Verification of the welds that were not removed could not be done due to the rubber skirting glued at the bottom of the cabinets. Further investigation into Calculation EPA-2 showed that the original fillet welds were neglected and only the welded embeds were used in the design calculation. Therefore, the original welds do not need to be verified since they are not part of the design basis. See drawings 050053 sheet 65 and CALC NO. EPA-2</i> | Y |
| 6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions?
<i>No adverse conditions were identified.</i> | Y |

Interaction Effects

- | | |
|---|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>No soft targets are present on the panel.</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 ceiling tiles may fall onto the cabinet if they are not seismically restrained but there are no soft targets, therefore no negative affect.</i> | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>All attached lines use flexible conduit.</i> | Y |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects?
<i>No seismic interaction issues were identified.</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-1-38-I-PNL-RNSIA

Equipment Class: 20

Equipment Description: SSPS - Input Relay Cabinet

Comment:

Evaluated by:

KTM

Keri Moore

Date:

10/15/2012

SMM

Scott Miller

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-38-I-PNL-RNSLA

Equipment Class: 20

Equipment Description: SSPS - Logic Cabinet

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-SSPS

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)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All visible 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? N/A
Panels are all welded to embedded plates.
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
Panels RNSIA, RNSLA, and RNSOA are part of a continuous cabinet. The bottom of the cabinet has (4) 1/2" x 2-1/2" x 4" A-36 galvanized steel plates welded to embeds on both sides. Previously, there were (5) 1/4" fillet welds with weld lengths of 2-1/2" on both sides of the cabinet. Some of the welds were removed in order to incorporate the plates that were welded to the embeds. Verification of the welds that were not removed could not be done due to the rubber skirting glued at the bottom of the cabinets. Further investigation into Calculation EPA-2 showed that the original fillet welds were neglected and only the welded embeds were used in the design calculation. Therefore, the original welds do not need to be verified since they are not part of the design basis. See drawings 050053 sheet 65 and CALC NO. EPA-2. No issues were identified.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
All nearby equipment are properly secured to prevent impact with the cabinet.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
External buttons are on the face of the cabinet. The suspended ceiling is hung with a braced unistrut system. The HVAC duct is braced and the registers are independently rod hung.
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 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-1-38-I-PNL-RNSLA

Equipment Class: 20

Equipment Description: SSPS - Logic Cabinet

Comment:

Evaluated by:

KTM

Date:

Kevin Moore

10/15/2012

SMM

Scott M. Miller

10/16/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-38-I-PNL-RNSOA

Equipment Class: 20

Equipment Description: SSPS - Output Relay Cabinet

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-SSPS

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 visible 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? N/A
Panels are all welded to embedded plates.
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
Panels RNSIA, RNSLA, and RNSOA are part of a continuous cabinet. The bottom of the cabinet has (4) 1/2" x 2-1/2" x 4" A-36 galvanized steel plates welded to embeds on both sides. Previously, there were (6) 1/4" fillet welds with weld lengths of 2-1/2" on both sides of the cabinet. Some of the welds were removed in order to incorporate the plates that were welded to the embeds. Verification of the welds that were not removed could not be done due to the rubber skirting glued at the bottom of the cabinets. Further investigation into Calculation EPA-2 showed that the original fillet welds were neglected and only the welded embeds were used in the design calculation. Therefore, the original welds do not need to be verified since they are not part of the design basis. See drawings 050053 sheet 65 and CALC NO. EPA-2. No issues were identified.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
No soft targets are present 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 ceiling tiles may fall onto the cabinet if they are not seismically restrained but there are no soft targets, therefore no negative affect.
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 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-1-38-I-PNL-RNSOA

Equipment Class: 20

Equipment Description: SSPS - Output Relay Cabinet

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-1-38-I-PNL-RNSTA

Equipment Class: 20

Equipment Description: SSPS - Test Cabinet

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-SSPS

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>All visible anchorage is 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?
<i>Panels are all welded to embedded plates.</i> | 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 conditions were identified.</i> | Y |

Interaction Effects

- | | |
|---|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>No soft targets are present on the panel.</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 ceiling tiles may fall onto the cabinet if they are not seismically restrained but there are no soft targets, therefore no negative affect.</i> | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>All attached lines use flexible conduit.</i> | Y |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects?
<i>No seismic interaction issues were identified.</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-1-38-I-PNL-RNSTA ;

Equipment Class: 20

Equipment Description: SSPS - Test Cabinet

Comment:

Evaluated by:

KTM

Keri Mana

Date:

10/15/2012

SMM

Scott M. Miller

10/12/2012

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-1-42-M-EJ-FTC-1-EJ2 Equipment Class¹² 0. (Other)

Equipment Description: Fuel Transfer Tube Expansion Joint

Location: Bldg. Auxiliary Floor El. 100' Room, Area 1-EJ2

Manufacturer, Model, Etc. (optional but recommended) Tube-Turn Bellows Expansion Joint

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 the expansion joint where the Fuel Transfer Tube (FTT) penetrates the exterior wall of the Fuel Transfer Canal (FTC). The expansion joint is welded to the FTT at one end and the steel penetration sleeve that is cast into the concrete wall of the FTC at the other end. 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?

The expansion joint is a soft target, but is located in a recess in the west wall of the Fuel Transfer Canal (see drawing no. 57731), which completely protects it from any falling objects. | Y |
| 8. | Are overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls not likely to collapse onto the equipment?

The expansion joint is located in a recess in the west wall of the Fuel Transfer Canal (see drawing no. 57731), which completely protects it from any falling objects. | Y |
| 9. | Do attached lines have adequate flexibility to avoid damage?

The function of the expansion joint is to accommodate any differential displacements between the Fuel Transfer Tube (which is anchored in to the Containment Structure) and the exterior wall of the Fuel Transfer Canal (which is part of the Auxiliary Building). There are no lines, other than the Fuel Transfer Tube, attached to the expansion joint. | Y |

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

Seismic Walkdown Checklist (SWC)

Equipment ID No. DC-1-42-M-EJ-FTC-1-EJ2 Equipment Class¹² 0. (Other)

Equipment Description: Fuel Transfer Tube Expansion Joint

10. Based on the above seismic interaction evaluations, is the 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 plant equipment? Y
Minor corrosion was noted on the interior surface (dry side) of the expansion joint. See Attachment No. 1 for disposition.

Comments (Additional pages may be added as necessary)

This SWC applies to potential SFP rapid drain-down through the Fuel Transfer Tube (FTT) expansion joint (see drawing nos. 500197 and 663321-2 and the figure on sheet 3 of this SWC). Access to the interior surface (dry side) of the expansion joint is through a narrow annular space between the outside of the FTT (20" diameter pipe) and the inside of the 26" diameter penetration sleeve cast into the exterior concrete wall (27" thick) of the Fuel Transfer Canal (FTC) – see photos on sheet 4. The exterior surface (wet side) of the expansion joint is located in a recess in the west wall of the FTC, which is near the bottom of the 40' deep FTC.

As indicated on drawing no. 663321-2, the expansion joint is fabricated from stainless steel. It is exposed to boric acid (SFP water) on the wet side and the outside atmosphere on the dry side (access to the dry side is through the seismic gap between the Auxiliary Building and the Containment Structure). Based on the potential environmental effects on the expansion joint, the dry side was selected for detailed visual examination, which was performed using a "boroscope" inserted into this annular space, which provided a display on a video monitor (screen shots from the video monitor shown on sheet 5).

Evaluated by: wrh William R. Horne Date: 10/23/12
EMM [Signature] 10/24/12

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

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-42-M-EJ-FTC-1-EJ2

Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Minor surface corrosion was noted on the interior surface (dry side) of the expansion joint.

Evaluation:

The Expansion Joint is Design Class I and seismically qualified. Its function is to provide a leak-tight seal around the Fuel Transfer Tube where it exits the west wall of the Fuel Transfer Canal while accommodating differential seismic and LOCA displacements between the Containment Exterior Concrete Structure and the Fuel Handling Area of the Auxiliary Building. The Expansion Joint is not a pressurized component, and is only subject to the water pressure associated with the hydraulic head associated with the water level in the Fuel Transfer Canal (approx. 40 ft.). Note that at this time, the Fuel Transfer Canal is dry, so there is no hydraulic head applied to the Expansion Joint.

The extent of the corrosion is minor, and will not compromise the structural integrity of the Expansion Joint.

Recommendation:

- Request further review/evaluation by the DCPM Metallurgist
- Consider developing a routine inspection program to monitor the condition of the Expansion Joint.

Notification Required: Yes (50518405)

Evaluated by: wrh William R. Horne 10/23/12

Reviewed by: SxM9 Scott M. Hill 10/23/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-43-I-PNL/RNCT1 *SM 10/10/12 KTM 11/20/12* Equipment Class: 18
 Equipment Description: Process Control and Protection System - Computer Input Rack No. RNCT1 *SM 10/10/12 KTM 11/20/12*
 Location: Building: Auxiliary Floor El. 140 Room, Area: 1-RNC1

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>Cabinet is welded at the base.</i> | Y |
| 3. Is the anchorage free of corrosion that is more than mild surface oxidation?
<i>No corrosion was noted.</i> | Y |
| 4. Is the anchorage free of visible cracks in the concrete near the anchors?
<i>The floor was overlaid with carpet, but no cracks were visible after pulling up the carpet.</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?
<i>3/16" fillet welds are stitched at the base of the cabinets. See drawings for details.</i> | Y |

Interaction Effects

- | | |
|--|---|
| 7. Are soft targets free from impact by nearby equipment or structures?
<i>No soft targets present.</i> | Y |
| 8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment?
<i>All the overhead cable trays are seismically braced. SEE AWC I-VBI FOR CEILING TILE REVIEW.</i> | Y |
| 9. Do attached lines have adequate flexibility to avoid damage?
<i>No flexibility issues to note.</i> | Y |
| 10. Based on the above seismic interaction evaluations, is equipment free of potentially adverse seismic interaction effects?
<i>No interaction effects present.</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-1-43-I-PNL-RNC1 *SMM 10/10/12 KTM 11/20/12* Equipment Class: 18

Equipment Description: Process Control and Protection System - Computer Input Rack No. RNC1 *SMM 10/10/12 KTM 11/20/12*

Comment:

Evaluated by:

KTM

Date:

Keri Mewe

10/15/2012

SMM

Scott Miley

10/10/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-64-E-PNL-ARP

Equipment Class: 20

Equipment Description: Auxiliary Relay Panel

Location: Building: Auxiliary

Floor El.

Room, Area: 1-PNL-ARP

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 judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

Anchorage

1. Is the anchorage configuration verification required (i.e., is the item one of the 50% of SWEL items requiring such verification)? N
2. Is the anchorage free of bent, broken, missing or loose hardware? Y
All of the anchor bolts (both inside and outside of the panel) are in good condition.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
No corrosion present.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No cracks are seen 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.) N/A
6. Based on the above anchorage evaluations, is the anchorage free of potentially adverse seismic conditions? Y
The inside of panel is anchored to the floor (see pictures). The back of the panel is anchored to the adjacent cabinet. The top of the panel is welded to a braced frame which acts as both a vertical and lateral restraint.

Interaction Effects

7. Are soft targets free from impact by nearby equipment or structures? Y
All overhead cable trays are seismically braced.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Block walls have been retrofitted with steel members which are anchored at the top and bottom of the walls.
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 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-1-64-E-PNL-ARP

Equipment Class: 20

Equipment Description: Auxiliary Relay Panel

Comment:

Evaluated by:

KTM

Kerr Maw

Date:

10/15/2012

SMM

Scott M. M...

10/10/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-65-E-LG-PY11

Equipment Class: 2

Equipment Description: 120V AC Instrument Breaker Panels

Location: Building: Auxiliary

Floor El. 115

Room, Area: 1-BTC11

Manufacturer, model, Etc. Nuclear Logistics Inc

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
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No cracking observed
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 050041
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 soft targets
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
The conduit is well braced. The overhead HVAC duct is braced. Cable trays are well supported.
9. Do attached lines have adequate flexibility to avoid damage? Y
Conduits and cable trays connected to the panel are supported close to the panel. Essentially no relative displacement is expected
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-1-65-E-LC-PY11

Equipment Class: 2

Equipment Description: 120V AC Instrument Breaker Panels

Comment:

PY11 is a wall mounted panel. The panel body is bolted to two unistrut members that are each anchored to the concrete wall with two 1/2" concrete shell anchors. The internal components are securely mounted to the panel.

Evaluated by:

DKN

Dan [Signature]

Date:

10/17/2012

DRC

[Signature]

10/19/2012

DKN 11/20/12
DEC 11/19/12

Seismic Walkdown Checklist (SWC)

Status: YN

Equipment ID No DC-1-65-E-UPS-IY11

Equipment Class: 16

Equipment Description: 120V AC Inverters

Location: Building: Auxiliary

Floor El. 115

Room, Area: 1-BTC11

Manufacturer, model, Etc. Solidstate Controls Inc

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
Minor surface corrosion on the steel base plate
- 4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No cracks observed
- 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 050053 sheet 220
- 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
Switches on the front panel have plexiglass cover.
- 8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Conduit and cable trays are well supported. Overhead lighting has support that permits it to sway but is positively connected for vertical load - no issues. It will not impact the panel. Adjacent masonry wall has been strengthened
- 9. Do attached lines have adequate flexibility to avoid damage? Y
Conduit on top has flexible connections
- 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? YN

SEE COMMENT B

DEC
11/19/12
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DEC
11/19/12
DKN
11/20/12

DKN 11/20/12
DEC 11/19/12

Seismic Walkdown Checklist (SWC)

Status: N
X

Equipment ID No DC-1-65-E-UPS-IY11

Equipment Class: 16

Equipment Description: 120V AC Inverters

Comment:

A. The base flanges of Inverter panel JY11 are welded to a 3/4" thick steel base plate. The base plate is anchored to the floor with 10 - 1" diameter expansion anchors. The internal components in the panel are securely mounted.

QVE
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11.

B.

The mounting brackets for the transformers at the bottom left side of panel have eight (8) locations (holes) for securing the transformers to the grating on the panel bottom. Only four (4) of the holes have bolts. Similarly, only six (6) of the eight holes are utilized (have bolts) for securing the transformers on the bottom right side of the panel. See Attachment 1 for disposition of this as-found mounting configuration.

DRC
11/19/12

DKN
11/20/12

Evaluated by:

DKN

David Johnson

Date:

10/24/2012

DRC

At R. Lu

10/23/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-65-E-UPS-IY11

Attachment 1, Page 1 of 4

Licensing Basis Evaluation

Issue:

The mounting brackets for the transformers at the bottom of the panel have (8) locations (holes) for securing the transformer to the grating on the panel bottom. However, there were only four bolts installed in the bracket on the left and six bolts in the bracket on the right. (see sketch on Page 3).

Evaluation

This transformer is Design Class I and seismically qualified. The seismic qualification of this component, as documented in Calc. No. ES-68-1, is based on shake table testing. A review of the test specimen (which is currently located in the DCPD Cold Machine Shop) indicates that the transformers are bolted on the bottom cabinet grating with six (6) 1/2" diameter Grade 2 bolts.

The as-found mounting condition is evaluated against the condition addressed in calculation no. ES-68-1 on page 4 of this Attachment. This evaluation indicates that a significant safety margin for the mounting bolts is available.

Therefore, as-found condition of IY11 has no adverse effect on the seismic qualification of this component, so this issue does not impact the safe operation of DCPD.

Recommendations:

- Perform an Extend of Condition review to determine if other similar transformers are impacted
- Revise calculation no. ES-68-1 to address the as-found condition

Notification Required: Yes (50518937)

Evaluated by: PWH Patrick Zhuang 10/19/12

Reviewed by: WRH Wm. R. Ho 10/19/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-65-E-UPS-IY11

Attachment 1, Page 3 of 4

According to manufacturer, Ametek Solidstate Controls,

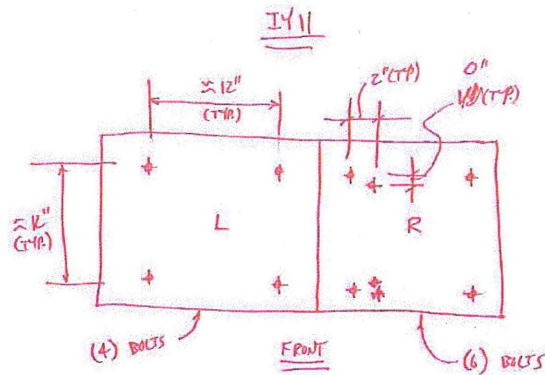
Weight of transformer:

80-314009-90 - 320 lbs

80-314007-90 - 630 lbs

The transformer on the left side is 80-314009-90 (See picture in page 2).

Unit 1 Field Walk Down Sketches:



Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-65-E-UPS-IY11

Attachment 1, Page 4 of 4

Evaluation of IY-11 As-found Condition: Four (4) bolts are found at the bottom of left side cabinet.

The transformer is a solid, heavy, steel plated component. It can be treated as a rigid body. Therefore, the 1/2" \varnothing mounting bolts (a total of 6 bolts including 2 bolts on the top of transformer) are equally subjected to the direct shear and tension forces, and no overturning moments.

Seismic Accelerations: 5% damping floor peak RRS (see ES-68-1, Sheet 38)

Horizontal: 4 G's

Vertical: 2.4 G's

Equivalent Static Method: factor of 1.5 multiplies the floor peak accelerations to consider the multi-mode and multi-frequency.

Shear due to the horizontal seismic load: $\left(\frac{320 * 4 * 1.5}{6}\right) * 2 = 640 \text{ lbs / bolt}$

Tension due to the vertical upward seismic load: $\frac{320 * (2.4 - 1) * 1.5}{6} = 112 \text{ lbs}$

Allowable for Grade 2: Tensile strength is 60,000 psi, which is equivalent to A307 bolt.

From Calc. no. SQME-077, Sheet 13:

DE allowable for 1/2" \varnothing A307 bolt:

Tension: 4257 lbs

Shear: 1559 lbs

Interaction Ratio: $\left(\frac{112}{4257}\right)^2 + \left(\frac{640}{1559}\right)^2 = .17 < 1.0$ "OK"

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-65-E-XF-TRY11

Equipment Class: 4

Equipment Description: Nuclear Instrumentation Regulating Transformers

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-TRY11

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
Base of cabinet is bolted to the floor slab by (4) 3/4" expansion anchors.
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
Anchorage is consistent with drawing in calculation ES-68-1 Attachment 6 Sheet 21 (Anchorage option 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
Adjacent panel TRNM is a tall transformer panel that is anchored to the floor slab by (4) 5/8" expansion anchors with hex nuts. The edge distance of the flange of the channel base appears marginal (possibly as small as 1/8"). A 3" conduit section that enters the panel near the top provides some side-to-side overturning restraint. For disposition see Attachment 1.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Reinforced masonry wall immediately behind the transformer. But additional support for the wall has been provided at the base and at the top.
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

~~U~~ Y
K-A
10/23/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-66-E-XF-TRY11

Equipment Class: 4

Equipment Description: Nuclear Instrumentation Regulating Transformers

Comment:

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/25/2012

KA

A.K. Dantamga

10/23/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-65-E-XF-TRY11

Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Potential edge distance issues were noted on the expansion anchors associated with nearby Nuclear Measurement System Regulating Transformer No. TRNM (non-safety related).

