

September 30, 2013

SBK-L-13159 Docket No. 50-443 10 CFR 50.54(f)

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

### Seabrook Station

#### Supplement to Response to NRC 10 CFR 50.54(f) Request for Information Regarding Near-Term Task Force Recommendation 2.3, Seismic

References:

- (1) NRC Letter, Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident; dated March 12, 2012, Accession No. ML12073A348.
- (2) NRC Letter to Nuclear Energy Institute, Endorsement of Electric Power Research Institute (EPRI) Draft Report 1025286, "Seismic Walkdown Guidance," dated May 31, 2012, Accession No. ML12145A529.
- (3) NextEra Energy Seabrook letter to NRC, "120-Day Response to NRC Request for Information Regarding the Seismic Aspects of Recommendation 2.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated July 9, 2012.
- (4) NextEra Energy Seabrook Letter to NRC, "Response to NRC 10 CFR 50.54(f) Request for Information Regarding Near-Term Task Force Recommendation 2.3, Seismic, dated November 26, 2012.
- (5) NRC Letter, Plan for the Regulatory Audit Regarding Seismic Walkdowns at Seabrook, to Support Implementation of Near-Term Task Force Recommendation 2.3 Related to the Fukushima Dai-Ichi Nuclear Power Plant Accident (TAC No. MF0175), dated June 26, 2013.

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On March 12, 2012, the NRC staff issued Reference 1 requesting information pursuant to Title 10 of the Code of Federal Regulations 50.54(f). Enclosure 3 of that letter contained specific Requested Information associated with Near-Term Task Force Recommendation 2.3 for Seismic. Item 2 of the Requested Information asked for a final walkdown report based on the May 31, 2012, NRC endorsement of EPRI Draft Report 1025286, Seismic Walkdown Guidance (Reference 2).

Per Reference 3, NextEra Energy Seabrook, LLC (NextEra Energy Seabrook) confirmed that it would use the NRC-endorsed EPRI Report 1025286, Seismic Walkdown Guidance.

In Reference 4, NextEra Energy Seabrook submitted the requested walkdown report, Seabrook Station Seismic Walkdown Report, prepared in accordance with the approved EPRI guidance.

In Reference 5, the NRC provided NextEra Energy Seabrook with its regulatory audit plan to verify information and gain a better understanding of NextEra Energy Seabrook's conduct of the seismic walkdowns at Seabrook.

The enclosure to this letter provides requested additional information to add perspective to NextEra Energy Seabrook's Seismic Walkdown process as discussed during the NRC Seismic Walkdown Audit conducted July 30 – August 1, 2013. Further clarification is specifically provided for the following topics:

- (A) Conduct of the Peer Review
- (B) Timing of Final Walkdowns of Deferred Inspections
- (C) Walkdown Process and Seismic Walkdown Engineer Engineering Judgment
- (D) Disposition and Reporting of Potential Issues
- (E) NextEra Energy Seabrook's Self-Assessment
- (F) Editorial Changes to NextEra Energy Seabrook's Submittal Report Identified During the NRC Audit
- (G) Supplemental Descriptions for Selected Walkdown Checklists

A final report will be issued approximately sixty days following the Seabrook Station spring 2014 refueling outage.

This letter contains no new Regulatory Commitments and no revision to existing Regulatory Commitments.

Should you have any questions regarding this submittal, please contact Mr. Michael Ossing, Licensing Manager, at (603) 773-7512.

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

Executed on SEPTEMBLE 20, 2013.

Sincerely,

Kevin T. Walsh Site Vice President NextEra Energy Seabrook, LLC

Enclosure

cc: W. M. Dean, NRC Region I Administrator
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Supplement to NextEra Energy Seabrook Seismic Walkdown Report

Information Clarification as a Result of the NRC Seismic Walkdown Audit Conducted July 30 – August 1, 2013 This enclosure provides requested additional information to add perspective to NextEra Energy Seabrook LLC's (NextEra Energy Seabrook) Seismic Walkdown process as discussed during the NRC Seismic Walkdown Audit conducted July 30 – August 1, 2013. Further clarification is specifically provided for the following topics:

