



**MITSUBISHI HEAVY INDUSTRIES, LTD.**  
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TOKYO, JAPAN

April 2, 2010

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

Attention: Mr. Jeffrey A. Ciocco

Docket No. 52-021  
MHI Ref: UAP-HF-10080

**Subject: Update of Chapter 3 of US-APWR DCD**

- Reference:**
- 1) Letter CP-200901597 logged as TXNB-09074 from M.L. Lucas (Luminant) to U.S. NRC, "COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 3 AND 4, DOCKET NUMBERS 52-034 AND 52-035, REVISION 1 TO THE COMBINED LICENSE APPLICATION," dated November 20, 2009
  - 2) Letter MHI Ref: UAP-HF-09490 from Y. Ogata (MHI) to U.S. NRC, "Submittal of US-APWR Design Control Document Revision 2 in Support of Mitsubishi Heavy Industries, Ltd.'s Application for Design Certification of the US-APWR Standard Plant Design" dated on October 27, 2009.
  - 3) NRC Request for Additional Information (RAI) No. 4397 Revision 0, RAI #150, 3/3/2010, Comanche Peak Units 3 and 4, Luminant Generation Company, LLC. Docket No. 52-034 and 52-035, SRP Section: 03.03.02 – Tornado Loads, Application Section: 3.3.2

During the review process of the Combined License Application for Comanche Peak Units 3 and 4 (Reference 1, "R-COLA"), which incorporates by reference the Mitsubishi Heavy Industries, Ltd. (MHI) Design Certification Application for the US-APWR Standard Plant Design (Reference 2, "DCD"), the U.S. Nuclear Regulatory Commission ("NRC") Staff has requested additional information about tornado-generated missiles that could be produced by failure of the T/B and AC/B (Reference 3).

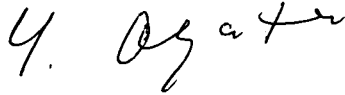
During development of the Luminant response to this RAI for the R-COLA, MHI has determined that updates of Chapter 3 of the MHI US-APWR Design Control Document are required.

With this letter, MHI transmits to the NRC Staff the proposed DCD updates necessary to support the Luminant response to this RAI. These updates will be incorporated in a future DCD revision.

Please contact Dr. C. Keith Paulson, Senior Technical Manager, Mitsubishi Nuclear Energy Systems, Inc. if the NRC has questions concerning any aspect of this letter. His contact information is provided below.

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Sincerely,

A handwritten signature in black ink, appearing to read "Y. Ogata". The signature is fluid and cursive, with a small flourish at the end.

Yoshiaki Ogata,  
General Manager- APWR Promoting Department  
Mitsubishi Heavy Industries, LTD.

Enclosure:

1. Update of Chapter 3 of the US-APWR DCD

CC: J. A. Ciocco  
C. K. Paulson

Contact Information

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Docket No. 52-021  
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Enclosure 1

UAP-HF-10080  
Docket No. 52-021

Update of Chapter 3 of US-APWR DCD

April 2010

Luminant received NRC Request for Additional Information No. 4397 Revision 0, RAI #150, dated on 3/3/2010.

During development of the response to the above RAI #150, MHI determined it was necessary to revise Chapter 3 of the US-APWR Design Control Document (DCD).

Table 1 shows the change list of Chapter 3 of the DCD, which gives the positions, the contents and the reasons for changing the DCD. A mark-up draft of the DCD is also attached in this document.

