

March 18, 2010

APPLICANT: AREVA NP Inc.

SUBJECT: SUMMARY OF SEPTEMBER 18, 2009, PUBLIC MEETING WITH AREVA NP, INC., TO DISCUSS CRITICAL SECTION SELECTION CRITERIA FOR U.S. EPR SEISMIC CATEGORY I STRUCTURES

On September 18, 2009, a public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of AREVA NP Inc., at the U.S. NRC office in Rockville, MD. The purpose of the meeting was to discuss with AREVA NP the methodology for selection of critical sections for Seismic Category I structures for U.S. EPR, as well as its inclusion in the U.S. EPR Final Safety Analysis Report (FSAR). A meeting agenda is provided as Enclosure 1 and a list of attendees is provided as Enclosure 2. AREVA NP provided a presentation entitled, "U.S. EPR Critical Sections Selection Methodology," which can be accessed through the Agencywide Documents Access and Management System (ADAMS) under Accession No. ML092640352. This system provides text and image files of NRC public documents.

This Public Meeting follows two previous structural design audits performed by NRC staff at AREVA NP's offices. The first audit, conducted January 26-30, 2009, in Charlotte, NC, covered the information contained in FSAR Sections 3.8.1 through 3.8.5. The staff found that no documented criteria could be identified that describes the basis for selecting the critical sections to be designed for each Seismic Category I structure of the U.S. EPR. AREVA NP agreed to provide this basis in their response to existing requests for additional information (RAIs). The second audit, conducted on June 19, 2009, in Bethesda, MD, specifically reviewed a methodology proposed by AREVA NP to provide the technical basis for the critical sections selection. During this review, the NRC staff made several observations and recommendations to ensure that an appropriate set of critical sections were selected. AREVA NP agreed to address these observations and recommendations, and incorporate them into an update of their critical section selection methodology.

To facilitate discussions at this meeting, AREVA NP submitted in advance draft excerpts from the latest version of their Critical Section Selection Methodology included in FSAR Appendix 3E, as well as a list of critical sections that would result from this methodology and corresponding figures. This information was transmitted to the NRC on August 20, 2009.

After initial introductions, AREVA NP made a presentation summarizing the latest version of their proposed Critical Section Selection Methodology, which consists of qualitative, quantitative, and supplemental criteria for the selection process. Emphasis was placed on how this latest version addressed the staff's observations from the June 19, 2009, audit. Following the AREVA NP presentation, NRC staff distributed a list of 22 questions resulting from a preliminary review of the draft Critical Section Selection Methodology document that was submitted by AREVA NP on August 20, 2009. Each of these 22 questions was discussed in turn by the meeting participants. These questions, together with AREVA NP's response, and subsequent discussions notes are listed in Enclosure 3.

The NRC staff stated that the updated version of the Critical Section Selection Methodology addressed the staff's observations resulting from the June 19, 2009, audit, and provides an adequate technical basis for the selection of the critical section design to represent an "essentially complete design." AREVA NP indicated that it will update FSAR Appendix 3E as part of their RAI responses, and will provide the design of the Critical Sections selected using the methodology. The level of design detail will be comparable to that currently given in FSAR Rev. 0, Appendix 3E1.9, "Foundation of Nuclear Island Buildings and Base Slab of the RB Internal Structures."

AREVA NP indicated that the sections presented during the meeting, especially those chosen using the so-called "quantitative" methodology, may require update as a result of revisions to the analysis and design process. As a result, the staff noted that the meeting focused on the Critical Section Selection Methodology and the actual Critical Sections selected using this methodology will need to be reviewed by the staff at a later stage. Finally, it was agreed to hold a follow-up teleconference to finalize the identification of specific RAIs associated with the response to some of the staff's aforementioned questions.

Members of the public were present at the meeting. There were no comments from the public.

Please direct any inquires concerning this meeting to Michael Miernicki at 301-415-2304, or Michael.Miernicki@nrc.gov.