- (A) Conduct of the Peer Review
- (B) Timing of Final Walkdowns of Deferred Inspections
- (C) Walkdown Process and SWE Engineering Judgment
- (D) Disposition and Reporting of Potential Issues
- (E) NextEra Energy Seabrook's Self-Assessment
- (F) Editorial Changes to NextEra Energy Seabrook's Submittal Report Identified During the NRC Audit
- (G) Supplemental Descriptions for Selected Walkdown Checklists

### (A) Conduct of the Peer Review

Section F of NextEra Energy Seabrook, LLC's submittal report [Reference 4], provides a detailed description of the conduct of the peer review process and experience/qualifications of the peer reviewers. The conduct of the peer review process meets the intent of the industry guidance with regard to experience and independence. The following provides additional information regarding the peer review process used for: (1) the Seismic Walkdown Equipment List (SWEL) item and area walk-bys and (2) the SWEL development.

(A1) Peer Review of the Walkdown / Walk-by Checklists:

The walkdown peer review was performed by a team consisting of the peer review team lead, the two independent Seismic Walkdown Engineer (SWE) teams, and two peer review observers. The peer review team leader and walkdown / walk-by observers did not perform any of the actual inspections, however, they did observe some of the walkdowns performed by the SWEs. The walkdown function of the observers was to observe the SWEL item/area inspections, and the interactions of the SWEs during completion of the checklists. In some cases the observers also provided logistical support for the SWE walkdown teams by coordinating area access, helping to locate SWEL items, and helping to clarify component functions.

The peer review considered both the technical and process aspects of the walkdowns even though the language in the EPRI Seismic Walkdown Guidance (see Reference 2) and the FAQs associated with that guidance suggests that the walkdown peer review is primarily a review of the process. The walkdown peer review was performed during implementation of the walkdowns at the end of each walkdown day and was facilitated by the peer review team leader. The peer review process consisted of one SWE team describing the checklist attributes from selected items/areas to the independent SWE team. Several checklists were selected for peer review, with an emphasis placed on those items/areas that might be particularly deserving of an additional independent technical opinion or field peer check. However, the majority of the checklists were selected at random. As described on page F-6 of the Seabrook walkdown submittal report, approximately 25% (25 of 102) of the walkdown checklists were peer reviewed. Similarly, approximately one-third (10 of 29) of the area walk-by checklists were peer reviewed. The independent SWE team and peer review observers contributed to the technical and process review discussion. Each team shared walkdown experiences and insights and challenged each other's conclusions. Although both teams were involved in the plant walkdowns themselves, each team independently walked down and inspected different components and different areas of the plant. As identified in the submittal report, items addressed in these discussions typically included: (1) observations of concrete cracks and the process for recording them on the checklist, (2) observations of any physical interactions noted, (3) general observations of seismic housekeeping, (4) observations of installed temporary or permanent scaffolding and (5) observations of interaction from non-safety piping or components. The peer review team leader recorded notes during the peer review deliberations and these notes formed the basis for Tables 5-1 and 5-2 in Appendix F of the submittal report. The peer review discussions led to two independent field peer checks of SWEL items; (a) panel MM-CP-108B shim, and (b) panel EDE-US-64 hoist. The independent field check of these panels concurred with the original SWE team's position that these items were in no way adverse conditions that could challenge the seismic design basis.

As described in the submittal report, the peer review was performed for the required sample size of SWEL and area walk-by checklists and no significant issues were identified. This is consistent with the overall conclusions that no conditions potentially adverse to the seismic design basis were identified by the two SWE teams, with each team consisting of two SWEs to provide an independent check and concurrence of observed conditions.

The EPRI guidance does not directly address the expected level of independence of the peer review and industry FAQs 6.1 and 6.2 support the process used at Seabrook Station for peer review. The independent SWE team approach used at Seabrook Station to peer review the selected checklists provided a comprehensive and meaningful review while also providing a reasonable level of independence.

(A2) Peer Review of the SWEL:

The SWEL received a multi-discipline review including Probabilistic Risk Assessment (PRA), Design Engineering, and Operations personnel. The multi-discipline team provided a comprehensive review against the required SWEL attributes established in the EPRI guidance.