Table 1 Change List of Chapter 3 of DCD

<p><b>Page</b></p>	<p><b>Location</b> (e.g., subsection with paragraph/ sentence/ item, table with row/column, or figure)</p>	<p><b>Description of Change</b></p>
<p>3.3-7</p>	<p>Subsection 3.3.2.3 3<sup>rd</sup> Paragraph 4<sup>th</sup> - last Sentence</p>	<p>Change: "This ensures that there is no overall failure of the T/B, due to tornado wind and/or atmospheric pressure change, which could affect the ability of adjacent buildings and structures to perform their intended safety functions. Localized failures of wind girts and other exposed SSCs are permitted. However, these items are designed to remain attached to the structure. Alternately, if such items could become dislodged, they are reviewed to ensure that no new missiles are generated that are not enveloped by the missiles addressed in Subsection 3.5.1.4." to "This ensures that there is no overall failure of the T/B, due to maximum tornado wind and/or atmospheric pressure change as defined in Table 2.0-1, which could affect the ability of adjacent buildings and structures to perform their intended safety functions. Localized failures of wind girts and other exposed SSCs are permitted. However, these items are designed to remain attached to the structure. Any items (including the T/B siding) which might become dislodged and become missiles under the maximum tornado conditions do not warrant further evaluation because they are considered to be enveloped by the missiles addressed in Subsection 3.5.1.4. The use of the tornado-generated missile spectrum described in Subsection 3.5.1.4, which is consistent with the most severe missile spectrum as identified for Region I in RG 1.76, Revision 1, provides assurance that the necessary SSCs will be available to mitigate the potential effects of a tornado on plant safety."</p> <p>Reason: To clarify that any localized failures of site-specific structures will not create any tornado-generated missiles that are not enveloped by the missiles addressed in Subsection 3.5.1.4.</p>

<b>Page</b>	<b>Location</b> (e.g., subsection with paragraph/ sentence/ item, table with row/column, or figure)	<b>Description of Change</b>
3.3-7	Subsection 3.3.2.3 3 <sup>rd</sup> Paragraph 1 <sup>st</sup> Sentence	<p>Change: "The AC/B is not designed for a tornado and consequently it could potentially fail due to design basis tornado loading, including loss of its siding." to "The AC/B is not designed for a tornado and consequently it could potentially fail due to design basis tornado loading."</p> <p>Reason: The AC/B is a reinforced concrete structure that does not contain metal siding.</p>

the effective tornado wind pressure load on the building. This ensures that there is no overall failure of the T/B, due to maximum tornado wind and/or atmospheric pressure change as defined in Table 2.0-1, which could affect the ability of adjacent buildings and structures to perform their intended safety functions. Localized failures of wind girts and other exposed SSCs are permitted. However, these items are designed to remain attached to the structure. ~~Alternately, if such~~ Any items (including the T/B siding) which might could become dislodged and become missiles under the maximum tornado conditions do, ~~they are reviewed to ensure that no new missiles are generated that are not warrant further evaluation because they are considered to be enveloped by the missiles addressed in Subsection 3.5.1.4. The use of the tornado-generated missile spectrum described in Subsection 3.5.1.4, which is consistent with the most severe missile spectrum as identified for Region I in RG 1.76, Revision 1, provides assurance that the necessary SSCs will be available to mitigate the potential effects of a tornado on plant safety.~~

The AC/B is not designed for a tornado and consequently it could potentially fail due to design basis tornado loading, ~~including loss of its siding~~. However, since its location is sufficiently far away from seismic category I structures, and adjacent safety-related SSCs buried in the plant yard, the collapse of the AC/B would not impact any adjacent safety-related SSCs. The AC/B may also have localized failure due to tornado loading; however, the design precludes the generation of missiles that are not bounded by Subsection 3.5.1.4. The locations of any safety-related SSCs in the plant yard adjacent to the AC/B, including those which may be field routed, are reviewed prior to installation to ensure that their distances away from the AC/B and/or burial depths are sufficient to prevent potential failure effects that could jeopardize their function and integrity. Therefore, the ability of other SSCs to perform their intended safety functions is not affected by the potential collapse or localized failure of the AC/B due to tornado loading.

It is the responsibility of the COL Applicant to assure that site-specific structures and components not designed for tornado loads will not impact either the function or integrity of adjacent safety-related SSCs, or generate missiles having more severe effects than those discussed in Subsection 3.5.1.4. Where required by the results of investigations, structural reinforcement and/or missile barriers are implemented so as not to jeopardize safety-related SSCs.

### **3.3.3 Combined License Information**

- COL 3.3(1) The COL Applicant is responsible for verifying the site-specific basic wind speed is enveloped by the determinations in this section.*
- COL 3.3(2) These requirements also apply to seismic category I structures provided by the COL Applicant. Similarly, it is the responsibility of the COL Applicant to establish the methods for qualification of tornado effects to preclude damage to safety-related SSCs.*
- COL 3.3(3) It is the responsibility of the COL Applicant to assure that site-specific structures and components not designed for tornado loads will not impact either the function or integrity of adjacent safety-related SSCs, or generate*