May 21, 2008

Mr. Robert E. Brown
Senior Vice President, Regulatory Affairs
GE Hitachi Nuclear Energy
3901 Castle Hayne Road MC A-45
Wilmington, NC 28401

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 202 RELATED TO ESBWR DESIGN CERTIFICATION APPLICATION

Dear Mr. Brown:

By letter dated August 24, 2005, GE Hitachi Nuclear Energy 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 U.S. 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 enclosure to this letter.

If you have any questions or comments concerning this matter, you may contact me at 301-415-2375 or Leslie.Perkins@nrc.gov, or you may contact Eric Oesterle at 301-415-1365 or Eric.Oesterle@nrc.gov.

Sincerely,

/RA/

Leslie Perkins, Project Manager
ESBWR/ABWR Projects Branch 2
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-010

Enclosure:
Request for Additional Information

cc: See next page

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Dear Mr. Brown:

By letter dated August 24, 2005, GE Hitachi Nuclear Energy 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 U.S. 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 enclosure to this letter.

If you have any questions or comments concerning this matter, you may contact me at 301-415-2375 or Leslie.perkins@nrc.gov, or you may contact Eric Oesterle at 301-415-1365 or Eric.oesterle@nrc.gov.

Sincerely,

/RA/

Leslie Perkins, Project Manager
ESBWR/ABWR Projects Branch 2
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-010

Enclosure:
Request for Additional Information
cc: See next page
Distribution: See next page

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OFFICE	PM:NGE2:NRO	PM:NGE1:NRO	PM:NGE1:NRO
NAME	LPerkins	EOesterle	ACubbage
DATE	05/20/08	05/21/08	5/21/08

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SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO.202 RELATED TO ESBWR DESIGN CERTIFICATION APPLICATION DATED MAY 21, 2008

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NGE1/2 R/F
LPerkins, NRO
EOesterle, NRO
MComar, NRO
ACubbage, NRO

E-Mail:
RidsNroDnrlNge1
RidsNroDnrlNge2
RidsAcrsAcnwMailCenter
RidsOgcMailCenter
KWinsberg, OGC
JJolicoeur, RES
SMarshall, RES

Requests for Additional Information (RAIs)
ESBWR Design Control Document (DCD), Revision 4

RAI Number	Reviewer	Question Summary	Full Text
14.3-394	Pal A	Interface requirements for offsite power	Section 4, “Interface Material” of DCD, Tier 1, Rev. 4 of ESBWR design states that an applicant for a combined license (COL) that references the ESBWR certified design must provide design feature or characteristics that comply with the interface requirements for the plant design and inspections, tests, analyses, and acceptance criteria (ITAAC) for the site specific portion of the facility design, in accordance with 10 CFR 52.79(c). However, no interface requirements were identified for the offsite power system in the certified design. RG 1.206, CIII.7.2, Site-Specific ITAAC, recommends that applicants should develop ITAAC for the site-specific systems that are designed to meet the significant interface requirements of the standard certified design, that is, the site-specific systems that are needed for operation of the plant (e.g., offsite power). As indicated in Section 8.1.5.2.4 of DCD, the ESBWR standard design complies with the requirements of GDC 17 with respect to two independent and separate offsite power sources . Therefore, an ITAAC is needed so that the NRC staff can verify that the required circuits from the transmission network satisfy the requirements of GDC 17 with regards to its capacity and capability regardless of its low risk significance in ESBWR design. Revise Section 4 of DCD, Tier 1 to include interface requirements for the offsite power system. It is expected that site-specific ITAAC for offsite power will be provided by the COL applicants to satisfy the interface requirements.