Evaluation:

Panel No. TRNM is non-safety related. However, the anchorage condition may impact the SISIP evaluation of the panel anchorage (calculation no. EQP-232).

Specifically, the distance between the centerline of the 5/8" diameter expansion anchors at the base of the cabinet and the outer edge of the steel channels forming the skid for the cabinet (see drawing no. 6014143, sheet 3) is less than the AISC Code specified minimum (1" for a 5/8" diameter bolt). This will result in a potential reduction in the shear load capacity of the expansion anchor connection.

Impact Assessment:

The issue here is not the qualification of TRNM, but the potential for SISI of TRNM with adjacent TRY11 during an earthquake (i.e., TRNM tips over and hits TRY11).

The anchorage for non-safety related transformer no. TRNM is designed per SISIP criteria (DCM-T-14) in Civil Engineering calculation no. EQP-232, revision 3, Section 4.4.

If it is assumed that only two of the four expansion anchors are capable of resisting the shear loading in the north-south direction (this is a conservative assumption for the bolts with insufficient edge distance) the shear/tension interaction ratio for the remaining bolts is still acceptable. This is based on removal of the following conservatisms from the calculation:

- actual weight of TRNM (1532 lb vs. 1600 lb)
- actual center of gravity (near base due to location of transformer inside cabinet vs. mid-height)
- consideration of dead weight counteracting seismic overturning moment (conservatively ignored in calculation)
- application of directional-specific (e.g., n/s and e/w) seismic accelerations (the largest of the two horizontal accelerations was conservatively applied in the worst direction in calculation).

Therefore, TRNM will not tip over during an earthquake and potentially damage TRY11.

Recommendation:

Revise Calculation no. EQP-232 to document reevaluation.

Notification Required: Yes (50510681)

Evaluated by: Patrick Zhang 10/23/12
Reviewed by: A.K. Chaitanya 10/23/12

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-67-E-BT-BAT11

Equipment Class: 15

Equipment Description: 125V DC Batteries and Battery Racks

Location: Building: Auxiliary

Floor El. 115

Room, Area: 1-BAT11

Manufacturer, model, Etc. C&D LCUN33 NUC

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
Nothing broken, missing or damaged
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 in the concrete floor
5. Is the anchorage configuration consistent with plant documentation? (Note: This question only applies if the item is one of the 50% for which an anchorage configuration verification is required.) Y
The rack anchorage is consistent with the drawings 496147 sheet 1, 496146 sheet 1, 458684 sheet 1, 4013058 sheet 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
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. Fire water piping is braced. Masonry wall has seismic strengthening. PA speaker and junction box are anchored to the wall. Overhead lights have safety chains. HVAC duct is anchored to the walls.
9. Do attached lines have adequate flexibility to avoid damage? Y
Cables have 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

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-67-E-BT-BAT11

Equipment Class: 15

Equipment Description: 125V DC Batteries and Battery Racks

Comment:

Battery Racks 11A, 11B, and 11C are single tier braced battery racks. Rack 11D is a two tier rack. The racks have cross bracing in the long direction and are braced and tied back to the adjacent concrete walls in the front to back direction. The end bolts of racks 11A and 11B touch. However the plywood spacers between the two racks should prevent significant pounding forces should the two racks move out of phase with each other.

Evaluated by:

DKN

Daniel Alvarez

Date:

10/17/2012

DRC

J.P. [Signature]

10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-67-E-BTC-BTC11

Equipment Class: 16

Equipment Description: 125V DC Battery Chargers

Location: Building: Auxiliary

Floor El. 115

Room, Area: 1-BTC11

Manufacturer, model, Etc. Ametek Solidstate Controls

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 missing or broken 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? Y
No cracks observed
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 050053 sheet 240 and 241
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
Selector switches are mounted on the front panel. Breaker switches are protected by plexiglass cover plate. 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 and cable trays are well supported. Overhead lights can sway but are positively connected for vertical load. The lights will not impact the panel. Masonry walls have been strengthened
9. Do attached lines have adequate flexibility to avoid damage? Y
Conduit connects to the top has a flex connection
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-1-67-E-BTC-BTC11

Equipment Class: 16

Equipment Description: 125V DC Battery Chargers

Comment:

The base flanges of battery charger BTC11 are welded to vertical tab plates that are in turn welded to steel plates embedded in the concrete floor. The internal components are securely mounted in the panel

Evaluated by:

DKN

[Signature]

Date:

10/17/2012

DRC

[Signature]

10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-67-E-LC-PD15

Equipment Class: 14

Equipment Description: 125V DC Distribution Panels

Location: Building: Turbine

Floor El. 85

Room, Area: 1-PD15

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
Anchored at corners of wall-mounted panel by (4) 1/2" through-bolts through the 8" reinforced masonry block wall that forms the battery room. Y
3. Is the anchorage free of corrosion that is more than mild surface oxidation?
4. Is the anchorage free of visible cracks in the concrete 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
Panel does not contain soft targets.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Nearby conduit is class 1 but most overhead conduit and piping is class 2 and is rod or spring hung including SCW, CCW and Service Air piping systems. All piping appears to be welded piping.
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
Panel is essentially shielded by block wall on which it is mounted.

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-1-67-E-LC-PD15

Equipment Class: 14

Equipment Description: 125V DC Distribution Panels

Comment:

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/14/2012

DRC

DTR

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-96-E-PNL-1CC1

Equipment Class: 20

Equipment Description: Main Control Boards (Console)

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-VB1

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 bent, broken, 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? Y
No cracks observed in the area that could be viewed. Carpet in the control room was not pulled up.
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
Suspended ceiling is hung by a braced unistrut system. The lighting over the control consoles and vertical boards are independently hung. The HVAC duct is braced and the registers are independently rod hung. No masonry walls.
9. Do attached lines have adequate flexibility to avoid damage? Y
Cables come up through the floor. Adequate flexibility.
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-1-96-E-PNL-1CC1

Equipment Class: 20

Equipment Description: Main Control Boards (Console)

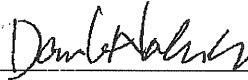
Comment:

The panel is welded to steel plates embedded in the concrete floor. The internal hardware is securely mounted.

The length and spacing of the welds to the embedded plates were confirmed by probing under the panel base cove. The existence of the welds joining the tab plates to the panel base channel was confirmed by locating the heat scorch marks on the inside face of the base channel

Evaluated by:

DKN



Date:

10/17/2012

SMM



10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-96-E-PNL-1VB1

Equipment Class: 20

Equipment Description: Main Control Boards (Vertical)

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-VB1

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
No signs of corrosion observed.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No cracks observed in visible areas. We did not pull up control room carpet.
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
Suspended ceiling is hung by a braced unistrut system. The lighting over the control consoles and vertical boards are independently hung. The HVAC duct is braced and the registers are independently rod hung. No masonry walls.
9. Do attached lines have adequate flexibility to avoid damage? Y
Cables come up through the floor and have adequate flexibility.
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-1-96-E-PNL-1VB1

Equipment Class: 20

Equipment Description: Main Control Boards (Vertical)

Comment:

The panel is welded to steel plates embedded in the concrete floor. The internal hardware is securely mounted. The panel is bolted to the adjacent vertical board. The length and spacing of the welds to the embedded plates were confirmed by probing under the panel base cover. The existence of the welds joining the tab plates to the panel base channel was confirmed by locating the heat scorch marks on the inside face of the base channel.

Includes DC-1-09-E-S-SI-1-8923A-CS, DC-1-14-E-S-CCW-1-FCV-430-CS

Evaluated by:

DKN

Daniel Valenzuela 10/19/2012

Date:

SMM

Scott M. M... 10/19/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-96-E-PNL-HSP

Equipment Class: 20

Equipment Description: Hot Shutdown Panel

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-TRY11

Manufacturer, model, Etc. Westinghouse

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
The panel is anchored to a structural wide-flange frame by (4) 5/8" bolts both front and back. The outer flange of the wide-flange beam is anchored to the concrete floor slab by (6) 5/8" embedded studs both front and back. There are (2) additional anchor studs for the inner flange that are located opposite the (2) center studs both front and back which could not be seen (See drawing 443480-1).
3. Is the anchorage free of corrosion that is more than mild surface oxidation?
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
Anchorage is consistent with drawing 443480-1 and calculation sketch IS-04 sheet 41.
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
Conduit and HVAC ducting is rigidly supported. Room lighting is supported by ball and socket connections. Reinforced masonry wall has additional support both at the base and top.
9. Do attached lines have adequate flexibility to avoid damage? Y
Connections are rigid conduit.
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-1-96-E-PNL-HSP

Equipment Class: 20

Equipment Description: Hot Shutdown Panel

Comment:

Includes CCW Pump Control Switch DC-1-14-E-S-CCWP1-CSH which was reviewed.

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/14/2012

DRC

St R. Linn

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-96-M-PNL-PM-101

Equipment Class: 20

Equipment Description: Mechanical Panel No. PM-101(Component Cooling Water Supply Header Instrumentation)

Location: Building: Auxiliary

Floor El. 85

Room, Area: 1-PM-101

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 concrete wall consists (2) tabs that are welded to the back of the cabinet near the top and bottom corners and are bolted to Unistrut sections by 1/2" bolts and spring nuts. The Unistrut sections are in turn bolted to the concrete wall by (3) 1/2" expansion anchors. Y
3. Is the anchorage free of corrosion that is more than mild surface oxidation?
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? Y
Soft targets consist of runs of stainless steel tubing to the panel which run along the wall.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Overhead conduit and CCW piping are well supported. Room lighting is secured to wall-mounted Unistrut sections by ball and socket connections.
9. Do attached lines have adequate flexibility to avoid damage? Y
Tubing and panel mounted on common wall.
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
Minor housekeeping issues in room will not affect function of panel.

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-96-M-PNL-PM-101

Equipment Class: 20

Equipment Description: Mechanical Panel No. PM-101(Component Cooling Water Supply Header Instrumentation)

Comment:

Includes Flow Transmitter DC-1-14-I-T-FT-65 which was reviewed.

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/14/2012

DRC

D.R. Kim

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-96-M-PNL-PM-103

Equipment Class: 20

Equipment Description: Mechanical Panel No. PM-103(Steam Generator No. 1 Instrumentation)

Location: Building: Pipeway

Floor El. 85

Room, Area: 1-PM-103

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 anchors are present and securely fastened.
3. Is the anchorage free of corrosion that is more than mild surface oxidation? Y
Panel feet had recently been replaced and show no signs of corrosion.
4. Is the anchorage free of visible cracks in the concrete near the anchors? Y
No cracks are visible.
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
Drawings show 5/8" expansion bolts connecting back struts to mounting plate. As built conditions show normal 5/8" bolts. Judged to be ok due to equivalent capacities. Base anchors are (6) 5/8" bolts (3 on each side of panel).
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 sources for impact.
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, ceiling tiles, lighting, or masonry block walls. Piping above is mounted securely.
9. Do attached lines have adequate flexibility to avoid damage? Y
Flex conduit sheathing behind panel does not entirely cover interior wiring at connection, see photo on page 10. See Attachment 1 for disposition.
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
See question #9 notes.

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-96-M-PNL-PM-103

Equipment Class: 20

Equipment Description: Mechanical Panel No. PM-103(Steam Generator No. 1 Instrumentation)

Comment:

Includes subcomponent DC-1-04-I-T-PT-514.

Evaluated by: KTM

Date:

Keri Munn

10/23/2012

SMM

Scott Munn 10/22/12

Seismic Walkdown Checklist (SWC)

Diablo Canyon Power Plant, Unit 1

Equipment No. DC-1-96-M-PNL-PM-103

Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Conduit feeding into bottom of Panel No. PM-103 has a section of flexible conduit that has come loose at the connection. Insulated conductors are exposed.

Evaluation:

The purpose of the flexible conduit is to protect the insulated conductors from environmental and mechanical damage. Based on the FLOC data for the panel, environmental qualification is not required and the location of the conduit beneath the panel provides protection from mechanical damage. Based on the length and estimated weight of the flexible conduit, earthquake-induced motion should not result in damage to the cables.

Therefore, this condition does not impact the safe operation of DCCP, but the flexible conduit should be repaired.

Notification Required: Yes (50508675)

Evaluated by:	<u>William R. Hone</u>	<u>UNHS</u>	<u>01/27/12</u>
Reviewed by:	<u>Scott Miller</u>	<u>SXMA</u>	<u>10/22/12</u>

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-96-M-PNL-PM-185

Equipment Class: 20

Equipment Description: Mechanical Panel No. PM-185/Condensate Storage Tank Instrumentation

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-PM-185

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 concrete wall consists (2) tabs that are welded to the back of the cabinet near the top and bottom corners and are bolted to Unistrut sections by 1/2" bolts and spring nuts. The Unistrut sections are in turn bolted to the concrete wall by (3) 1/2" expansion anchors. Y
3. Is the anchorage free of corrosion that is more than mild surface oxidation?
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? Y
Soft targets consist of runs of stainless steel tubing to the panel which run along the wall.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Overhead conduit and cable trays are rigidly supported and form a ceiling over the panel related to items located above. Conduit junction boxes are conduit mounted.
9. Do attached lines have adequate flexibility to avoid damage? Y
Conduit is rigid and stainless tubing has adequate flexibility.
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-1-96-M-PNL-PM-185

Equipment Class: 20

Equipment Description: Mechanical Panel No. PM-185(Condensate Storage Tank Instrumentation)

Comment:

Includes Level Transmitter DC-1-16-I-T-LT-40 which was also reviewed.

Evaluated by:

TRK

Date:

Thomas R. Kipp

10/14/2012

DRC

D.P. Jr

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-96-M-PNL-PM-79

Equipment Class: 20

Equipment Description: Mechanical Panel No. PM-79(Reactor Level/Wide Range Pressure Instrumentation)

Location: Building: Auxiliary

Floor El. 85

Room, Area: 1-PM-79

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 floor slab consists of (3) 3/8" anchor bolts on either side. In addition, (2) tabs that are welded to the back of the cabinet near the top corners are bolted to a Unistrut section by 1/2" bolts and spring nuts. The Unistrut section is in turn bolted to the concrete wall by (3) 1/2" expansion anchors. Y
3. Is the anchorage free of corrosion that is more than mild surface oxidation?

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? Y
The panel only houses (4) transmitters and there are no soft targets except for the stainless steel tubing running to/from the panel. The tubing runs along the wall.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Piping, conduit and junction boxes are well supported. Room lighting fixtures are hung from pipe sections with robust hook or ball and socket connections.
9. Do attached lines have adequate flexibility to avoid damage? Y
All cabinet electrical connections are rigid conduit. Pneumatic lines are small diameter stainless steel tubing that are adequately flexible.
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-1-96-M-PNL-PM-79

Equipment Class: 20

Equipment Description: Mechanical Panel No. PM-79(Reactor Level/Wide Range Pressure Instrumentation)

Comment:

Includes Pressure Transmitter DC-1-07-I-T-PT-403 which was reviewed.

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/14/2012

DRC

DT Rhr

10/18/2012

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-99-I-PNL-RNO1A

Equipment Class: 18

Equipment Description: Process Control and Protection System - Process Control Racks

Location: Building: Auxiliary

Floor El. 128

Room, Area: 1-EAGLE21

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 consists of (4) 3/16" welds that are 2-1/2" long and spaced 6" on center both front and back.
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
Anchorage is consistent with drawings 050053-66.
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
Nearby panels also welded to false floor I-beams.
8. Are overhead equipment, distribution systems, ceiling tiles, and lighting, and masonry block walls not likely to collapse onto the equipment? Y
Overhead conduit and cable trays are rigidly supported. Room lighting is hung by threaded rod connected to Unistrut sections embedded in the ceiling.
9. Do attached lines have adequate flexibility to avoid damage? Y
Electrical connections at the top of the cabinet are rigid conduit.
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
Large overhead junction box is anchored to the ceiling by (4) 1/2" expansion anchors.

Seismic Walkdown Checklist (SWC)

Status: Y

Equipment ID No DC-1-99-I-PNL-RNO1A

Equipment Class: 18

Equipment Description: Process Control and Protection System - Process Control Racks

Comment:

*A upgraded internal structure supporting the controllers and other components has been designed and installed.
The new internal structure has been analyzed and seismically qualified.*

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/20/2012

DRC

J.R. In

10/21/2012

Attachment J
Unit 1: Area Walk-By Checklists

AWC Number	Number of AWC Checklist pages	Number of LBEs	Number of LBE pages
0-DFOVAULT	1	1	1
0-FCV-601	1	0	0
0-FP1	1	0	0
1-8700A	1	0	0
1-AFWP1	1	1	1
1-AFWP2	1	2	2
1-ASP1	1	0	0
1-BAT11	1	0	0
1-BFE-1	1	0	0
1-BFE4	1	0	0
1-BFS-31	2	2	2
1-BTC11	1	0	0
1-CCP1	1	0	0
1-CCP3	1	0	0
1-CCWHE	1	1	2
1-CCWP1	1	0	0
1-CCWST1	1	9	9
1-CP-35	1	1	1
1-CR-35	1	0	0
1-DEG-11	1	1	1
1-DEG-ES-11	1	0	0
1-E43	1	3	3
1-EAGLE21	1	0	0
1-EJ2	2	0	0
1-FCV-365	1	0	0
1-FCV-37	1	0	0
1-FCV-41	1	0	0
1-FCV-641A	1	0	0
1-FCV700	1	0	0
1-FWHRA38	1	0	0
1-HT-EH-29A	1	1	1
1-LCV-110	1	1	1
1-LCV-112B	1	2	2
1-LCV115	1	0	0

AWC Number	Number of AWC Checklist pages	Number of LBEs	Number of LBE pages
1-LD30	1	0	0
1-LPH47	1	0	0
1-LPH65	1	0	0
1-LT-102	1	0	0
1-MUWTP1	1	0	0
1-PD15	1	0	0
1-PM-79	1	1	1
1-PM-101	1	0	0
1-PM-103	1	3	3
1-PM-185	1	0	0
1-PNL-ARP	1	0	0
1-RHE1	1	1	1
1-RHRP2	1	0	0
1-RNAR-A	1	1	1
1-RNCI1	1	0	0
1-RV-3	1	2	2
1-RV-13	1	1	1
1-SFPHE1	1	0	0
1-SFPP1	1	0	0
1-SIP1	1	0	0
1-SSPS	1	0	0
1-SWHE1	1	0	0
1-TE117	1	0	0
1-TRY11	1	0	0
1-VB1	1	0	0

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

Area Walk-By Checklist (AWC)

Status Y

Location: Building: CPSE

Floor El. 85

Room, Area: 0-DFOVAULT

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

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

U-bolt on a pipe support #20 ~~DR~~ downstream of valve deg-0-25 has mild corrosion on the underside nuts. Other conduits and misc components were securely anchored. See Attachment No. 1 for disposition.