/RA/

Michael J. Miernicki, Senior Project Manager
EPR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-020

Enclosures: 1. Agenda
 2. List of Attendees
 3. Questions on AREVA Critical Section Selection Methodology

cc: See next page

DC AREVA - mailing list

The NRC staff stated that the updated version of the Critical Section Selection Methodology addressed the staff's observations resulting from the June 19, 2009, audit, and provides an adequate technical basis for the selection of the critical section design to represent an "essentially complete design." AREVA NP indicated that it will update FSAR Appendix 3E as part of their RAI responses, and will provide the design of the Critical Sections selected using the methodology. The level of design detail will be comparable to that currently given in FSAR Rev. 0, Appendix 3E1.9, "Foundation of Nuclear Island Buildings and Base Slab of the RB Internal Structures."

AREVA NP indicated that the sections presented during the meeting, especially those chosen using the so-called "quantitative" methodology, may require update as a result of revisions to the analysis and design process. As a result, the staff noted that the meeting focused on the Critical Section Selection Methodology and the actual Critical Sections selected using this methodology will need to be reviewed by the staff at a later stage. Finally, it was agreed to hold a follow-up teleconference to finalize the identification of specific RAIs associated with the response to some of the staff's aforementioned questions.

Members of the public were present at the meeting. There were no comments from the public.

Please direct any inquires concerning this meeting to Michael Miernicki at 301-415-2304, or Michael.Miernicki@nrc.gov.

/RA/

Michael J. Miernicki, Senior Project Manager
EPR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-020

- Enclosures: 1. Agenda
- 2. List of Attendees
- 3. Questions on AREVA Critical Section Selection Methodology

cc: See next page

DC AREVA - mailing list

DISTRIBUTION:

PUBLIC

KHawkins

MMiernicki

JXu

GTesfaye

JMcLellan

RidsDnrINroNarp

RidsDnrINro

ADAMS Accession No. ML100560378

NRC-002

OFFICE	DNRL/NARP:PM	DNRL/NARP:LA	DE/SEB2:BC	DNR/NARP:BC
NAME	MMiernicki	JMcLellan	KHawkins	JColaccino
DATE	3/4/2010	3/16/2010	3/16/2010	3/18/2010

OFFICIAL RECORD COPY

AGENDA

MEETING WITH AREVA NP TO DISCUSS CRITICAL SECTION SELECTION CRITERIA FOR U.S. EPR SEISMIC CATEGORY I STRUCTURES

September 18, 2009

Time	Topic	Led by
8:00 a.m.	Introductory Remarks	NRC/AREVA
8:15 a.m.	Discussion of Critical Section selection methodology and proposed FSAR markup	AREVA
9:50 a.m.	Opportunity for Public Comment	NRC
10:00 a.m.	Break	
10:15 a.m.	Continue discussion	AREVA
11:30 a.m.	Summary and Next Steps	NRC/AREVA
11:50 a.m.	Opportunity for Public Comment	NRC
12:00 p.m.	Adjourn	NRC

All times listed are approximate and for planning purposes only. Adjustments may be made during the meeting as necessary.

**Public Meeting with AREVA NP Regarding Critical Section Selection Criteria for
U.S. EPR Seismic Category I Structures**

September 18, 2009

Rockville, MD

Name	Organization
Michael Miernicki	NRC
Sujit Samaddar	NRC
Joseph Braverman	BNL
Getachew Tesfaye	NRC
Jim Xu	NRC
Manuel Miranda	BNL
Nwar Alchaar	Areva NP
Brian McIntyre	Areva NP
Mark Van Noy	Areva NP
Joseph Harrold	Areva NP
Se-Kwon Jung	Areva NP
Gary Janosko	PSEG

Questions on AREVA Critical Section Selection Methodology

Questions on Appendix 3E

1. Are all Seismic Category (SC) I structures included in the AREVA Critical Section Selection Methodology document, except site-specific structures which will be the responsibility of the COL applicant?

AREVA indicated that yes, all SC I structures are included in the Critical Section Selection Methodology document, except site-specific structures that will be the responsibility of the COL applicant.