PRA Discipline Peer Review - The initial SWEL-1 list of components was based largely on the PRA component data base with a check for components that were modeled in the PRA and a further check against the IPEEE and the UFSAR. The PRA discipline review included (but was not limited to) a check of the PRA component data base, a check of the model's risk significant components, and a check of UFSAR Table 3.2-2, "Seismic and Safety Classifications of Fluid Systems and Components Equipment." These checks ensured that the initial master list of components was representative of the Seabrook Station seismic category 1 items. The PRA review also included a check of the walk-by areas and the general items identified for inspection during the area walk-bys. A sample screening of the initial list was performed to ensure that the SWEL list of components met the required attributes contained in the EPRI guidance. The SWEL-2 list was reviewed in a similar fashion except that the initial base list was checked against UFSAR Table 3.2-2 (SFP cooling components are not modeled in the PRA). The base list was also sample checked against the attributes of the EPRI guidance. The potential for rapid drain down was checked by inspecting plant design and arrangement drawings. Meetings held with the SWEL preparer resolved questions regarding the scope.

Design Engineer Discipline Peer Review - The Design Engineering discipline review included (but was not limited to) a check of SWEL-1 and SWEL-2 attributes against the EPRI guidance to ensure a reasonable list of Seismic Category 1 components. The review also included a sample check to ensure that the components collectively met the equipment classes, new components, and component locations/environments and safety functions.

Operations Discipline Review - The Operations discipline review included (but was not limited to) a check of SWEL-1 and SWEL-2 attributes against the EPRI guidance to ensure that the selected components collectively met the five safety functions, equipment classes, new components, and component locations/environments. The review included a sampling of the screening of SWEL-1 and SWEL-2 to ensure that the attributes contained in the EPRI guidance were being met and that the selected components represented the "non-protected" train of equipment associated with the scheduled walkdown week.

# (B) Timing of Final Walkdowns of Deferred Inspections

Three SWEL items (electrical cabinets) could not be safely opened and inspected during the base inspections in 2012. These electrical cabinets include: 4.16 KV Bus E6 (AR 1799753 tracking), transformer enclosure X-5C at US61 (AR 1803194 tracking), and transformer enclosure X-5H at US64 (AR 1803194 tracking). These inspections have been deferred until the next refueling outage (OR16) scheduled in the spring of 2014, when these cabinets are scheduled to be deenergized. After these inspections are complete, the submittal report will be updated accordingly and sent to NRC.

# (C) Walkdown Process and SWE Engineering Judgment

Section 5 of NextEra Energy Seabrook's submittal report provides an overview and detailed information regarding the conduct of the walkdowns. The walkdown process utilized met the industry guidance. The following provides additional supporting information regarding the walkdown process and use of engineering judgment:

The walkdowns at Seabrook Station were performed by two, two-person seismic walkdown engineer (SWE) teams. Each SWE team consisted of an engineer from NextEra Energy Seabrook and an engineer from Stevenson & Associates, Inc. The SWE team performing the walkdowns of the containment equipment consisted of two NextEra Energy Seabrook SWEs. All SWE engineers were qualified and trained as required by the EPRI guidance. The questions on each SWEL item checklist and each area walk-by checklist were assessed and answered during the field walkdowns. Each SWE team first inspected the SWEL items located in a common area. After the checklists of the SWEL items within the common area were complete, the SWEs performed the area walk-by inspection. This was done by each SWE team walking through and inspecting the "area" seismic attributes on the walk-by checklists to identify potential seismic interactions of area equipment or seismic housekeeping issues.

In some cases, when a question could not be immediately answered, further review of plant documentation (drawing, existing evaluation, etc.) was performed as part of the checklist completion. The two-person teams each completed checklists that had a "built-in" independent check and concurrence of the acceptability of the observed conditions by fully qualified SWEs. The acceptability of potentially adverse seismic conditions is based on the expert opinion and

judgment of the SWE engineers. The SWE engineers are uniquely qualified to exercise this judgment because they have the requisite knowledge, experience, and training in the area of seismic/structural design, and have a thorough understanding of the plant's seismic design basis, design allowable loads, design margins and seismic spectral displacements. Thus, the expertise of the SWE allows for potentially adverse conditions to be assessed against the seismic design basis using engineering judgment and/or simplified calculations.

