



Tennessee Valley Authority, 1101 Market Street, LP 5A, Chattanooga, Tennessee 37402-2801

August 29, 2008

10 CFR 52.79

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

In the Matter of)
Tennessee Valley Authority)

Docket No. 52-014 and 52-015

**BELLEVILLE COMBINED LICENSE APPLICATION – RESPONSE TO REQUEST FOR
ADDITIONAL INFORMATION – HUMAN FACTORS ENGINEERING**

Reference: Letter from Brian Anderson (NRC) to Andrea Sterdis (TVA), Request for
Additional Information Letter No. 078 Related to SRP Section 18 for the
Belleville Units 3 and 4 Combined License Application, dated July 18, 2008

This letter provides the Tennessee Valley Authority's (TVA) response to the Nuclear Regulatory
Commission's (NRC) request for additional information (RAI) items included in the reference
letter.

A response to the NRC request in the subject letter is addressed in the enclosure which does not
identify any associated changes to be made in a future revision of the BLN application.

If you should have any questions, please contact Tom Spink at 1101 Market Street, LP5A,
Chattanooga, Tennessee 37402-2801, by telephone at (423) 751-7062, or via email at
tespink@tva.gov.

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

Executed on this 29th day of Aug, 2008.


Jack A. Bailey
Vice President, Nuclear Generation Development

Enclosure
cc: See Page 2

*NOB5
NRD*

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cc: (w/Enclosure)

B. Anderson/NRC/HQ
J. P. Berger, EDF
E. Cummins, Westinghouse
S. P. Frantz, Morgan Lewis
M. W. Gettler, FP&L
R. C. Grumbir, NuStart
P. S. Hastings, NuStart
P. Hinnenkamp, Entergy
B. Hughes, NRC/HQ
M.C. Kray, NuStart
D. Lindgren, Westinghouse
G. D. Miller, PG&N
M. C. Nolan, Duke Energy
N. T. Simms, Duke Energy
K. N. Slays, NuStart
G. A. Zinke, NuStart

cc: (w/o Enclosure)

M. M. Comar, NRC/HQ
R. G. Joshi, NRC/HQ
R. H. Kitchen, PGN
M.C. Kray, NuStart
A. M. Monroe, SCE&G
C. R. Pierce, SNC
R. Reister, DOE/PM
L. Reyes, NRC/RII
T. Simms, NRC/HQ
J. M. Sebrosky, NRC/HQ

Enclosure
TVA letter dated August 29, 2008
RAI Response

Response to NRC Request for Additional Information letter No. 078 dated July 18, 2008
(4 pages, including this list)

Subject: Human Factors Engineering in the Final Safety Analysis Report

<u>RAI Number</u>	<u>Date of TVA Response</u>
18-02	This letter – see following pages

<u>Associated Additional Attachments / Enclosures</u>	<u>Pages Included</u>
None	

Enclosure
TVA letter dated August 29, 2008
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NRC Letter Dated: July 18, 2008

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 18-02

Please document where each of the following interfaces is addressed.

From AP1000 DCD Tier 2, Rev. 16 Section 1.8, Table 1.8-1 (Summary of AP1000 Plant Interfaces with Remainder of the Plant):

"18.1 Operating staff consistent with Human Factors evaluations"

"18.2 Operator training consistent with Human Factors evaluations"

"18.3 Operating Procedures consistent with Human Factors evaluations"

"18.4 Final coordination and integration of human system interface areas within a specific AP1000 consistent with Human Factors evaluations"

"18.5 Final coordination and integration of Combined License applicant facilities with those of a specific AP1000 consistent with Human Factors evaluations"

BLN RAI ID: 0566

BLN RESPONSE:

Design interfaces are identified in DCD Section 1.8 and Table 1.8-1. The last column of the DCD Table provides the DCD Section or Subsection numbers where each interface is addressed. DCD Section 1.8 is incorporated by reference in Section 1.8 of the FSAR.

