



**Pacific Gas and  
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PG&E Letter DCL-14-076

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

10 CFR 50.4

Docket No. 50-275, OL-DPR-80

Docket No. 50-323, OL-DPR-82

Diablo Canyon Units 1 and 2

Pacific Gas and Electric Company's Third Six-Month Status Report in Response to  
March 12, 2012, Commission Order Modifying Licenses with Regard to  
Requirements for Mitigation Strategies for Beyond-Design-Basis External Events  
(Order Number EA-12-049)

References:

1. NRC Order Number EA-12-049, "Issuance of Order to Modify Licenses With Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012
2. PG&E Letter DCL-13-007, "Pacific Gas and Electric Company's Overall Integrated Plan in Response to March 12, 2012, Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," dated February 27, 2013

Dear Commissioners and Staff:

On March 12, 2012, the Nuclear Regulatory Commission issued Reference 1 to Pacific Gas and Electric Company (PG&E) directing PG&E to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event. Specific requirements are outlined in Reference 1, Attachment 2.

Pursuant to Reference 1, Section IV, Condition C, PG&E submitted its overall integrated plan for mitigation strategies for beyond-design-basis external events in Reference 2.

Pursuant to Reference 1, Section IV, Condition C.2, and in accordance with the direction provided in NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX)



Implementation Guide," Enclosure 1 to this letter provides PG&E's third six-month status report of its overall integrated plan.

PG&E is making no new regulatory commitments (as defined by NEI 99-04). PG&E is making a revision to an existing regulatory commitment made in PG&E Letter DCL-12-110, "Pacific Gas and Electric Company's Response to Recommendation 9.3 Communications Requests 1 and 3 and the Evaluation of Existing Communications Systems Power Supplies," dated October 29, 2012. Enclosure 2 to this letter provides PG&E's revision to the existing regulatory commitment.

If you have any questions, or require additional information, please contact Mr. Patrick Nugent at (805) 781-9786.

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

Executed on August 21, 2014.

Sincerely,

Barry Allen  
*Site Vice President*

dmfn/SAPN 50466122-14

Enclosures

cc: Diablo Distribution  
cc:/enc: Marc L. Dapas, NRC Region IV Administrator  
Dan H. Dorman, NRC/NRR Director  
Thomas R. Hipschman, NRC, Senior Resident Inspector  
Balwant K. Singal, NRR Project Manager

## **Pacific Gas and Electric Company's Third Six-Month Status Report for the Implementation of NRC Order EA-12-049**

### **1. Introduction**

Pacific Gas and Electric Company (PG&E) developed an overall integrated plan (OIP) (Reference 1 [refer to Section 11 of this enclosure for a list of references]), documenting diverse and flexible strategies (FLEX), in response to Nuclear Regulatory Commission (NRC) Order Number EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012 (Reference 2). This enclosure provides the third update of milestone accomplishments since the submittal of Reference 1, including any changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any.

### **2. Milestone Accomplishments**

As of July 31, 2014, PG&E had one milestone accomplishment since the submittal of PG&E Letter DCL-14-014, "Pacific Gas and Electric Company's Second Six-Month Status Report in Response to March 12, 2012, Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," dated February 26, 2014 (Reference 3). This milestone accomplishment is that PG&E has started procedure guidance implementation for Unit 1 strategies.

### **3. Milestone Schedule Status**

The following table provides an update to the milestone schedule status provided in Reference 3. It provides the activity status of each item, and a revised target completion date where applicable. The target dates are subject to change as design and implementation details are developed.

There are no revisions to milestone target completion dates since the issuance of Reference 3.

<b>Activity</b>	<b>Target Completion Date</b>	<b>Activity Status</b>	<b>Revised Target Completion Date</b>
Submit 20-day report	Apr 2012	Complete	
Submit 60-day status report	Oct 2012	Complete	
Submit Overall Integrated Plan	Feb 2013	Complete	
<b>Submit six-month status updates</b>			
Update 1	Aug 2013	Complete	
Update 2	Feb 2014	Complete	
Update 3	Aug 2014	Complete	
Update 4	Feb 2015	Not started	



Activity	Target Completion Date	Activity Status	Revised Target Completion Date
Update 5	Aug 2015	Not started	
Update 6	Feb 2016	Not started	
Update 7	Aug 2016	Not started	
<b>Modifications timeline</b>			
Phase 1 Modifications			
a. Design	N/A	N/A	
b. Equipment Procurement	N/A	N/A	
c. Installation	N/A	N/A	
Phase 2 Modifications			
a. Design	12/31/14	Started	
b. Equipment Procurement	12/31/14	Started	
c. Unit 1 Installation	10/30/15	Not started	
d. Unit 2 Installation	5/31/16	Not started	
Phase 3 Modifications			
a. Design	12/31/14	Started	
b. Equipment Procurement	12/31/14	Started	
c. Unit 1 Installation	10/30/15	Not started	
d. Unit 2 Installation	5/31/16	Not started	
<b>Procedure guidance implementation</b>			
a. Unit 1 Strategies	10/30/15	Started	
b. Unit 2 Strategies	5/31/16	Not started	
c. Unit 1 Maintenance	10/30/15	Not started	
d. Unit 2 Maintenance	5/31/16	Not started	
e. Unit 1 Testing	10/30/15	Not started	
f. Unit 2 Testing	5/31/16	Not started	
<b>FLEX storage facilities</b>			
a. Warehouse B	12/31/14	Started	
b. Lot 11	12/31/14	Started	
<b>Staffing analysis</b>			
a. Phase 1			
1. Study Complete	3/29/13	Complete	
2. NRC Submittal	4/30/13	Complete	
b. Phase 2			
1. Study Complete	5/27/15	Not started	
2. NRC Submittal	5/27/15	Not started	
<b>Training completion for the strategies</b>			
a. Unit 1	10/30/15	Not started	
b. Unit 2	5/31/16	Not started	
<b>Regional response center 2 (Phoenix) operational</b>	8/28/14	Started	
<b>Communications equipment implementation (PG&amp;E Letter DCL-12-110)</b>			
a. Phase 1	12/31/13	Complete	



Activity	Target Completion Date	Activity Status	Revised Target Completion Date
b. Phase 2	10/27/15	Started	
<b>Unit 1 Walk-throughs or Demonstrations</b>	10/30/15	Not started	
<b>Unit 2 Walk-throughs or Demonstrations</b>	5/31/16	Not started	
<b>Unit 1 FLEX implementation complete</b>	10/30/15	Not started	
<b>Unit 2 FLEX implementation complete</b>	5/31/16	Not started	

#### 4. Changes to Compliance Method

The following identifies changes to Reference 3, as applicable, and the reason for each change. All changes meet applicable NEI 12-06 compliance methods.

##### Change 1 – “General Integrated Plan Elements”

(1) “Discussion of time constraints identified in Attachment 1A”

- (a) Item (16): Changed the time constraint for the initial site damage assessment from 3 hours to 2 hours.

If one of the raw water reservoir (RWR) sections is not available, the remaining RWR section is lined up to the plant and will need to be manually isolated within 2 hours to ensure sufficient water is available to supply to FLEX suction header, as determined in PG&E Calculation FLEX-005, “Determine Time Requirements to Isolate Raw Water Reservoir,” Revision 0.

(b) Item (21):

1. Replaced “ERCS pump” with “ERCS make-up pump” to be consistent with design documentation.
2. Clarified that the emergency reactor coolant system (ERCS) make-up pump takes suction from both boric acid storage tanks (BASTs) for each Unit.
3. Changed the time constraint for aligning the ERCS make-up pump suction to the BASTs from 16 hours to approximately 21 hours due to increased pump size.
4. Changed the total injection time for the ERCS make-up pump to meet the boration requirement from approximately 8 hours to approximately 3 hours due to increased pump size.

5. Changed the ERCS make-up pump size from 10 gallons per minute (gpm) to 30 gpm to increase time available before implementation.
- (c) Item (25): Deleted the action for establishing battery room ventilation.

As discussed in PG&E's response to 049-RAI-DCPP-063, PG&E Calculation HVAC 83-46, "Battery Rooms Exhaust During a LOOP and/or Loss of Class II Ventilation System," Revision 0, evaluates the effectiveness of the plant's ventilation ducts removing hydrogen from the battery rooms using only natural ventilation. The calculation concludes that under both design basis summer and winter conditions, with airflow only through the supply and exhaust vents with no fans running, there is sufficient natural ventilation to maintain the battery rooms at a hydrogen concentration of less than 1 percent by volume with no operator action. Therefore, Item (25) is not required.

- (d) Item (26): Changed the time constraint for placing the emergency auxiliary feedwater (EAFW) pump and RWR equipment in service from 31 hours to 41 hours based on revision to PG&E Calculation RE-20111111, "Coping Time Estimates for IER L1-11-4. Item 1," Revision 2.

- (e) Item (27):

1. Replaced "ERCS pump" with "ERCS make-up pump" to be consistent with design documentation.
2. Clarified that the ERCS make-up pump suction will pull from both BASTs for each Unit.

- (f) Item (28): Removed reference to the emergency spent fuel pool (SFP) pump. The RWR supply header provides adequate flow through flexible hoses to meet SFP cooling requirements; therefore, an emergency SFP (ESFP) pump is not required.

- (g) Item (33): Changed the time constraint for placing the portable emergency auxiliary saltwater (EASW) pump in service from 105 hours to 121 hours based on revision to PG&E Calculation RE-20111111, "Coping Time Estimates for IER L1-11-4. Item 1," Revision 2.

- (h) Items (26) through (33) were renumbered to reflect the deletion of Item (25).
- (2) Updated reference documents 7, 9, 10, 15, and 20 from Reference 3 for current document revisions used in calculations and evaluations.

Change 2 – “Maintain Core Cooling and Heat Removal Strategy”

- (1) “Phase 1, Core Cooling with SGs Available”: Changes the total time for seismically-protected water inventory for the turbine-driven auxiliary feedwater (AFW) pump from 31 hours to 41 hours based on revision to PG&E Calculation RE-20111111, “Coping Time Estimates for IER L1-11-4. Item 1,” Revision 2.
- (2) “Phase 2, Core Cooling with SGs Available”:
  - a. Clarified that the RWR pump suction strainer will prevent transporting any large debris from the RWR to the FLEX suction header that could impact the FLEX strategies. See response to 049-RAI-DCPP-043 in Section 7 for additional information.
  - b. Changed the volume of one section of the RWR from the nominal 90 percent full volume of approximately 2.25 million gallons to the lowest expected volume of approximately 1.5 million gallons based on values used in the revision to PG&E Calculation RE-20111111, “Coping Time Estimates for IER L1-11-4. Item 1,” Revision 2.
  - c. Changed the time that seismically-protected water is capable of supplying both Units’ coping strategies from 75 hours to 80 hours based on revision to PG&E Calculation RE-20111111, “Coping Time Estimates for IER L1-11-4. Item 1,” Revision 2.
  - d. Clarified that one section of the RWR is normally isolated from the plant and is credited for available FLEX water inventory.
  - e. Clarified that the installed RWR piping to the plant from either RWR section is not seismically qualified.
  - f. Clarified that the RWR will be evaluated early on in the site damage assessment and action taken as necessary to isolate the plant-aligned RWR section from its non-seismic piping within 2 hours to ensure the availability of an additional 1 million gallons in the second section of the RWR, as determined in PG&E Calculation FLEX-005, “Determine Time Requirements to Isolate Raw Water Reservoir,” Revision 0.