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

Lights anchored, conduits, uni- struts anchored. No HVAC or cable trays in the vault.

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

The components attached to the walls and ceiling were adequately secured, no adverse spatial interaction were noted.

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

Components in the room are securely anchored with adequate spacing.

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

No ignition source noted. DFO is in the tanks outside the vault.

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

None noted

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

The area is an underground vault (confined space), normally locked. The components in the area were securely fastened and no potential seismically induced system interactions were noted.

Comments

This area includes DC-0-21-M-PP-DFOTP2 and DC-0-21-P-FL-DFOTF2

Evaluated by:

SMM

Date:

[Signature]

10/19/2012

Jahangir

[Signature]

10/19/2012

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 0

Building: West Buttress Floor El. 77 Room, Row/Col: 0-DFOVAULT Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Diesel Fuel Oil (DFO) Vault 0-2, elev. 77 ft., corrosion was noted on one U-bolt on line number 2599, support number 20-85R.

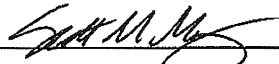
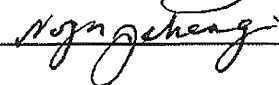
Evaluation:

This U-bolt anchors the 2" diameter DFO line #2599 to the three way support 20-85R, as shown in drawing number 049318, sheet 110B, section D. Note that this entire support drawing is shown in drawing 049318 sheets 107-109 and all series 110 sheets (A-J, X, and Y). Based on a visual inspection, there is no indication of reduction of cross sectional area on the U-bolt, and the corrosion is considered light. For these reasons, in the current condition the support is still capable of performing its intended function, and there is no impact to operation of the DFO system.

Recommendation:

To minimize future impacts, engineering recommends that coatings repairs be performed on this U-bolt.

Notification Required: Yes (50509119)

Evaluated by: SMM  10/19/2012
Reviewed by: NJ  10/19/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Intake

Floor El. ~8'

Room, Area: 0-FCV-601

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL Items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>No issues were identified.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>Anchorage of equipment appeared to be in good condition.</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <i>Conduit appeared to be adequately secured. No HVAC ducting in the area.</i> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>No seismic spatial interaction issues were identified.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| <i>No fire piping in the area.</i> | |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <i>No flammable sources in the area.</i> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| <i>Ladder leading up to the area was chained at the top to prevent it from toppling.</i> | |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |
| <i>No issues were identified.</i> | |

Comments

Evaluated by:

KTM

Date:

Ken Moore

10/15/2012

SMM

Scott M. Moore

10/15/2012

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary Floor El. 115 Room, Area: 0-FP1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>All anchorage appeared to be in good condition.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>No significant corrosion was found on any anchorage.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>HVAC ducting appears to be adequately secured.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>No potentially adverse spatial interaction issues were identified. A light was found to be chain hung at east end of room, but no safety related equipment was in the vicinity.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> <p style="margin-left: 20px;"><i>All fire water piping appeared to be adequately secured. No sprinklers in the area.</i></p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> <p style="margin-left: 20px;"><i>No credible sources that could cause a fire were identified.</i></p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> <p style="margin-left: 20px;"><i>All temporary equipment were stowed in proper locations and anchored to supports.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> <p style="margin-left: 20px;"><i>No issues were identified.</i></p> | Y |

Comments

Includes DC-0-18-M-PP-FP1.

Evaluated by:

KTM

Kei Mau

Date:

10/15/2012

SMM

Scott M. Mau

10/18/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 73

Room, Area: 1-8700A

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>All anchorage appeared to be in good condition.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>No degradation noted.</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <i>Ventilation duct is unsupported over approximately a 10 ft span. Judged not to have adverse affects due to fixed anchorage at both ends.</i> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>No seismic spatial interaction issues were identified.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| | |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <i>No credible sources were found.</i> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| <i>Adequate chains provided and installed on ladder storage area in the corner of the room.</i> | |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |
| <i>No issues.</i> | |

Comments

Evaluated by:

KTM

Keri Mow

Date:

10/15/2012

SMM

Scott M. Mow

10/13/2012

Area Walk-By Checklist (AWC)

Status **N**

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-AFWP1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL Items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>All anchorage appears to be free from adverse conditions.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>No degraded conditions were identified.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>The cable raceways and HVAC ducting are free from potentially adverse seismic conditions.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>No issues with equipment were identified.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> <p style="margin-left: 20px;"><i>Fire water piping line is cantilevered about 10 feet; with a sprinkler head clearance of about 2". The fire water piping could easily be pushed so that the sprinkler head could impact a nearby conduit. Line is located directly to the east of pump DC-1-03-M-PP-AFWP1. See Attachment 1 for disposition.</i></p> | N |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> <p style="margin-left: 20px;"><i>No credible sources for fire were identified. Hydrogen line appears to be well supported.</i></p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> <p style="margin-left: 20px;"><i>No temporary or portable equipment issues were found.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> <p style="margin-left: 20px;"><i>No other issues were identified.</i></p> | Y |

Comments

Includes DC-1-03-M-PP-AFWP1 and DC-1-04-P-V-MS-1-FCV-152.

Evaluated by:

KTM

Date:

10/23/2012

SMM

10/19/2012

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 100 Room, Row/Col: 1-AFWP1 Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

A potential seismically induced water spray interaction was noted for a fire sprinkler directly to the east of pump no. DC-1-03-M-PP-AFWP1. The gap between the connection for a sprinkler head at the end of a run of 1-1/2" sprinkler piping and a rigid iron conduit fitting is approximately 2 inches. Since the sprinkler piping is rod-hung, and the sprinkler head is at the end of an approximately 10 foot long branch line, seismically-induced swinging of the sprinkler piping could potentially result in an impact between the pipe connection or protective cage on the sprinkler head, and the conduit fitting.

Evaluation:

An assessment performed by Piping Design Engineering indicates that the predicted Hosgri seismic displacements for the sprinkler piping exceed the available clearance. Therefore, the pipe connection will potentially impact the conduit fitting during a large earthquake. The predicted stresses in the pipe connection associated with the postulated impact are significantly less than the allowable stresses, so the pipe will not be damaged.

However, since the sprinkler head is located very near the point of postulated impact, it is possible that the sprinkler head will be actuated, resulting in water spray in the turbine driven AFW pump room. The walkdown indicates that there is no safe shutdown electrical equipment within the spray zone.

Since the flooding analysis for the AFW pump rooms considers the water associated with actuation of the fire suppression system (which includes this sprinkler head), this condition is enveloped by the flooding analysis.

Note that the conduit fitting that could be impacted by the sprinkler piping is very robust, and well supported by the attached conduit and conduit supports, so the potential impact will not result in damage to the conduit system.

Therefore, the potential impact between the fire sprinkler piping and the conduit will not affect the safe operation of DCP.

Recommendations:

Consider adding lateral bracing on the sprinkler line to prevent potential impact with the conduit fitting.

Notification Required: Yes (50519442)

Evaluated by: wrh5 William R. Hone 10/17/12

Reviewed by: Alga Jahongji 10/19/12

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary Floor El. 100 Room, Area: 1-AFWP2

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|---|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <p><i>Sheet metal shroud over fire sprinkler has about 1/2" clearance from adjacent rod-hung HVAC duct. Differential displacement between the duct and fire sprinkler could cause the duct to impact the sprinkler shroud and break the sprinkler, causing flood and/or spray to nearby equipment. The HVAC duct is rigidly supported about 4' away from the sprinkler at a wall penetration. Review of the duct and firewater pipe support configuration indicates that these items are rigidly supported and will not displace significantly. See Attachment 1 for disposition.</i></p> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <p><i>2" hydrogen line with welded guard pipe runs overhead. Appears to be adequately supported.</i></p> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |
| <p><i>An electrical instrument on DC-1-03-M-PP-AFWP2-SWC is in contact with a small manual valve (FW-1-173). Both are rigidly supported and differential motion between the two is judged unlikely.</i></p> | |

Comments

Includes DC-1-03-M-PP-AFWP2. Leaking sprinkler line fitting noted on fire piping at north end of room. See Attachment 2 for disposition.

Evaluated by:

FFG

Date:

SMM

Fred Grant

Scott M. M...

10-24-12

10/19/2012

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 100 Room, Row/Col: 1-AFWP2 Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Sheet metal shroud over fire sprinkler has about 1/2" clearance from adjacent rod-hung HVAC duct. Differential displacements between the duct and fire sprinkler could cause duct to impact the sprinkler shroud and break the sprinkler, causing flood and/or spray to nearby equipment. The HVAC duct is rigidly supported about 4' away from the sprinkler at a wall penetration.

Evaluation:

The layout of this ducting in question is shown in drawings 59630 and 515668. The sprinkler head in question is located directly North of support # 20, underneath the 46"x14" duct run. There are three rigid duct support numbers 59360-19, 20, and 21 (see drawing 515668) that restrain the ducting in this area. Support # 19 anchors the duct to the nearby wall and support #'s 20 and 21 are axial supports on perpendicular sections of attached ducting. As shown in the duct support drawings, all of these supports act as anchors for the duct in the N-S direction. Therefore, the horizontal displacement of this duct in the N-S direction will be very small.

The firewater piping has a rigid support located within one foot of the end of the pipe where the sprinkler head is attached; therefore, the displacement of the firewater pipe at this location will also be very small. Since the clearance has been identified as about 1/2", and the differential displacement between the sprinkler head and the duct will be minimal, this is adequate clearance to allow for this displacement and not cause an interaction


Therefore, this condition is judged acceptable as is, and no interaction is possible.

References used in this evaluation:

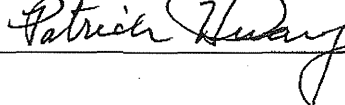
1. Dwg. 59360-1, Rev. 29, "Ventilation Plan El. 100'-0" Area K, GE, GW, & J"
2. Dwg. 515668-1, Rev. 2, "HVAC Duct Support Locations Plan Area K, GE, GW, & J El. 100'-0"
3. Dwg. 471431-1, Rev. 4, "HVAC Duct Support Location Orientation Index"
4. Dwg. 6000956-1547 to 1549, and 2024 to 2028, Rev. 1, "HVAC Duct Support Details"

Notification Required: No.

Evaluated by:

 S.M.M. 10/19/12

Reviewed by:

 Patricia Huang AWHH 10/19/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 100 Room, Row/Col: 1-AFWP2

Attachment 2, Page 1 of 1

Licensing Basis Evaluation

Issue:

Leaking sprinkler line fitting noted on fire piping at north end of room.

Evaluation:

The leak rate is very small and there is no sign of equipment damage from water at this time.

Therefore, this condition does not impact plant safety, but should be repaired.

Notification Required: Yes (50508618)

Evaluated by: *Scott M. [Signature]* 10/19/12

Reviewed by: *Patrick Huang* 10/19/12

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Intake

Floor El. -2.1

Room, Area: 1-ASP1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>No structural issues.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>No issues were identified.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>Conduit raceways and HVAC ducting appear to be adequately secured. See DC-1-23-M-BF-E-103 SWC for details on a nut that is not fully engaged. No structural issues to note.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>Spatial interaction issues have been addressed in DC-2-23-M-BF-E-103 SWC and DC-1-17-M-PP-ASP1 SWC.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> <p style="margin-left: 20px;"><i>No potential adverse seismic interactions were identified that could cause flooding or spraying.</i></p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> <p style="margin-left: 20px;"><i>No potential sources for fire in the area.</i></p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> <p style="margin-left: 20px;"><i>No temporary equipment in the area.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> <p style="margin-left: 20px;"><i>No other issues were identified.</i></p> | Y |

Comments

Includes DC-1-17-M-PP-ASP1 and DC-1-23-M-BF-E-103.

Evaluated by:

KTM

Keri Mow

Date:

10/24/2012

SMM

Scott M...

10/24/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 115

Room, Area: 1-BAT11

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>Battery racks are well anchored</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>No significant degradation</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <i>Conduit is well supported. HVAC duct is supported at the walls. Fire water piping is well supported.</i> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>Overhead lighting is hung by chains with closed hooks and has a safety chain.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| <i>No other items stored in the battery room.</i> | |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |
| <i>PA speaker is anchored to the wall.</i> | |

Comments

Includes DC-1-67-E-BT-BAT11.

Evaluated by:

DKN

Dambach

Date:

10/17/2012

DRC

JR

10/19/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-BFE-1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>No adverse seismic conditions were identified.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>Mild surface corrosion on DC-1-23-M-BF-E-1 skid and anchor bolts. Mild surface corrosion on backdraft dampers. No structural issues were identified.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>No HVAC ducting above the fan. Raceways in area are adequately supported.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>Lighting is rod hung with a ball and socket joint on one end and an S-hook on the opposite end of the fixture. Seismic interaction is judged to be incapable of damaging equipment or soft targets.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> <p style="margin-left: 20px;"><i>No fire water piping in the room.</i></p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> <p style="margin-left: 20px;"><i>No flammable sources were identified.</i></p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> <p style="margin-left: 20px;"><i>No temporary equipment in the area.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> <p style="margin-left: 20px;"><i>No issues were identified. Room relatively open with minimal sources.</i></p> | Y |

Comments

Includes DC-1-23-M-BF-E-1.

Evaluated by:

KTM

[Signature]

Date:

10/15/2012

SMM

[Signature]

10/16/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-BFE4

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) Y
Fan DC-1-23-M-BF-E-4 is the only equipment item in the room. Reviewed conduit, cable trays, instrument tubing, room lighting, HVAC ducting, and HEPA Filter system.
2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y
3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y
Conduit and HVAC ducting are rigidly supported.
4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y
Room lighting is either wall mounted or hung from the ceiling by pipe sections with ball and socket connections. HEPA filters are well restrained.
5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y
6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? Y
7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? Y
Area is clean.
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

Comments

Includes DC-1-23-M-BF-E-4.

Evaluated by:

TRK

Thomas R. Kipp

DRC

D. R. Curran

Date:

10/14/2012

10/18/2012

Area Walk-By Checklist (AWC)

Status ~~AY~~ *SMH*

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-BFS-31

SMH
11/19/12
KTM
11/20/12

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

Anchorage of backdraft dampers mounted to the wall have some bolts that have been sheared off, see photos on pages 6 and 7. 1 anchor bolt has been sheared off on each side of damper BD-59 for fan S-31 and 3 anchor bolts have been sheared off (2 on the left side facing the wall and 1 on the opposite side) for damper BD-60 attached to fan S-32. A post walkdown investigation yielded documents that validated the design basis for damper BD-59 and damper BD-60 in their as found conditions. Missing bolts had already been identified and resolved in A/R A0289408 for BD-59 and A/R A0289449 for BD-60, which validates the current state of the anchorage for both dampers. Drawing 663501-21 (Note 14) also mentions the missing studs from both BD-59 and BD-60 wall mounts.

Cracks are visible near fan belt shroud support. Judged to be ok. This is a dead load support and is not pertinent to the seismic capacity of the equipment itself.

Adhesion on 3 relay cable mounts have degraded. Not a seismic concern (does not affect fan operation nor is the cable a credible source). System engineer notified.

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

Frame between air filters and fan room are corroded. See Attachment 2 for disposition.

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

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

Lighting near filters are chain hung and could hit the filters during a seismic event, see photo on page 12. It is judged that the small weight of the lights would not have an adverse effect on the filters. This being said, the lights should be either removed or have the chain shortened for the purpose of good practice. See Attachment 1 for disposition.

AY SMH
11/19/12
KTM
11/20/12

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

Fire piping is well supported with no potential interaction effects near sprinkler heads.

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

No flammable piping or other items of concern in the area.

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

No temporary items in the area.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

Area Walk-By Checklist (AWC)

Status

N Y
SMM
11/19/12
KTM
11/20/12

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-BFS-31

Comments

Includes DC-1-23-M-BF-S-31.

Evaluated by:

KTM

Date:

Keri Mann

10/23/2012

SMM

SMM

11/19/2012

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 140 Room, Row/Col: 1-BFS-31 Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

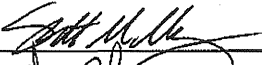
An overhead fluorescent light fixture was found resting against the S-31 Fan filter bank. This is a potential SISI issue, as the light fixture could swing into the filters in a seismic event.

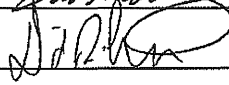
Evaluation:

The light fixture is attached to the ceiling with small chain. It is relatively lightweight and its shroud is very flexible. The filters are mounted on robust structural frames. It is judged that if the light fixture were to swing into the filter frames during a seismic event, since the light fixture is of lighter weight and thinner sheet metal type construction there would be minimal damage to the filter frame, and the function of the filters would not be impacted. Additionally, there would be no blockage of airflow from this light fixture.

Therefore, this condition does not impact the operation of DCP, but it is recommended that this light fixture be raised up to a level that is above the filter banks, similar to U-2 equivalent.

Notification Required: Yes (50509024)

Evaluated by: SMM  10/19/2012

Reviewed by: DRC  10/19/2012

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 140 Room, Row/Col: 1-BFS-31

Attachment 2, Page 1 of 1

Licensing Basis Evaluation

Issue:

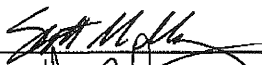
Corrosion was noted on abandoned structural steel members located along the north wall of this room. These frames are abandoned in place, and were originally installed to support auxiliary steam piping for heating the inlet air into the room. This piping has been removed.

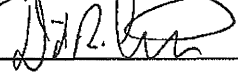
Evaluation:

There is no impact to the operation of DCP, since these frames are abandoned in place and no longer used. These structural steel members are near the filter banks for the S-31 fans; however, the location and amount of the corrosion does not impact their structural integrity during a seismic event (self weight only; no items are attached to these frames). Therefore, no SIS concerns exist.

The coatings on these frames should be repaired or they should be permanently removed since they are abandoned.

Notification Required: Yes (50509025)

Evaluated by: SMM  10/19/12

Reviewed by: DRC  10/19/12

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 115

Room, Area: 1-BTC11

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL Items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

The anchorage of components in the area do not show adverse conditions

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

No significant degradation observed

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

Conduit and cable trays are well supported. Lighting is conduit hung. It can sway but can maintain vertical load capacity.

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

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

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

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

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

PA speaker, warning light, and emergency light are supported and are unlikely to impact the essential equipment in the room even if the anchorage were to fail

Comments

Includes DC-1-65-E-LC-PY11, DC-1-65-E-UPS-IY11, DC-1-67-E-BTC-BTC11, and DC-1-67-E-LC-SD11.

