February 27, 2009

Mr. Robert Sisk, Manager
AP1000 Licensing and Customer Interface
Westinghouse Nuclear Power Plants
Energy Center
4350 Northern Pike
Monroeville, PA 15146

SUBJECT: NRC REVIEW OF SECTION 3.2, 3.6.2, AND PIPING DESIGN ACCEPTANCE CRITERIA OF THE DESIGN CONTROL DOCUMENT

Dear Mr. Sisk:

In proceeding with the review of your requested changes to the AP1000 Certified Design, we have identified issues in our review of Section 3 of the AP1000 Design Control Document (DCD) that will require additional attention in order to complete the review.

The U.S. Nuclear Regulatory Commission (NRC) had several open issues in addressing DCD Sections 3.2.1 and 3.2.2. Requests for additional information (RAIs) were forwarded to Westinghouse and Westinghouse responded to the questions. Several of the RAI responses were not adequate to completely address the technical concerns raised by the staff in regard to integration of regulatory treatment of non-safety systems (RTNSS) with the classification process. The basic unresolved issues concerned the augmented seismic requirements for RTNSS, structures, systems and components (SSCs), completeness of scope for seismic classification, augmented quality assurance requirements for seismic Category II SSCs and supplemental requirements for nonsafety-related passive SSCs important to safety. The Section 3.2 classification open issues identified include: the definition of additional seismic requirements that may apply to Class D systems and components - these would be the requirements to ensure the operability of important to safety equipment following a seismic event; ensuring seismic classifications are called out in the DCD tables and that the table includes all the required components; Subsection 3.2 or Table 3.2-3 need to be revised to identify specific augmented quality assurance requirements for seismic Category II SSCs; and identification of supplemental requirements applied to important safety passive components, such as piping.

With regard to the review of DCD Section 3.6.2, the staff needs to understand the actions to be taken by Westinghouse in addressing the as-designed pipe break hazards analysis. By a letter dated December 5, 2008, Westinghouse provided its response to RAIs Standard Review Plan (SRP) 3.6.2-EMB2-01, R2 and 3.6.4-EMB2-01, R2. In its response, Westinghouse proposed revision to DCD Subsections 3.6.2.5 and 3.6.4.1 that included a description of the as-designed pipe break hazard analysis activity that will be completed by the combined license (COL) holder. Based on its review of these RAI responses, the staff concluded that the proposed DCD revision did not adequately addressed the as-designed pipe break hazards analysis report issue. Specifically, it is not clear that the as-designed pipe break hazards analysis report will include all piping systems within the scope of SRP 3.6.2 or will include all the information as outlined in AP1000 DCD Sections 3.6.1.3.2 and 3.6.2.5. In addition, the response did not clearly address the process including the milestone for the closure of the as-designed pipe break hazards analysis report. To close the issue,either the pipe break hazards analysis as described in Sections 3.6.1.3.2 and 3.6.2.5 of the DCD will have to be completed and reviewed by NRC staff for all piping systems within SRP 3.6.2, an appropriately

worded COL Item must be developed with a clear description of the scope, content, and closure process for the as-designed pipe break hazards analysis report or a new inspection, test, analyses, and acceptance criteria (ITAAC) addressing the design aspect of pipe break hazards analysis (as opposed to the as-built reconciliation of the pipe break hazards analysis report, the existing ITAAC) will have to be added to the DCD.

With regard to resolution of the piping Design Acceptance Criteria (DAC), the piping design will have to be completed as discussed in NRC letter dated February 28, 2008. This letter addressed piping DAC and identified that a graded approach could be used in resolving piping DAC. In accordance with the approach described in the NRC letter, 59 piping packages would be completed by Westinghouse and made available for audit by the NRC staff. The audit of the completed packages will need to be completed or the piping DAC placed back in the DCD before the amendment can be approved.

In general, the material submitted and made available to the staff to date on this subject do not satisfy the review criteria used by the staff in this area (SRP Sections 3.2.1, 3.2.2, 3.6.2, and 3.12 and Regulatory Guides 1.26 and 1.29, etc.), and the staff can not accept the proposed approach. Unless further information changing the proposed approach is submitted, the staff will reject the application in this area.