In response to the staff's question regarding the Essential Service Water Building (ESWB), AREVA noted that, while the "Essential Service Water Pump Structure" and the "Essential Service Water Cooling Tower Structure" have separate names, they are in actuality a single monolithic reinforced concrete structure located on a common basemat. The resulting overall structure is referred to as the ESWB. The ESWB, which is a SC I structure, is included in the Critical Section Selection Methodology document. There are a total of four (4) ESWB included in the U.S. EPR standard plant design.

2. RAI 3.8.4-2 requests design information for the Nuclear Auxiliary Building (NAB) and Radioactive Waste Processing Building (RWPB). The original RAI is given below.

FSAR Section 3.8.4 does not discuss the design of Radwaste Structures. It is also noted that FSAR Section 3.8.4.2.5 does not reference (RG) 1.143, "Design Guidance for Radioactive Waste Management Systems, Structures, and Components Installed in (LWR) Plants." FSAR Tables 3.2.2-1 and 3.7.2-29 state that the Nuclear Auxiliary Building (NAB) and the Radioactive Waste Processing Building (RWPB) are Radwaste Structures and are designed in accordance with guidance for RW-IIa structures in RG 1.143. Since these structures are part of the design certification and are designed in accordance with RG 1.143, provide in FSAR Section 3.8.4 the design details for these structures comparable to that provided for other Category I structures. The staff notes that FSAR Section 1.2.3.1.2 states that the NAB and RWPB are described in FSAR Section 3.8.4.

The staff reviewed the RAI response and a follow-up RAI was issued as shown below.

The applicant's response states that the Radioactive Waste (Processing) Building (RWB) and Nuclear Auxiliary Building (NAB) are RW IIa structures designated as NS-AQ (non-safety related, augmented quality). The response further states that the RWB and the NAB are classified as neither "Seismic Category I" nor "safety related;" therefore, they (and reference to RG 1.143) are not included in U.S. EPR FSAR Tier 2, Section 3.8.4.

If the RWB and NAB structures are intended to be within the Design Certification, then the staff requires design information to perform its review. The staff notes that RG 1.143 indicates that Radwaste Structures, although not referred to as "safety related," do have some safety functions. Furthermore, SRP 3.8.4 does reference RG 1.143 as one of the regulatory guidance documents that is appropriate for such structures. Therefore, the staff requests again that the design information for these structures be provided in the FSAR.

Questions on AREVA Critical Section Selection Methodology

AREVA indicated that the issue will be addressed in their response to a separate RAI on the radwaste structures.

3. Page 1 of 13, Section 3E, "Heading Critical Section Selection Criteria," 1st par., 1st sentence, has the phrase for critical sections "... (i.e., shear walls, floor slabs and roofs, structure-to-structure connections)..."

The notation i.e., means "that is," which can be interpreted as only the items listed. AREVA should add the missing type of structural elements – basemats, beams, and columns; and should also revise the i.e., to be e.g., in case there are other types of structural elements.

AREVA indicated that "i.e." will be changed to "e.g.," and that "basemat, columns, and beams" will be added. FSAR Appendix 3E mark-ups will accompany AREVA's response to RAI 155, Supplement 6, Question 03.08.1-20.

4. Page 1 of 13, Section 3E, "Heading Critical Section Selection Criteria," 2nd par., 1st sentence. Clarify the meaning of the sentence:

Critical sections are typical of other portions of the structure, in which case the portions they typify are not identified as critical sections due to their strong similarities with the critical sections.

AREVA indicated that the referenced paragraph will be expanded to clarify the meaning of "typical" as used in the context of this paragraph. It was agreed that "typical" should refer to parameters such as concrete compressive strengths (f_c), slab or wall thicknesses, and relative magnitudes of loading. FSAR Appendix 3E mark-ups will accompany AREVA's response to RAI 155, Supplement 6, Question 03.08.1-20.

5. Explain why two other types of structural elements are not considered under the AREVA third selection criteria referred to as "Supplementary Methodology." These two structural elements consist of: (a) Roofs of the Emergency Power Generating Bldg (EPGB) and the Essential Service Water Bldg (ESWB), and (b) structural steel members (e.g., steel beams, columns).