Evaluated by:

DKN

Daniel J. ...

Date:

10/17/2012

DRC

D.J.R.

10/19/2012

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary

Floor El. 73

Room, Area: 1-CCP1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|---|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>No adverse anchorage conditions were seen.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>No corrosion was seen in the area.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>All overhead distribution systems appear to be adequately restrained. HVAC ducting and firewater piping are adequately restrained with seismic supports.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>Piping extending from pump is about 1" from monorail. Judged not to be a seismic concern due to the rugged supports of both the monorail and the piping.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> <p style="margin-left: 20px;"><i>Sprinkler cover is near a monorail support. Judged not to be an adverse seismic interaction issue due to the rugged supports near the proposed point of contact.</i></p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> <p style="margin-left: 20px;"><i>No flammable sources in the area.</i></p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> <p style="margin-left: 20px;"><i>Monorail crane had its chain securely stowed in a wall mounted box. No other temporary or portable equipment.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> <p style="margin-left: 20px;"><i>No issues.</i></p> | Y |

Comments

Includes DC-1-08-M-PP-CCP1 and subcomponent DC-1-08-M-PP-AP1.

Evaluated by:

KTM

Date:

Ker Moore

10/15/2012

SMM

[Signature]

10/18/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 73

Room, Area: 1-CCP3

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>All anchorage visible from floor appears adequate.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>No degraded conditions in the area.</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <i>Conduit in the area are anchored securely to the walls or ceiling.</i> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>No potentially adverse seismic spatial interactions in the area.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| <i>Fire piping is about 1/4" from conduit. Fire piping and conduit span about 8' between restraints. Seismic interaction is judged not to result in a rupture of the fire piping.</i> | |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <i>No sources in the room were identified.</i> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |

Comments

Includes DC-1-08-M-PP-CCP3.

Evaluated by:

KTM

Date:

Keri Murre

10/15/2012

SMM

SMM

10/13/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Turbine

Floor El. 85

Room, Area: 1-CCWHE

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

Reviewed room access monitor, room lighting, emergency lighting, reinforced masonry wall, fire water piping, SCW piping, cable trays, conduit, and junction boxes.

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

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

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

Virtually all components in the area have no soft targets or are located in places that preclude impact from falling hazards. The only credible falling hazard appears to be the fluorescent tubes in the room lighting fixtures but these are of no impact on the components of interest in this evaluation.

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

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

There are a few cases over the hallway area where the rigidly supported fire protection piping is in contact or in close proximity to larger fluid piping lines that are supported on rod-hung trapeze. It is judged that the relative displacements will be small. For disposition see Attachment 1.

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

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

Reinforced masonry wall includes additional reinforcement at base and at the top.

Comments

Includes DC-1-14-M-HX-CCWHE1, DC-1-14-E-P-VOM-CCW-1-FCV-430, DC-1-14-I-E-TE-6, DC-1-17-P-VOA-SW-1-FCV-602, and DC-1-25-M-TK-BUAS-602.

Evaluated by:

TRK

Date:

Thomas R. Kipp

10/14/2012

KA

A@Chaitanya

10/26/12

Area Walk By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Turbine Floor El. 85 Room, Row/Col: 1-CCWHE Attachment 1, Page 1 of 2

Licensing Basis Evaluation

Issue:

A potential source of seismically induced flooding was identified for Unit 1 CCW Heat Exchanger Room. Specifically, the clearance between an overhead thread-fitting fire water pipe and a service cooling water pipe may be insufficient to prevent physical interaction during an earthquake.

Assessment of As-Found Condition

The following assessment of the potential piping interactions are based on visual inspection of the piping systems (i.e. Fire protection and SCW piping and their support arrangement) and seismic engineering experience and judgment as described below.

The smaller 3" threaded fire protection piping may be impacted by the movement of the larger SCW piping (~10" diameter). However, it is judged that the anticipated movement of the SCW pipeline will be relatively small. This is because the SCW piping system consists of two identical lines, one on top of the other, that run through wall penetrations above the entrance doorway at one end, are supported by a two-level trapeze at an intermediate point not far from the potential impact point, and then bend to the south running through what appears to be a fire barrier rather than a concrete wall. Because of the supporting system configuration, the small gap (approx. 1/8") between the SCW and fire protection line, it is anticipated that the SCW piping will not be able to develop significant inertia and therefore the contact with the fire protection piping will be a low level impact. Although earthquake experience shows that the threaded FP piping may be susceptible to leakage due to severe pipe impacts; in this case any potential leakage is not anticipated to cause any damage to safety related components based on visual inspection of the area. Any potential spray onto the floor is anticipated to go through the floor drain and under the security door out of the room. Also the pit under the HX in which Safety related equipment is located is surrounded by a 6" curb. Therefore it is not expected that significant water will enter the Pit under the HX.

In conclusion the proximity of the FP piping to the SCW piping is not anticipated to create a condition that can cause seismic induced flooding concerns for components attached to the CCWHE (i.e. FCV-602).

The second noted anomaly was the contact between the same FP piping downstream at another location approximately 9' east of the above discussed location. However at this location the pipe is reduced to 1" and it is judged that the piping is flexible enough to deflect to accommodate vertical movements from the larger pipe above, and as such it is not anticipated to create a concern for safety related components.

The piping systems addressed here are all non-safety related and built to applicable FP code and or ASME b31.1 piping. The power piping (non-seismic) have generally performed well during earthquakes and as such their behavior is not of significant concern. As noted above the concern here has to do with threaded joint used in FP that may cause a leak due to deflection. In this case any potential leakage is not anticipated to cause damage to Safety related components and/or create flooding concerns in this area.

Area Walk By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Turbine Floor El. 85 Room, Row/Col: 1-CCWHE Attachment 1, Page 2 of 2

Notification Required: Yes (50509856)

Evaluated by: Patricia Huang 10/14/12

Reviewed by: A. U. Chantanga 10/14/12

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary

Floor El. 73

Room, Area: 1-CCWP1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|---|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>All anchorage appears to be in good condition.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>No corrosion is present.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>All HVAC and conduit are properly anchored.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>No issues were identified other than those already addressed in DC-1-14-M-PP-CCWP1 SWC.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> <p style="margin-left: 20px;"><i>Sprinkler head is less than 1/2" from pipe "vital HDR b clg wtr supply to CCW pump". Fire water piping and CCW piping are judged to be rigidly anchored and will not interact to cause spraying in the area.</i></p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> <p style="margin-left: 20px;"><i>No credible sources in the area.</i></p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> <p style="margin-left: 20px;"><i>A light fixture is chain hung and is touching the monorail support. It is judged to be incapable of damaging the support in a seismic event.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> <p style="margin-left: 20px;"><i>No other issues.</i></p> | Y |

Comments

Includes DC-1-14-M-PP-CCWP1 and subcomponent DC-1-20-M-PP-CCWAP1.

Evaluated by:

KTM

Keri Moore

Date:

10/15/2012

SMM

Scott Hubby

10/18/2012

Area Walk-By Checklist (AWC)

Status **N**

Location Building Auxiliary Floor/EI 163 Room/Area 1-CCWST1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- 1 Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) Y
Tank is outside on the roof. Reviewed CCW Surge Tank instrumentation and supports, chiller pumps and air separator and communication tower.
- 2 Does anchorage of equipment in the area appear to be free of significant degraded conditions? N
*Moderate corrosion on tank related instrumentation, instrumentation piping, and supports. For resolution see Attachment 3
 Base for chiller pump PP-170B is excessively corroded. For resolution see Attachment 1.*
- 3 Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g. condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? N/A
- 4 Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g. ceiling tiles and lighting)? Y
Communication tower appears well supported.
- 5 Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y
- 6 Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? Y
- 7 Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? Y
No housekeeping issues are noted.
- 8 Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y
*Chiller pump PP-170A is dripping water as is the pump discharge expansion joint. It appears this is from condensation.
 Significant corrosion was noted on Level Transmitter No. LT-116. See Attachment No. 2 for disposition.
 Significant corrosion was noted on Level Switch No. LS-321. See Attachment No. 4 for disposition.
 Significant corrosion was noted on CRPS duct support, NE of CCW Surge tank. See Attachment No. 5 for disposition.
 Through wall corrosion was noted on box for switch No. FS-5047. See Attachment No. 6 for disposition.
 Surface corrosion was noted on support baseplate for Pressure Indicator No's PI-2030 & PI-2033. See Attachment No. 7 for disposition.
 Surface corrosion was noted on support baseplate for Pressure Indicator No. PI-2031 and Pressure Transmitter No. PT-850. See Attachment No. 8 for disposition.
 Surface corrosion noted on numerous conduit clamps. See Attachment 9 for disposition.*

Comments

Includes DC-1-14-M-TK-CCWST1

Evaluated by	TRK	Date
	<i>Thomas K. Kuyper</i>	<i>10/25/2012</i>
	<i>D.R. Kim</i>	<i>10/23/2012</i>

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 163 Room, Row/Col: 1-CCWST1 Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Severe corrosion was noted on the mounting skid and anchorage for Centrifugal Chiller Pump No. PP-170B.

Evaluation:

The extent of corrosion is sufficient to compromise the structural integrity of the pump anchorage to the Auxiliary Building roof. However, since the pump is not safety related, and there are no vulnerable SISIP targets in the vicinity, failure of the pump's anchorage during a seismic event will not compromise the safe operation of DCP.

Repair/replace the mounting skid and anchorage for this pump, including repainting, as necessary.

Notification Required: Yes (50513394)

Evaluated by: William R. Stone 9/26/12

Reviewed by: [Signature] 10/22/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 163 Room, Row/Col: 1-CCWST1 Attachment 2, Page 1 of 1

Licensing Basis Evaluation

Issue:

Significant corrosion was noted on Level Transmitter No. LT-116 and its support..

Evaluation:

Per the FLOC data for this level transmitter, it is Design Class I, but is only seismically qualified for pressure boundary/structural integrity. Based on a visual examination, the corrosion is considered to be surface corrosion, so it will not impact the integrity of the transmitter during a seismic event.

Recommend that the transmitter and its support be prepared and recoated.

Notification Required: Yes (50513930)

Evaluated by:

Walter R. Hore

9/26/12

Reviewed by:

[Signature]

10/22/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 163 Room, Row/Col: 1-CCWST1 Attachment 3, Page 1 of 1

Licensing Basis Evaluation

Issue:

Significant corrosion was noted on several of the pipe supports associated with piping attached to the CCW surge tank.

Evaluation:

The pipe supports are safety related and seismically qualified. However, based on visual examination, this is surface corrosion and does not impact the structural integrity of the supports at this time.

Recommendations:

The appropriate design change vehicle is required to provide appropriate drainage paths to prevent the pooling of water in the supports.

Corroded areas should be prepared and recoated.

Notification Required: Yes (50514690 (Design Change), 50514351 (preparation and recoat))

Evaluated by: Walter R. Horl 10/22/12
Reviewed by: J.R. M 10/22/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 163 Room, Row/Col: 1-CCWST1 Attachment 4, Page 1 of 1

Licensing Basis Evaluation

Issue:

Significant corrosion was noted on Level Switch No. LS-321

Evaluation:

Per the FLOC data for this level switch it is Design Class I, but is only seismically qualified for pressure boundary/structural integrity. Based on a visual examination, the corrosion is considered to be surface corrosion, so it will not impact the integrity of the switch during a seismic event.

Recommend that the level switch be prepared and recoated.

Notification Required: Yes (50514350)

Evaluated by: Wen P. Ho 9/26/12
Reviewed by: J.P. Am 10/22/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 163 Room, Row/Col: 1-CCWST1 Attachment 5, Page 1 of 1

Licensing Basis Evaluation

Issue:

Significant corrosion was noted on a support for the Control Room Pressurization Duct, north-east of the CCW Surge Tank.

Evaluation:

The CRPS duct and supports are Design Class I and seismically qualified. Visual examination indicates that this is surface corrosion, and does not impact the structural integrity of the support at this time.

Recommend that the duct support be prepared and recoated.

Notification Required: Yes (50514691)

Evaluated by:

Wyn R. Hone

9/25/12

Reviewed by:

J. B. M.

10/22/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 163 Room, Row/Col: 1-CCWST1 Attachment 6, Page 1 of 1

Licensing Basis Evaluation

Issue:

Through-wall corrosion was noted on the box for Switch No. FS-5047, north-east of the CCW Surge Tank.

Evaluation:

The switch is Design Class I and seismically qualified for structural/pressure boundary integrity. However, the function of the box is to protect the switch from the environment, so the corrosion of the box will allow water to reach the switch, but will not impact the ability of the switch to perform its function at this time.

Recommend that the box be repaired or replaced and recoated.

Notification Required: Yes (50514692)

Evaluated by: William P. Howard 9/26/12
Reviewed by: A. R. [Signature] 10/22/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 163 Room, Row/Col: 1-CCWST1 Attachment 8, Page 1 of 1

Licensing Basis Evaluation

Issue:

Surface corrosion was noted on the base plate for the support for Pressure Indicator No. PI-2031 and Pressure Transmitter No. PT-850.

Evaluation:

The Pressure Indicator and Pressure Transmitter are Design Class I and seismically qualified for structural/pressure boundary integrity. Visual examination indicates that this is surface corrosion and will not impact the structural integrity of the support at this time.

Recommend that the support steel, including base plate, be prepared and recoated.

Notification Required: Yes (50514693)

Evaluated by:

William R. Ho

9/26/12

Reviewed by:

D. R. [Signature]

10/22/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 163 Room, Row/Col: 1-CCWST1 Attachment 9, Page 1 of 1

Licensing Basis Evaluation

Issue:

Surface corrosion was noted on the conduit clamps associated with numerous conduits on the roof to the east of the CCW Surge Tank.

Evaluation:

Based on the fact that the conduits are color-banded, they contain vital electric circuits. Therefore, the conduit supports are Design Class I. Visual examination indicates that this is surface corrosion and will not impact the structural integrity of the clamps at this time.

Recommend that the clamps be replaced.

Notification Required: Yes (50514743)

Evaluated by: Wm R. Horne 9/26/12
Reviewed by: J.R. M 10/22/12

Area Walk-By Checklist (AWC)

DEC 11/19/12

Status ~~N~~
Y

Location Building: Auxiliary

Floor El. 154

Room, Area: 1-CP-35

SAK 11/20/12

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

Reviewed conduit, fire water piping, refrigerant tubing (copper), room lighting, junction boxes, floor drain piping, HVAC ducting and motor driven fans, and cable trays. Fire water piping supported by a combination of rod hangers and rigid supports.

MOVE TO QUEST. 8

Dampers for fan S-36 (DC-1-23-P-D-VAC-1-MOD-12 and -MOD-12A) are cantilevered off the ventilation ducting. (2) channel sections weighing 19 lbs/ft were added at the top and bottom of the damper. See Attachment 1 for disposition.

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

DEC 11/19/12

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

DEC 11/20/12

Cable trays, conduit, and HVAC ducting all have rigid supports. Panels and junction boxes adequately anchored to racks, walls, or ceiling. Components on masonry wall employ through-bolts.

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

Room lighting employ ball and socket or embedded Unistrut connections to the ceiling.

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

One sprinkler head near the northwest corner of the room is touching the canvas wrapping for a duct. However, based on the support for the fire piping and the duct configuration at the contact point, it is judged that the contact will not result in breaking of the sprinkler head or loss of fire water from the pipe.

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

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

Temporary scaffold adjacent to the filter is properly restrained and the paperwork is current.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? N

There are numerous hair-line cracks in the floor which appear to be the result of floor vibration from the various rotating machinery located in the room. It appears that several of the cracks were at one time ground out to determine depth and extent of the cracking. These were refilled with some form of epoxy-grout mixture. None of these are related to anchorage installation.

~~N~~
N

DEC 11/20/12
DEC 11/19/12

INSERT FROM QUEST. 1

Comments

Includes DC-1-23-E-PNL-CRC1, DC-1-23-M-BC-CP-35, DC-1-12-M-BF-S-35, DC-1-23-P-D-VAC-1-MOD-10, DC-1-23-P-D-VAC-1-MOD-9, and DC-1-23-P-FL-FU39.

DEC 11/19/12

SAK 11/20/12

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/25/2012

DRC

[Signature]

10/25/2012

Area Walkdown Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 154 Room, Row/Col. 1-CP-35

Attachment 1 Page 1 of 1

Licensing Basis Evaluation

Issue:

Motor Operated Damper DC-1-23-P-D-VAC-1-MOD-12 was modified by adding structural steel channel stiffeners (approximately 19# per linear foot) on the top and bottom of the damper. The channel sections also extend to and stiffen the damper immediately adjacent to MOD-12 (DC-1-23-P-D-VAC-1-MOD-12A). Reference PG&E Drawing 59353 for a layout of the dampers. The concern is that the heavy channel stiffeners may adversely impact the seismic qualification of the ducting/duct supports associated with the MOD Dampers.

Evaluation:

A similar issue is identified for damper no. VAC-1-MOD-10 in SWC DC-1-23-P-D-VAC-1-MOD-10. As discussed in the License Basis Evaluation for VAC-1-MOD-10 (Attachment 1 of SWC DC-1-23-P-D-VAC-1-MOD-10) a review of the seismic qualification calculation for the ducting/duct supports associated with the MOD dampers (Calculation No. HV-86, Rev. 0) indicates that the additional mass of the channel sections was not considered in the qualification of the ducting/duct supports. A mark-up of the calculation was prepared to account for the extra mass (included with Attachment 1 of SWC DC-1-23-P-D-VAC-1-MOD-10). The mark up demonstrates that the ducting/duct supports would remain seismically qualified (with significant margin) if the additional mass from the channel stiffeners is considered.

Therefore, this condition has no impact on the safe operation of DCPD.

Recommendation:

Calculation HV-86 will require formal revision to account for the additional mass from the channel stiffeners.

Notification Required: No, but Notification No. 50519795, which was written for SWC-DC-23-P-D-VAC-1-MOD-10, tracks the revision to Calculation no. HV-86.

Evaluated by: ka A.K. Chantanya 10/24/12
Reviewed by: wrh Wm P. Hill 10/24/12

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary

Floor El. 154'

Room, Area: 1-CR-35

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|---|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>Reviewed room lighting, emergency lighting batteries, masonry wall, conduit, fire water piping, copper piping, and adjacent Class 2 Communication Room Chiller.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>Moderate corrosion exists on pneumatic actuators, copper tubing, copper piping and anchorage at various locations in the room</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>Conduit, and Piping (fire water and copper) are well anchored.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>Room lighting includes safety chains. Batteries for outside emergency lighting are supported by Unistrut members bolted to the concrete wall.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> | Y |

Comments

A relatively large number of sheet metal screws attaching the access cover plates for the Communication Room Chiller are missing (Class 2 component). Even so the access panel is adequately held in place.

Evaluated by:

TRK

Thomas R. Kipp

DRC

David R. C...