RAI Number	Reviewer	Question Summary	Full Text
14.3-206 S01	Pal A	Include 10 CFR 50.49(b)(2) and b(3) equipment	GEH's response to RAI 14.3-206 did not address the staff's question. DCD Tier 1, Section 3.8 includes (1) safety-related electrical equipment [10 CFR 50.49 (b)(1)], (2) safety-related mechanical equipment, and (3) safety-related digital I&C equipment. The scope of EQ includes 10 CFR 50.49 (b)(1), (b)(2), and (b)(3) equipment. SRP 14.3.6 discussed EQ of electrical equipment important to safety. SRP 14.3.6 states that applicants must ensure that safety-related, certain non-safety-related, and certain post-accident monitoring equipment can perform their functions in various anticipated environments. Revise DCD Tier 1, Section 3.8, Design Description and Table 3.8-1 to include 10 CFR 50.49(b)(2) and (b)(3) equipment or provide justification for not including them.
14.3-301 S01	Oesterle E	Separation by structural and/or fire barriers	In response to RAI 14.3-301, GEH acknowledged that the intent of the acceptance criteria for "physical separation" of redundant divisions is to ensure that compliance with single failure criterion. However, in attempting to clarify the acceptance criteria phrase "physical separation between trains by structural and/or fire barriers", GEH proposed replacing the "physical separation" ITAAC for five systems (Nuclear Boiler System, Standby Liquid Control System, Isolation Condenser System, Gravity-Driven Cooling System, and Passive Containment Cooling System) with one "physical separation" ITAAC in Tier 1, Section 3.1, Design of Piping Systems and Components. The staff does not agree with this approach. The staff understands the scope of Tier 1, Section 3.0, Non-System Based Material, to be self-explanatory and the five ITAAC being replaced are clearly system-based. The staff understands the "physical separation" ITAAC included in Tier 1, Section 3.1, to be associated only with those piping systems which have not yet been designed as part of the ESBWR design certification application and will be designed in the future in accordance with the design process established in Section 3.1. Finally, the staff finds that by grouping the five systems discussed above into one "physical separation" ITAAC will be extremely problematic with respect to ITAAC closeout and verification activities.

RAI Number	Reviewer	Question Summary	Full Text
			The staff requests that the applicant clarify the acceptance criteria phrase “physical separation between trains by structural and/or fire barriers” and in a simple manner that is straight forward in addressing compliance with the single failure criterion while at the same time avoids complicating the closeout and verification activities for the ITAAC.

cc:

Ms. Michele Boyd
Legislative Director
Energy Program
Public Citizens Critical Mass Energy
and Environmental Program
215 Pennsylvania Avenue, SE
Washington, DC 20003

Mr. Ray Ganthner
Senior Vice President
AREVA, NP, Inc. 3315
Old Forest Road
P.O. Box 10935
Lynchburg, VA 24506-0935

Email

aec@nrc.gov (Amy Cubbage)
APH@NEI.org (Adrian Heymer)
art.alford@ge.com (Art Alford)
awc@nei.org (Anne W. Cottingham)
bennettS2@bv.com (Steve A. Bennett)
bevans@enercon.com (Bob Evans)
bob.brown@ge.com (Robert E. Brown)
BrinkmCB@westinghouse.com (Charles Brinkman)
cberger@energetics.com (Carl Berger)
chris.maslak@ge.com (Chris Maslak)
CumminWE@Westinghouse.com (Edward W. Cummins)
cwaltman@roe.com (C. Waltman)
dan1.williamson@ge.com (Dan Williamson)
david.hinds@ge.com (David Hinds)
david.lewis@pillsburylaw.com (David Lewis)
David.piepmeyer@ge.com (David Piepmeyer)
dennis.chin@ge.com (Dennis Chin)
dlochbaum@UCSUSA.org (David Lochbaum)
don.lewis@ge.com (Don Lewis)
erg-xl@cox.net (Eddie R. Grant)
Eugene_Grecheck@dom.com (Eugene S. Grecheck)
frankq@hursttech.com (Frank Quinn)
Frostie.white@ge.com (Frostie White)
gcesare@enercon.com (Guy Cesare)
GEH-NRC@hse.gsi.gov.uk (Geoff Grint)
george.honma@ge.com (George Honma)
george.stramback@gene.ge.com (George Stramback)
george.wadkins@ge.com (George Wadkins)
GovePA@BV.com (Patrick Gove)
greshaja@westinghouse.com (James Gresham)
gzinke@entergy.com (George Alan Zinke)
hickste@earthlink.net (Thomas Hicks)
james.beard@gene.ge.com (James Beard)
jcurtiss@winston.com (Jim Curtiss)
jeff.waal@ge.com (Jeff Waal)
jgutierrez@morganlewis.com (Jay M. Gutierrez)
jim.kinsey@ge.com (James Kinsey)
jim.riccio@wdc.greenpeace.org (James Riccio)
jim.rogers@ge.com (Jim Rogers)
JJNesrsta@cpsenergy.com (James J. Nesrsta)
joel.Friday@ge.com (Joel Friday)
John.O'Neill@pillsburylaw.com (John O'Neill)
john.sorensen@ge.com (John Sorensen)
Joseph_Hegner@dom.com (Joseph Hegner)