- (3) "Phase 2, Strategy, Equipment Storage – Lot 11 BDB Storage Facility (Figure 2)": Clarified that strainers for the RWR pump and backup RWR pump will be stored in FLEX storage facilities.

Change 3 – "Maintain RCS Inventory Control Strategy"

- (1) "Phase 1":
- a. Revised to reflect that following the declaration of an extended loss of alternating current power (ELAP), a plant cooldown to a steam generator pressure of 300 pounds per square inch, gage (psig) will be initiated within 8 hours after the ELAP and completed within 12 hours after the ELAP.
  - b. Clarified that boration of the reactor coolant system (RCS) is required to be completed within 24 hours after reactor shutdown to ensure subcriticality at xenon-free and cold conditions.
  - c. Revised the time for requiring a high pressure FLEX pump to maintain single phase natural circulation from approximately 49 hours to approximately 44 hours based on the change for plant cooldown from 240 to 300 psig, as determined in Westinghouse Letter LTR-FSE-14-55, Revision 0.
  - d. Clarified discussion on the previously evaluated accumulator strategy (Open Item 4) and removal of reference to Open Item 4.
- (2) "Phase 2":
- a. Replaced "ERCS pump" with "ERCS make-up pump" to be consistent with design documentation.
  - b. Updated the staging location of the ERCS make-up pump from the 115-foot elevation near the BASTs to the 100-foot elevation near the boric acid transfer pump (BATP). This is to facilitate pre-staging of the ERCS make-up pump, associated high pressure hoses, a 480-volt (V) generator, and associated equipment inside the radiological control area (RCA).
  - c. Changed the time constraint for ERCS make-up pump borated water injection into the RCS cold leg from 16 hours to approximately 21 hours due to increased pump size.
  - d. Clarified that the ERCS make-up pump suction will pull from both BASTs for each Unit.

- e. Changed the depletion time of the BASTs from 23 hours to 7.8 hours of continuous use due to increased pump size.
  - f. Clarified that the suction of the ERCS make-up pump will be switched to the refueling water storage tank prior to the depletion of the BASTs.
- (3) “Phase 2, Deployment Conceptual Modification”: Deleted the Strategy, Modifications, and Protection of Connections boxes for the Warehouse B Beyond-Design-Basis (BDB) Storage Facility and replaced them with a new row to reflect the pre-staging of the ERCS make-up equipment:

Strategy	Modifications	Protection of Connections
<b>Equipment Storage – Pre-staging inside the RCA:</b>  Two ERCS make-up pumps, associated high-pressure hoses, a 480-V generator, and associated equipment will be pre-staged inside the RCA.	<b>Equipment Storage – Pre-staging inside the RCA:</b>  N/A	<b>Equipment Storage – Pre-staging inside the RCA:</b>  N/A

- (4) “Phase 2, Strategy, Equipment Storage – Lot 11 BDB Storage Facility (Figure 2)”:
- a. Replaced “ERCS pump” with “ERCS make-up pump” to be consistent with design documentation.
  - b. Clarified that associated equipment for the 480-V generator will also be stored at the Lot 11 BDB Storage Facility.
- (5) “Phase 2, Strategy, Deployment”:
- a. Replaced “ERCS pump” with “ERCS make-up pump” to be consistent with design documentation.
  - b. Updated the deployment location of the ERCS make-up pump from “in the vicinity of the BAST” to “inside the auxiliary building.” This is to facilitate pre-staging of the ERCS make-up equipment inside the RCA.
  - c. Clarified that the ERCS make-up pump suction will pull from both BASTs for each Unit.
- (6) “Phase 2, Strategy, Connections”:

- a. Clarified that the ERCS make-up pump suction be being taken from both of BASTs for each Unit through the BATP suction line crosstie.
  - b. Replaced “ERCS pump” with “ERCS make-up pump” to be consistent with design documentation.
  - c. Updated the staging location of the ERCS make-up pump from the 115-foot elevation near the BASTs to the 100-foot elevation near the BATP for the pre-staged pump. The back-up pump, if required will be staged on the 115-foot elevation bench area.
  - d. Removed the statement referring to the ERCS make-up pump primary connection having quick connect fittings. The primary connections do not have quick connect fittings.
- (7) “Phase 2, Modifications, Connections”: Clarified that the ERCS make-up pump suction connection is on the BATP suction line crosstie.

Change 4 – “Maintain Spent Fuel Pool Cooling”

- (1) “Phase 2”:
- a. Removed reference to the ESFP pump. The RWR supply header provides adequate flow through flexible hoses (one per Unit) to meet SFP cooling requirements; therefore, an ESFP pump is not required.
  - b. Clarified that the RWR pump will be staged at the RWR, drawing water from the RWR through a suction hose equipped with a strainer. The RWR pump suction strainer will prevent transporting any large debris from the RWR to the FLEX suction header that could impact the FLEX strategies. See response to 049-RAI-DCPP-043 in Section 7 for additional information.
  - c. Clarified that strainers for the RWR pump and backup RWR pump will be stored in FLEX storage facilities.
  - d. Changed “ESFP hoses” to “flexible hoses”.
- (2) “Phase 2, Strategy, Equipment Storage – Warehouse B BDB Storage Facility (Figure 1)”: Removed reference to the ESFP pump. The RWR supply header provides adequate flow through flexible hoses to meet SFP cooling requirements; therefore, an ESFP pump is not required.



- (3) "Phase 2, Strategy, Equipment Storage – Lot 11 BDB Storage Facility (Figure 2)":
- a. Removed reference to the ESFP pump. The RWR supply header provides adequate flow through flexible hoses to meet SFP cooling requirements; therefore, an ESFP pump is not required.
  - b. Clarified that strainers for the RWR pump and backup RWR pump will be stored in FLEX storage facilities.
  - c. Clarified that two spray monitor nozzles will be stored in this facility. Six spray nozzles are being procured for this strategy to meet the N+1 requirement, with two being stored in the alternate facility.
- (4) "Phase 2, Strategy, Deployment": Removed reference to the ESFP pump. The RWR supply header provides adequate flow through flexible hoses (one per Unit) to meet SFP cooling requirements; therefore, an ESFP pump is not required.
- (5) "Phase 2, Strategy, Connections, Alternate Makeup": Removed references to Figures 18 and 19 (see Change 9).

Change 5 – "Safety Functions Support"

- (1) "Phase 2, Modifications, Connections, Primary Method": Clarified that there will be multiple permanent connection points for the 480-V generator power that will be installed on the telecommunications (TCOM) power system.
- (2) "Phase 2, Strategy, Connections, Alternate Method": Clarified that there will be multiple outputs from the 480-V generator load center configured to provide power to selected TCOM equipment.

Change 6 – OIP Table 1, "PWR Portable Equipment Phase 2"

- (1) Updated the performance criteria for the following pumps:

Three EAFW diesel-driven pumps	300 gpm at 245 psid
Three ERCS electric make-up pumps	30 gpm at 1500 psig

- (2) Removed the ESFP pumps as the RWR supply header provides adequate flow through flexible hoses to meet SFP cooling requirements; therefore, the ESFP pumps are not required.
- (3) Clarified title for the dewatering pumps to be for the auxiliary saltwater vacuum breaker vaults, and added Note (a) to be applicable to these pumps.
- (4) Identified the uses for the two EASW vault dewatering pumps by marking the boxes in Table 1 for Core, Containment, and SFP.
- (5) Clarified that the 480-V electrical cords and distribution panel for ERCS make-up pump are for both pumps, as the OIP currently identifies it for use with a single pump.
- (6) Identified the uses for the 480-V electrical cords and distribution panel for ERCS make-up pumps by marking the box in Table 1 for Core.
- (7) Clarified in Note (a) that the backup EASW equipment will be stored onsite.

Change 7 – Attachment 1A, “Sequence of Events Timeline”

- (1) Action Item 16: Changed the time constraint for the initial site damage assessment from 3 hours to 2 hours.

If one of the RWR sections is not available, the remaining RWR section is lined up to the plant and will need to be manually isolated within 2 hours to ensure sufficient water is available to supply to FLEX suction header, as determined in PG&E Calculation FLEX-005, “Determine Time Requirements to Isolate Raw Water Reservoir,” Revision 0.

- (2) Action Item 21:
  - a. Changed the elapsed time for aligning the ERCS make-up pump from the BASTs from 14 hours to 19 hours, and changed the time constraint from 16 hours to 21 hours due to increased pump size.
  - b. Replaced “ERCS pump” with “ERCS make-up pump” to be consistent with design documentation.
  - c. Clarified that the ERCS make-up pump suction will pull from both BASTs for each Unit.

- (3) Action Item 25: Deleted the action for establishing battery room ventilation.

As discussed in PG&E's response to 049-RAI-DCPP-063, PG&E Calculation HVAC 83-46, "Battery Rooms Exhaust During a LOOP and/or Loss of Class II Ventilation System," Revision 0, evaluates the effectiveness of the plant's ventilation ducts of removing hydrogen from the battery rooms using only natural ventilation. The calculation concludes that, under both design basis summer and winter conditions, with airflow only through the supply and exhaust vents with no fans running, there is sufficient natural ventilation to maintain the battery rooms at a hydrogen concentration of less than 1 percent by volume with no operator action. Therefore, Action Item 25 is not required.