The following are descriptions of the specific subject interfaces identified and the locations they are addressed in the FSAR:

18.1 Operating staff consistent with Human Factors evaluations

DCD Table 1.8-1 refers to DCD Section 18.6. FSAR Section 18.6 incorporates this section of DCD and refers to FSAR Table 13.1-201 for the estimated staffing levels for those categories of personnel that are addressed by the Human Factors Engineering program per NUREG-0711, "Human Factors Engineering Program Review Model."

18.2 Operator training consistent with Human Factors evaluations

DCD Table 1.8-1 refers to DCD Sections 18.8 and 18.10. These DCD Sections are incorporated in the corresponding FSAR Sections.

DCD Subsection 18.8.5 states that the Combined License information is fully addressed by APP-GW-GLR-082, "Execution and Documentation of the Human System Interface Design Implementation Plan," and the applicable changes are incorporated into the DCD.

DCD Section 18.10 describes the design and implementation of the training program for the training of the operations personnel who participate as subjects in the Human Factors Engineering (HFE) Verification and Validation. The DCD also states that WCAP-14655, "Designer's Input for the Training of the Human Factors Engineering Verification and Validation Personnel," describes the process used to develop the specification of the role of the operator for the AP1000 and how this role and training insights can be passed from the designer to the developer of the training program.

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18.3 Operating Procedures consistent with Human Factors evaluations

DCD Table 1.8-1 refers to DCD Sections 18.8 and 18.10. These DCD Sections are incorporated in the corresponding FSAR Sections.

DCD Section 18.8 describes development and implementation of computerized procedures consistent with human system interface design. DCD Section 18.10 addresses operator training.

In addition, DCD Section 18.9 addresses procedure development and states that the Combined License information is fully addressed in APP-GW-GLR-040, "Plant Operations, Surveillance, and Maintenance Procedures," and the applicable changes are incorporated into the DCD. FSAR Section 13.5 also states the procedures are developed consistent with guidance described in DCD Section 18.9, "Procedure Development," and with input from the human factors engineering process and evaluations.

18.4 Final coordination and integration of human system interface areas within a specific AP1000 consistent with Human Factors evaluations

DCD Table 1.8-1 refers to DCD Sections 18.2 and 18.8. These DCD Sections are incorporated in the corresponding FSAR Sections.

DCD Subsection 18.2.6 states that the Combined License information requested in this subsection has been fully addressed in APP-OCS-GBH-001, "AP1000 Human Factors Engineering Program Plan," and the applicable changes are incorporated into the DCD.

DCD Subsection 18.8.5 states that the Combined License information requested in this subsection has been fully addressed in APP-GW-GLR-082, "Execution and Documentation of the Human System Interface Design Implementation Plan," and the applicable changes are incorporated into the DCD. No additional work is required by the Combined License applicant to address the Combined License information requested in this subsection.

18.5 Final coordination and integration of Combined License applicant facilities with those of a specific AP1000 consistent with Human Factors evaluations

DCD Table 1.8-1 refers to DCD Sections 18.2 and 18.8. These DCD Sections are incorporated in corresponding FSAR Sections.

DCD Subsection 18.2.6 states that the Combined License information requested in this subsection has been fully addressed in APP-OCS-GBH-001, "AP1000 Human Factors Engineering Program Plan," and the applicable changes are incorporated into the DCD.

DCD Subsection 18.8.5 states that the Combined License information requested in this subsection has been fully addressed in APP-GW-GLR-082, "Execution and Documentation of the Human System Interface Design Implementation Plan," and the applicable changes are incorporated into the DCD. No additional work is required by the Combined License applicant to address the Combined License information requested in this subsection.

This response is expected to be STANDARD for the S-COLAs.

ASSOCIATED BLN COL APPLICATION REVISIONS:

No COLA revisions have been identified associated with this response.

Enclosure
TVA letter dated August 29, 2008
RAI Response

ASSOCIATED ATTACHMENTS/ENCLOSURES:

None