Date:

10/14/2012

10/18/2012

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Turbine

Floor El. 85

Room, Area: 1-DEG-11

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

Reviewed room lighting fixtures, emergency lighting, conduit, Halon system including signal lighting, crane rails, water piping, Class II air start compressor and supporting equipment, fire extinguishers, and speakers.

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

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

No HVAC ducting or cable trays in room. All electrical lines are contained within conduit which is well supported.

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

Room area lighting fixtures are restrained by a carabiner-like link to supporting structure bolted to the ceiling.

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

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

The Lube Oil and Fuel Oil systems contain combustible materials. The lube oil piping runs are short and adequately supported. The fuel oil is contained in a tank that is contained within the framework of the skid system. Again short piping runs are adequately supported.

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

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

Fire extinguisher near door rests in a wall bracket with one bolt into the concrete wall but is not restrained against uplift. Could potentially lift out of bracket if vertical acceleration is greater than 1g. Extinguisher could also fall if bracket is bent or if prying action causes anchor bolt to fail. Potential targets are the DEG Excitation Cubicle (approximately 2.5' away) and the Gauge Panel portion of the DEG Control Panel (approximately 4' away). For disposition see Attachment 1.

Comments

Includes DC-1-21-M-EN-DEG1, DC-1-21-E-PNL-GQD11, DC-1-21-E-PNL-SED11, DC-1-21-E-S-EQD-11, DC-1-21-M-MISC-IS1, DC-1-21-M-TK-AR1A, DC-1-21-P-FL-CAF1, DC-1-21-E-HT-LOH1, DC-1-21-M-HX-JWR1A, and DC-1-21-P-VOA-DEG-1-LCV-85.

Evaluated by:

TRK

Thomas R. Kyjko

Date:

10/25/2012

DRC

[Signature]

10/23/12

Area Walk By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Turbine Floor El. 85 Room, Row/Col: 1-DEG-11 Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

The support mounting configuration of the fire extinguisher located in Unit 1 EDG 1-1 room (FE-T85.02-1) may cause the fire extinguisher to dislodge from its support and fall to the concrete floor. Since the fire extinguisher contains pressurized gas, impact with the floor could damage the valve, nozzle, or regulator, resulting in the extinguisher becoming a self-propelled missile which could adversely interact with the adjacent safety-related Excitation Cubicle and DG Control Panel.

Evaluation of As-Found Condition

The fire extinguisher is supported per manufacturer design. It is hooked onto an "L" shape bracket which, in turn, is anchored to the concrete wall with multiple anchor bolts. The fire extinguisher is Design Class II and is not seismically qualified. Therefore, a seismic evaluation has not been performed for this mounting detail.

The fire extinguisher is located in the Emergency Diesel Generator (EDG) Room at elev. 85' in the Turbine Building. Per DCM C-17, Attachment B, the Zero Period Acceleration (ZPA) of the floor response spectra for this location is 0.54 g in horizontal direction and 0.5 g in vertical direction. Since the vertical acceleration is less than 1.0 g, the fire extinguisher will not uplift from its support. In addition, the horizontal acceleration at this elevation is not sufficiently large to cause rocking motion severe enough for the fire extinguisher to be dislodged from its support. Therefore, it is unlikely that the fire extinguisher will become dislodged from its support, impact the concrete floor and become a missile that could impact the Excitation Cubicle or Control Panel during a seismic event.

Based on the above assessment, the fire extinguisher is adequately restrained.

Recommendation: Acceptable as-is.

Notification Required: No

Evaluated by: WRH William R. Howe 10/23/12
Reviewed by: A. K. Pratyay 10/23/12

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Turbine

Floor El. 107

Room, Area: 1-DEG-ES-11

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|-----|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>Room is virtually empty. Masonry walls are reinforced and seismically qualified.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | N/A |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>Lighting fixtures are adequately restrained from falling into jacket water radiator air flow straightener.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |

Comments

Includes DC-1-21-M-MISC-ES1.

Evaluated by:

TRK

DRC

Thomas R. Kijja
D. R. Kijja

Date:

10/14/2012

10/18/2012

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary Floor El. 163 Room, Area: 1-E43

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>Some minor surface corrosion on the base plates of the supports for the back draft damper and exhaust duct. Surface corrosion observed on the back draft damper body and on the bolts connecting the duct to the fan. The corrosion on the backdraft dampers is already addressed in SWC DC-1-23-M-BF-E-43.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>Surface corrosion observed on anchor bolts for adjacent duct supports. Surface corrosion observed on duct leavg the Turbine Bldg. See Attachment No. 3 for disposition.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>Surface corrosion on conduit clamps holding conduit to the roof deck.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>No credible interaction sources.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> <p style="margin-left: 20px;"><i>No likely flood sources. The CCW Surge Tank is designed for seismic loading.</i></p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> <p style="margin-left: 20px;"><i>No likely fuel sources.</i></p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> | Y |

Comments

Includes DC-1-23-M-BF-E-43, DC-1-23-M-BF-S-43, and DC-1-23-P-D-VAC-1-FCV-5045.

Insulation on copper pipe feeding air conditioning unit AC-434 is degraded. See Attachment No. 1 of disposition. Conduit clamps holding floor mounted conduit and expansion anchors show surface corrosion. See Attachment No. 2 for disposition.

Evaluated by:

DKN

[Signature] Date: 10/24/2012

DRC

[Signature] 10/23/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 163 Room, Row/Col: 1-E43 Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Loose/degraded insulation on copper refrigerant lines associated with Air Conditioning Unit AC-434.

Evaluation:

The affected Air Conditioning unit is not safety related and not seismically qualified. Therefore, this condition does not impact the safe operation of DCP.

Recommendations:

Repair/replace insulation.

Notification Required: Yes (50510495)

Evaluated by:

Wynn A. Hone

9/4/12

Reviewed by:

[Signature]

10/22/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 163 Room, Row/Col: 1-E43

Attachment 2, Page 1 of 1

Licensing Basis Evaluation

Issue:

Corrosion on HVAC ducts and duct supports, including base plates and anchor bolts, in the vicinity of Fan No. 1-E43.

Evaluation:

The ducts and duct supports are safety related and seismically qualified. Based on visual inspection, the condition is surface corrosion and does not impact the structural capacity of these components at this time.

Recommendations:

Prepare and recoat ducts and duct supports.

Notification Required: Yes (50514796)

Evaluated by: _____

W. R. Hore

9/26/12

Reviewed by: _____

[Signature]

10/22/12

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary

Floor El. 128

Room, Area: 1-EAGLE21

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|---|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?
<i>No degraded anchorage observed.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?
<i>Conduit, cable trays, and ducts are well supported.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?
<i>Some overhead lights are hung with 3/8" threaded rod anchored to a spring nut in a unistrut embedded in the concrete slab above. Other lights are hung with chains with closed s hooks</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?
<i>No likely flood or spray sources. Fire protection in this room is provided by a Cardox system.</i></p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?
<i>No portable or temporary items noted.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> | Y |

Comments

Includes DC-1-36-I-PNL-RNP1A, and DC-1-99-I-PNL-RNO1A.

Evaluated by:

DKN

Daniel Johnson

Date:

10/17/2012

DRC

D. R. ...

10/19/2012

Area Walk-By Checklist (AWC)

Location: Bldg. Auxiliary Floor El. 100' Room, Area¹³ 1-EJ2

Instructions for Completing Checklist

This checklist may be used to document the results of the Area Walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of the checklist for documenting other comments.

1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Y
 Note: see "Comments" section of AWC for definition of sides:
 - West Side: There is no equipment in this area, but the massive Fuel Transfer Tube radiation shield blocks, anchored to the concrete walls, do not exhibit any adverse conditions.
 - East Side: There is not equipment at the bottom of the fuel transfer canal that is in-scope of the seismic walkdowns.

2. Is anchorage of equipment in the area appear to be free of significant degraded conditions? Y
 - West Side: The anchorage for the Fuel Transfer Tube radiation shield blocks shows signs of minor surface corrosion, but is acceptable.
 - East Side: There is not equipment at the bottom of the fuel transfer canal that is in-scope of the seismic walkdowns.

3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y
 - West Side: There are several conduits attached to the ceiling in this area which visually appear to be adequate. There are no HVAC ducts in this area.
 - East Side: There are various HVAC ducts and electrical conduits located above the Fuel Transfer Canal that are attached to the underside of the roof of the Fuel Handling Building Steel Superstructure. These items are free of adverse seismic conditions.

4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y
 - West Side: There is one light fixture in this area, but there are no targets located near the fixture that could be affected by spatial interactions. There Fuel Transfer Tube radiation shielding is adequately anchored to the concrete to prevent spatial interaction.
 - East Side: There are no ceiling tiles in this area, but there various light fixtures, HVAC ducts, and electrical conduits located above the Fuel Transfer Canal that are attached to the underside of the roof of the Fuel Handling Building Steel Superstructure. In addition, the reach rod for the Fuel Transfer Tube 20" dia. gate valve (SFS-1-50), is attached to the west wall of the Fuel Transfer Canal. These items appear to be adequately supported to prevent spatial interaction.

5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y
 - West Side: The Fuel Transfer Tube, which is filled with water during fuel handling operations, is the only fluid containing pipe in the area. This is a Design Class I, seismically qualified pipe, and is designed to not break and leak during a seismic event.
 - East Side: There are no fluid-containing piping systems in this area, other than the pipe used to fill the Fuel Transfer Canal. Since the Fuel Transfer Canal is designed to be filled with water during fuel handling activities, flooding is not an issue.

¹³ If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of 35 feet from the SWEL item.

Area Walk-By Checklist (AWC)

Location: Bldg. Auxiliary Floor El. 100' Room, Area¹³ 1-EJ2

6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? Y
- West Side: There are no systems containing flammable liquids or gases in this area.
 - East Side: There is hydrogen piping (yellow) running along the west wall of the fuel handling area. These pipes are well supported and should not be damaged during an earthquake.
7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of equipment, and temporary installations (e.g., scaffolding, lead shielding)? Y
- West Side: Several sand bags were noted sitting on the floor. They do not present a seismic interaction threat.
 - East Side: No issues noted.
8. Have you looked for and found no other seismic conditions that could adversely affect the safety function of the equipment in the area? Y

Comments (Additional pages may be added as necessary)

This AWC applies to the area around the Fuel Transfer Tube (FTT) expansion joint, which is divided into two sub-areas (see figure on sheet 3):

- West (Seismic Gap Side) - this is a small empty room in the Auxiliary Building, located between the west wall of the Fuel Handling Area of the Auxiliary Building and the exterior shell of the Containment Structure. This is the location where the walkdown of the expansion joint was performed (SWC no. DC-1-42-M-EJ-FTC-1-EJ2).
- East (Fuel Transfer Canal Side) - this is a 40 foot deep, narrow channel adjacent to the Spent Fuel Pool, with the expansion joint located at the bottom of the canal (elev. 99'-6"). This area is currently dry, but is not readily accessible, so the inspection was performed from the floor at elev. 140' and from the Fuel Handling Building crane access platform above elev. 140'.

Evaluated by: wrh William R. Hone Date: 10/23/12
SAMG [Signature] 10/23/12

¹³ If the room in which the SWEL item is located is very large (e.g., Turbine Hall), the area selected should be described. This selected area should be based on judgment, e.g., on the order of 35 feet from the SWEL item.

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 85

Room, Area: 1-FCV-365

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL Items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) Y
2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y
3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y
4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y
5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y
6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? Y
7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? Y
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

Comments

Includes DC-1-14-P-VOA-CCW-1-FCV-365 and DC-1-09-P-VOM-SI-1-8805A. Emergency lighting has no cable but it has been analyzed as-is.

Evaluated by:

FFG

Date:

10-19-12

SMM

10/22/12

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Pipeway

Floor El. 124

Room, Area: 1-FCV-37

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|-----|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>Anchorage in the area appears to be in good condition.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>Mild corrosion was found on some anchorage. Judged to be ok.</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | N/A |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>No seismic interaction issues.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| <i>The area is free of potential adverse seismic interactions that could cause flooding or spray.</i> | |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <i>No credible sources that could cause a fire in the area.</i> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| <i>No temporary equipment in the area.</i> | |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |
| <i>No issues were identified.</i> | |

Comments

Includes DC-1-04-P-VOM-MS-1-FCV-37. Valve MS-1-2017 appears to be leaking steam. (REF. SAPN 50510827)

Evaluated by:

KTM

Date:

Keris Moore

10/15/2012

SMM

Scott M. Moore

10/13/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Pipeway

Floor El. 115

Room, Area: 1-FCV-41

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) Y
2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y
3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y
4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y
5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y
6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? Y
7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? Y
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y


Floor grating in area is generally well attached to structure.

Comments

Includes DC-1-04-V-MS-1-FCV-41.

Evaluated by:

FFG



SMM



Date:

10-16-12

10/22/12

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary Floor El. 62 Room, Area: 1-FCV-641A

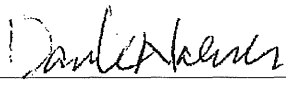

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL Items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|---|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>Piping and RHR pump 1-1 are well supported</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>No significant degradation observed.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>Duct and conduit are well supported</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>Lighting is conduit hung with a ball and socket connection at the ceiling. No interaction issues.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> <p style="margin-left: 20px;"><i>No likely sources</i></p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> <p style="margin-left: 20px;"><i>No concerns. Extension cords are restrained to steel support by cable ties. Crane hoist chains are restrained.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> | Y |

Comments

Includes DC-1-10-P-VOM-RHR-1-FCV-641A

Evaluated by:	<u>DKN</u>	Date:
		10/17/2012
	<u>SMM</u>	
		10/19/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-FCV700

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

Reviewed piping, conduit, cable trays, junction boxes, and area lighting.

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

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

Piping, conduit and cable trays are rigidly supported. Some piping in the area is rod-hung and flexible, but no safety related components are underneath. Wall mounted junction boxes are small and adequately supported. Room lighting fixtures are hung by chains.

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

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

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

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

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

All conduit runs connected to both the Reactor Building wall and the Auxiliary Building room ceiling have flexible connections.

Comments

Includes DC-1-23-P-VOS-VAC-1-FCV-700.

Evaluated by:

TRK

Thomas R. Kipp

DRC

W. R. [Signature]

Date:

10/14/2012

10/18/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 115

Room, Area: 1-FWHRA38

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>See DC-1-18-F-HR-FW-120-A38-1 SWC for loose anchorage. All other anchorage in the area appears to be in good condition.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>No degraded conditions were identified.</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <i>HVAC ducting and raceways in area appear to be adequately secured.</i> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>See DC-1-18-F-HR-FW-120-A38-1 SWC for interaction with fire hose reel and valve. No other interaction issues were identified.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| <i>See DC-1-18-F-HR-FW-120-A38-1 SWC for issues about fire hose reel anchorage and seismic interaction with the valve.</i> | |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <i>No credible sources that could cause a fire were identified.</i> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| <i>Area is free of SI targets where temporary equipment was kept. Tool boxes in area were removed while performing inspections.</i> | |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |
| <i>No other issues were identified.</i> | |

Comments

Includes DC-1-18-F-HR-FW-120-A38-1.

Evaluated by:

KTM

Date:

10/15/2012

SMM

10/18/2012

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-HT-EH-29A

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>Reviewed room lighting, fire extinguisher, conduit, junction boxes, HVAC ducting, filters, and blowers. Three sides of the room and the ceiling are formed from sheet metal insulated panels that are connected at the seams.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>Base frame for blower 1S-150 located on the southeast corner has moderate surface corrosion with minor material loss. Minor surface corrosion on floor baseplates and anchor bolts in room. For disposition see Attachment 1.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>No cable trays in room and conduit is generally well supported.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>Lighting fixtures are supported from lighting conduit which is adequately anchored from the sheet metal panels that form the ceiling of the room.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)?</p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> | Y |

Comments

Includes DC-1-23-E-HT-EH-29A.

Evaluated by:

TRK

DRC

Thomas R. Kipp

DR

Date:

10/25/2012

10/23/12

Area Walk By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 100 Room, Row/Col: 1-HT-EH-29A Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Seismic support for Supply Fan 1S-150 has moderate surface corrosion.

Evaluation:

In its current condition this support can perform its intended design function as there is no appreciable metal degradation affecting structural capacity of the steel.

Recommendation:

The coating needs to be cleaned, inspected and repaired.

Notification Required: Yes (50511305)

Evaluated by: Patricia Huang 10/23/12

Reviewed by: JTR 10/23/12

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Pipeway Floor El. 115 Room, Area: 1-LCV-110

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

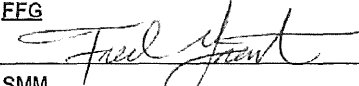
1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) Y
Some minor corrosion on conduit supports judged insignificant.
2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y
3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y
4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y
5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y
6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? Y
7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? Y
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y
Valve FW-1-200 appears to be significantly corroded (shown on page 6). Attachment 1 addresses the corrosion on valve FW-1-200.

Comments

Includes DC-1-03-P-VOH-FW-1-LCV-110 and DC-1-03-P-VOM-FW-1-LCV-106.

Evaluated by:

FFG



SMM



Date:

10-24-12

10/19/2012

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Pipeway Floor El. 115 Room, Row/Col: 1-LCV-110 Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:


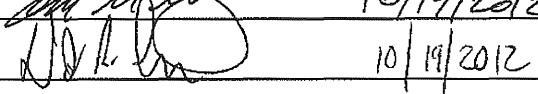
Valve no. *FW-1-200* appears to be significantly corroded. Requires further evaluation, cleanup, or repair.

Evaluation:

This valve is non-safety related (Design Class II/QA Class N), so the condition does not impact plant safety. 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 the 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 DCP, but should be cleaned and repainted.

Notification Required: Yes (50508517)

Evaluated by: 
Reviewed by: 

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary Floor El. 100 Room, Area: 1-LCV112B

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>Conduit, pipe, and valves are well supported.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>Only some minor surface corrosion on some valve supports.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>No cable trays. HVAC duct is braced. Conduit is well supported.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>Overhead lighting is restrained by a safety chain. Emergency lighting is wall mounted and restrained by a steel cable.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> | Y |

Comments

Includes DC-1-08-P-VOM-CVCS-1-LCV-112B, DC-1-08-VOM-CVCS-1-8104, and DC-1-08-P-VOA-CVCS-1-FCV-110A.

PG&E to evaluate the need for protecting the floor mounted transmitter FT 128. See Attachment 2 for disposition.

Phone hand set could fall and hit limit switches for CVCS-1-FCV-137. See Attachment No. 1 for disposition.

Evaluated by:

DKN

Date:

DRC

Daniel Salas 10/24/2012
D. R. C. 10/24/2012

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 100 Room, Row/Col: 1-LCV-112B Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Telephone handset could fall during an earthquake and impact limit switches for valve no. CVCS-1-FCV-137.