- (4) Action Item 26: Changed the elapsed time for placing EAFW and RWR equipment in service from 24 hours to 30 hours, and changed the time constraint from 31 hours to 41 hours based on revision to PG&E Calculation RE-20111111, "Coping Time Estimates for IER L1-11-4. Item 1," Revision 2.
- (5) Action Item 28: Updated placing the ESFP pump in service to aligning the flexible hoses to the RWR supply header for SFP cooling as the RWR supply header provides adequate flow through flexible hoses to meet SFP cooling requirements; therefore, an ESFP pump is not required.
- (6) Action Item 29:
- a. Removed the superscript note (b) from the Action title
  - b. Updated the Remarks/Applicability section to add the statement, "Fuel storage (i.e. fuel bladders) will be provided by the RRC<sup>(b)</sup> with the fuel supply provided by plant contracts."
- (7) Action Item 30: Changed the time constraint for placing the large generators in service from 105 hours to 121 hours based on revision to PG&E Calculation RE-20111111, "Coping Time Estimates for IER L1-11-4. Item 1," Revision 2.
- (8) Action Item 31: Changed the time constraint for placing the portable EASW pump in service from 105 hours to 121 hours based on revision to PG&E Calculation RE-20111111, "Coping Time Estimates for IER L1-11-4. Item 1," Revision 2.
- (9) Action Items (26) through (31) were renumbered to reflect the deletion of Action Item (25).



Change 8 – OIP Attachment 2, “DCPP Units 1 and 2 Implementation Milestone Schedule”

Refer to Section 3 of this Enclosure.

Change 9 – OIP Attachment 3, “Conceptual Sketches”

See Attachment A for all revised Figures:

(1) Figure 6A Revisions:

- (a) Removed the ESFP pump from the SFP hose line.
- (b) Clarified the legend to state “SFP Flexible Hose.”
- (c) Modified route for the SFP flexible hose to be routed up the stairs to the SFP.
- (d) Clarified the title for the 480-V generator powering the ERCS make-up pumps.
- (e) Removed the staging location for the ERCS make-up pumps from the 115-foot elevation (now on the 100-foot elevation).
- (f) Modified route for 480-V generator cables to be routed down the stairwell for the ERCS make-up pumps.
- (g) Updated the legend to include route for 480-V generator cables for powering the ERCS make-up pumps.
- (h) Updated the legend to remove reference to “RCS SGs Available.”
- (i) Clarified “To Unit 2” to “To Figure 7A.”

(2) Figure 6B Revisions:

- (a) Added staging location for the Unit 1 ERCS make-up pump.
- (b) Added route for 480-V generator cables to the ERCS make-up pumps.
- (c) Updated the legend to include route for 480-V generator cables for powering the ERCS make-up pumps.

- (d) Moved AFW steam generators (SGs) not available connection to residual heat removal (RHR) crosstie to reflect physical location of connection point.
  - (e) Added note "To Figure 7B" for lines that connect to the Unit 2 ERCS make-up pump.
- (3) Figure 7A Revisions:
- (a) Removed the ESFP pump from the SFP hose line.
  - (b) Clarified the legend to state "SFP Flexible Hose."
  - (c) Modified route for the SFP flexible hose to be routed up the stairs to the SFP.
  - (d) Updated the legend to remove reference to "RCS SGs Available."
  - (e) Clarified "From Unit 1" to "From Figure 6A."
- (4) Figure 7B Revisions:
- (a) Added staging location for the Unit 2 ERCS make-up pump.
  - (b) Added route for 480-V generator cable to the ERCS make-up pump.
  - (c) Updated the legend to include route for 480-V generator cables for powering the ERCS make-up pumps.
  - (d) Moved AFW SGs not available connection to RHR crosstie to reflect physical location of connection point.
  - (e) Added note "To Figure 6B" for lines that connect from the Unit 2 ERCS make-up pump.
- (5) Figure 8A Revisions:
- (a) Removed the ESFP pump from the SFP hose line.
  - (b) Clarified the legend to state "SFP Flexible Hose."
  - (c) Clarified the title for the 480-V generator powering the ERCS make-up pumps.

- (d) Removed the staging location for the ERCS make-up pumps from the 115-foot elevation (now on the 100-foot elevation).
  - (e) Modified route for 480-V generator cables to be routed down the stairwell for the ERCS make-up pumps.
  - (f) Updated the legend to include route for 480-V generator cables for powering the ERCS make-up pumps.
  - (g) Updated the legend to remove reference to "RCS SGs Available."
  - (h) Clarified "To Unit 2" to "To Figure 9A."
- (6) Figure 8B Revisions:
- (a) Added staging location for the Unit 1 ERCS make-up pump.
  - (b) Added route for 480-V generator cables to the ERCS make-up pumps.
  - (c) Updated the legend to include route for 480-V generator cables for powering the ERCS make-up pumps.
  - (d) Added note for SFP connection point to bonnet on valve SFS-1-8771B.
  - (e) Clarified the legend to state "SFP Flexible Hose."
  - (f) Added note "To Figure 9B" for lines that connect to the Unit 2 ERCS make-up pump.
- (7) Figure 9A Revisions:
- (a) Removed the ESFP pump from the SFP hose line.
  - (b) Clarified the legend to state "SFP Flexible Hose."
  - (c) Clarified "From Unit 1" to "From Figure 8A."
- (8) Figure 9B Revisions:
- (a) Added staging location for the Unit 2 ERCS make-up pump.
  - (b) Added route for 480-V generator cable to the ERCS make-up pump.



- (c) Updated the legend to include route for 480-V generator cables for powering the ERCS make-up pumps.
  - (d) Added note for SFP connection point to bonnet on valve SFS-2-8771B.
  - (e) Clarified the legend to state "SFP Flexible Hose."
  - (f) Added note "To Figure 8B" for lines that connect from the Unit 2 ERCS make-up pump.
- (9) Figure 16: Modified route for the SFP flexible hose to be routed up the stairs to the SFP.
- (10) Figure 17: Modified route for the SFP flexible hose to be routed up the stairs to the SFP.
- (11) Deleted Figure 18, which shows the SFP connection on the 100-foot elevation for Unit 1. This connection is already shown on Figure 8B.
- (12) Deleted Figure 19, which shows the SFP connection on the 100-foot elevation for Unit 2. This connection is already shown on Figure 9B.

## **5. Need for Relief/Relaxation and Basis for the Relief/Relaxation**

PG&E expects to comply with the order implementation date and no relief/relaxation is required at this time.

## **6. Open Items from Overall Integrated Plan**

The following provides a summary and status of the open items documented in Reference 1. Open items identified as completed in References 3 and 4 require no further update.

### OI-1

Required staffing levels will be verified by walkthroughs, tabletops, and simulations of the identified FLEX strategies as a part of the Phase 2 staffing studies conducted in accordance with NEI 12-01.

Status: Not started. The Phase 2 staffing assessment will be completed and submitted to the NRC four months prior to the Unit 1 19th refueling outage, which is currently scheduled to begin in the Fall of 2015 (Reference 7).

OI-6

PG&E will develop procedures to read this instrumentation locally, where applicable, using a portable instrument as required by NEI 12-06, Section 5.3.3.

Status: Procedures are currently scheduled to be issued by October 31, 2015, for Unit 1 and May 31, 2016, for Unit 2.

**7. NRC FLEX Audit RAI Updates**

PG&E provided its response to NRC FLEX Audit requests for additional information (RAIs) in November 2013. In its response, PG&E committed to provide an update of specific items in the six-month status reports prepared pursuant to NRC Order EA-12-049. RAIs identified as completed in Reference 3 require no further update.

The following provides a summary of the NRC FLEX RAI status updates:

049-RAI-DCPP-003:

PG&E will provide the storage locations of the debris removal equipment.

Status: PG&E is evaluating the debris removal equipment needed and the appropriate storage locations for the equipment and will provide the storage locations of debris removal equipment in a future six-month status update.

049-RAI-DCPP-010:

PG&E will provide parking locations of the trucks required to support the movement of the FLEX equipment within the required timeframes.

Status: PG&E is evaluating the parking location options for the trucks required to support the movement of FLEX equipment within the required timeframes and will provide the parking locations in a future six-month status update.

049-RAI-DCPP-040:

PG&E will confirm that the performance of SHIELD reactor coolant pump (RCP) low-leakage seals, following the redesign, will not preclude personnel entry into the containment to allow manual actions to be taken or result in additional heat added to containment in Modes 1 through 4 than was assumed in the extended loss of alternating current power event containment integrity analysis.

Status: This item is complete. The SHIELD RCP low-leakage seal redesign was completed and submitted to the NRC in Westinghouse Technical Reports TR-FSE-14-1-P, Revision 1 and TR-FSE-14-1-NP, Revision 1, "Use of

Westinghouse SHIELD® Passive Shutdown Seal for FLEX Strategies,” dated March 19, 2014, and April 22, 2014, respectively. This document was endorsed by the NRC on May 28, 2014, ADAMS Accession No. ML14132A128. The redesigned SHIELD RCP low-leakage seals will not preclude personnel entry into the containment to allow manual actions to be taken or result in additional heat added to containment in Modes 1 through 4 than was assumed in the ELAP event containment integrity analysis.

049-RAI-DCPP-043:

The suction hose connected to the RWR pump and dropped into the RWRs will have a strainer. PG&E will provide additional information on the strainer design.

Status: This item is complete. A strainer installed on the suction of the RWR pump will prevent any debris that could adversely impact FLEX equipment from entering the line that supplies the suction header.

**8. Interim Staff Evaluation Open and Confirmatory Item Updates**

The following provides PG&E’s response to the NRC Interim Staff Evaluation open item and confirmatory items. Open item and confirmatory items identified as completed in Reference 3 require no further update:

Confirmatory Item 3.1.1.1.A:

*The licensee’s response to the NRC audit process noted that both FLEX equipment storage locations may be subject to seismically-induced small landslide debris flows, which will be accommodated into the design of the facilities. Confirm incorporation of the capability to withstand seismically-induced small landslide debris flow.*

Response: PG&E will evaluate the capability of FLEX equipment storage locations to withstand seismically-induced small landslide debris flow and provide requested confirmation in a future six-month status update.

Confirmatory Item 3.1.1.4.A (049-RAI-DCPP-006):

*Off-Site Resources – Confirm RRC local staging area, evaluation of access routes, and method of transportation to the site.*

Response: PG&E will confirm RRC local staging area, evaluation of access routes, and method of transportation to the site in a future six-month update.



Confirmatory Item 3.2.1.A:

*NEI 12-06, Section 3.2.1.5, on reactor coolant inventory loss, states sources of expected reactor coolant inventory loss includes "losses from letdown unless automatically isolated or until isolation is procedurally directed." Provide discussion and/or analysis regarding letdown losses.*

Response: PG&E will provide a discussion and/or analysis regarding letdown in a future six-month status update.