junichi_uchiyama@mnes-us.com (Junichi Uchiyama)
kathy.sedney@ge.com (Kathy Sedney)
kathy.warnock@ge.com (Kathy Warnock)
kenneth.ainger@exeloncorp.com (Kenneth Ainger)
kimberly.milchuck@ge.com (Kimberly Milchuck)
KSutton@morganlewis.com (Kathryn M. Sutton)
kurt.schaefer@ge.com (Kurt Schaefer)
kwaugh@impact-net.org (Kenneth O. Waugh)
laura.bello@ge.com (Laura Bello)
lou.lanese@ge.com (Lou Lanese)
Marc.Brooks@dhs.gov (Marc Brooks)
maria.webb@pillsburylaw.com (Maria Webb)
mark.beaumont@wsms.com (Mark Beaumont)
Marvin.Smith@dom.com (Marvin L. Smith)
matias.travieso-diaz@pillsburylaw.com (Matias Travieso-Diaz)
media@nei.org (Scott Peterson)
mike_moran@fpl.com (Mike Moran)
MSF@nei.org (Marvin Fertel)
mwetterhahn@winston.com (M. Wetterhahn)
nirsnet@nirs.org (Michael Mariotte)
PAC2@nrc.gov (Peter Cochran)
pareez.golub@ge.com (Pareez Golub)
Pat.Woodfin@ge.com (Pat Woodfin)
patriciaL.campbell@ge.com (Patricia L. Campbell)
paul.gaukler@pillsburylaw.com (Paul Gaukler)
Paul@beyondnuclear.org (Paul Gunter)
peter.jordan@ge.com (Peter Jordan)
phinnen@entergy.com (Paul Hinnenkamp)
pshastings@duke-energy.com (Peter Hastings)
randy.newton@ge.com (Randy Newton)
RJB@NEI.org (Russell Bell)
RKTemple@cpsenergy.com (R.K. Temple)
roberta.swain@ge.com (Roberta Swain)
sandra.sloan@areva.com (Sandra Sloan)
SauerB@BV.com (Robert C. Sauer)
sfrantz@morganlewis.com (Stephen P. Frantz)
sharon.lyons@ge.com (Sharon Lyons)
steven.hucik@ge.com (Steven Hucik)
steven.stark@ge.com (Steven Stark)
tdurkin@energetics.com (Tim Durkin)
tom.miller@hq.doe.gov (Tom Miller)
trsmith@winston.com (Tyson Smith)
Vanessa.quinn@dhs.gov (Vanessa Quinn)
VictorB@bv.com (Bill Victor)
Wanda.K.Marshall@dom.com (Wanda K. Marshall)

waraksre@westinghouse.com (Rosemarie E. Waraks)
wayne.cutright@ge.com (Wayne Cutright)
wayne.marquino@ge.com (Wayne Marquino)
whorin@winston.com (W. Horin)