Evaluation:

SISIP Manual Appendix 5 (SISIP Target Valves and Instruments) indicates that valve no. CVCS-1-FCV-137 is not a SISIP target. Therefore, this potential interaction is exempt from the SISIP.

Notification Required: No.

Evaluated by: Wynn R. Howell 10/23/12

Reviewed by: St R. Luv 10/23/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 100 Room, Row/Col: 1-LCV-112B Attachment 2, Page 1 of 1

Licensing Basis Evaluation

Issue:

Floor mounted transmitter no. FT-128 is vulnerable to impact from foot traffic or moving tools.

Evaluation:

FT-128 is Design Class I and Seismically Qualified. Based on a PIMS search of Action Requests and a SAP search of Notifications related to this component, there is no evidence that the transmitter has been impacted or damaged in the past due to its exposed location.

Therefore, this issue does not represent a problem with the configuration of the plant.

Recommendations:

No action required.

Notification Required: No.

Evaluated by: wrh William R. Horne 10/12/12
Reviewed by: DRC D.R. Linn 10/22/12

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 115

Room, Area: 1-LCV115

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) Y
All anchorage in the area appears to be in good condition.
2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y
No corrosion or other degradation was identified in the area.
3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y
All cable/conduit raceways are properly anchored. No trays appear overfilled.
4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y
Fire water line is 1/2" from a pipe hanger on Steam Generator Blowdown piping. Pipe support has been etched out in order to gain adequate clearance. Not judged to be an issue due to the robust restraints of both the fire water piping and the pipe support frame.
5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y
All the fire piping looks to be adequately secured with no interaction issues. See question 4 notes for more detail.
6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? Y
Two hydrogen lines in area appear to be adequately secured.
7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? Y
Mobile cart (rad monitor) has its wheels locked with a stopper under one of the wheels. Ladders have been properly stowed in a designated ladder storage area. Air monitor is small and located >5 ft from any targets.
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y
No issues were identified.

Comments

Evaluated by:

KTM

Date:

10/18/2012

SMM

10/22/12

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 115

Room, Area: 1-LD30

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>All anchorage appears to be in good condition.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>No corrosion is present.</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <i>All cable/conduit raceways and HVAC ducting appear to be properly secured.</i> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>Lights are rod hung and could impact conduit and cable trays. Judged to be incapable of damaging either the conduit or the cable trays. Ball and socket type joints restrain lights from falling.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| <i>No fire water piping in the area.</i> | |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <i>No credible sources that could cause a fire were found.</i> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| <i>No temporary equipment in the area.</i> | |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |
| <i>No issues were identified.</i> | |

Comments

Includes DC-1-04-LD30.

Evaluated by:

KTM

Xeri M...

Date:

10/15/2012

SMM

SMM

10/18/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-LPH47

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>All anchorage appears to be in good condition.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>No corrosion was identified in the area.</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <i>All conduit and HVAC ducting appear to be properly secured.</i> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>Lights are rod hung and are incapable of damaging nearby equipment or conduit. No ceiling tiles in the area.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| <i>No fire water piping in the area.</i> | |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <i>No credible sources could cause a fire were found.</i> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| <i>No adverse seismic interaction conditions were found related to temporary equipment.</i> | |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |
| <i>No issues were identified.</i> | |

Comments

Includes DC-1-13-SFPPTS.

Evaluated by:

KIM

Xenon Moore

SMM

[Signature]

Date:

10/15/2012

10/18/2012

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-LPH65

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

Reviewed conduit, cable trays, junction boxes, room lighting, emergency lighting, nearby panels, emergency lighting batteries, speaker, and masonry wall.

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

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

Conduit and cable trays are rigidly supported. Cable tray load acceptable.

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

Room lighting, emergency lighting, and emergency lighting batteries are well supported.

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

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

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

Room is clean.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

Comments

Includes DC-1-21-LPH65.

Evaluated by:

TRK

Thomas R. Kipp

DRC

D.P. [Signature]

Date:

10/14/2012

10/18/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 115

Room, Area: 1-LT-102

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

Reviewed room lighting, overhead piping, cable trays, conduit, and junction box. All appear to be adequately restrained.

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

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

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

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

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

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

Wooden box on floor just below the transmitter constitutes a housekeeping issue. Box has since been removed. Other carts in area are restrained.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

Comments

Includes DC-1-08-I-T-LT-102.

Evaluated by:

TRK

Thomas R. Kipp

DRC

D.R. Curran

Date:

10/14/2012

10/18/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-MUWTP1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>Adjacent pump appears adequately anchored.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>No significant degradation observed in pipe supports and pump anchorage.</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <i>Piping and conduit in the area are well supported.</i> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>Lighting is wall mounted and adequately anchored.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <i>No likely sources.</i> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| <i>Good housekeeping in the area. Firewater manual valve hand wheel chains are restrained to prevent swinging.</i> | |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |

Comments

Includes DC-0-16-M-PP-MUWTP1. Area is adjacent to AFWP 1-1

Evaluated by:

DKN

[Signature]

Date:

10/17/2012

SMM

[Signature]

10/19/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Turbine

Floor El. 85

Room, Area: 1-PD15

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|---|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>Reviewed adjacent panels, conduit, large and small diameter piping, room lighting fixtures, and cable trays. There are a lot of class 2 systems overhead. The Service Air piping is uniformly supported.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>Cable trays are rigidly supported from the ceiling and piping is rod or spring hung.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>Room lighting fixtures are secured to a suspended Unistrut beam by ball and socket connections which constitutes a very flexible system (conduit stiffens one end of fixture). Lighting will certainly impact adjacent piping and may impact PD25 and/or MCC 221 should they fall. However, the likely failure will be falling of the fluorescent bulbs which may be jarred loose. Such a failure will have no impact on the panels.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> | Y |

DRC 10/10/12
TRK 10/20/12

Comments

Includes DC-1-67-E-LC-PD25.

Evaluated by:

TRK

Thomas R. Kipp

DRC

D.R. Kipp

Date:

10/14/2012

10/18/2012

DEC 11/11/12

Area Walk-By Checklist (AWC)

Status *NY*

Location: Building: Auxiliary Floor El. 85 Room, Area: 1-PM-79

JRC 11/20/12

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) Y
Reviewed piping, conduit, junction boxes, room lighting, wall panels, adjacent panel, sample station, sink and work area, storage cabinet, floor mounted panels, fire extinguisher, and gas bottle.
- 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Y
Clean environment.
- 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Y
Piping, conduit, HVAC ducting are all well supported. Room lighting is adequately hung. Fire extinguisher and gas bottle are properly restrained.
- 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y
- 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? Y
- 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? Y
There are a number of combustible items related to the housekeeping items. The potential for fire will be essentially eliminated if the housekeeping issues are resolved. For disposition see Attachment 1.
- 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? *NY*
It appears that many of the items in the room may not be safety related. However there are numerous housekeeping issues in the room, some in the vicinity of safety related items. These include unrestrained spare vessel for A/C unit, unrestrained garbage cans, box of "bad" fluorescent light tubes, unrestrained battery light on unrestrained cabinets (required to be 12" horizontally and 3" vertically from any component), unrestrained equipment on wheels, broom and unrestrained bench behind panel. For disposition see Attachment 1. *DEC 11/19/12
JRC 11/20/12*
- 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

Comments

Includes DC-1-96-M-PNL-PM-79.

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/25/2012

DRC

[Signature]

10/23/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 85 Room, Row/Col: 1-PM-79 Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Various loose/unrestrained items were found in the Post-LOCA Sampling Room, including garbage cans, spare vessel for A/C unit, a box of used fluorescent tubes, flashlight, cabinet, barrel, wheeled equipment, etc.

Evaluation:

SISIP Manual Figure 07 indicates that the Post-LOCA Sampling Room is Target Area No. GW-85-03. The corresponding targets are identified in the associated table. Based on the locations of the unrestrained items, and the vulnerability of the targets (PM-78, PM-79, tubing, conduits, etc.), the unrestrained items do not present a hazard to the targets.

However, the condition is not in conformance with AD4.ID3 (SISIP Housekeeping Activities) and should be resolved by the Area Owner.

Notification Required: Yes (50513512)

Evaluated by: _____

William R. Horn

10/23/12

Reviewed by: _____

DRC

DRC

10/23/12

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary Floor El. 85 Room, Area: 1-PM-101

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>Reviewed piping including large diameter CCW piping, conduit, stainless steel tubing, room lighting and minor housekeeping items.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>Piping, including large diameter CCW piping is well supported. Conduit is rigidly supported and room lighting is supported by ball and socket connection to wall-mounted Unistrut sections.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> <p style="margin-left: 20px;"><i>Spare fluorescent tubes are propped against panel PM-101. Boxes of equipment are sitting on restrained push cart. Neither will affect function of items in the room.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> | Y |

Comments

Includes DC-1-96-M-PNL-PM-101.

Evaluated by:

TRK

DRC

Thomas R. Kipp
Del R. ...

Date:

10/14/2012
10/18/2012

Area Walk-By Checklist (AWC)

Status NY *SMM*
11/19/12
KTM
11/20/12

Location: Building: Pipeway Floor El. 85 Room, Area: 1-PM-103

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|---|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?
 <i>Surface corrosion was seen on some anchor bolts. Security grating also shows signs of corrosion, see photos on pages 3 and 9. Currently no safety issues to note. See Attachment 1 for resolution of security grating corrosion.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?
 <i>Surface corrosion is present on some of the conduit anchor bolts. No HVAC ducting in the area.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?
 <i>No ceiling tiles and nearby lights are mounted to the walls.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?
 <i>No temporary equipment in the area.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?
 <i>Corrosion of bldg strn to fans s-1, s-2 & s-3 piping near anchor points, see photos on pages 4 through 6 (See Attachment 2 for resolution). Found to be non-safety related piping. A separate pipe had its insulation touching grating, see photo on page 7; pipe was found to be abandoned in place (See Attachment 3 for resolution). No seismic interaction concerns to note.</i></p> | Y |

NY *SMM*
11/19/12
KTM
11/20/12

Comments

Includes DC-1-96-M-PNL-PM-103 and subcomponent DC-1-04-I-T-PT-514.

Evaluated by: KTM *Keri Munn* Date: 10/23/2012
SMM *Scott Munn*

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Pipeway Floor El. 85 Room, Row/Col: 1-PM-103 Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

General area corrosion on the architectural security grating was noted.

Evaluation:

Current condition is still stable, and will not fail during an earthquake, but could become unstable in the future if not repaired.

Therefore, this condition does not impact the safe operation of DCP, but the grating should be cleaned and recoated.

Notification Required: Yes (50509101)

Evaluated by: SMM [Signature] 10/19/2012

Reviewed by: DRC [Signature] 10/19/2012

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Pipeway Floor El. 85 Room, Row/Col: 1-PM-103 Attachment 2, Page 1 of 1

Licensing Basis Evaluation

Issue:

Supports and exposed portions of piping labeled "Building Stm to Fans S-1, S-2 & S-3" is severely corroded. Piping runs over the top of PM-103.

Evaluation:

The pipe is line no. K-3104 (ref. drawing nos. 102023, sheet 9 and 102006, sheet 5) and is non-safety related. Current condition is still adequately supported for seismic and will not fail in such a way as to damage SISIP targets in the area.

Therefore, this condition does not impact the safe operation of DCP, but the piping/pipe supports should be cleaned and recoated.

Notification Required: Yes (50509106)

Evaluated by: SMM [Signature] 10/19/2012
Reviewed by: DRC [Signature] 10/19/2012

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Pipeway Floor El. 85 Room, Row/Col: 1-PM-103 Attachment 3, Page 1 of 1

Licensing Basis Evaluation

Issue:

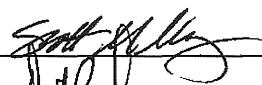
The insulation on piping labeled "Pkg Blr 0-2 Stm Outlet" is in contact with Architectural/Security Grating. Piping runs over the top of PM-103.

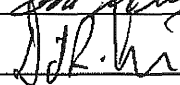
Evaluation:

The pipe is line no. 5383 (ref. drawing no. 102006, sheet 3A) and is non-safety related. Current condition is still adequately supported for seismic and impact between the pipe and grating will not fail in such a way as to damage SISIP targets in the area.

Therefore, this condition does not impact the safe operation of DCP, but the grating should be trimmed to provide adequate clearance.

Notification Required: Yes (50509160)

Evaluated by: SMM  10/19/2012

Reviewed by: DRC  10/19/2012

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-PM-185

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|---|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p><i>Reviewed conduit, junction boxes, cable trays, piping and valves, room lighting, fire hose station, and test equipment box.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p><i>Valves in room are pipe mounted manual valves.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p><i>Cable trays and conduit are rigidly supported. Junction boxes are conduit mounted and wall mounted. Piping, except for fire water piping is generally rod hung. Fire water piping is rigidly supported.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p><i>Room lighting is either wall mounted or rod hung with ball and socket connection.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> <p><i>Area is clean except for temporary ladder.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> <p><i>Hose station is adequately bolted to wall and has a pivot mounting. Equipment cabinet is properly anchored.</i></p> | Y |

Comments

Includes DC-1-96-M-PNL-PM-185.

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/14/2012

DRC

DRC

10/18/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 100'

Room, Area: 1-PNL-ARP

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>All visible anchorage to cabinets are in good condition.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>No degradation noted on any anchorage in the area.</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <i>Equipment in the area appear to be within acceptable limits.</i> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>No potential adverse seismic spatial interactions in the room.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| <i>There is no fire piping in the room.</i> | |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <i>No fire or explosion sources found in the room.</i> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| <i>There were no housekeeping items or temporary installations in the room.</i> | |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |
| <i>Block walls have been retrofitted with steel members as restraints.</i> | |

Comments

Includes DC-1-64-E-PNL-ARP & DC-1-23-E-PNL-PCCFC1.

Evaluated by:

KTM

Heri Moore

Date:

10/15/2012

SMM

SMM

10/18/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 73

Room, Area: 1-RHE1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|---|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>None, except for spalling concrete identified in the SWC DC-1-10-M-HX-RHE1.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>No anchorage issues in the area.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>There are no cable/conduit raceways or HVAC ducting in the room.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>No ceiling tiles and no seismic interaction effects related to lighting.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> <p style="margin-left: 20px;"><i>No fire piping in the area.</i></p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> <p style="margin-left: 20px;"><i>No sources in the area that could cause a fire.</i></p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> <p style="margin-left: 20px;"><i>Some loose scaffolding equipment was left on grating, see photo on page 5. Toe boards would prevent them from falling from platform. See pictures. Scaffold structure in the room is adequate for seismic concerns. No interactions to note. See Attachment 1 for disposition.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> <p style="margin-left: 20px;"><i>No adverse seismic conditions in the area.</i></p> | Y |

Comments

Includes DC-1-10-M-HX-RHE1.

Evaluated by:

KTM

Date:

Ken M...

10/23/2012

SMM

[Signature]

10/19/2012

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 73 Room, Row/Col: 1-RHE1 Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Some loose scaffold material was found on the catwalk at approx. elevation 85'.

Evaluation:

The scaffold material is lying on the grating, between the toe boards on the catwalk. Based on the maximum sliding distances referenced in the SISIP Manual, the distance to the end of the catwalk, and the restraint provided by the toe boards, the loose material cannot fall/slide off of the grating and damage SISIP targets in the area.

Therefore, this condition does not impact the safe operation of DCP, but the loose material should be removed.

Notification Required: Yes (50509181)

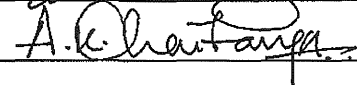
Evaluated by:



10/19/12

SKM9

Reviewed by:



10/19/12

KNAJ

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 60

Room, Area: 1-RHRP2

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL Items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

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

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

Lights are suspended from junction boxes attached to the ceiling. Attachment of suspended conduit to box appears to allow hinge rotation (ball joint). The lights would be expected to swing in a seismic event, but they are judged unlikely to fall.
4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Y

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

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

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

Some temporary rad monitors appear to be adequately restrained.
8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

Comments

Includes DC-1-10-M-PP-RHRP2 and DC-1-10-P-VOM-RHR-1-FCV-641B

Evaluated by:

FFG

Date:

10-24-12

SMM

10/25/12

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary

Floor El. 128'

Room, Area: 1-RNAR-A

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

Reviewed conduit, cable trays, halon line, room lighting, HVAC ducting, and junction boxes

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

In one section of the Halon line it was noted that where the line size reduces from 1-1/4" to 1" line, 1-1/4" U-bolts are still used to restrain the line. As a result the U-bolts are oversized and gaps exist between the pipe and the U-bolts. This condition was noted for (2) U-bolts. It is judged that the function of the Halon system in the room during or after an earthquake is not affected by this condition.

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

As this room is the cable spreading room it was found that the cable trays are full, but not overloaded.

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

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

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

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

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

The doors for several cabinets in the area are either improperly latched or the latching mechanism is broken in some way. These include RNAS-B, RN04E, RNP4-A. For disposition see Attachment 1.

The Halon line nearby in the room is supported by U-bolts but comes in contact with robust conduit lines at several places. It is judged that these potential impacts will not affect the function of the Halon system.

Comments

Includes DC-1-36-E-PNL-RNARA.

Evaluated by:

TRK

Date:

Thomas R. Kipp

10/25/2012

DRC

DTR

10/23/2012

Area Walk By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxillary Floor El. 128 Room, Row/Col: 1-RNARA Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Unit 1 Auxiliary Relay Rack No. RNARA, improperly latched doors were noted on the following racks in the vicinity:

- Process protection Rack #14 (RNP4A): bottom latch not engaged
- Aux. Safeguards Cabinet, Train B (RNASB): bottom latch not engaged
- Control Rack #32 (RN04E): entire door not latched

Evaluation:

The Work Control Shift Foreman was notified. He indicated that an Operator would be dispatched to relatch the doors.

The operator was dispatched and found UNIT 1 cabinet doors of similar nomenclature in the above stated condition and closed. Found no doors on UNIT 2 ajar.

Notification 50510559 was prepared for trending purpose.

Notification Required: Yes (50510559)

Evaluated by: _____

Patricia Zlamy 10/23/12

Reviewed by: _____

J.R. [Signature] 10/23/12

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary Floor El. 140 Room, Area: 1-RNC11

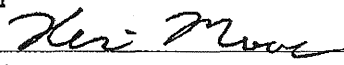

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?
<i>No degraded conditions were seen in the area.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?
<i>Cable/conduit raceways are well supported with no visible wiring seen outside of the cable trays.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?
<i>Panels are tied together with bolted plates at the top of the cabinets and are welded together at the bottom. Ceiling tiles were reviewed in AWC 1-VB1.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?
<i>There is no fire piping in the room.</i></p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?
<i>All maintenance equipment was securely placed away from the cabinets in the room.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> | Y |

Comments

Includes DC-1-43-I-PNL-RNC11.