Confirmatory Item 3.2.1.B:

*RCS cooling and heat removal, and RCS inventory control – The licensee provided information regarding the analysis from WCAP-17601 applicable to DCPD in response to NRC staff requests. The NRC staff is continuing to review this information to ensure the licensee sufficiently justifies the analysis being applied. Additional information may be needed to confirm appropriate use of the analysis.*

Response: PG&E notes that the NRC Staff is continuing to review information regarding the analysis from WCAP-17601 applicable to Diablo Canyon Power Plant (DCPP) in response to NRC Staff requests. PG&E will provide additional information, if required, in a future six-month status update.

Confirmatory Item 3.2.1.2.A:

*Provide justification (to include the applicable analysis and relevant seal leakage testing data) that the integrity of the associated O-rings will be maintained at the temperature conditions experienced during the ELAP event.*

Response: This item is complete. The SHIELD RCP low-leakage seal redesign was completed and submitted to the NRC in Westinghouse Technical Reports TR-FSE-14-1-P, Revision 1 and TR-FSE-14-1-NP, Revision 1, "Use of Westinghouse SHIELD® Passive Shutdown Seal for FLEX Strategies," dated March 19, 2014, and April 22, 2014, respectively. This document was endorsed by the NRC on May 28, 2014, ADAMS Accession No. ML14132A128. It is identified in these technical reports that the SHIELD RCP low-leakage seals and associated O-rings are able to perform their functions at RCS cold leg temperatures at or below 571°F. As described in the DCPD Updated Final Safety Report, Table 4.1-1, the operating temperatures for the cold leg are 544.5°F for Unit 1 and 545.1°F for Unit 2. As these temperatures are below the design requirement temperatures for the SHIELD RCP low-leakage seals, the integrity of the associated O-rings will be maintained at the temperature conditions experienced during the ELAP event.

Confirmatory Item 3.2.1.2.B:

*Some Westinghouse plants have installed or will install the SHIELD shutdown seals, or other types of low leakage seals and have credited or will credit a low seal leakage rate (e.g., 1 gpm/seal) in the ELAP analyses for the RCS response. Information should be provided to address the impacts of the Westinghouse 10 CFR Part 21 report, "Notification of the Potential Existence of Defects Pursuant to 10 CFR Part 21," dated July 26, 2013 (ADAMS Accession No. ML13211A168) on the use of the low seal leakage rate in the ELAP analysis.*

Response: This item is complete. The SHIELD RCP low-leakage seal redesign was completed and submitted to the NRC in Westinghouse Technical Reports TR-FSE-14-1-P, Revision 1 and TR-FSE-14-1-NP, Revision 1, "Use of Westinghouse SHIELD® Passive Shutdown Seal for FLEX Strategies," dated March 19, 2014, and April 22, 2014, respectively. This document was endorsed by the NRC on May 28, 2014, ADAMS Accession No. ML14132A128. The SHIELD RCP low-leakage seals have been redesigned since the issuance of the Westinghouse 10 CFR Part 21 report, and it is recommended to assume a constant seal leakage rate of 1 gpm/pump for the re-designed SHIELD RCP seals, as identified in Item 4 of the TR-FSE-12-1-P/NP NRC document endorsement letter. Although the seal leakage may be higher than 1 gpm/pump before shutdown seal actuation, actuation would occur approximately 10 minutes after the initiating event, which is negligible compared to the 168-hour duration of the ELAP event (see TR-FSE-12-1-P/NP NRC endorsement letter).

Confirmatory Item 3.2.1.2.C:

*Should the seals be changed to the newly designed Generation 3 SHIELD seals or non-Westinghouse seals, the licensee should address the acceptability of the use of the newly designed Generation 3 SHIELD seals or non-Westinghouse seals and justification for the RCP seal leakages rates for use in the ELAP analysis.*

Response: This item is complete. The SHIELD RCP low-leakage seal redesign was completed and submitted to the NRC in Westinghouse Technical Reports TR-FSE-14-1-P, Revision 1 and TR-FSE-14-1-NP, Revision 1, "Use of Westinghouse SHIELD® Passive Shutdown Seal for FLEX Strategies," dated March 19, 2014, and April 22, 2014, respectively. This document was endorsed by the NRC on May 28, 2014, ADAMS Accession No. ML14132A128. TR-FSE-12-1-P/NP recommends assuming a constant seal leakage rate of 1 gpm/pump for the redesigned SHIELD RCP seals. Although the seal leakage may be higher than 1 gpm/pump before shutdown seal actuation, actuation would occur approximately 10 minutes after the initiating event, which is negligible compared to the 168-hour duration of the ELAP event (see TR-FSE-12-1-P/NP NRC endorsement letter).



Confirmatory Item 3.2.1.4.A:

*The licensee used the Modular Accident Analysis Program (MAAP) code in performing its ELAP analyses. Aspects of the MAAP code analyses, such as boundary conditions, nodalization, and the selection of code options for modeling key physical phenomena, were not discussed in the Integrated Plan. Provide an understanding of the above issues to assess the technical adequacy of the code and determining the code's range of applicability.*

Response: PG&E will provide information on the Modular Accident Analysis Program (MAAP) code used in performing the ELAP analysis to show the technical adequacy of the code and the code's range of applicability in a future six-month status update.

Confirmatory Item 3.2.1.6.A:

*On pages 70 through 73 in the Integrated Plan, the licensee listed elapsed times and time constraints in different columns in Attachment 1A (sequence of events timeline). The review determined that the times listed in the elapsed time column and the time constraint column often are the same and provide no margin between the elapsed time and the time constraint time. Provide clarification on how early a step must be begun to meet the time constraint, when the licensee actually expects to begin performing the step, and information on what margin exists for these critical actions, and whether the time can be reasonably met.*

Response: PG&E will provide clarification on how early a step must be begun to meet the time constraint, when it is expected to begin performing the step, information on what margin exists for these critical actions, and whether the time can be reasonably met in a future six-month status update.

Confirmatory Item 3.2.4.3.A (049-RAI-DCPP-071):

*Heat Tracing – The licensee is considering a minimum design temperature of 24 degrees F. As a result, the effect of the lower temperature on the BASTs is being re-evaluated.*

Response: This item is complete. In the evaluation for the impact of a minimum design temperature of 24°F, PG&E determined that piping containing the high concentration of boric acid from the BASTs would be subject to limited precipitation, but that this precipitation would not impact the ability to inject water into the RCS; the BASTs themselves would not be impacted. The installed heat trace for the piping system is not required for the amount of limited precipitation that may occur.



Confirmatory Item 3.2.4.4.A:

*Communications – Confirm that upgrades to the site's communications systems have been completed.*

Response: PG&E will confirm the completion of the upgrades to the site's communications systems in a future six-month status update.

Confirmatory Item 3.2.4.6.A:

*Confirm personnel protective measures for operator protection should entry into the TDAFW pump room be necessary following an ELAP.*

Response: This item is complete. As shown in PG&E Calculation M-912, the temperature of the turbine-driven auxiliary feedwater (TDAFW) pump room would increase over time after a loss of all HVAC. As the FLEX strategies require hose routes to pass through this room, personnel will be required to pass through the high temperature area of the TDAFW pump room. Personnel would not be in the room for extended times or performing work in the room. The estimated time of exposure to the high temperatures is less than one minute, and would not impact the personnel's ability to implement this strategy. Therefore, no personnel protective measures are required for entry into the TDAFW pump room.

Confirmatory Item 3.2.4.8.A:

*Confirm protective features of the Class 1E circuit breaker will be evaluated by engineering calculation to adequately protect the bus, and that all load breakers be disabled (dc switch open) prior to energizing the 4-KV bus with FLEX DG.*

Response: PG&E will confirm protective features of the Class 1E circuit breaker will be evaluated by engineering calculation to adequately protect the bus, and that all load breakers be disabled (dc switch open) prior to energizing the 4-kilovolt (kV) bus with FLEX diesel generator in a future six-month status update.

Confirmatory Item 3.2.4.10.A:

*The licensee has not informed the NRC of their plan to abide by the generic resolution related to extended battery duty cycles, or their plans to address potential plant-specific issues associated with implementing this resolution.*

Response: PG&E will provide its plan to abide by the generic resolution related to extended battery duty cycles, or plans to address potential plant-specific issues associated with implementing this resolution, in a future six-month status update.

Confirmatory Item 3.4.A:

*NEI 12-06, Section 12.2 lists minimum capabilities for offsite resources for which each Licensee should establish the availability. Discuss implementation of Guidelines 2 through 10 in NEI 12-06, Section 12.2.*

Response: PG&E will discuss the implementation of Guidelines 2 through 10 in NEI 12-06, Section 12.2, in a future six-month status update.

**9. Planned Communications Equipment Status Updates**

PG&E submitted its response to a RAI regarding the Recommendation 9.3 Communications Assessment in PG&E Letter DCL-12-110, "Pacific Gas and Electric Company's Response to Recommendation 9.3 Communications Requests 1 and 3 and the Evaluation of Existing Communications Systems Power Supplies," dated October 29, 2012 (Reference 5). In its response, PG&E committed to provide a status update of the planned communications equipment in the six-month status reports prepared pursuant to NRC Order EA-12-049, Section IV.C.2. The following provides a status update of the planned communication equipment.

Communications Item 1:

As discussed in Reference 5, PG&E committed to procure additional hand held satellite phones, batteries, and chargers that will be provided with portable generator back-up power by December 31, 2013.

In Reference 6, PG&E concluded that a total of 9 satellite phones, 27 satellite phone batteries, and 5 multi-unit satellite phone chargers are required to ensure that the control room (CR), technical support center (TSC), and emergency operations facility have a dedicated line to perform State and County notifications. In addition, PG&E concluded that 8 satellite phones, 18 satellite phone batteries, and 5 multi-unit satellite phone chargers need to be procured.

Status:

- (1) PG&E has procured an additional eight satellite phones and placed into service nine satellite phones. The procurement of the additional satellite phones was reported as complete in Reference 3.
- (2) PG&E has procured 18 satellite phone batteries. The procurement of the satellite phone batteries was reported as complete in Reference 3.
- (3) PG&E has procured five multi-unit satellite phone chargers. The procurement of the satellite phone chargers was reported as complete in Reference 3.

- (4) Refer to Communications Item 5 for a status of the portable diesel generators. Until the portable diesel generators are received and placed in service, the hand held satellite phone chargers will be provided with back-up power using the communications trailer diesel generator. A procedure for charging the satellite phones using the communications trailer was reported as completed in Reference 3.

Clarification: As discussed in Reference 6, the portable hand held satellite phones have a talk time of 3.1 hours and a recharge time of 4 hours.

However, the additional batteries procured for the portable hand held satellite phones have talk time of 6 hours. The recharge time for the portable hand held satellite phones is 6 hours.