(a) AREVA explained that roofs of the EPGB and the ESWB are already considered (see e.g., Critical Section 26) in the Critical Section Selection Methodology document.

(b) AREVA indicated that one Critical Section calculation will be added to the Critical Section Selection Methodology document: Typical steel columns and beams. FSAR Appendix 3E mark-ups will accompany AREVA's response to RAI 155, Supplement 6, Question 03.08.1-20.

Questions on Table 3E-1 – Critical Sections and Associated Figures

6. Section 3E.1.1, "Reactor Containment Building (RCB), Liner Plate": The figure in the slide on page 2 of 48 shows the entire liner plate. Will the design of the entire plate be performed under this Critical Section designation?

Questions on AREVA Critical Section Selection Methodology

AREVA indicated that only “typical” portions of the liner plate will be designed. The specific portions to be designed will be determined by the individual(s) performing the Critical Section design calculation. They further added that this is generally the case for all of the Critical Sections. FSAR Appendix 3E mark-ups will accompany AREVA’s response to RAI 155, Supplement 6, Question 03.08.4-6, Part 2.

The staff emphasized that, given the generality of the above response, the Critical Sections selected will need to be reviewed at a later stage.

7. Section 3E.1.2: RCB, “Typical Cylinder Wall and Buttress”: The title for the figure in the slide on page 4 of 48 uses the term, “Typical Cylinder Wall and Buttress.” What does the phrase, “Typical” denote because the critical section shown in the figure is the entire vertical containment wall including all three buttresses? Will the entire Critical Section shown on the figure be designed?

AREVA indicated that only “typical” portions of the wall and buttresses will be designed. They further added that the term, “typical wall” refers to portions of the wall away from openings and discontinuities, and “typical buttress” refers to portions of the buttress away from thickened elements, openings, and discontinuities.

Again, the staff mentioned that the Critical Sections selected will need to be reviewed at a later stage.

8. Section 3E.1.3: RCB, “Typical Dome and Dome Ring Areas”: Page 6 of 48; Same question as Item 7 above.

AREVA indicated that only “typical” portions of the dome and dome ring areas will be designed. AREVA will update FSAR Appendix 3E as part of their RAI response, and will provide the design of the critical sections selected per the methodology. The critical sections selected will be reviewed by the staff at a later stage.

9. Section 3E.1.4: RCB, “Connection of Containment Wall to Nuclear Island (NI) Basemat”: Page 8 of 48; Does the Critical Section include the entire region shown (i.e., periphery of this section)?

AREVA explained that the extent of the Critical Section is already given in FSAR Rev. 0 Appendix 3E1.1, “Reactor Containment Building—Wall to Foundation Connection.” The staff reviewed the contents of Appendix 3E1.1 and concurred.

10. Section 3E.1.5: RCB, “Equipment Hatch Area”: Page 4 of 48 shows the entire RCB vertical wall and hatch opening. Will this Critical Section cover the area around the hatch opening up to a sufficient distance from the opening where the effects of the opening have dissipated, and will the detail design include all of the required steel reinforcement and tendons?

AREVA explained that the extent of the Critical Section is already provided in FSAR Rev. 0 Appendix 3E1.2, “Reactor Containment Building—Equipment Hatch Area.” The staff reviewed the contents of Appendix 3E1.2 and concurred.

11. What about other key penetrations, such as main steam and feedwater, personnel hatch, fuel transfer tube?

Questions on AREVA Critical Section Selection Methodology

AREVA indicated that two Critical Section calculations will be added to the Critical Section Selection Methodology document: "Typical Air Lock and MS/FW Penetration Areas and Fuel Transfer Tube Area." FSAR Appendix 3E mark-ups will accompany AREVA's response to RAI 155, Supplement 6, Question 03.08.1-20.

12. Section 3E.1.19: RSB, "Typical Wall Areas and Connection Between RSB Wall and Safeguard / Fuel Bldg Roof Slabs": Page 37 of 48; same question as Item 7 above.

See discussion under Items 6 and 7 above. Once again, the staff mentioned that the Critical Sections selected will need to be reviewed at a later stage.