As stated in the submittal report, the SWE engineers focused on identifying potentially adverse seismic conditions associated with the equipment - adverse anchorage conditions, adverse spatial interactions, and other conditions (such as loose or missing fasteners, etc.). Using the judgment of the seismic experts, no potentially adverse conditions were identified that challenged the plant's seismic design basis. The following provides further information regarding the walkdown inspections as discussed with members of the NRC audit team:

Approach to anchorage verifications - Anchorage verification was performed on a sampling of SWEL items. The number of components within the sample met the EPRI guidance requirements. Anchorage verification was conducted by performing a detailed visual inspection of the associated anchorage design features (anchor bolts, welds, etc) and comparing these features to the requirements identified on the component's detailed design drawing and/or seismic qualification reports, which were in-hand during the verification. Attributes considered during the verifications typically included: overall condition of anchorage, base plates and concrete, number of anchor bolts, anchor bolt spacing and embedment, thread engagement of nuts, condition of anchorage welds, weld size and length, etc. The anchorage dimensions for components selected for detailed anchorage verification were measured and verified against the design document. For embedded threaded rod and drilled in concrete anchors the anchor diameter, distance between anchors, distance to edge of base plate and/or concrete edge were verified as being adequate. The verification was performed by each SWE team. In many cases, the verification required the SWEs to be on hands and knees to perform close-up visual inspections to ensure adequate verification of anchorage details using tape measures to verify dimensions.

Approach to inspecting cabinets – The internal inspection of cabinets included a general visual inspection of the internal condition of the cabinet and internal component mountings with emphasis on identifying any internal components that might be unusually large or atypical from a seismic capacity point of view.

The SWEL components (except for the components in the Containment Building) underwent a "pre-walkdown" for the purpose of confirming the component's location and to identify any area access issues that would need to be resolved prior to the formal walkdown by the SWE teams. The pre-walkdowns were also used to plan the most efficient grouping of components, areas and walkdown routes. This resulted in a defined walkdown schedule that was concurred with by the Operations Shift Manager. In addition, components that required "hands-on" to either open a cabinet door or unbolt an access panel were attended to by Operations and Maintenance personnel who were knowledgeable and familiar with the equipment. This assured both plant safety and personnel safety during the inspections.

It should be noted here, as described on page B-7 of the Seabrook Seismic Walkdown Report, that air conditioner EAH-AC-2-B, representing equipment classes 10 and 11 (Air Handler and Chiller) was originally on the SWEL. However, during the walkdown, the EAH-AC unit was examined, but the anchorage could not be completely verified. As a result, this component was removed from the walkdown scope. The unit was determined to be acceptable, but the examination could not be completed due to lack of physical access to some of the anchorages. In addition, equipment Class 13 (motor generator) is not included in the Seabrook SWEL as there are no safety related motor generator sets at Seabrook Station.

During the base inspection period of August 29-31, 2012, the two SWE inspection teams performed the formal walkdown of selected components in parallel. One walkdown team conducted inspections within the Radiological Control Area (RCA) while the other walkdown team conducted inspections outside of the RCA. The pre-planning and scheduling activities, in addition to having two independent teams working in parallel, allowed for an efficient process of the base walkdown scope. Subsequent inspections of selected cabinet internals and containment components were performed by a single SWE team later on September 14, 2012 and September 20, 2012 respectively.

On the Seismic Walkdown Checklists (SWC) and Area Walk-by Checklists (AWC), the overall "status" of each walkdown item is identified as either: "Y" (yes – the item configuration is in compliance with the seismic licensing basis), "N" (no – the item configuration does not meet the licensing basis), or "U" (unresolved – the item configuration requires further evaluation). On four checklists, the SWE engineers chose the convention to indicate "N" for some components that had an identified issue that required additional evaluation, even though the issue was minor and clearly did not challenge the seismic licensing basis. The following items were observed to have minor, acceptable issues, yet were identified with an N status in the submittal:

- (1) MM-CP-108-B (SWC page C-113) potential cabinet interaction with adjacent cabinet
- (2) PB412 (AWC page D-50) corrosion on SW pipe support #1821-RG-8
- (3) EDE-X-5-H (SWC page C-9) weld length slightly shorter (1/4") than dimensional drawing
- (4) EDE-PP-1-B (SWC page C-103) hairline concrete crack through one HILTI anchor

These items were readily judged by the SWEs to be minor issues and clearly not a challenge to the design basis. NextEra Energy Seabrook took a conservative approach by entering items 1, 2 and 3 in the Corrective Action Process (CAP) (Item 3 was entered into the CAP after the self - assessment was completed). Item 4 was immediately dispositioned as acceptable on the checklist and no further evaluation or documentation via the CAP was judged necessary. Given the minor acceptable observations, the overall status marked on the checklists for these items could have been marked as "Y" (yes – the item configuration is in compliance with the seismic licensing basis) in the submittal report.

