

## LeeRAIsPEm Resource

---

**From:** Hughes, Brian  
**Sent:** Wednesday, November 30, 2011 2:09 PM  
**To:** LeeRAIsPEm Resource  
**Subject:** RAI-LTR-101 RELATED TO SRP SECTION 18.02 HFE FOR THE W.S. LEE UNITS 1 AND 2 COLA  
**Attachments:** LEE-RAI-LTR-101.docx

**Hearing Identifier:** Lee\_COL\_RAI  
**Email Number:** 129

**Mail Envelope Properties** (3D388D66E29B124A910BAC867C3A359DBE8A722271)

**Subject:** RAI-LTR-101 RELATED TO SRP SECTION 18.02 HFE FOR THE W.S. LEE  
UNITS 1 AND 2 COLA  
**Sent Date:** 11/30/2011 2:08:57 PM  
**Received Date:** 11/30/2011 2:09:56 PM  
**From:** Hughes, Brian

**Created By:** Brian.Hughes@nrc.gov

**Recipients:**  
"LeeRAIsPEm Resource" <LeeRAIsPEm.Resource@nrc.gov>  
Tracking Status: None

**Post Office:** HQCLSTR01.nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	3	11/30/2011 2:09:56 PM
LEE-RAI-LTR-101.docx	33151	

**Options**  
**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

December 2, 2011

Mr. James Thornton, P.E.  
Licensing Manager, Nuclear Plant Development  
Duke Energy  
526 South Church Street  
Charlotte, NC 28201-1006

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 101 RELATED  
TO SRP SECTION: 18.02 - HUMAN FACTORS ENGINEERING FOR THE WILLIAM  
STATES LEE III UNITS 1 AND 2 COMBINED LICENSE APPLICATION

Dear Mr. Thornton:

By letter dated December 12, 2007, as supplemented by letters dated January 28, 2008, February 6, 2008 and February 8, 2008, Duke Energy submitted its application to the U. S. Nuclear Regulatory Commission (NRC) for a combined license (COL) for two AP1000 advanced passive pressurized water reactors pursuant to 10 CFR Part 52. The NRC staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

To support the review schedule, you are requested to respond within 30 days of the date of this letter. If changes are needed to the final safety analysis report, the staff requests that the RAI response include the proposed wording changes.

J.Thornton

If you have any questions or comments concerning this matter, you may contact me at 301-415-6582.

Sincerely,

**/RA/**

Brian Hughes, Senior Project Manager  
AP1000 Projects Branch 1  
Division of New Reactor Licensing  
Office of New Reactors

Docket Nos. 52-018  
52-019

Enclosure:  
Request for Additional Information

CC: see next page

J.Thornton

If you have any questions or comments concerning this matter, you may contact me at 301-415-6582.

Sincerely,

**/RA/**

Brian Hughes, Senior Project Manager  
AP1000 Projects Branch 1  
Division of New Reactor Licensing  
Office of New Reactors

Docket Nos. 52-018  
52-019

eRAI Tracking No. 6187

Enclosure:  
Request for Additional Information

Distribution:  
Public

RidsNroDnrlNwe1  
RidsNroLAKGoldstein  
RidsOgcMailCenter  
RidsAcrsAcnwMailCenter      RidsRgn2MailCenter      RidsNroDnrlNwe2  
BHughes                              PPierenger                              VRodrigues

NRO-002

OFFICE	COLP	COLP/BC	OGC	NWE1/L-PM
NAME	PPieringer*	VRodriguez*	KRoach*	BHughes*
DATE	11/08/11	11/04/11	11/15/11	11/30/11

\*Approval captured electronically in the electronic RAI system.

**OFFICIAL RECORD COPY**

Request for Additional Information No. 6187

12/01/2011

William States Lee III, Units 1 and 2  
Duke Energy Carolinas, LLC  
Docket No. 52-018 and 52-019  
SRP Section: 18 - Human Factors Engineering  
Application Section: 18.2

QUESTIONS for Operating Licensing and Human Performance Branch

18-1

The WLS Emergency Plan, Appendix 9, "Justification for Common EOF," states that the EOF meets all functional and design criteria provided in NUREG-0696 for an EOF with the exception of the EOF location. This captures all the guidance related to the HFE design. The TSC description contained in Appendix 10, "Technical Support Center Description" does not contain a similar statement and the description of the HFE design of the TSC is a generalization of the NUREG guidance. For example:

- The size of the TSC is described as:

"The TSC provides working space, without crowding, for the personnel assigned to the TSC at the maximum level of occupancy. The working space is sized for a minimum of 25 persons. Minimum size of working space is exceeds 75 square feet per person."

NUREG-0696 includes more specific guidance addressing space for TSC data system equipment, space for performing repair and maintenance activities, space for personnel access to functional displays, and space for unhindered access to communications equipment. HFE design includes these factors as part of the layout design for a control center.

- The Technical data and data system description for the TSC includes the following statement on HFE design:

"Human Factors Engineering (HFE) is incorporated into the design of the TSC related to the display and availability of plant data."

NUREG-0696 includes more specific guidance addressing trending capability and display characteristics.

**Question:**

1 Specifically identify the TSC HFE design requirements or reference the NUREG directly as is done for the EOF.

18-2

To accomplish the TSC and EOF functions identified in NUREG-0696 there must be a clear understanding of which data belongs to which unit when a common facility is used. Data differentiation is not explicitly addressed in the NUREG but because it is an underlying assumption the staff asks how it accomplished. The ACRS has also consistently asked this question for applicants using a common facility.

**Question:**

J.Thornton

Please describe the techniques used to ensure evaluators use data pertinent to the affected nuclear unit. Please include a description of how this is accomplished during an event where multiple units are affected.