Evaluated by:	KTM	Date:
		10/22/2012
	SMM	
		10/23/2012

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Pipeway Floor El. 115 Room, Area: 1-RV-3

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?
<i>Some surface corrosion on structural steel and conduit mounting clips - judged insignificant.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?
<i>Equipment jib cranes (1-T-140-04 & -05) are stowed above RV outlets. They are tied off loosely. During an earthquake, they may move over RV discharge. The as-found condition is acceptable. See Attachment 1 for disposition.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?
<i>Tool box on catwalk is tied off. Scaffolding around perimeter security fence looks secure. Temporary ground wire tied off adequately.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?
<i>Floor grating appears to be adequately attached in the area with clips to the structural steel frame in most areas but at least two of the grating panels were missing some of their clips - see photos. The as-found condition is acceptable for seismic. See Attachment 2 for disposition.</i></p> | Y |

Comments

Includes DC-1-04-P-VR-MS-1-RV-3, DC-1-04-P-VR-MS-1-RV-8, and DC-1-04-P-VOA-MS-1-PCV-20.

Evaluated by:

FFG

Date:

Fred Faust

10-24-12

SMM

Scott Miller

10/19/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Pipeway Floor El. 115 Room, Row/Col: 1-RV-3 Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

Equipment Jib Cranes (nos. 1-T-140-04 and 1-T-140-05) are stowed above RV outlets. They are tied off loosely. During an earthquake, they may move of the RV discharge, which could damage them and cause them to collapse on nearby equipment or valves.

Evaluation:

The Jib Cranes are non-safety related. Since the jib cranes are designed for the lifting of loads, they have a large safety factor and are manufactured from ductile materials, so they should be able to resist the RV discharge loads without being damaged in such a way that they would fall. Based on the weight of the jib crane boom relative to the strength of the concrete containment wall, any interaction will not damage the concrete.

Therefore, this condition does not have an impact on plant safety.

Engineering to evaluate the potential loading on the jib crane and determine if it should be secured in a location that is outside of the zone of influence of the RV discharge.

Notification Required: Yes (50509926 (1-T-140-04) and 50509927 (1-T-140-05))

Evaluated by:  10/19/12

Reviewed by:  10/19/12

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Pipeway Floor El. 115 Room, Row/Col: 1-RV-3 Attachment 2, Page 1 of 1

Licensing Basis Evaluation

Issue:

Floor grating appears to be adequately attached in area with clips to the structural steel frame in most areas, but at least two of the grating panels are missing some of their clips.

Evaluation:

The grating is non-safety related, but is considered a potential SISIP source. Based on the tightness of the fit of the grating between adjacent panels, and the geometry of the grating panels relative to the size and spacing of the supporting beams, it is not credible that the grating can fall as the result of an earthquake.

Therefore, this condition does not impact the safe operation of DCP.

Recommendation:

Engineering recommends that clips be installed on these missing sections of grating. See SAPN below for details.

Notification Required: Yes (50508587)

Evaluated by:  10/19/12

Reviewed by:  10/19/12.

Area Walk-By Checklist (AWC)

Status **Y**

Location: Building: Auxiliary Floor El. 140 Room, Area: 1-RV-13

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL Items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|---|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>All the anchorage is free of potentially adverse seismic conditions.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>Surface corrosion is present on some valves and panels. Judged to be ok.</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>Conduit lines appear to be properly anchored. No HVAC ducting in the area.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> <p style="margin-left: 20px;"><i>No spatial interaction issues were identified.</i></p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> <p style="margin-left: 20px;"><i>No sources for flooding or spraying in the area.</i></p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> <p style="margin-left: 20px;"><i>No credible sources that could cause a fire were found.</i></p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> <p style="margin-left: 20px;"><i>A box containing "MSSV gags" are properly tied off to a handrail.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> <p style="margin-left: 20px;"><i>Grating clips appear to be missing near MS-1-RV-11 and MS-1-RV-14, and on the small platform between the 1-3 and 1-4 leads and the Aux Bldg wall. See Attachment 1 for disposition.</i></p> | Y |

Comments

Includes DC-1-04-P-VR-MS-1-RV-13 and DC-1-04-P-VR-MS-1-RV-61.

Evaluated by:

KTM

Date:

10/23/2012

SMM

10/19/2012

Area Walk-By Checklist (AWC)

Diablo Canyon Power Plant, Unit 1

Building: Auxiliary Floor El. 140 Room, Row/Col: 1-RV-13 Attachment 1, Page 1 of 1

Licensing Basis Evaluation

Issue:

It was noted that several clips are missing from the floor grating of Platform No. 19GW, 20GW and 21GW in this area (Ref. drawing 59681 for location and 59700 for details of these platforms).

Evaluation:

The grating is non-safety related, but is considered a potential SISIP source.

The loose sections of grating have been temporarily restrained with large zip-ties to prevent them from coming loose in a seismic event. Therefore, this condition does not impact the safe operation of DCCP. SAPN 50514666 has been written for replacing the missing grating clips in accordance with the standard architectural details in drawing 102497.

Standard detail 11.1 shown on drawing 102497-11 states that a welded 1/4" stud is to be used to secure the grating. Based on the pictures provided it appears that hold down clips have never been installed. Therefore, studs will be required. SAPN 50514666 has reassigned to MMD-WELD for restoring the original design condition.

Two other platforms in immediate vicinity were also investigated. They are platform numbers 20GW and 21GW, and are small platforms located between the MSSV's and the concrete wall of the Aux. Bldg. Platform 20GW was missing all of its grating clips on two small sections of grating. Tie wraps were installed to restrain them. Platform 21GW was missing some grating clips; however, enough clips are remaining to prevent the grating from becoming an SISI source. Since the grating is adequately restrained either by large tie-wraps or remaining grating clips, there are no SISI concerns and the platform and grating can still perform their intended function.

Notification Required: Yes (50514666)

Evaluated by: SMM *[Signature]* 10/19/12
Reviewed by: *A. U. Santanya* *[Signature]* 10/19/12

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-SFPHE1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| <p>1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)</p> <p style="margin-left: 20px;"><i>Shielding door adjacent to the HX is top restrained.</i></p> | Y |
| <p>2. Does anchorage of equipment in the area appear to be free of significant degraded conditions?</p> <p style="margin-left: 20px;"><i>No signs of significant degradation</i></p> | Y |
| <p>3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?</p> <p style="margin-left: 20px;"><i>HVAC duct is braced. Overhead lighting is conduit hung pendant lights - no issues. Piping and conduit are well supported. PA speakers and warning lights are adequately supported. Nearby cart is tied off.</i></p> | Y |
| <p>4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?</p> | Y |
| <p>5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?</p> | Y |
| <p>6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?</p> <p style="margin-left: 20px;"><i>No significant fuel sources.</i></p> | Y |
| <p>7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)?</p> <p style="margin-left: 20px;"><i>Nearby cart is tied off.</i></p> | Y |
| <p>8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?</p> | Y |

Comments

Includes DC-1-13-M-HX-SFPHE1 and DC-1-13-I-TI-653

Evaluated by:

DKN

[Signature] Date: 10/17/2012

DRC

[Signature] 10/19/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-SFPP1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|---|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)
<i>Adjacent pumps and piping are well supported.</i> | Y |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?
<i>HVAC duct is braced. Conduit and piping is well supported. No cable trays.</i> | Y |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)?
<i>Overhead lighting consists of conduit hung pendant lights - no issues.</i> | Y |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area?
<i>No likely sources.</i> | Y |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |

Comments

Includes DC-1-13-M-PP-SFPP1.

Evaluated by:

DKN

DRC

Daniel K. Nelson
D. R. C.

Date:

10/17/2012

10/19/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 85

Room, Area: 1-SIP1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

All anchorage appears to be in good conditions.

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

No corrosion is present.

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

All overhead distribution systems appear to be adequately secured.

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

No interaction issues to note.

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

No fire water piping in the area.

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

No flammable sources in the area.

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

No housekeeping issues were identified.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

No issues were identified.

Comments

Includes DC-1-09-M-PP-SIP1 and DC-1-09-P-VOM-SI-1-8923A.

Evaluated by:

KTM

Date:

Keri Moore

10/15/2012

SMM

Scott Miller

10/18/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-SSPS

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

All visible anchorage in the room appears to be free of adverse seismic conditions.

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

No corrosion or degraded conditions were found.

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

No HVAC ducting in the room. Conduit entered from ceiling, passed through a metal tray, and ran into cabinets. No issues were identified.

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

Ceiling tiles were reviewed in 1-VB1 AWC.

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

No fire piping in the room.

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

No adverse seismic interactions that could cause a fire in the area were identified.

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

No temporary equipment in the area.

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

No issues were identified.

Comments

Includes DC-1-38-I-PNL-RNSIA, DC-1-38-I-PNL-RNSLA, DC-1-38-I-PNL-RNSOA, and DC-1-38-I-PNL-RNSTA.

Evaluated by:

KTM

Date:

Heri Moon

10/15/2012

SMM

Scott M. M...

10/18/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 85

Room, Area: 1-SWHE1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>All anchorage appears to be in good condition.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>No corrosion is present.</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <i>Conduit and HVAC appeared to be properly secured.</i> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>No seismic interaction issues were identified.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| <i>No fire water piping in the room.</i> | |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <i>No credible sources could cause a fire.</i> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| <i>No temporary equipment in the area. Step off pad at north end of room will not affect heat exchanger.</i> | |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |
| <i>No issues were identified.</i> | |

Comments

Includes DC-1-08-M-HX-SWHE1. Evidence of boric acid was found on one of the overhead pipes and its support. (REF. SAPN 5051164)

Evaluated by:

KTM

Date:

10/15/2012

SMM

10/18/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Pipeway

Floor El. 115

Room, Area: 1-TE117

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>Piping, conduit and structural steel are well supported and anchored in the area.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>Surface corrosion noted on pipes and structural steel. However not enough to be significant</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <i>Conduits are well supported. No cable trays or HVAC duct.</i> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>The structural steel and grating shield many components. Lighting is hung on unistrut.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <i>No likely sources.</i> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| <i>Some scaffolding was observed in the area. It is braced and clamped to the structural steel and platform handrails. It has also been inspected in accordance with plant procedures.</i> | |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |

Comments

Includes DC-1-03-I-E-TE-117.

Evaluated by:

DKN

Daniel N. Nelson

Date:

10/17/2012

SMM

Scott M. Miller

10/19/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 100

Room, Area: 1-TRY11

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

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

Reviewed adjacent panels, room lighting fixtures, emergency lighting, fire extinguishers, HVAC Ducting, and speakers.

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

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

HVAC ducting is rigidly supported.

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

All items attached to the masonry wall are anchored by through-bolts. Room lighting is supported by a pipe section with a ball and socket connection.

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

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

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

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Y

Comments

Includes DC-1-65-E-XF-TRY11 and DC-1-96-E-PNL-HSP.

Evaluated by:

TRK

Thomas R. Kipp

Date:

10/14/2012

KA

A. K. Crawford

10/23/2012

Area Walk-By Checklist (AWC)

Status Y

Location: Building: Auxiliary

Floor El. 140

Room, Area: 1-VB1

Instructions for Completing Checklist

This checklist may be used to document the results of the area walk-by near one or more SWEL Items. The space below each of the following questions may be used to record the results of judgements and findings. Additional space is provided at the end of this checklist for documenting other comments.

- | | |
|--|---|
| 1. Does the anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets) | Y |
| <i>Nearby equipment appears to be well anchored.</i> | |
| 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? | Y |
| <i>No degradation observed where visible, nor were any signs of corrosion noted.. The control room carpet was not pulled up. This is a very controlled environment so corrosion is not expected.</i> | |
| 3. Based on visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? | Y |
| <i>The suspended ceiling is hung with a braced unistrut system. The HVAC duct is braced and the registers are independently rod hung.</i> | |
| 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and lighting)? | Y |
| <i>The lighting over the control consoles and vertical boards is independently hung from the suspended ceiling. No issues. Lighting behind -VB1 is wall mounted and does not pose a threat to the structural integrity of the panel or to the indicators and switches on the front of the panel.</i> | |
| 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? | Y |
| 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause fire in the area? | Y |
| <i>No likely sources.</i> | |
| 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g. scaffolding, lead shielding)? | Y |
| <i>File cabinets behind 1-VB1 are anchored.</i> | |
| 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? | Y |

Comments

Includes DC-1-96-E-PNL-1CC1 and DC-1-96-E-PNL-1VB1.

Evaluated by:

DKN

Daniel N. Nelson

Date:

10/17/2012

SMM

Scott M. Miller

10/19/2012

Attachment K Summary Findings of the Peer Reviews

Peer Review: SWEL-1 and SWEL-2

The peer review of the SWEL-1 and SWEL-2 was performed during several meetings held while these lists were being developed and during the performance of the inspections. A summary of the issues identified during the peer review, and their resolution, is provided in Table 1.

Table 1: Peer review issues and resolutions for SWEL-1 and SWEL-

Issue	Resolution
SWEL development does not consistently identify SSCs by their Q-List Item No.	Updated to include reference to the Q-List Item No. where applicable.
SWEL-1, Screen No. 2 allows exclusion of valves associated with containment penetrations, but the final SWEL-1 included certain CIVs.	These valves were included to meet other criteria. Discussion of Screen No. 2 exclusions updated to indicate that this exclusion was not used in its entirety.
SWEL-1 should consider safe shutdown equipment identified in UFSAR Appendix 9.5G "Equipment required for safe shutdown."	The safe shutdown equipment identified in UFSAR Appendix 9.5G was added to SWEL development documentation to address these components and their inclusion as candidates for the selection of SWEL-1.
SWEL-1 should include AFW pump discharge to SG LCVs, since these are important to the AFW system operation.	Valves LCV-111 through LCV-115 added to list of candidates for the SWEL-1.
SWEL-1 should include RHR pump recirculation valves since these are important to the RHR operation.	Valves FCV-641A and FCV-641B added to list of candidates for the SWEL-1.
SWEL-1 should include flow control valves for the motor-driven AFW pumps since these are important to the operation of the pumps.	Valves FCV-106, FCV-107, FCV-108, and FCV-109 added to list of candidate for the SWEL-1.
SWEL-1 should include auxiliary building ventilation system supply and exhaust fans since these are important to the cooling of the auxiliary building and are subjected to a corrosive environment.	Fans E-1, E-2, S-31, S-32, S-33, and S-34 added to list of candidates for the SWEL-1.
SWEL-1 should include chemical and volume control system spray valves, since these are important to system operation.	Valves 8145 and 8148 added to list of candidates for the SWEL-1.
SWEL-1 should include valves in the RHR system normal shutdown cooling flowpath.	Valves 8701, 8702, 8809A, 8809B, 8700A, 8700B, HCV-637, and HCV 638 added to list of candidates for the SWEL-1.
SWEL-1 should include valves in charging system flowpath to reactor.	Valves 8107, 8108, and HCV-142 added to list of candidates for the SWEL-1.

Issue	Resolution
SWEL-1 should include valves associated with boric acid storage tank and transfer pumps.	Valves 8104, FCV-110A, and FCV-111A added to list of candidates for the SWEL-1.
SWEL-1 should include the main annunciator.	This is not seismically qualified, so it is excluded at Screen No. 1.
SWEL-1 should include SG level and pressure instrumentation.	SG level transmitters (LT-516, LT-517, etc.) and pressure transmitters (PT-538, etc.) added to list of candidates for the SWEL-1.
SWEL-1 should include wide range and source range neutron detectors.	These detectors are included in the list of candidates for the SWEL-1, but were not selected in the finalization of the SWEL-1.
SWEL-1 assignment of five safety functions (Screen No. 3) - certain seismically qualified SSCs do not perform any of these functions, so they will Screen-out, but still may be added back-in under Screen No. 4 (diversity) or under SWEL-2 (SFP-related SSCs).	This is addressed in SWEL development documentation.
Risk significance is not well defined and must be addressed more clearly.	Risk significance data was received from the seismic PRA group and incorporated into SWEL-1
SWEL-2 development uses 10 feet above top of fuel assemblies as an absolute number, but EPRI 1025286 states "for SFP penetrations below about 10 feet above the top of the fuel assemblies..." This gives some latitude as to the exact elevation for drain-down.	SWEL-2 development documentation revised to be consistent with EPRI 1025286.
Operating experience report IER L3-12-63, "Anti-Siphon Devices in Spent Fuel Pool Missing" was recently received and should be addressed in the development of the SWEL-2.	IER L3-12-63 added as an input reference for the SWEL-2 and verification of the presence of anti-siphon holes added as an inspection attribute for piping entering the SFP.
Question was asked if EPRI guideline requires consideration of SFP drain-down during various operating modes, specifically during refueling operations, when the SFP gate is open, transfer canal is flooded, etc.	The NEI frequently asked questions clarified this issue and it is addressed in SWEL-1.