In addition, five supplemental descriptions from walkdown checklists are provided in Section (G) below.

As mentioned above in Section A, a sampling of the original SWCs and AWCs were subject to the peer review process. The number of checklists in the peer review sample met the EPRI guidance. Several checklists for peer review were selected with an emphasis placed on those

items/areas that might be particularly deserving of an additional, independent technical opinion or field peer check. The majority of the checklists were selected at random. As described on page F-6 of the Seabrook walkdown report, approximately 25% (25 of 102) of the walkdown checklists were peer reviewed. Similarly, approximately one-third (10 of 29) of the area walk-by checklists were peer reviewed. The original SWCs and AWCs with final resolutions were concurred with by each SWE team engineer. The original checklists remained with Stevenson and Associates, Inc. to support preparation of the final submittal report.

### (D) Disposition and Reporting of Potential Issues

As stated in the NextEra Energy Seabrook submittal report and discussed during the NRC audit, the seismic walkdown inspections and area walk-by inspections did not result in any issues that challenged the seismic licensing basis. The disposition of any potential issues as not being a challenge to the seismic design basis was based on SWE engineering judgment as described in Section B of this enclosure.

Also as discussed during the NRC audit, several walkdown observations were entered into the CAP program to improve documentation of the observation or to initiate a housekeeping action. None of the conditions identified during the walkdown inspections were concluded as being an adverse seismic condition. Accordingly, per the guidance, none of the observations actually warranted a CAP entry and it is NextEra Energy Seabrook's conservative action to have entered some of the observations into the CAP process. The CAP entries were made at various times during the walkdowns, program review, and final submittal report preparation, based on a further assessment of the observations and whether the organization would benefit from further action and wider distribution via a formal action request (AR). Specifically, AR#1828219 (storage of the lightweight chain-fall chain at PCCW pump, 11/1/12) was written to improve distribution of the issue and action by the maintenance department; and AR#1889658 (shim between CP-108B electrical cabinets, 11/28/12) was written to provide more formal documentation of the observation. As a recommendation from the NextEra Energy Seabrook seismic walkdown selfassessment, AR#1889658 (manual trolley hoist at US-64, 7/16/13) and AR#1889664 (weld length at EDE-X5H enclosure, 7/16/13) were written to improve the documentation of these observations that had been readily addressed as acceptable during the walkdowns and documented on the associated walkdown checklists. With regard to the 3-1/2 verses 4 inch weld length issue (AR#1889664), it is noted that subsequent to NRC's seismic walkdown audit, NextEra Energy Seabrook located the original construction disposition that documented the weld length difference and associated drawing.

Tables 5-2 and 5-3 of the submittal report have been revised to include the CAP reference and latest status of the "technical" ARs written as a result of the seismic walkdowns. For completeness, the AR written during the inspection process to capture the latest NRC position on required internal inspection of cabinets and the need to re-inspect some of the Seabrook Station cabinets, was added to Table 5-2. The revised tables are included as Attachments A and B to this enclosure.

# (E) NextEra Energy Seabrook's Self-Assessment

NextEra Energy Seabrook performed an in-house assessment of the conduct and documentation of the Seabrook Station Fukushima Seismic Walkdown activities in preparation for the NRC

walkdown audit. As described in the submittal report, the Seabrook Station seismic walkdowns were performed August 29-31, 2012 with additional walkdowns performed on September 14, 2012 to inspect the internals of SWEL electrical equipment, and again on September 20, 2012 to inspect equipment in the Containment Building. Inspection of three components (panels) were deferred and are planned for the spring of 2014 (during the next refueling shutdown) when electrical cabinets will be de-energized, allowing access. A follow-up submittal report will be sent to the NRC after the deferred inspections are complete.

The self-assessment focused on the following: (1) how the NextEra Energy Seabrook Seismic Walkdown program meets the EPRI industry guidance, (2) the status of open items related to the walkdowns, and (3) the "informational needs" and "special topics for discussion" to be covered during the audit.