We propose technical meetings on the subjects as soon as practical to address our review needs. If you have any question regarding this matter, I may be reached at 301-415-5848.

Sincerely,

/RA/

William C. Gleaves, Sr. Project Manager
AP1000 Projects Branch 2
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-006

cc: See next page

worded COL Item must be developed with a clear description of the scope, content, and closure process for the as-designed pipe break hazards analysis report or a new inspection, test, analyses, and acceptance criteria (ITAAC) addressing the design aspect of pipe break hazards analysis (as opposed to the as-built reconciliation of the pipe break hazards analysis report, the existing ITAAC) will have to be added to the DCD.

With regard to resolution of the piping Design Acceptance Criteria (DAC), the piping design will have to be completed as discussed in NRC letter dated February 28, 2008. This letter addressed piping DAC and identified that a graded approach could be used in resolving piping DAC. In accordance with the approach described in the NRC letter, 59 piping packages would be completed by Westinghouse and made available for audit by the NRC staff. The audit of the completed packages will need to be completed or the piping DAC placed back in the DCD before the amendment can be approved.

In general, the material submitted and made available to the staff to date on this subject do not satisfy the review criteria used by the staff in this area (SRP Sections 3.2.1, 3.2.2, 3.6.2, and 3.12 and Regulatory Guides 1.26 and 1.29, etc.), and the staff can not accept the proposed approach. Unless further information changing the proposed approach is submitted, the staff will reject the application in this area.

We propose technical meetings on the subjects as soon as practical to address our review needs.
If you have any question regarding this matter, I may be reached at 301-415-5848.

Sincerely,

/RA/

William C. Gleaves, Sr. Project Manager
AP1000 Projects Branch 2
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-006

cc: See next page

DISTRIBUTION:

PUBLIC
EMcKenna RidsNroDe RidsNroDnrlNwe2 LDudes
WGleaves RidsOgcMailCenter RidsAcrsAcnwMialCenter TBergman
RLi RMcNally KHsu
EM r/f

ADAMS ACCESSION NUMBER: ML090560606

OFFICE	LA:DNRL/NEW2	PM:DNRL/NWE2	BC:DE/EMB1	BC:DE/EMB2	BC:DNRL/NWE2
NAME	RButler	WGleaves	THsia	JDixon-Herrity	PBuckberg for EMckenna
DATE	2/26/09	2/26/09	2/26/09	2/26/09	2/27/09

OFFICIAL RECORD COPY

cc:

Mr. Glenn H. Archinoff
AECL Technologies
481 North Frederick Avenue
Suite 405
Gaithersburg, MD 20877

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

Mr. Barton Z. Cowan, Esquire
Eckert Seamans Cherin & Mellott, LLC
600 Grant Street, 44th Floor
Pittsburgh, PA 15219

Mr. Jay M. Gutierrez
Morgan, Lewis & Bockius, LLP
111 Pennsylvania Avenue, NW
Washington, DC 20004

Ms. Sophie Gutner
P.O. Box 4646
Glen Allen, VA 23058

Mr. Ronald Kinney
South Carolina DHEC
2600 Bull Street
Columbia, SC 29201

Dr. Regis A. Matzie
Senior Vice President and
Chief Technology Officer
Westinghouse Electric Company
20 International Drive
Windsor, CT 06095

Mr. Tom Sliva
7207 IBM Drive
Charlotte, NC 28262

Mr. Ed Wallace
General Manager - Projects
PBMR Pty LTD
P. O. Box 9396
Centurion 0046
Republic of South Africa

Mr. Gary Wright, Director
Division of Nuclear Facility Safety
Illinois Emergency Management Agency
1035 Outer Park Drive
Springfield, IL 62704