Issue	Resolution
<p>During the 1980s, the blind flange on the Containment end of the fuel transfer tube was replaced with a QOTTC device. If the SFP gate (not seismically qualified) and the fuel transfer tube manual gate valve (not seismically qualified per component data) were to fail during an earthquake, the QOTTC would act as a part of the SFP pressure boundary. The concern is whether the QOTTC has been designed to resist the hydrostatic and hydrodynamic loads associated with this scenario.</p>	<p>This concern was entered into the CAP. Development documentation for SWEL-2 updated to show gate as being seismically qualified.</p>
<p>The FLOC data for the SFP gate indicates that this SSC is not seismically qualified, and that the air supply and back-up nitrogen supply for the inflatable gate seals is not seismically qualified. However, it appears that the gate is very robust and even with deflation of the seals, the rate of leakage through the SFP gate into the fuel transfer canal will not allow the SFP to drain-down within 72 hours.</p>	<p>Review of the civil engineering calculation files located a seismic qualification calculation for the SFP gate. Therefore, gate can be credited to survive an earthquake. Request to update the FLOC data was entered into CAP.</p>
<p>Even though the SFP skimmers are anchored to the wall at the SFP water surface, we need to investigate possibility that they break loose (non-seismic support) and sink into the pool, allowing siphoning of the pool inventory.</p>	<p>SWEL-2 updated to include check of the maximum depth based on hose/tubing length between wall penetration and skimmer to inspection attributes. This will address the maximum depth to which skimmers could sink.</p>
<p>Monitoring of the SFP level is a key issue, so the SFP level monitoring instrumentation should be added to the SWEL-2.</p>	<p>The SFP level instrumentation was considered for inclusion in the SWEL-2, but it was determined that this instrumentation is not seismically qualified, so it initially screened-out at Screen No. 1.</p>
<p>The SFP cooling water pump transfer switch (a local contactor) is key to the cooling of the SFP and should be added to the SWEL-2.</p>	<p>SWEL-2 updated to include switch.</p>
<p>The various ways to provide pure water (to replace evaporation/boiling) or borated water (to replace leakage) to the SFP were discussed. OP AP-22 (Spent Fuel Pool Abnormalities), Appendix A (Addition of Water to the SFP) indicates that the condensate storage tank is the "only source of makeup water to the SFP with a flow path that is completely Design Class I." This flow path should be included in the SWEL-2. See OP B-7:II for details of flow path</p>	<p>SWEL-2 development basis document enhanced to discuss this flow path.</p>

Issue	Resolution
The FHBVS is required to cool various SFP-related equipment. Portions associated with the mitigation of a fuel handling accident do not need to be included (e.g., filters), but other equipment should be considered for inclusion.	The SWEL-1 already includes the auxiliary building ventilation system, which has components that are similar to the FHB ventilation system. However, an FHB exhaust fan was added to the SWEL-2.
SFP cooling system pressure instrumentation does not serve any post-earthquake function and can be excluded from the SWEL-2.	Pressure instrumentation deleted from the SWEL-2.
Screen No. 3 of the EPRI guidelines for the development of the SWEL-2 require the inclusion of a diversity of equipment classes (similar to Screen No. 4 for the SWEL-1), but due to the limited scope of equipment associated with the SFP, it is not possible to include representatives of all 21 classes.	This is acceptable, since the SWEL-1 already includes a diverse selection of equipment classes. A discussion of this was added to the SWEL-2 development documentation.
Difficulties associated with the verification of the elevation of the various underwater pipe penetrations through the walls of the SFP were discussed.	The following methods were selected for the verification of elevations: <ul style="list-style-type: none"> • Underwater cameras, • Verification of the elevation of the pipe where it exits the concrete on the outside of the SFP, and • Approximate visual verification from the water surface.
Fuel transfer tube expansion joint has been included in SWEL-2 (failure could drain SFP, if SFP gate is open during a refueling outage). Suggest reviewing DCM C-28 (Seismic and LOCA displacements) to determine differential displacements.	Review of DCM C-28 indicates that the seismic differential displacements (containment structure vs. auxiliary building) are small at this location (less than 0.2 inches), but the LOCA differential displacement is large (approximately 1 inch). The combination of seismic and LOCA displacements is enveloped by the vendor-allowed differential displacements for the expansion joint.
SWEL-2 includes various pipes which penetrate the SFP wall that are potential rapid drain-down paths. How do we document the walkdowns of these pipes?	The EPRI guidelines do not address this. Since these guidelines require the use of the SWC form, the walkdown will be documented on an SWC, with most of the inspection attributes marked as "N/A". The "comments" section will be used to describe any observations.
Operating procedure AP-22 includes the use of a fire hose for emergency refilling of the SFP. The associated hose reel stations should be included in the SWEL-2.	Hose reel station FW-120-A38-1 added to the SWEL-2.

Issue	Resolution
Document "Frequently Asked Questions on Seismic Walkdown Guidance" (August 10, 2012) was provided by the NEI, not the EPRI.	The SWEL development documentation was revised.
Discussion of seismic classification system relative to Regulatory Guide 1.29 is not clear.	Clarified discussion in the SWEL development documentation.
EPRI definition of SFP rapid drain-down applies to the "top of fuel assemblies," and could result in exclusion of SFP gate from SWEL-2, while the "about 10 feet above fuel assemblies" applies to penetrations through walls of SFP.	Clarified discussion to distinguish between two applications in SWEL development documentation.
Rationale for the exclusion of the fuel storage racks from the SWEL-2 is not adequate.	Expanded discussion to address criticality/spacing criteria, lack of anchorage, submersion in borated water, etc., in the SWEL development documentation.
SWEL-1 did not adequately address risk significance.	Risk significance data was received from the seismic PRA group and incorporated into SWEL-1

Peer Review: Seismic Walkdown Checklists and Area Walk-by Checklists

Introduction

In accordance with the guidance provided in EPRI 1025286, the results of the seismic walkdowns and area walk-bys were peer reviewed. Daily debrief of the walkdown team and peer review of a sample of SWCs and AWCs were performed early in the process to check the initial quality of the checklists and to ensure that any the general comments are incorporated in the remaining checklists prepared at later stages. In addition to the early peer reviews, all the SWCs and AWCs were reviewed to verify that the SWEs followed the guidance provided in EPRI 1025286 for performing the walkdowns.

Peer Review Team

The seismic walkdown and area walk-by results peer review team was led by the project team leader, with various individuals acting as team members.

Peer Review Process

The results of the seismic walkdowns and area walk-bys were peer reviewed in two steps:

- (1) Each completed SWC or AWC was reviewed by a peer review team member. This step included a review of the completed checklist and any attached

photographs and in some cases discussion with walkdown team members. Depending on the complexity of the issue, this step included visiting the plant and visually inspecting the subject equipment or area. Any peer review questions or comments were discussed with the SWEs and after all the questions and comments had been resolved, the completed checklist was signed by both the SWEs.

- (2) All completed SWCs/AWCs were reviewed by peer review team leader for overall accuracy and consistency. Comments or questions from the team leader were discussed with the SWEs and resolved.

Summary of Peer Review Findings and Resolutions

The peer review findings are divided into two categories: generic findings and specific findings. The following are the general comments:

- (1) Problem Identification: Provide a clear and concise description of the problem/issue. Do not provide extraneous details or opinions.
- (2) Redundant Problems: A specific problem should only be identified on one check list. If the problem is identified on the SWC for the specific SSC, do not describe the same problem on the AWC or assign a status of N or U on the AWC. It is okay to cross-reference between the AWC and SWC for a problem.
- (3) Recommendations: The AWC/SWC should identify and characterize the potential issue. Do not include statements such as, "valve should be cleaned and painted," "means of anchoring should be improved," or "further evaluation is recommended."
- (4) Disposition of Problems: The goal is to not have any remaining open problems on the checklists. Therefore, as part of the checklist finalization, each problem should be linked to its disposition. Create supplemental sheets to be added to the checklists as attachments for this purpose. The AWC/SWC should reference these attachments (e.g., "See Attachment No. xx for disposition."). The SAP notification number is to be referenced on the attachment, not the checklist.
- (5) Final Checklist Status: Once all of the issues and comments on a checklist have been dispositioned, the "U" statuses in the checklist should be changed to either "Y" (the condition is acceptable) or "N" (the condition is not acceptable, but will be addressed in the CAP). It is not necessary for the checklist to address any follow-up on CAP actions.

- (6) Electronic AWC and SWC Templates: Some aspects of the electronic templates used to generate the hardcopies of the completed checklists from the Access database do not match the format of the checklist forms included in EPRI 1025286, Appendix C. The templates should be reviewed against Appendix C and corrected as necessary.
- (7) Description of Room, Area for AWCs: The AWC form (EPRI 1025286, Appendix C), includes a field for "Room, Area." DCPD has used this field for the AWC number (typically the unit number, followed by an acronym for the piece of equipment in the room - e.g., "1-ASP1"). Since this entry does not actually define the room/area covered by the AWC (as required by Footnote 13 in EPRI 1025286), it is recommended that a set of maps be developed to define the areas.

Table 2: Specific Findings for Unit 1 – AWCs

No.	AWC/SWC Title	Issue	Resolution
1	1-AFWP1	The AWC identifies a leak which is already identified in the component SWC. Since the issue is covered in the SWC for the component, remove it from the AWC.	The leak issue is deleted from the AWC comments section.
2	1-BFS-31	The status of the checklist and answer to question 4 is shown as "Y", although a seismic interaction issue was observed.	The checklist status and answer to question 4 is changed to "N" and a LBE was performed.
3	1-E43	The identified surface corrosion on the damper body was already identified in the component SWC.	Added in response to question 1 "The corrosion on the backdraft dampers is already addressed in SWC DC-1-23-M-BF-E-43."
4	1-FWHRA38	Change the response to question 1 from "N" to "Y", as the nonconforming anchorage issue was already identified in the component SWC	Response was changed to "Y."
5	1-MUWTP1	The status of the checklist and question 5 was shown as "U" although all the issues were resolved.	Status of checklist and question 5 changed to "Y."

No.	AWC/SWC Title	Issue	Resolution
6	1-PD15	Response to question 1 identified the similarities and dissimilarities between the Unit 1 and Unit 2 areas. Since the walkdown reports are being independently prepared for Unit 1 and Unit 2, no references to other units should be made.	Deleted the following statement from the response to question 1: "The area is similar to area 2-PD25 except that the service air piping is more uniformly supported" and replaced it with "service air piping is uniformly supported."

Table 3: Specific Findings for Unit 1 – SWCs

No.	AWC/SWC Title	Issue	Resolution
1	DC-0-21-P-FL-DFOTF2	The status for question 5 is shown as "N/A" although anchorage verification was required on this component and the anchorage is consistent with the design drawings.	Status for question 5 changed from "N/A" to "Y".
2	DC-1-03-P-VOH-FW-1-LCV-110 DC-1-04-P-VOA-MS-1-FCV-41 DC-1-04-VOA-MS-1-PCV-20 DC-1-04-P-VR-MS-1-RV-3 DC-1-04-P-VR-MS-1-RV-8	These checklists answer questions 2 - 5 as "N/A" irrespective of the response to question 1.	The anchorage characteristics on these components were re-verified and the checklists updated.
3	DC-1-04-P-V-MS-1-FCV-152	The comments section mentions the CAP number without any explanation of the resolution/action.	Reference to the CAP replaced with "See Attachment No. 1 for disposition."
4	DC-1-04-P-VOA-MS-1-FCV-41	Equipment No. shown as "DC-1-04-V-MS-1-FCV-41" instead of "DC-1-04-P-VOA-MS-1-FCV-41"	Equipment No. changed to "DC-1-04-P-VOA-MS-1-FCV-41"

No.	AWC/SWC Title	Issue	Resolution
5	DC-1-04-P-VOA-MS-1-PCV-20	Room, row/column Information still shown as "1-PCV-20" although the area has been merged with "1-RV-3."	Room, row/column information changed to "1-RV-3."
6	DC-1-14-M-PP-CCWP1	In response to question 7, suggestions about possible modifications are presented by the SWE. The checklist should only identify the issue and not any suggested modifications. All suggested changes/modifications are identified in the LBE	In response to question 7, the suggestion was replaced with "See Attachment No.1 for disposition."
7	DC-1-17-M-PP-ASP1	Status of questions 3, 5, and 6, and the checklist status are shown as "U" although all the issues were resolved and LBEs were performed.	Status changed to "Y."
8	DC-1-18-F-HR-FW-120-A38-1	Status of question 7 of the checklist is shown as "Y" although the fire hose rack could swing and hit the valve body. Also, the status of question 10 is shown as "N," although the LBE suggests that the interaction is unlikely to damage the valve.	Status of question 7 changed to "N" and status of Question 10 changed to "Y."
9	DC-1-21-M-MISC-ES1	Response to question 4 identified a minor hairline crack 2 feet from the center of fixed support and no further evaluation was presented.	Included "No impact on anchorage expected" in response to question 4 and changed the status from "N" to "Y."

No.	AWC/SWC Title	Issue	Resolution
10	DC-1-23-M-BF-E-43	Backdraft damper number DC-1-23-P-D-VAC-1-BDD-43 was looked at during the walkdown and is not identified in the SWC.	Included the following in the comments section: "Inspection includes backdraft damper number DC-1-23-P-D-VAC-1-BDD-43" and "surface corrosion was noted on the backdraft damper (VAC-1-BDD-43). See Attachment No. 1 for disposition."
11	DC-1-23-M-BF-S-43	The status of the checklist is shown as "Y" although the status of question 4 is "N."	Status of the checklist changed to "N."
12	DC-1-23-P-D-VAC-1-MOD-10	In the response to question 1, reference is made to the similarity between the walked down component and damper DC-1-23-P-D-VAC-1-MOD-9. Each component should be evaluated independent of other components.	Reference to DC-1-23-P-D-VAC-1-MOD-9 deleted from response to question 1.
13	DC-1-36-E-PNL-RNARA	Room, row/column shown as "1-Eagle21" although the component belongs to area "1-RNARA."	Room, row/column Information changed to "1-RNARA."
14	DC-1-96-E-PNL-1VB1	Status of question 5 shown as "Y" although the component is removed from the 50% anchorage check.	Status of question 5 changed to "N/A."

Peer Review: Licensing Basis Evaluations

Introduction

A LBE was performed for each potentially adverse seismic issue identified on the SWC and AWC. The LBEs, which are documented in attachments to the individual checklists, include a determination of the need for entry of the issue into the CAP.

Peer Review Team

The LBE peer review team was led by the project team leader, with various individuals acting as team members.

Peer Review Process

The LBE peer review was performed in two steps:

- (1) Each potentially adverse seismic condition was evaluated by a cognizant engineer and peer reviewed by a designated review team member. This step included a review of the completed checklist, review of the photograph (if applicable), discussions with the preparer of the LBE, review of the supporting documentation (e.g., drawings, design criteria memoranda, calculations) and, in some cases, discussions with the walkdown team members who performed the field inspections.

The completed LBE was signed by the preparer and the peer reviewer.

- (2) All completed LBEs were reviewed by the peer review team leader for overall accuracy and consistency. Comments or questions from the team leader were discussed with the preparer and reviewer, and resolved as necessary.

Summary of Peer Review Findings and Resolutions

The peer review findings are divided into two categories: (a) generic findings; and (b) specific findings. The following provides an overall summary of the two categories of findings, and their resolution.

Table 4: General Findings from the Licensing Basis Evaluation Peer Review

Finding	Resolution
Each LBE should be self-contained within the attachment and not reference other attachments to the same checklist for input.	LBEs that were split between multiple attachments were restructured to be self-contained.
The seismic requirements for the SSC being addressed should be clearly stated, using DCP's classification as defined in the FLOC data (i.e., design classification and seismic qualification requirement).	LBEs were updated, as appropriate.
A LBE for one unit should not reference the LBE for a similar issue in the other unit.	Cross-references between units were eliminated.

Finding	Resolution
A LBE should provide specific reference to the source of information (e.g., calculation number, drawing number, etc.)	References added to LBE, as appropriate.

Table 5: Specific Findings from the Licensing Basis Evaluation Peer Review

LBE No.	Finding	Resolution
1-CP-35, Attach. 1	This LBE referenced another LBE (DC-1-23-P-D-VAC-1-MOD-10, Attach. 1), but did not provide details of the evaluation documented in the other LBE.	LBE enhanced to provide detailed description of the evaluation.
1-DEG-11, Attach. 1	LBE used incorrect values for the vertical and horizontal Hosgri earthquake accelerations for the location of the fire extinguisher, and did not provide a source reference.	LBE updated to reference DCM C-17 as source of accelerations and use the correct values.
1-LCV-112B, Attach. 1	LBE addressed the postulated seismic interaction qualitatively, but did not indicate whether the valve was a SISIP target.	LBE updated to reference SISIP Manual and indicate that the valve is not a SISIP target, so this is not an adverse seismic condition.
1-PM-79, Attach. 1	LBE did not clearly distinguish between vulnerability of SISIP targets in the area and SISIP housekeeping issues.	LBE updated to indicate that the issues are limited to SISIP housekeeping only.

Peer Review: Submittal Response

To meet this requirement, David Miklush, Philippe Soenen, and Tom Baldwin performed independent peer reviews of this submittal. In addition, San Onofre Nuclear Generating Station personnel performed a review of the submittals. All comments were evaluated and resolved.

Comments included:

- (1) Clarify how unique DCPD seismic categories compare to SC I,
- (2) Clarify independence of peer reviewers,
- (3) Clarify where engineering evaluations of potentially seismically adverse conditions are included in the submittal, and
- (4) Indicate status of the walkdown observations entered in to CAP.

**Attachment L
List of Acronyms**

1R18	Unit 1 Refueling Outage 18
AC	Alternating current
ACI	American Concrete Institute
AFW	Auxiliary feedwater
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
ASW	Auxiliary saltwater
AWC	Area walk-by checklist
CAP	Corrective Action Program
CCP	Centrifugal charging pump
CCW	Component cooling water
CF	Containment function
CFCU	Containment fan cooler unit
CIV	Containment isolation valve
CST	Condensate storage tank
dc	Direct current
DCM	Design criteria memorandum
DCPP	Diablo Canyon Power Plant
DEG	Diesel emergency generator
DFO	Diesel fuel oil
DG	Diesel generator
DHR	Decay heat removal
DIE	Damp indoor environment
EOC	Extent of condition
EPRI	Electric Power Research Institute
ESP	Equipment selection personnel
FCV	Flow control valve
FHB	Fuel handling building
FHBVS	Fuel handling building ventilation system
FLOC	Functional location
Ft	Feet
HEPA	High efficiency particulate air
Hx	Heat exchanger
ICE	Inside containment environment
IEEE	Institute of Electrical and Electronics Engineers
IER	Industry Event Response
IPEEE	Individual Plant Examination for External Events
LBE	Licensing basis evaluation
LCV	Level control valve
LOCA	Loss of coolant accident
LTSP	Long Term Seismic Program

MIE	Mild indoor environment
MS	Main steam
MSSV	Main steam safety valve
N	No
NEI	Nuclear Energy Institute
No.	Number
NRC	Nuclear Regulatory Committee
NTTF	Near-term Task Force
OE	Outside environment
Ops	Operations
PCV	Pressure control valve
PE	Professional engineer
PG&E	Pacific Gas and Electric Company
Ph.D	Doctor of Philosophy
PRA	Probabilistic risk assessment
Q-List	Quality classification list
QOTTC	Quick opening transfer tube closure
RC	Reactor coolant
RCIC	Reactor coolant inventory control
RCP	Reactor coolant pump
RCPC	Reactor coolant pressure control
RCS	Reactor coolant system
RCV	Radiation control valve
RHR	Residual heat removal
RRC	Reactor reactivity control
RV	Reactor vessel
RWST	Raw water storage tank
SC	Seismic category
SG	Steam generator
SFP	Spent fuel pool
SFPCS	Spent fuel pool cooling system
SI	Safety injection
SISI	Seismically induced system interaction
SISIP	Seismically induced system interaction program
SQUG	Seismic Qualification Utilities Group
SSC	Structures, systems, and components
SSEL	Safe shutdown equipment list
SSER	Supplemental Safety Evaluation Report
SSPS	Solid state protection system
SWC	Seismic walkdown checklist
SWE	Seismic walkdown engineer
SWEL	Seismic walkdown equipment list
SWIE	Saltwater interior environment
TD	Turbine-driven

U	Unknown
UFSAR	Updated Final Safety Analysis Report
UPS	Uninterruptable power supply
Y	Yes

Regulatory Commitments

Pacific Gas and Electric Company is making the following regulatory commitments (as defined by NEI 99-04) in this submittal:

Commitment	Due Date
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 submitting this response. These inaccessible items will be inspected prior to the end of the next refueling outage for Unit 1 (1R18). 1R18 is currently scheduled to be completed in March 2014.	Prior to completion of 1R18
An update from those inspections will be submitted within 60 days following the completion of 1R18.	60 days following completion of 1R18