The self-assessment is complete and was tracked via Seabrook Station AR #1887765. The self-assessment reached the following conclusions as discussed during the NRC audit:

(1) The NextEra Energy Seabrook seismic walkdown process and submittal report met the EPRI guidance. No major issues or weaknesses were identified during the self-assessment.

(2) Actions identified last year during the walkdowns to address surface corrosion on the PCCW heat exchanger base supports and SW pipe support #1821-RG-8 have not yet been implemented. However, these activities are being tracked for completion.

(3) The scope of information needed/requested by NRC to support the audit is available.

(4) Several minor documentation anomalies were identified during the self-assessment. These anomalies do not change any conclusions or results of the seismic walkdowns.

(F) Editorial Changes to NextEra Energy Seabrook's Submittal Report Identified during the NRC Audit

During the NRC seismic walkdown audit, a few documentation anomalies in the submittal report became apparent and are corrected below:

# (F1) Section 5.3, "Area Walk-Bys" (report page 13)

There were a total of "29" area walk-by checklists completed for Seabrook Station. Area walkby checklist RVST2 (RHR vault stairwell #2) was previously completed but was inadvertently omitted from NextEra Energy Seabrook's Seismic Walkdown Submittal Report. The actual walkdown of RVST2 was performed and documented during the performance of the walkdowns (August 2012) with no issues identified. Thus, the total number AWCs completed is 29 instead of 28 as indicated on page 13 of the submittal report. Attachment C to this enclosure provides the completed RVST2 area walk-by checklist.

(F2) Section 3.1, "Peer Review Team" (report page F-3) The table in Section 3.1 should include "PR-SWEL" (SWEL peer reviewer) in the "Role" column for peer reviewer Bruce Bouton.

# (G) Supplemental Descriptions for Selected Walkdown Checklists

# <u>1-SWA-FN-63 – Checklist Item 2</u>

Two anchors out of eight total are not plumb. This is judged not significant for seismic capacity based on Calculation CT-36 page B21 which reports the interaction ratio (applied load over allowed load) of these anchors to be 0.12 < 1.0. Per drawing 9763-F-10174 the anchors are 3/8" diameter, 12" long, cast-in-place bolts. The out of plumb condition is judged to be a result of initial installation. The condition is judged to have a negligible effect on overall anchorage capacity.

### <u>1-EDE-PP-1-B – Checklist Item 4</u>

There is a hairline crack through one Hilti anchor. This may reduce the capacity of that one anchor therefore the checklist item is assigned a "No" value to meet the intent of the check. Overall the potential reduction in capacity is judged not significant because the panel is not heavy and the overall anchorage is very conservative. Calculation CD-40 Appendix F contains the anchorage evaluation for wall-mounted panels. 1-EDE-PP-1-B is a "Type-I" panel with a listed weight of 190 pounds. Anchorage design for Type I panels is based on a 300 pound bounding load and with minimum anchorage of eight 1/2" diameter Hilti's. The stress analysis conservatively applied peak spectral values. The panel is judged to have very high seismic margin as-found.

#### <u>1-DG-P-117-B – Checklist Item 4</u>

Visual cracks are present but judged to be of minor significance. They are small cracks that are common for reinforced concrete slab construction. Per drawing 9763-F-101392 (Detail 101392E) the pump is anchored with six <sup>3</sup>/<sub>4</sub>" diameter, 22" long cast-in-place bolts. The anchor head is embedded well below the surface and below the top layer of reinforcing. The design concrete breakout capacity is not significantly affected by the cracks.

# 1-CC-TV-2271-2 - Checklist Item 7

The accumulator is touching the pipe insulation but there is no relative movement possible due to rigid welded tube steel pipe supports restraining the piping. The supports will prevent pipe movement under seismic loading. Moreover, the pipe insulation is a soft material which provides about a 1 inch deformable "cushion" adding further room to accommodate any relative displacement. In conclusion, there is more than sufficient space available to preclude any possibility of seismic interaction.

# 1-DAH-FN-25-B - Checklist Item 4

Visual cracks are present but judged to be of minor significance. They are small cracks that are common for reinforced concrete slab construction. Per drawing 9763-F-101392 (Detail 101392J) the fan is anchored with eleven 3/4 diameter, 17" long cast-in-place bolts. The anchor head is embedded well below the surface and below the top layer of reinforcing. The design concrete breakout capacity is not significantly affected by the cracks.