Email

alsterdis@tva.gov (Andrea Sterdis)
amonroe@scana.com (Amy Monroe)
Antonio.Fernandez@FPL.com (Antonio Fernandez)
APAGLIA@Scana.com (Al Paglia)
APH@NEI.org (Adrian Heymer)
awc@nei.org (Anne W. Cottingham)
bob.brown@ge.com (Robert E. Brown)
BrinkmCB@westinghouse.com (Charles Brinkman)
Carellmd@westinghouse.com (Mario D. Carelli)
cberger@energetics.com (Carl Berger)
chris.maslak@ge.com (Chris Maslak)
crpierce@southernco.com (C.R. Pierce)
CumminWE@Westinghouse.com (Edward W. Cummins)
cwaltman@roe.com (C. Waltman)
david.hinds@ge.com (David Hinds)
david.lewis@pillsburylaw.com (David Lewis)
dlochbaum@UCSUSA.org (David Lochbaum)
doug.ellis@shawgrp.com (Doug Ellis)
eddie.grant@excelservices.com (Eddie Grant)
erg-xl@cox.net (Eddie R. Grant)
garry.miller@pgnmail.com (Garry D. Miller)
gcesare@enercon.com (Guy Cesare)
George.Madden@fpl.com (George Madden)
greshaja@westinghouse.com (James Gresham)
gwcurtis2@tva.gov (G. W. Curtis)
gzinke@entergy.com (George Alan Zinke)
ian.c.rickard@us.westinghouse.com (Ian C. Richard)
james.beard@gene.ge.com (James Beard)
jgutierrez@morganlewis.com (Jay M. Gutierrez)
jim.riccio@wdc.greenpeace.org (James Riccio)
jim@ncwarn.org (Jim Warren)
JJNesrsta@cpsenergy.com (James J. Nesrsta)
John.O'Neill@pillsburylaw.com (John O'Neill)
Joseph_Hegner@dom.com (Joseph Hegner)
junichi_uchiyama@mnes-us.com (Junichi Uchiyama)
KSutton@morganlewis.com (Kathryn M. Sutton)
kwaugh@impact-net.org (Kenneth O. Waugh)
lchandler@morganlewis.com (Lawrence J. Chandler)
lindg1da@westinghouse.com (Don Lindgren)
Marc.Brooks@dhs.gov (Marc Brooks)
maria.webb@pillsburylaw.com (Maria Webb)
marilyn.kray@exeloncorp.com
mark.beaumont@wsms.com (Mark Beaumont)
matias.travieso-diaz@pillsburylaw.com (Matias Travieso-Diaz)

maurerbf@westinghouse.com (Brad Maurer)
media@nei.org (Scott Peterson)
Mitch.Ross@fpl.com (Mitch Ross)
MSF@nei.org (Marvin Fertel)
mwetterhahn@winston.com (M. Wetterhahn)
nirsnet@nirs.org (Michael Mariotte)
patriciaL.campbell@ge.com (Patricia L. Campbell)
paul.gaukler@pillsburylaw.com (Paul Gaukler)
Paul.Jacobs@fpl.com (Paul Jacobs)
Paul@beyondnuclear.org (Paul Gunter)
pshastings@duke-energy.com (Peter Hastings)
Raymond.Burski@fpl.com (Raymond Burski)
rclary@scana.com (Ronald Clary)
rgrumbir@gmail.com (Richard Grumbir)
Richard.Orthen@fpl.com (Richard Orthen)
RJB@NEI.org (Russell Bell)
RKTemple@cpsenergy.com (R.K. Temple)
robert.kitchen@pgnmail.com (Robert H. Kitchen)
Russell.Wells@Areva.com (Russell Wells)
sabinski@suddenlink.net (Steve A. Bennett)
sandra.sloan@areva.com (Sandra Sloan)
sfrantz@morganlewis.com (Stephen P. Frantz)
sisk1rb@wetinghouse.com (Rob Sisk)
Steve.Franzone@fpl.com (Steve Franzone)
steven.hucik@ge.com (Steven Hucik)
Tansel.Selekler@nuclear.energy.gov (Tansel Selekler)
tdurkin@energetics.com (Tim Durkin)
tom.miller@hq.doe.gov (Tom Miller)
tomccall@southernco.com (Tom McCallum)
TomClements329@cs.com (Tom Clements)
trsmith@winston.com (Tyson Smith)
Vanessa.quinn@dhs.gov (Vanessa Quinn)
VictorB@bv.com (Bill Victor)
vijukrp@westinghouse.com (Ronald P. Vijuk)
Wanda.K.Marshall@dom.com (Wanda K. Marshall)
wayne.marquino@ge.com (Wayne Marquino)
whorin@winston.com (W. Horin)
william.maher@fpl.com (William Maher)