

Enclosure 2 Contains Sensitive Proprietary Information

June 15, 2009

Mr. Jerald G. Head
Senior Vice President, Regulatory Affairs
GE Hitachi Nuclear Energy
3901 Castle Hayne Road MC A-18
Wilmington, NC 28401

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 350 RELATED TO
ESBWR DESIGN CERTIFICATION APPLICATION

Dear Mr. Head:

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.

Pursuant to 10 CFR 2.390, we have determined that the enclosed RAIs contain proprietary information. We have prepared a non-proprietary version of the RAIs (Enclosure 1) that does not contain proprietary information. The proprietary information is indicated in brackets and underlined in Enclosure 2. We will delay placing this document in the public document room for a period of ten (10) working days from the date of this letter to provide you with the opportunity to comment on the proprietary aspects only. If you believe that any additional information in the enclosure is proprietary, please identify such information line by line and define the basis pursuant to the criteria of 10 CFR 2.390 before the public release date.

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If you have any questions or comments concerning this matter, you may contact me at 301-415-6715 or Bruce.Bavol@nrc.gov or you may contact Amy Cubbage at 301-415-2875 or Amy.Cubbage@nrc.gov.

Sincerely,

/RA Ilka Berrios for:/

Bruce M. Bavol, Project Manager
ESBWR/ABWR Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-010

Enclosure:

1. Request for Additional Information (Non-Proprietary)
2. Request for Additional Information (Proprietary)

cc: See next page (w/o enclosure 2)

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Bruce M. Bavol, Project Manager
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Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-010

Enclosure:

1. Request for Additional Information (Non-Proprietary)
2. Request for Additional Information (Proprietary)

cc: See next page (w/o enclosure 2)

ADAMS ACCESSION NO. ML091600103

NRO-002

OFFICE	PM:NGE1:NRO	PM:NGE1:NRO
NAME	BBavol	ACubbage
DATE	06/15/2009	06/15/2009

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ESBWR DESIGN CERTIFICATION APPLICATION DATED JUNE 15, 2009

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DC GE - ESBWR Mailing List

(Revised 06/10/2009)

cc:

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

Mr. Tom Sliva
7207 IBM Drive
Charlotte, NC 28262

DC GE - ESBWR Mailing List

Email

aec@nrc.gov (Amy Cubbage)
APH@NEI.org (Adrian Heymer)
art.alford@ge.com (Art Alford)
awc@nei.org (Anne W. Cottingham)
bevans@enercon.com (Bob Evans)
BrinkmCB@westinghouse.com (Charles Brinkman)
cberger@energetics.com (Carl Berger)
charles.bagnal@ge.com
charles@blackburncarter.com (Charles Irvine)
chris.maslak@ge.com (Chris Maslak)
CumminWE@Westinghouse.com (Edward W. Cummins)
cwaltman@roe.com (C. Waltman)
dan1.williamson@ge.com (Dan Williamson)
Daniel.Chalk@nuclear.energy.gov (Daniel Chalk)
david.hinds@ge.com (David Hinds)
david.lewis@pillsburylaw.com (David Lewis)
David.piepmeyer@ge.com (David Piepmeyer)
donaldf.taylor@ge.com (Don Taylor)
erg-xl@cox.net (Eddie R. Grant)
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)
GovePA@BV.com (Patrick Gove)
greshaja@westinghouse.com (James Gresham)
gzinke@entergy.com (George Alan Zinke)
hickste@earthlink.net (Thomas Hicks)
hugh.upton@ge.com (Hugh Upton)
james.beard@gene.ge.com (James Beard)
james.gleason@ge.com (James Gleason)
jeff.waal@ge.com (Jeff Waal)
jerald.head@ge.com (Jerald G. Head)
Jerold.Marks@ge.com (Jerold Marks)
jgutierrez@morganlewis.com (Jay M. Gutierrez)
Jim.Kinsey@inl.gov (James Kinsey)
jim.riccio@wdc.greenpeace.org (James Riccio)
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)
kimberly.milchuck@ge.com (Kimberly Milchuck)
KSutton@morganlewis.com (Kathryn M. Sutton)