# Attachment A

5-2. Table of Actions Resulting from Seismic Walkdown Inspection (with clarifications)						
Equipment ID	Potentially Adverse Seismic Condition	Resolution	Entered into CAP	Current Status		
1-CC-E-17-B PCC Heat Exchanger	Corrosion exists on supports (base plates) for both PCCW heat exchangers	This condition was evaluated and determined to be a housekeeping issue as the corrosion does not impact the structural integrity of the supports. This is not a degraded condition	<u>9/21/12</u> <u>AR# 1805623</u>	CLOSED AR documents follow-up action to clean and re-coat supports to halt corrosion damage		
1-MM-CP-108B Remote Safe Shutdown Panel	Not bolted to adjacent cabinet MCC-631. This configuration needs to be evaluated further to assure that relay tripping / chattering would not be an issue	This configuration is judged to be sufficient for design basis earthquake, based on the Mark Technologies evaluation	<u>11/1/12</u> <u>AR# 1818942</u>	CLOSED		
1-EDE-US-64 480V Bus E64	Hoist located on rail on top of bus can roll and cause impacts. This configuration needs to be evaluated further to assure that relay tripping / chattering would not be an issue	There is a shackle that restrains the hoist such that there would be no impact energy as a consequence of minimal movement and therefore no adverse seismic interaction	<u>7/16/13</u> <u>AR# 1889658</u>	CLOSED		
I-EDE-X-5H 4kV to 480V Transformer X-5H (E6 to E64)	Several anchorage welds are 3.75" long as opposed to 4" lengths prescribed in plant design drawings	The walkdown team determined that the few welds that were marginally less than the 4" required length were acceptable to assure cabinet anchorage for the design basis earthquake based upon the low seismic demand at the Cooling Tower 22' elevation	<u>7/16/13</u> <u>AR# 1889664</u>	CLOSED		
1-CC-P-11-D PCCW Pump	Adjacent chain-fall inadequately secured and could strike lube oil reservoir on pump	Chain-fall secured (tied-off) immediately	<u>11/29/12</u> <u>AR# 1828219</u>	CLOSED		
Electrical Cabinet Internal Inspection	Clarification of inspection process of cabinets – need to open all cabinets for internal inspection	Opened and re-inspected all accessible cabinets – No issues identified	<u>9/14/12</u> <u>AR# 18031184</u>	CLOSED		

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Note: Table clarifications are shown in bold with underline.

# Attachment B

	Table 5-3. Table of Actions Resulting from Area Walk-by Inspections (with clarifications)							
Equipment ID	Potentially Adverse Seismic Condition	Resolution	Entered Into CAP	Current Status				
PB412, PAB El. 25 ft	Corrosion on service water pipe support #1821-RG-8, near valve SW-V-74	Walkdown / evaluation of pipe support determined that the functionality of support is maintained and no threat to operability exists based on the condition and structural integrity of the support. Support member is robust and the corrosion is on the surface only. This is not a degraded condition	<u>9/21/12</u> <u>AR#_1805614</u>	CLOSED <u>AR documents follow-up action to</u> <u>clean and re-coat support to halt</u> <u>corrosion damage and drill a weep</u> <u>hole to limit accumulation of</u> <u>condensation</u>				

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Note: Table clarifications are shown in bold with underline.

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Area V	Valk-By Checklist (AWC)	Status: Y N			
Lo	cation (Bldg, Elev, Room/Area): Area : RV, 20, RVST2				
Instru	ctions for Completing Checklist				
This checklist may be used to document the results of the Area Walk-By near one or more SWEL items. The space below each of the following questions may be used to record the results of judgments and findings. Additional space is provided at the end of this checklist for documenting other comments.					
1.	Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)?	Yes			
2.	Does anchorage of equipment in the area appear to be free of significant degraded conditions?	Yes			
3.	Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)?	Ye			
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 grating is positively secured.</i>	Ye			
5.	Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? <i>All piping is laterally supported.</i>	Ye			
6.	Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area?	Ye			
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)?	Ye			

S	tatus: YN
	Yes
ate: <u>11-5-</u>	12
11-5	12
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