Communications Item 2:

As discussed in Reference 5, PG&E committed to install a fixed satellite phone with an external antenna in the Sheriff Watch Commander's office by October 27, 2015. As discussed in Reference 6, back-up power for the Sheriff Watch Commander's fixed satellite phone will be provided by an existing diesel generator with a 1000-gallon tank that is capable of providing 120 hours of power.

Status: The installation of the Sheriff Watch Commander's fixed satellite phone and antenna is on schedule.

Communications Item 3:

As discussed in Reference 6, PG&E committed to procure additional single and dual band radio batteries and chargers that will be provided with portable generator back-up power by October 27, 2015.

Based on a review of the radio specifications in Reference 6, PG&E concluded that a total of 160 dual band radio batteries, 150 single band radio batteries, 14 6-unit and 20 single-unit dual band chargers, and 13 6-unit and 20 single-unit single band chargers are required to maintain communications within a 24-hour period. Reference 5 also stated that 80 dual band radio batteries and 75 single band radio batteries need to be procured.

Status:

- (1) The procurement of the additional single- and dual-band radio batteries is on schedule to be completed by October 27, 2015.



- (2) PG&E has 14 6-unit and 20 single-unit dual band chargers, and 13 6-unit and 20 single-unit single band chargers. This item was reported as complete in Reference 3.
- (3) Refer to Communications Item 5 for a status of the portable diesel generators.

Communications Item 4:

As discussed in Reference 5, PG&E committed to improve operation support center (OSC) communications by installing a radio console. Radios, batteries, and chargers will be relocated to support continued radio communications. This equipment (OSC radio console) will be placed in service with approved procedures as part of Phase 2, which is scheduled for October 27, 2015.

Status: PG&E has determined that the OSC communications capability will not require a radio console. Communications capability will be met through the use of portable hand held radios and the radios in the BDB communications trailers. NRC Letter, "Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012 (Reference 9), required licensees to provide an assessment of current communications systems and equipment used during an emergency to identify any enhancements that may be needed to ensure communications are maintained during a large scale natural event. Existing and new BDB communications equipment credited in Reference 5 meet the NRC's requirement to maintain communications capability during a large scale natural event.

PG&E intended to relocate the radios, batteries, and chargers to the OSC. PG&E has decided to relocate the radios, batteries, and chargers to a FLEX storage facility.

The radios, batteries, and chargers will be relocated to a FLEX storage facility as part of Phase 2, which is scheduled for October 27, 2015. Refer to Communications Item 3 for a status of the procurement of the additional radios, batteries, and chargers.

As discussed in Reference 6, PG&E committed to procure portable generators and equipment to ensure that adequate power will exist to support extended operations. Refer to Communications Item 5 for a status of the portable generators. The OSC will be equipped with a portable diesel generator, with a 24-hour fuel tank capacity, to provide power to lights and communications equipment.

Status: PG&E has determined that the equipment in the OSC will not require a portable diesel generator for the OSC to power communications equipment and lights because the BDB communications equipment has back-up power sources. Reference 9 required licensees to identify any planned or potential improvements to existing communications systems and their required normal and/or back-up power supplies. The strategy to repower communications equipment, for a 24-hour duration, is adequately met using spare batteries and the BDB communications trailer.

Communications Item 5:

As discussed in Reference 5, PG&E committed to procure portable generators and equipment to ensure that adequate power will exist to support extended operations. This equipment will be placed in service with approved procedures as part of Phase 2, which is scheduled for October 27, 2015.

Status: The portable generator enhancements are on schedule.

Communications Item 6:

As discussed in Reference 5, PG&E committed to relocate the SmartMsg and Zetron pager systems from their current location to an existing structure that is seismically robust. This will be completed by October 27, 2015.

As discussed in Reference 6, the paging system battery will be battery backed, with a cable from a portable diesel generator, to ensure that adequate power will exist to support extended operations beyond 24 hours. Refer to Communications Item 5 for a status of the portable generators.

Status: The relocation of the SmartMsg and Zetron pager systems is on schedule.

Communications Item 7:

As discussed in Reference 6, PG&E committed to establish credited manual actions and their procedures in accordance with NEI 12-01 and NRC Order EA-12-049. Credited manual actions and procedures for the Phase 1 communications are scheduled to be completed by December 31, 2013. Credited manual actions and procedures for the Phase 2 communications are currently scheduled to be completed by October 27, 2015.

Status: Credited manual actions and procedures for Phase 1 communication were reported as complete in Reference 3.



Completion of Phase 2 credited manual actions and their procedures are on schedule.

Communications Item 8:

As discussed in Reference 6, PG&E committed to establish maintenance procedures for the planned enhancements, including operability testing, in accordance with NEI 12-01 and NRC Order EA-12-049. Maintenance procedures for the Phase 1 communications are currently scheduled to be completed by December 31, 2013. Maintenance procedures for the Phase 2 communications are currently scheduled to be completed by October 27, 2015.

Status: Temporary maintenance procedures for the Phase 1 communications were reported as complete in Reference 3. A permanent procedure for maintenance of the Phase 1 communications will be completed with Phase 2 procedures. Completion of Phase 2 maintenance procedures are on schedule.

Communications Item 9:

As discussed in Reference 6, PG&E committed to establish periodic inventory checks for the planned enhancements in accordance with NEI 12-01 and NRC Order EA-12-049. Periodic inventory checks for the Phase 1 communications are currently scheduled to be completed by December 31, 2013. Periodic inventory checks for the Phase 2 communications are currently scheduled to be completed by October 27, 2015.

Status: A temporary procedure for inventory checks of the Phase 1 communications equipment was reported as completed in Reference 3. A permanent procedure for inventory checks of the Phase 1 communications equipment will be completed with Phase 2 procedures. Completion of Phase 2 inventory procedures is on schedule.

Communications Item 10:

As discussed in Reference 6, PG&E committed to develop training plans for response personnel in plant groups such as the emergency response organization, fire, security, emergency planning, operations, engineering, and maintenance. The training plans will be developed in accordance with DCPD procedures using the systematic approach to training and will be implemented to ensure that the required DCPD staff is trained in accordance with NEI 12-01 and NRC Order EA-12-049. Training for applicable plant staff on the Phase 1 communications equipment was scheduled to be completed by December 31, 2013. Training for plant staff on the Phase 2 communications equipment is currently scheduled to be completed by October 27, 2015.



Status: Training plans and training for applicable plant staff on the Phase 1 communications equipment were reported complete in Reference 3. Phase 2 plant staff training is on schedule.

Communications Item 11:

As discussed in Reference 5, PG&E committed to relocate onsite Field Monitoring Team (FMT) satellite phones to the onsite FMT vehicle. Currently, the onsite FMT satellite phones are not stored in a structure that is considered to be seismically robust in accordance with NEI 12-01. This commitment will be implemented as part of Phase 2, which is scheduled for October 27, 2015.

Status: PG&E will relocate the onsite FMT satellite phones to an onsite FLEX storage facility. The FLEX storage facility will be seismically robust in accordance with NEI 12-01 and NEI 12-06. The FMT satellite phone relocation is on schedule.

Communications Item 12:

As discussed in Reference 6, PG&E committed to provide power from an uninterrupted power supply with 6 hours of back-up power to the CR and TSC fixed satellite phones by October 27, 2015.

Status: PG&E will provide power from an uninterrupted power supply with 24 hours of back-up power to the CR and TSC fixed satellite phones to ensure that the CR and TSC fixed satellite phones will be functional for a 24-hour duration. The uninterrupted power supply improvements are on schedule.

## **10. Potential Draft Safety Evaluation Impacts**

There are no potential impacts to the Draft Safety Evaluation identified at this time.

## **11. References**

The following references support the updates to the OIP described in this enclosure:

- (1) PG&E Letter DCL-13-007, "Pacific Gas and Electric Company's Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," dated February 27, 2013
- (2) NRC Order Number EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012

- (3) PG&E Letter DCL-14-014, "Pacific Gas and Electric Company's Second Six-Month Status Report in Response to March 12, 2012, Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated February 26, 2014
- (4) PG&E Letter DCL-13-081, "Pacific Gas and Electric Company's First Six-Month Status Report in Response to March 12, 2012, Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated August 22, 2013
- (5) PG&E Letter DCL-12-110, "Pacific Gas and Electric Company's Response to Recommendation 9.3 Communication Requests 1 and 3 and the Evaluation of Existing Communications Systems Power Supplies," dated October 29, 2012
- (6) PG&E Letter DCL-13-012, "30-Day Response to Request for Additional Information Regarding the Recommendation 9.3 Communications Assessment," dated February 21, 2013
- (7) PG&E Letter DCL-12-048, "60-Day Response to NRC Letter, "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012
- (8) NRC Interim Staff Guidance, "Diablo Canyon Power Plant, Unit Nos. 1 and 2 – Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order EA-12-049 (Mitigation Strategies) (TAC Nos. MF0958 and MF0959)," dated February 3, 2014
- (9) NRC Letter, "Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012

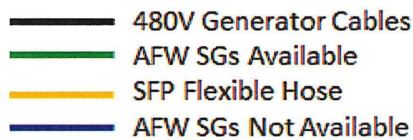


Figure 6A  
All Strategies – Primary  
Unit 1 and 2  
Elevation 115'



