

March 30, 2006

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

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 17 RELATED TO
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 pursuant to 10 CFR Part 52. The Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed design.

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 attachment to this letter. This RAI concerns information to support NRC independent confirmatory MELCOR analyses related to design basis accident dose consequences. This question was sent to you via electronic mail on March 22, 2006, and was discussed with your staff during a telecon on March 22, 2006. You agreed to respond to this RAI by May 5, 2006. You also agreed to provide preliminary TRACG results by April 7, 2006, for NRC use to test run the MELCOR code. Lastly, you indicated that the information regarding pool buffering would be available at a later date, after GE's MELCOR results become available.

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

Sincerely,

/RA/

Amy Cabbage, Senior Project Manager
New Reactor Licensing Branch
Division of New Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 52-010

Attachment: As stated

cc w/att: See next page

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Sincerely,

/RA/

Amy Cubbage, Senior Project Manager
New Reactor Licensing Branch
Division of New Reactor Licensing
Office of Nuclear Reactor Regulation

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Attachment: As stated

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ACCESSION NO. ML060880247

OFFICE	NRBA/PM	NRBA/BC
NAME	ACubbage	LDudes
DATE	3/29/2006	3/30/2006

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Distribution for DCD RAI Letter No. 17 dated March 30, 2006

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Wjensen

Request for Additional Information (RAI)
Information to support NRC Confirmatory MELCOR Analysis

RAI number	Reviewer	Summary	Full Text
6.5-2	Lee J	Provide information to support NRC confirmatory calculations	Provide information requested below to support NRC independent confirmatory analysis of aerosol depletion behavior as related to design basis accident dose consequences

Requested information:

(1) Integrated mass (kg) of hydrodynamic materials (e.g., steam, non-condensables) and associated integrated enthalpies (J) time histories through:

- Depressurization valve (DPV) lines
- Safety relief valve (SRV) lines
- Isolation condenser system (ICS) drain lines
- Gravity driven cooling system (GDCS) drain lines
- Bottom drain line
- Any other connections between the reactor pressure vessel (RPV) and the containment

(2) Pool level time histories (if available) for:

- Passive containment cooling (PCC) pool
- Isolation condenser (IC) pool
- GDCS pool
- Wetwell pool

(3) Bottom drain line break locations

(4) Heights of vents into pools, vent type (e.g., multi-hole sparger/quencher, downcomer, horizontal vent), vent flow area, and number of holes in vents for:

- PCC drain line to GDCS pool
- PCC vent line
- IC pool vent line

(5) Dry well pressure and temperature time histories

(6) Integrated zirconium oxide production time history

(7) Peak core temperature time history

(8) Timing of key events

(9) Probabilistic risk assessment (PRA) scenario descriptions on which the three selected TRACG calculations are based

(10) Information on the addition of pool buffering agents

Numerical values should be given at full precision. Please be sure that precision is not reduced when values are incorporated into Excel. Time histories should be expressed in seconds.

Note that if information has already been provided in the ESBWR design control document (DCD) or in response to previous RAIs, it is sufficient to provide the appropriate reference(s).

ESBWR

cc:

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