13. Section 3E.1.2: RSB, "Typical Dome to Wall Transition Areas": Page 39 of 48; same question as Item 7 above.

See discussion under Items 6 and 7 above. Once again, the staff mentioned that the Critical Sections selected will need to be reviewed at a later stage.

14. Only two Critical Sections are selected for the RSB. Why isn't the dome included (not just the transition of the dome) and the intersection of the RSB wall to basemat also included?

AREVA confirmed that both the dome and the intersection of the RSB wall to NI basemat are also included as part of the critical section. AREVA will update FSAR Appendix 3E as part of their RAI response, and will provide the design of the Critical Sections selected per the methodology. The Critical Sections selected will be reviewed by the staff at a later stage.

15. Section 3E.1.7: "NI Basemat and RBIS Baseslab": Page 12 of 48; same question as Item 6 above.

AREVA explained that the extent of the Critical Section is already provided in FSAR Rev. 0 Appendix 3E1.9, "Foundation of Nuclear Island Buildings and Base Slab of the RB Internal Structures." The staff reviewed the contents of Appendix 3E1.9 and concurred. It was agreed that the level of design detail for all critical sections will be comparable to that currently given in Appendix 3E1.9.

16. For all remaining Section 3E.1.X Critical Sections in Table 3E-1: Same question as Item 6 above.

AREVA indicated that it will update FSAR Appendix 3E as part of their RAI response, and will provide the design of the critical sections selected per the methodology. The critical sections selected will be reviewed by the staff at a later stage.

17. Section 3E.1.13, "Safeguard Bldg 2/3 Internal Structures – Floor Slab at Elev 0.00m": Page 24 of 48. Explain why the floor slab in this figure appears to be on the opposite side of the SB 2/3 structure when compared to Page 22 of 48.

AREVA confirmed that this apparent inconsistency is because the building was rotated in the second figure.

Questions on AREVA Critical Section Selection Methodology

18. Section 3E.2.X, "Emergency Power Generating Bldg (EPGB)": No figures were provided. Therefore, show us the location and extent of each selected Critical Section listed in Table 3E-1.

AREVA explained that critical sections for the EPGB are already included in FSAR Rev. 0 Appendix 3E.2. Nevertheless, they will update FSAR Appendix 3E as part of their RAI response, and will provide the design of the Critical Sections selected per the methodology. The Critical Sections selected will be reviewed by the staff at a later stage.

19. Section 3E.3.X, "Essential Service Water Building (ESWB)": No figures were provided. Therefore, show us the location and extent of each selected Critical Section listed in Table 3E-1.

AREVA explained that Critical Sections for the ESWB are already included in FSAR Rev. 0 Appendix 3E.3. Nevertheless, they will update FSAR Appendix 3E as part of their RAI response, and will provide the design of the Critical Sections selected per the methodology. The Critical Sections selected will be reviewed by the staff at a later stage.

20. Will the figures and/or other descriptive information for all of the Critical Sections in 3E.1.X, 3E.2.X, and 3E.3.X be documented in Appendix 3E? If not, then the current version of Appendix 3E does not clearly define the extent of each of the Critical Sections listed. This should be clarified somehow in Appendix. 3E.

AREVA indicated that it will update FSAR Appendix 3E as part of their RAI response, and will provide the design of the Critical Sections selected per the methodology. The Critical Sections selected will be reviewed by the staff at a later stage.

Questions Related to Observations Made in the NRC Audit Report for the Meeting Held on June 16, 2009

21. For the Critical Sections which are selected, the staff indicated that this information should be identified as Tier 2*. Additionally, AREVA should be aware that other information contained in the FSAR Section 3.8 and Appendix 3E will also need to be identified as Tier 2*. However, the identification of Tier 2* material will probably be discussed at a later date.

AREVA indicated that Rev. 001 of Calculation Document No. 32-9108190 addresses this issue by deleting the referenced sentence. It was agreed that identification of Tier 2* material will be discussed at a later date.