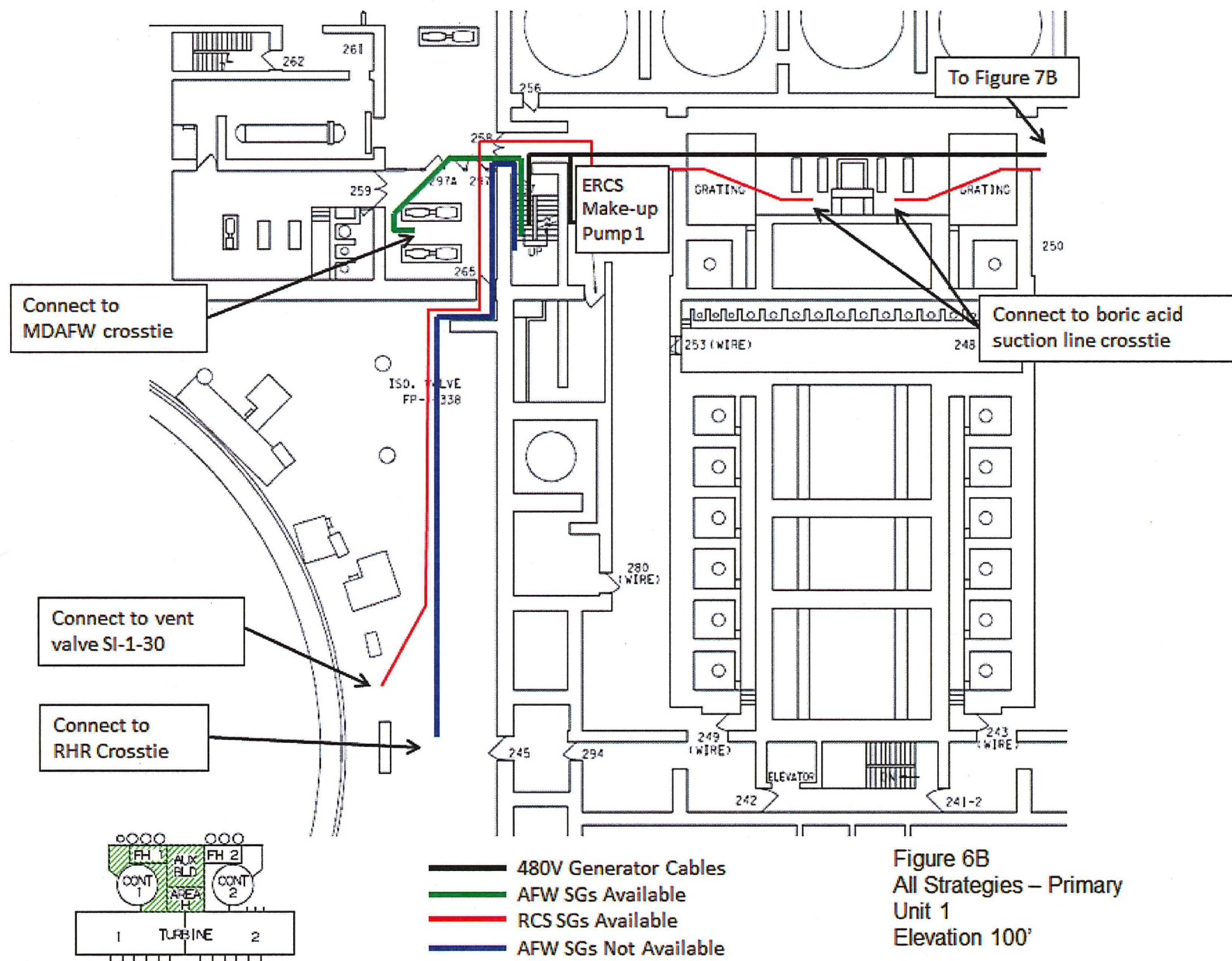


Figure 6B  
All Strategies – Primary  
Unit 1  
Elevation 100'

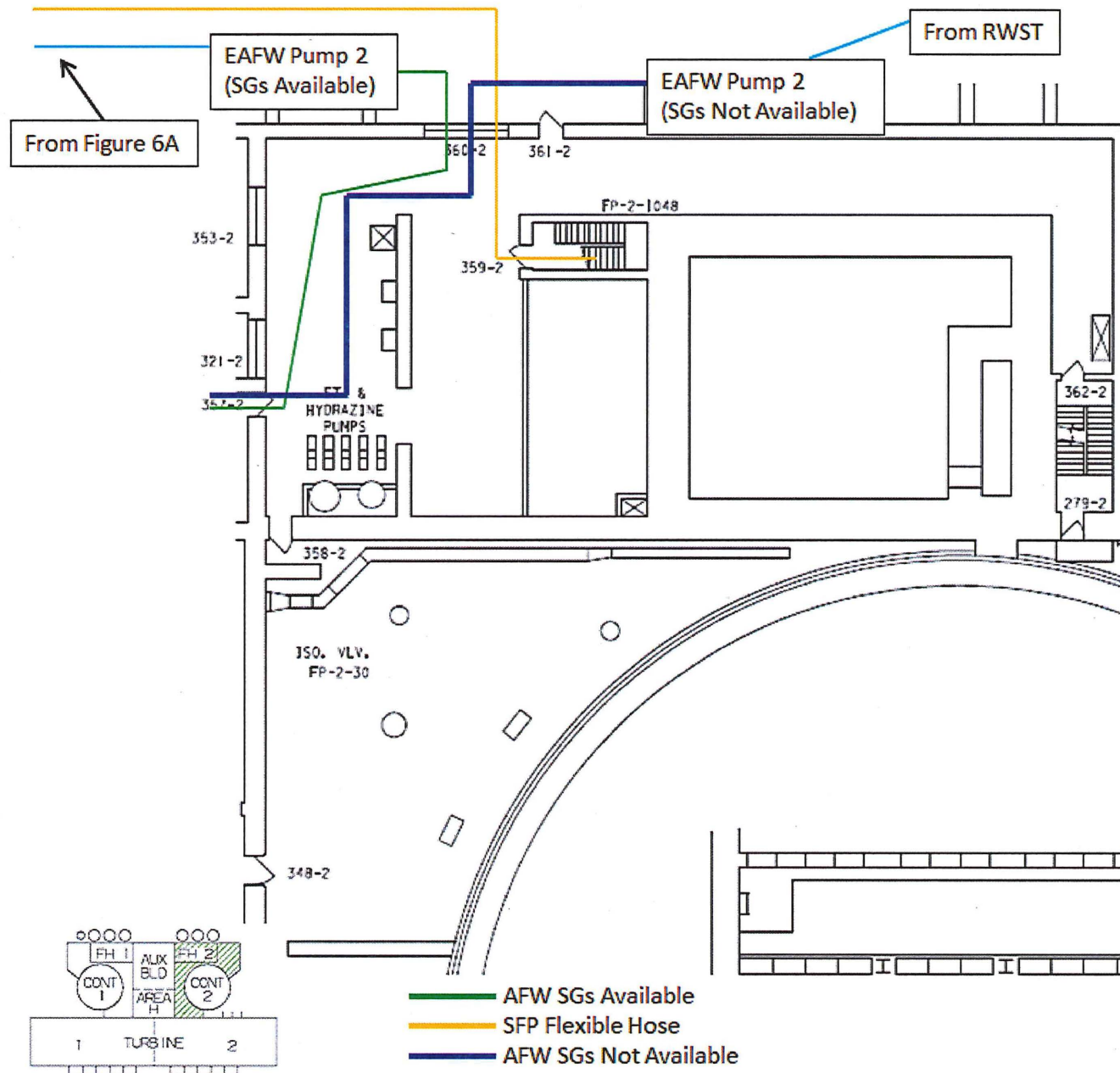


Figure 7A  
All Strategies – Primary  
Unit 2  
Elevation 115'

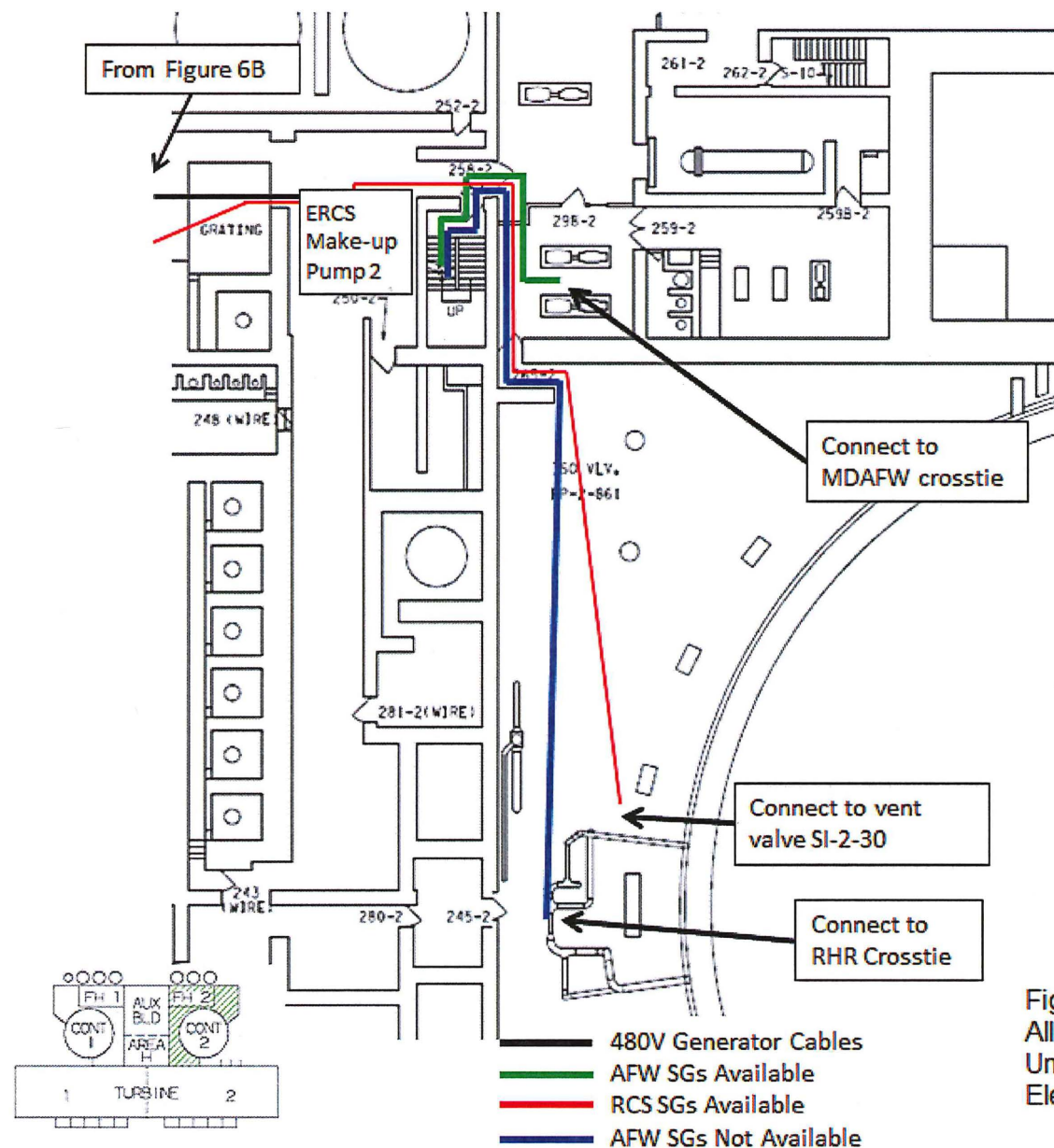


Figure 7B  
All Strategies – Primary  
Unit 2  
Elevation 100'



