

## **Enclosure 2**

### **MFN 12-051, Revision 3**

### **GEH Response to RAI 3.9-280 S01**

#### **Public Version**

This is a non-proprietary version of Enclosure 1, from which the proprietary information has been removed. Portions of the document that have been removed are identified by white space within double brackets, as shown here [[ ]].

#### **IMPORTANT NOTICE REGARDING CONTENTS OF THIS DOCUMENT**

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**NRC RAI 3.9-280 S01**

*GEH submitted the response to RAI-280 (MFN 12-051, Revision 2, February 15, 2013). The staff reviewed the response, and also discussed it with GEH during telephone calls on 02/27/2013 and 03/06/2013. This RAI provides the description of and technical basis for the shell overlay element method [[  
]] in the GEH steam dryer global shell model, in order to enforce rotational compatibility.*

*The staff finds that the response adequately addresses all staff comments provided to GEH on 10/15/2012, with one exception (comment 9). Comment 9 requested GEH to address the effect of the shell overlay element method on the local shell stresses at the connection location.*

*GEH identified relevant quantitative information based on a study performed to address staff comment 6. The staff reviewed this information, and concurred that it is relevant to addressing staff comment 9. However, it is based on an assumed shell thickness of [[  
]] than the typical shell thickness in the steam dryer.*

*Therefore, the staff requests GEH to repeat this study using a shell thickness [[  
]] that is representative of the steam dryer design.*

**GEH Response**

The Finite Element (FE) analysis performed to address staff comment 6 (Reference 1, pp. 10 - 16) was based on a study of a [[

]]

The staff has requested a comparable study based on a [[  
]] inch shell thickness, which is generally representative of the [[

]]

Figure 3 shows the displacement relative error (percent difference compared to the reference result) versus the ratio of the [[

]]

[[

]]





Reference

1. MFN 12-051 Rev. 2, Jerald Head to the US Nuclear Regulatory Commission Document Control Desk, "NRC Requests for Additional Information (RAI) Related to the Audit of the Economic Simplified Boiling Water Reactor (ESBWR) Steam Dryer Design Methodology Supporting Chapter 3 of the ESBWR Design Control Document – GEH Final Response to RAI 3.9-280," February 15, 2013.

**ESBWR Licensing Basis Changes**

No change is proposed in regard to this response for the DCD or other licensing basis documents.