January 11, 2006

Mr. David Hinds, Manager, ESBWR
General Electric Company
P.O. Box 780, M/C L60
Wilmington, NC 28402-0780

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 5 FOR THE ESBWR DESIGN CERTIFICATION APPLICATION

Dear Mr. Hinds:

By letter dated August 24, 2005, General Electric Company (GE) submitted an application for final design approval and standard design certification of the economic simplified boiling water reactor (ESBWR) standard plant design. The Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application. The NRC staff has determined that additional information is needed to continue portions of the review.

Enclosure 1 contains a request for additional information (RAI) regarding ESBWR design information needed for TRACE model analyses. This RAI was sent to you via electronic mail on December 6, and December 15, 2005. This RAI was discussed with you on December 15, 2005. On December 19, 2005, you agreed to provide a response to the requested information within thirty days.

If you have any questions or comments concerning this matter, you may contact me at (301) 415-2863 or lwr@nrc.gov or you may contact Amy Cubbage at (301) 415-2875 or aec@nrc.gov.

Sincerely,

/RA/

Lawrence Rossbach, Project Manager
New Reactor Licensing Branch
Division of New Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 52-010

Enclosure: As stated

cc: See next page

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ACCESSION NO. ML060090494

OFFICE	NRBA/PM	SNPB/BC	NRBA/BC
NAME	LRossbach	FAkstulewicz	LDudes
DATE	01/10/06	01/10/06	01/11/06

OFFICIAL RECORD COPY

Distribution for DCD RAI Letter No. 5 dated January 11, 2006

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ESBWR Design Certification Request for Additional Information (RAI) for TRACE

RAI Number	Reviewer	RAI Summary
6.3-2	Klein V.	Provide design information for the PCCS, ICS, GDCS, SRVs and DPVs. Verify L1 and L2 positions.

Full Text of RAI:

The staff requires design information in order to perform confirmatory analyses using the TRACE model. Please provide the following information for the Passive Containment Cooling System (PCCS), Isolation Condenser System (ICS), Gravity-Driven Cooling System (GDCS), Safety Relief Valves (SRVs) and Depressurization Valves (DPVs). Also, verify or correct the values of the Level 1 (L1) and Level 2 (L2) positions:

PCCS Design Information:
1. Number of PCCS condensation tubes for a single unit.
2. Diameter of PCCS condensation tubes.
3. Volume and flow area of Upper Plenum for the PCCS.
4. Volume and flow area of the Lower Plenum for the PCCS.
5. PCCS drain tank volume
6. PCCS tube length

ICS Design Information:
1. Number of ICS condensation tubes.
2. Diameter of ICS condensation tubes.
3. Elevation change between ICS lower plenum and RPV connection.

GDCS Design Information:
1. Flow area of the connection between the GDCS airspace and the drywell.

SRV and DPV Design Information:
1. SRV and DPV flow areas.
2. Specific sequence of ADS valve opening. [Table 6.3-1 in the DCD provided the ECCS-LOCA sequence, which includes the sequence of ADS valve opening. However, it doesn't explain which specific valves open on which steam lines, i.e. which 5 SRVs open at 0 sec, which 5 open at 10 sec, and which DPVs open at 50, 100, 150 and 200 sec? There is 1 DPV for each of the 4 steam lines and 4 DPVs connected directly to the RPV.]

L1 and L2 Design Information:
1. Verify or correct the value of L1. Table 6.3-1 lists the L1 position as 3.547 meters above TAF, where TAF is given in Table 5.3-3 as 7.453 m. This gives an L1 position of 11.0 m. However, Table 15.2-1 lists the L1 position as 10.0 m.
2. Verify or correct the value of L2. Table 15.2-1 lists the L2 position as 16.05 m.

cc:

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