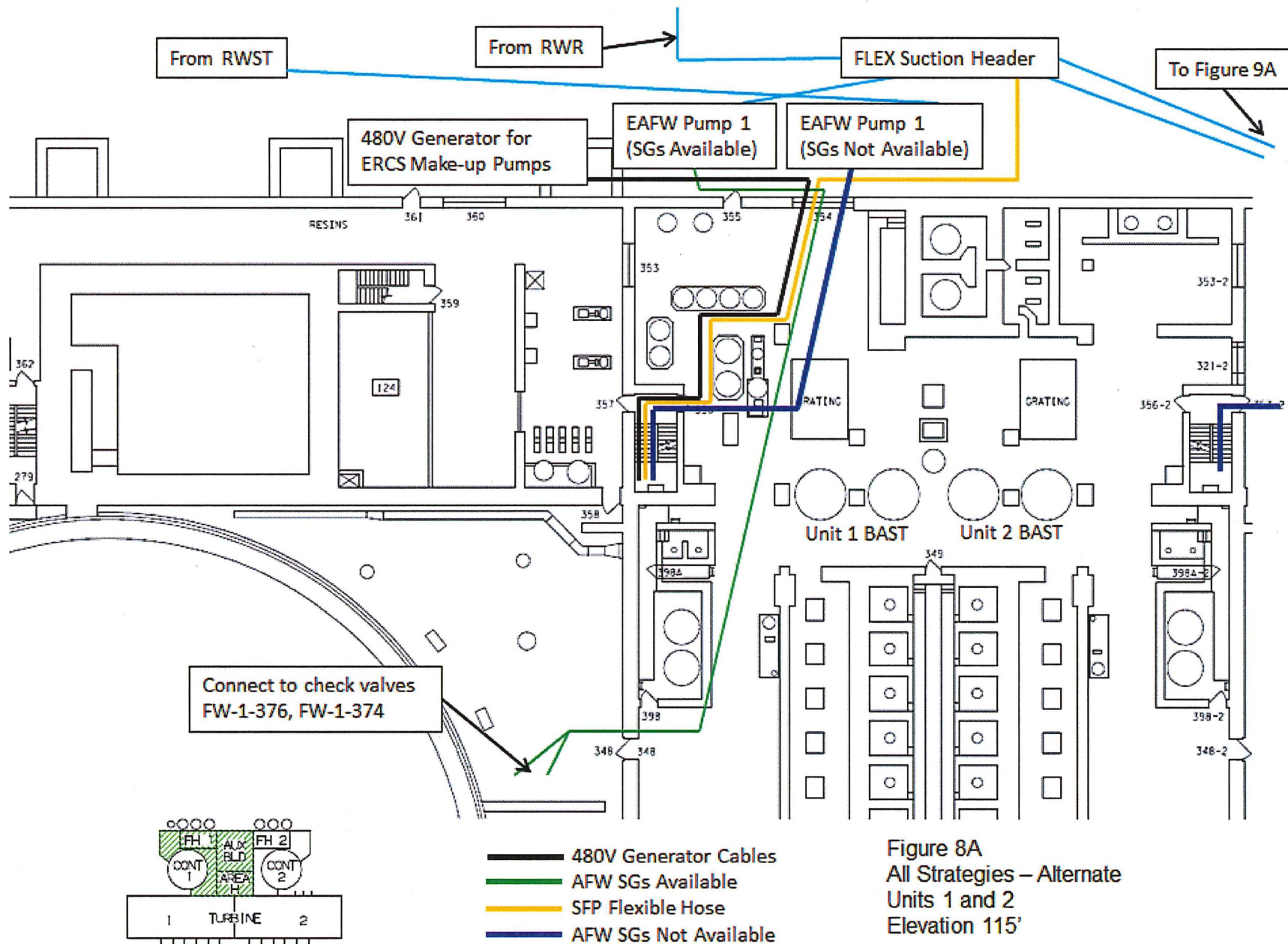
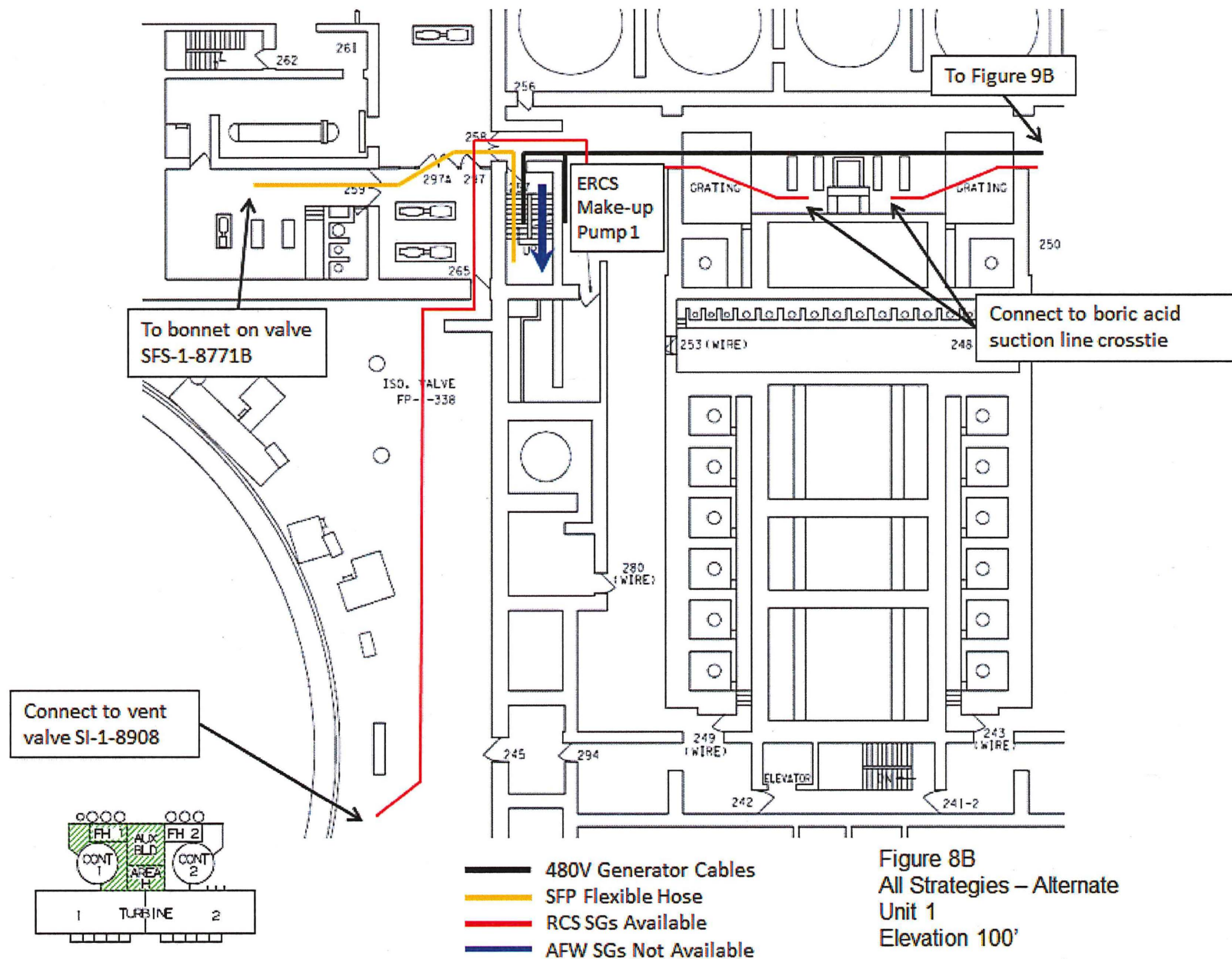


Figure 8A  
 All Strategies - Alternate  
 Units 1 and 2  
 Elevation 115'



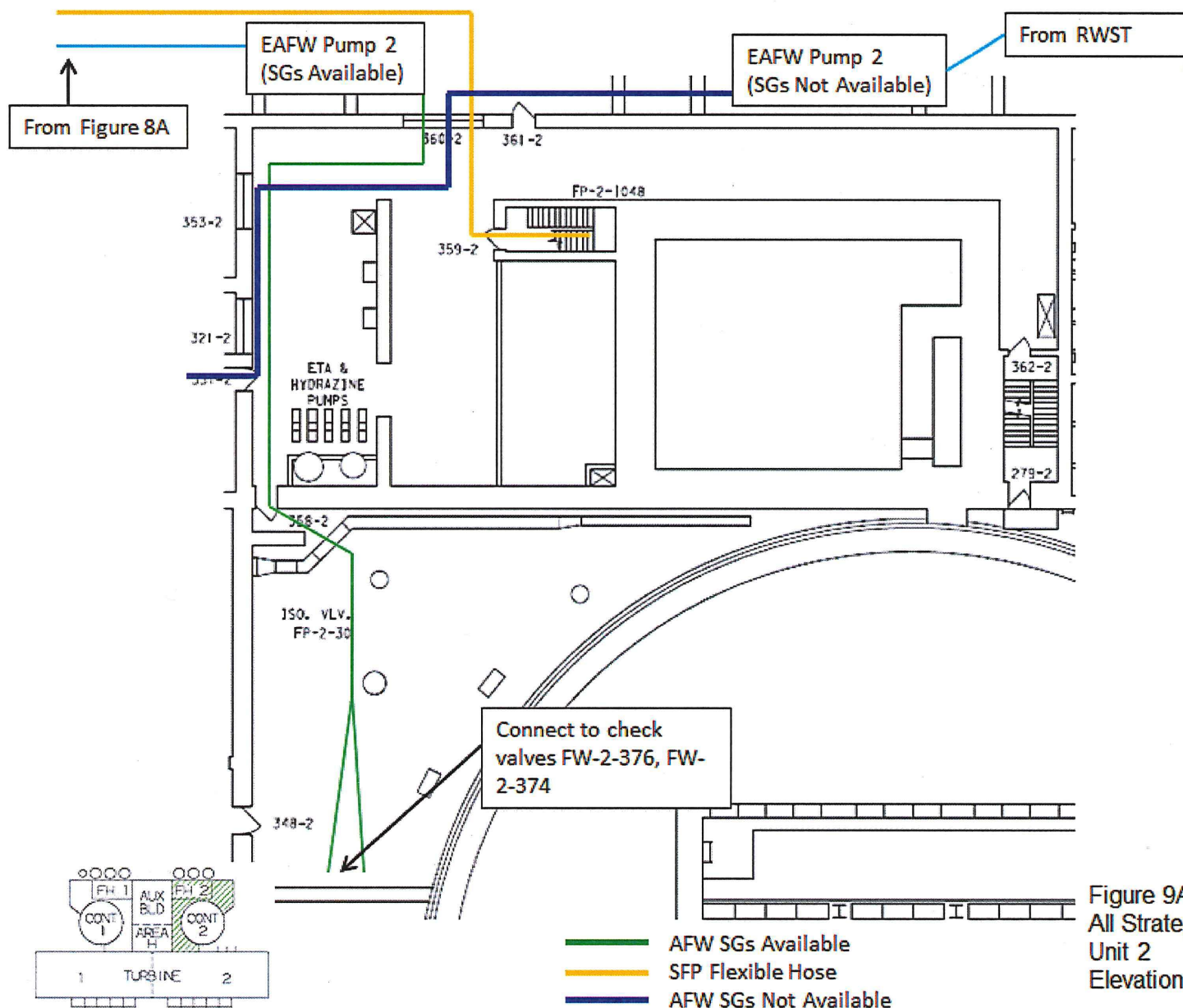


Figure 9A  
All Strategies – Alternate  
Unit 2  
Elevation 115'