DC GE - ESBWR Mailing List

kwaugh@impact-net.org (Kenneth O. Waugh)
lchandler@morganlewis.com (Lawrence J. Chandler)
lee.dougherty@ge.com
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)
pareez.golub@ge.com (Pareez Golub)
patriciaL.campbell@ge.com (Patricia L. Campbell)
paul.gaukler@pillsburylaw.com (Paul Gaukler)
Paul@beyondnuclear.org (Paul Gunter)
peter.yandow@ge.com (Peter Yandow)
pshastings@duke-energy.com (Peter Hastings)
rick.kingston@ge.com (Rick Kingston)
RJB@NEI.org (Russell Bell)
RKTemple@cpsenergy.com (R.K. Temple)
Russell.Wells@Areva.com (Russell Wells)
sabinski@suddenlink.net (Steve A. Bennett)
sandra.sloan@areva.com (Sandra Sloan)
sara.andersen@ge.com (Sara Anderson)
SauerB@BV.com (Robert C. Sauer)
sfrantz@morganlewis.com (Stephen P. Frantz)
stephan.moen@ge.com (Stephan Moen)
steven.hucik@ge.com (Steven Hucik)
tdurkin@energetics.com (Tim Durkin)
timothy1.enfinger@ge.com (Tim Enfinger)
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)
wayne.marquino@ge.com (Wayne Marquino)
whorin@winston.com (W. Horin)

**Requests for Additional Information (RAIs)
ESBWR Design Control Document (DCD), Revision 5**

RAI Number	Reviewer	RAI Summary	RAI Text
4.4-23 Supplement No. 3 (MFN 08-613 dated August 18, 2008)	Gilmer J	Bundle lower tie plate, inlet orifice, and debris filter of the ESBWR GE14E fuel	In RAI 4.4-23 SO2 (MFN 08-613) the following request was not addressed in the response to update the DCD, Tier 2. "Considering that the bundle lower tie plate, inlet orifice, and debris filter of the ESBWR GE14E fuel are identical to those used in the operating fleet of GE14 fuel, the staff expects that GEH will address in DCD, Tier 2, Revision 5 (6), the downstream effects applicable to the ESBWR in a manner similar to that of the BWR Owners Group for operating BWRs. Debris sources and pathways for normal operation and long-term cooling which are unique to the ESBWR should be addressed, such as the Fuel and Auxiliary Pool Cooling System (FAPCS) multiple water sources (suppression pool, GDSC pool, IC/PCCS pool)."
4.4-91	Wang W	ATWS-Stability event	In LTR NEDO- 33338, section A.4.2.1, provide the sequence of events for the ATWS calculation.
4.4-92	Wang W	ATWS-Stability reactivity coefficient multiplier	In LTR NEDO- 33338, section A.4.2.1, for the ATWS calculation, a 30% density reactivity multiplier of +30% is used. Provide an estimate for the variability of density reactivity coefficient from cycle to cycle. Based on those numbers, provide an estimate of the degree of conservatism for the NEDO-33338 calculation.
4.8-7 Supplement No. 4 (MFN 08-867 dated November 12, 2008)	Clifford P	GE14E FIV Testing	The last sentence in the response provided in RAI 4.8-7 S03 (MFN 08-867) defines the FIV acceptance criteria, []. This statement does not adhere to the strict compliance as specified by other DCD Tier 1 ITAACs. The staff agrees that if [], then the GE14E bundle fails the FIV ITAAC and is not acceptable for use in the ESBWR without further NRC review. Please modify this last sentence accordingly.
4.8-17	Clifford P	Fuel rod thermal- mechanical operating limit	LTR NEDC-33242P, Figure 4-1, provides a typical full-length UO2 fuel rod thermal-mechanical operating limit (TMOL). Please provide the final ESBWR Cycle 1 TMOLs [] for each GE14E fuel rod design, []

RAI Number	Reviewer	RAI Summary	RAI Text
		(TMOL)	<p data-bbox="1220 261 1856 298">]]. For each fuel rod design, provide calculated [[</p> <p data-bbox="848 329 1955 396">consideration for any discrepancies in the [[]]. Where applicable, include]].</p>