22. Has AREVA addressed Observation No. 7 made in the NRC Audit Report? The observation is given below.

For the AREVA calculation [AREVA Calculation Document No. 32-9108190-000, "U.S. Standard Plant DC General Design – Selection of Critical Sections," approved April 30, 2009.] identified above (Section 2.1), the qualitative criteria dealing with the "defense in depth" needs to be revised. The "safety margin" should not be considered to be part of the defense in depth, but rather is in addition to defense in depth.

AREVA indicated that Rev. 001 of Calculation Document No. 32-9108190 addresses this issue by adding the recommended editorial clarifications.

DC AREVA - EPR Mailing List
cc:

(Revised 03/17/2010)

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

Dr. Charles L. King
Licensing Manager, IRIS Project
Westinghouse Electric Company
Science and Technology Department
20 International Drive
Windsor, CT 06095

Ms. Sherry McFaden
Framatome NP, Inc.
3315 Old Forest Road, OF-16
Lynchburg, VA 24501

Mr. Steve Seitz
AREVA
100 Dean Road
East Lyme, CT 06333

Mr. Tom Sliva
7207 IBM Drive
Charlotte, NC 28262

Mr. Robert E. Sweeney
IBEX ESI
4641 Montgomery Avenue
Suite 350
Bethesda, MD 20814

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

DC AREVA - EPR Mailing List

Email

alau@washdc.whitecase.com (Albie Lau)
APH@NEI.org (Adrian Heymer)
awc@nei.org (Anne W. Cottingham)
BrinkmCB@westinghouse.com (Charles Brinkman)
carey.fleming@cengllc.com (Carey Fleming)
chris.maslak@ge.com (Chris Maslak)
christian.clement@unistarnuclear.com (Chrisitan Clement)
cwaltman@roe.com (C. Waltman)
david.hinds@ge.com (David Hinds)
david.lewis@pillsburylaw.com (David Lewis)
erg-xl@cox.net (Eddie R. Grant)
gcesare@enercon.com (Guy Cesare)
greg.gibson@unistarnuclear.com (Greg Gibson)
james.beard@gene.ge.com (James Beard)
james.p.mcquighan@constellation.com (Jim McQuighan)
jason.parker@pillsburylaw.com (Jason Parker)
jerald.head@ge.com (Jerald G. Head)
jgutierrez@morganlewis.com (Jay M. Gutierrez)
jim.riccio@wdc.greenpeace.org (James Riccio)
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)
Len.Gucwa.ext@areva.com (Len Gucwa)
Marc.Brooks@dhs.gov (Marc Brooks)
maria.webb@pillsburylaw.com (Maria Webb)
mark.beaumont@wsms.com (Mark Beaumont)
matias.travieso-diaz@pillsburylaw.com (Matias Travieso-Diaz)
mbowling@numarkassoc.com (Marty Bowling)
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)
Nuclaw@mindspring.com (Robert Temple)
patriciaL.campbell@ge.com (Patricia L. Campbell)
paul.gaukler@pillsburylaw.com (Paul Gaukler)
Paul@beyondnuclear.org (Paul Gunter)
pshastings@duke-energy.com (Peter Hastings)
RJB@NEI.org (Russell Bell)
Ronda.pederson@areva.com (Ronda Pederson)

DC AREVA - EPR Mailing List

rrsgarro@pplweb.com (Rocco Sgarro)
russell.wells@areva.com (Russell Wells)
sabinski@suddenlink.net (Steve A. Bennett)
sandra.sloan@areva.com (Sandra Sloan)
sfrantz@morganlewis.com (Stephen P. Frantz)
stephan.moen@ge.com (Stephan Moen)
Steve.Graham@hse.gsi.gov.uk (Steve Graham)
steven.hucik@ge.com (Steven Hucik)
strambgd@westinghouse.com (George Stramback)
tkkibler@scana.com (Tria Kibler)
tlharpster@pplweb.com (Terry Harpster)
tom.miller@hq.doe.gov (Tom Miller)
trsmith@winston.com (Tyson Smith)
Vanessa.quinn@dhs.gov (Vanessa Quinn)
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)