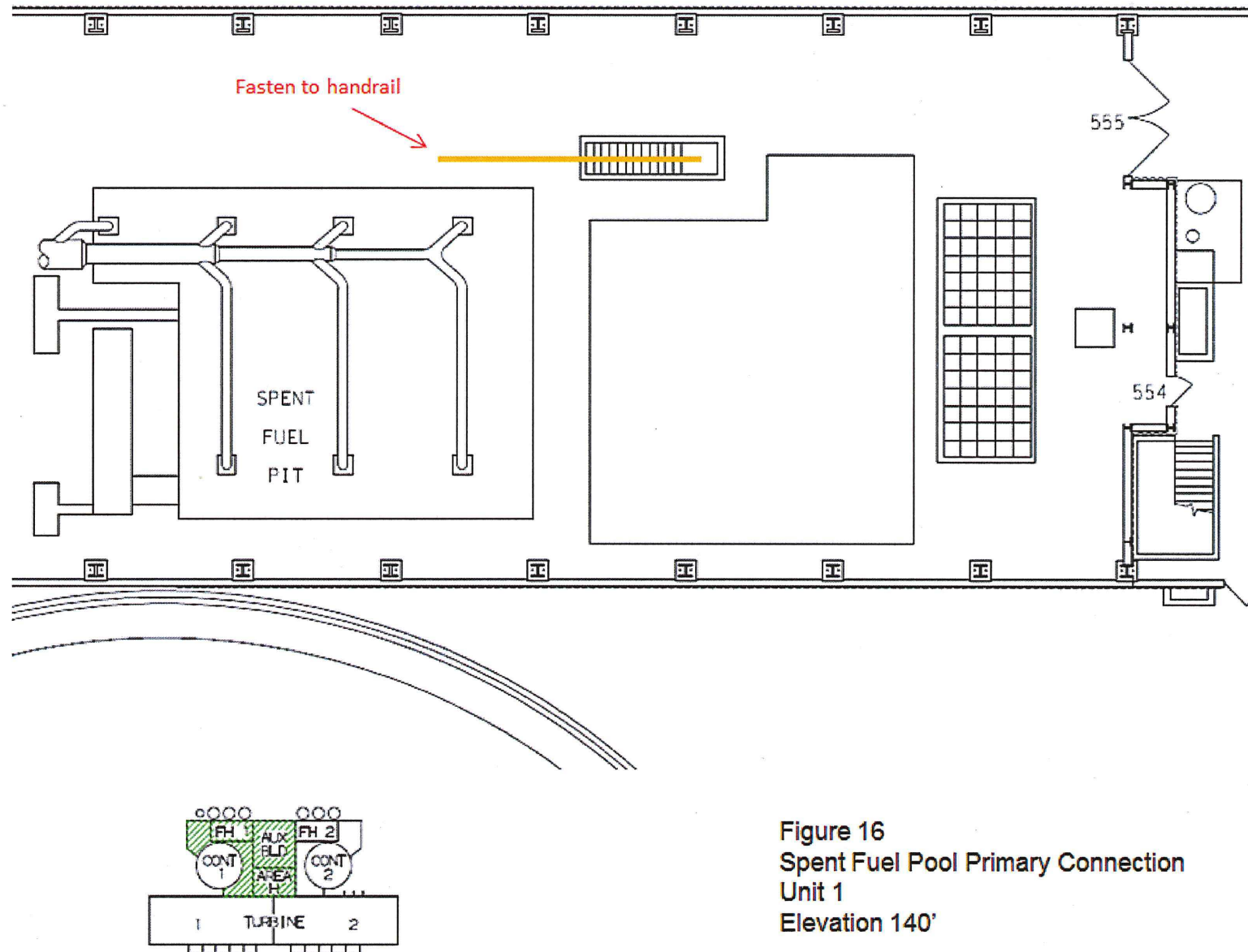


Figure 16  
Spent Fuel Pool Primary Connection  
Unit 1  
Elevation 140'

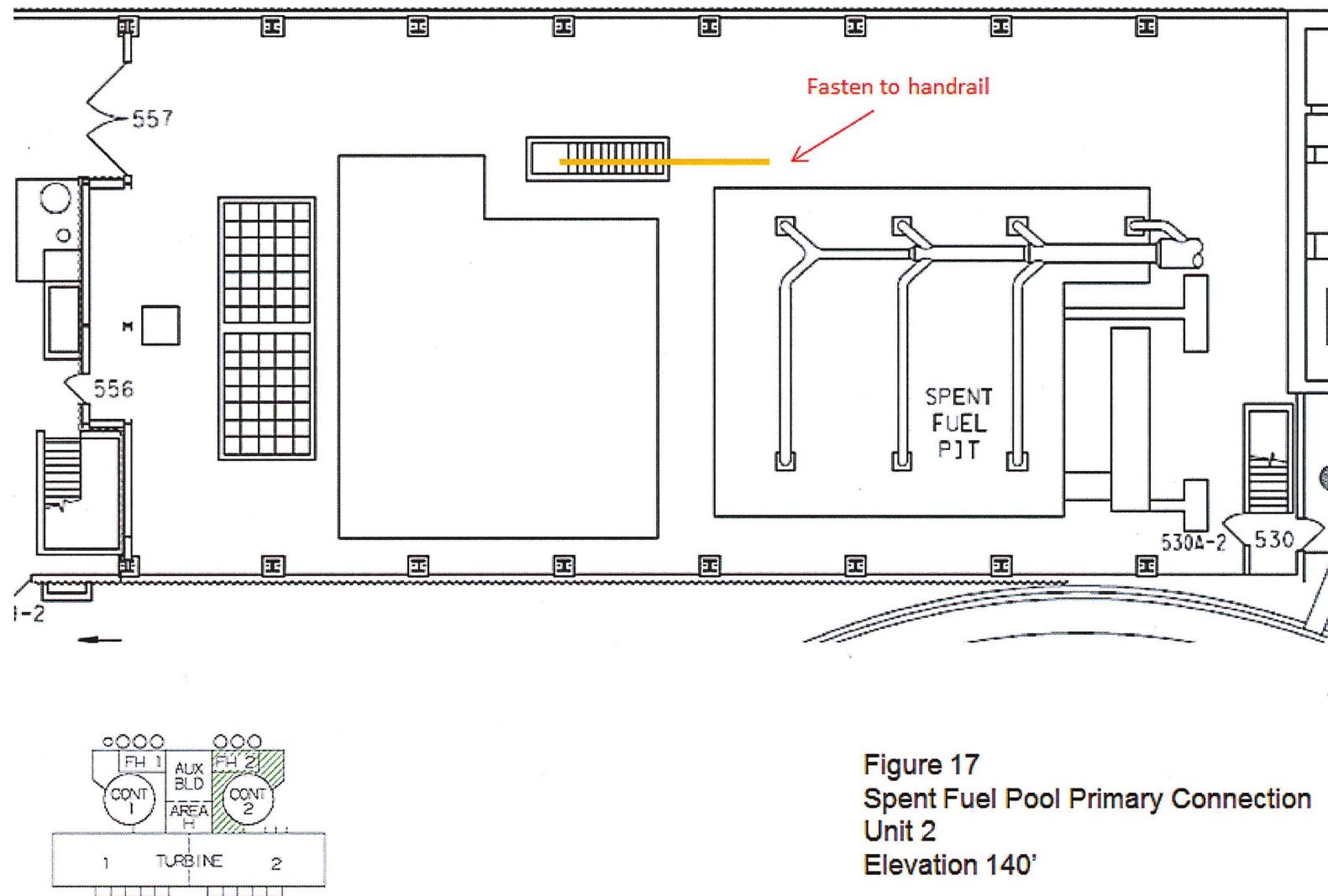


Figure 17  
Spent Fuel Pool Primary Connection  
Unit 2  
Elevation 140'



### Regulatory Commitments

Pacific Gas and Electric Company (PG&E) revised the following commitment (as defined by NEI 99-04) that was made in PG&E Letter DCL-12-110, "Pacific Gas and Electric Company's Response to Recommendation 9.3 Communications Requests 1 and 3 and the Evaluation of Existing Communications Systems Power Supplies," dated October 29, 2012:

<i>Revised Commitment</i>	<i>Due Date</i>
<del>PG&amp;E will improve the Operational Support Center (OSC) Radio communications by installing a radio console. Installation of the radio console will enable efficient radio communications with field teams. R</del> <i>PG&amp;E will relocate radios, batteries, and chargers will be relocated to a FLEX storage facility to support continued radio communications. The equipment will be placed in service with approved procedures as part of Phase 2, which is scheduled for October 27, 2015.</i>	<i>October 27, 2015</i>

PG&E has determined that the OSC communications capability will not require a radio console. Communications capability will be met through the use of portable hand held radios and the radios in the beyond-design-basis (BDB) communications trailers. Nuclear Regulatory Commission (NRC) Letter, "Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012, required licensees to provide an assessment of current communications systems and equipment used during an emergency to identify any enhancements that may be needed to ensure communications are maintained during a large scale natural event. Existing and new BDB communications equipment credited in PG&E Letter DCL-12-110 meet the NRC's requirement to maintain communications capability during a large scale natural event.

PG&E intended to relocate the radios, batteries, and chargers to the OSC. PG&E has decided to relocate the radios, batteries, and chargers to a FLEX storage facility.

PG&E has determined that the equipment in the OSC will not require a portable diesel generator for the OSC to power communications equipment and lights because the BDB communications equipment has back-up power sources. The NRC Letter required licensees to identify any planned or potential improvements to existing communications systems and their required normal and/or back-up power supplies. The strategy to repower communications equipment, for a 24-hour duration, is adequately met using spare batteries and the BDB communications trailer.

The radios, batteries, and chargers will be relocated to a FLEX storage facility as part of Phase 2, which is scheduled for October 27, 2015. Refer to Communications Item 3 for a status of the procurement of the additional radios, batteries, and chargers.