



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

*Docket
File*

March 29, 1994

Docket Nos. 52-001, 52-002,
and 52-003, 52-004

APPLICANTS: GE Nuclear Energy (GE), Westinghouse Electric Corporation (W),
and ABB-Combustion Engineering, Inc. (ABB-CE)

PROJECTS: GE Advanced Boiling Water Reactor (ABWR), GE Simplified Boiling
Water Reactor (SBWR), W AP600, and ABB-CE System 80+

SUBJECT: SUMMARY OF MEETING HELD ON MARCH 14, 1994, ON DESIGN
CERTIFICATION REVIEWS

A public meeting was held with representatives of the Nuclear Regulatory Commission (NRC), GE, W, ABB-CE, and the Department of Energy (DOE) on March 14, 1994, in the White Flint offices of the NRC in Rockville, Maryland. The purpose of the meeting was to discuss the progress of reviews for design certification of the evolutionary and passive reactor designs. Enclosure 1 contains a list of the attendees at the meeting. Enclosure 2 contains the handouts presented by industry representatives at the meeting.

Representatives from GE began the meeting with a presentation of the status of the ABWR design certification program. The major topics of discussion during the presentation were: (1) final design approval (FDA) and design control document (DCD) issuance dates, (2) treatment of standard safety analysis report (SSAR) secondary references in the DCD, (3) applicable regulations in the design certification rule, and (4) treatment of probabilistic risk information in DCD.

Representatives from ABB-CE then presented the status of the System 80+ certification program. The major topics of discussion during the presentation were: (1) the status of the next amendment to CESSAR-DC, (2) actions required to address concerns raised by the February 1994, quality assurance (QA) inspection, and (3) a proposed technical specification (TS) relief request. ABB-CE stated that Amendment V to CESSAR-DC will be issued by the end of April 1994. In order to meet that date, however, ABB-CE will need the staff's comments by the end of March. The staff agreed to work with ABB-CE to meet this schedule.

Regarding the recent QA inspection, ABB-CE stated that an action plan is being developed to address the concerns raised by the inspection team. Specifically, ABB-CE is compiling a list of calculations for which full design verification will be performed prior to the staff's issuance of a FDA. ABB-CE proposed to meet with the staff during the week of March 21, 1994, to discuss their plan. The staff agreed to meet and reiterated its position that the scope of the calculations should include those that form the final design basis and will not be redone by a combined license applicant due to as-procured/as-built conditions. ABB-CE also discussed a proposed relief request from TS requirements for emergency diesel generator limiting conditions for operation while at power. The Advisory Committee on Reactor Safeguards (ACRS) recently questioned ABB-CE about why credit was not taken for the alternate ac source during power operations. ABB-CE stated that this issue will be discussed further with the staff.

DF03

300101

9404050004 940329
PDR ADOCK 05200001
A PDR

NRC FILE CENTER COPY 111

Representatives from W then presented the status of the AP600 design certification program. The major topics of discussion during the presentation were: (1) the testing program status, and (2) the need for detailed schedules for the design certification review.

W indicated that they have categorized the tests in the AP600 testing program into those tests that they felt were required for developing the draft safety evaluation report (Category 1 tests) and those that would be necessary to support the FSER and FDA (Category 2 tests), and felt that the staff should be able to develop its review schedules based on this categorization. The staff indicated that it had not had the opportunity to review W's categorizations, and that it concluded that there will be significant open items in the DSER in those technical areas that are affected by the test program. The staff further indicated that it could not complete its safety evaluation of the design until the staff had confidence in the codes, and were sure that the design was finalized. The staff stated that it would not predict in its DSER that the testing will demonstrate that the design is acceptable. Instead, the staff indicated that it would issue a supplement to the DSER to discuss the results of the testing program. That supplement would be issued after the testing was completed, and the staff had a chance to review test results and analysis, as discussed in the March 7, 1994, letter.

W indicated that it would submit detailed testing schedules by March 16, 1994, and that it felt that it needed all of the staff's requests for additional information (RAIs) by April 1, 1994, in order for it to support a DSER by the end of the year.

Representatives from GE then presented the status of the SBWR design certification program. The major topics of discussions during the presentation were: (1) SBWR test overview, (2) tests in progress, (3) NRC testing letter on March 7, 1994, (4) RAIs, and (4) estimated SBWR design certification schedule.

(Original signed by S.Ninh for)

Chester Poslusny, Project Manager
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File

PDST R/F

PShea

PDR

TBoyce

DISTRIBUTION w/o enclosures:

WRussell/FMiraglia, 12G18

DCrutchfield

TWambach

JNWilson

ATHadani

WTravers

RBorchardt

BDLiaw, 7D26

BDean, 17G21

RArchitzel

JMoore, 15B18

TKenyon

MCase

MMalloy

MFranovich

CPoslusny

MFinkelstein

CMcCracken

SNinh

DTang

SMagruder

ACRS (11)

DFC	LA:PDST:ADAR	PM:PDST:ADAR	SC:PDST:ADAR
NAME	PShea	CPoslusny:tz	JNWilson
DATE	3/29/94	3/29/94	3/29/94

cc: Joseph Quirk
GE Nuclear Energy
175 Curtner Avenue, MC-782
San Jose, California 95125

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20850

Mr. L. Gifford, Program Manager
Regulatory Programs
GE Nuclear Energy
12300 Twinbrook Parkway
Suite 315
Rockville, Maryland 20852

Director, Criteria & Standards Division
Office of Radiation Programs
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Raymond Ng
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006

Marcus A. Rowden, Esq.
Fried, Frank, Harris, Shriver & Jacobson
1001 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20004

Jay M. Gutierrez, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Suite 1000
Washington, D.C. 20036

Mr. Steven A. Hucik
GE Nuclear Energy
175 Curtner Avenue, MC-780
San Jose, California 95125

Mr. Joseph R. Egan
Shaw, Pittman, Potts, & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037-1138

Mr. Patrick W. Marriott, Manager
Advanced Plant Technologies
GE Nuclear Energy
175 Curtner Avenue
San Jose, California 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy
175 Curtner Avenue, MC-781
San Jose, California 95125

Mr. C. B. Brinkman, Acting Director
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Mr. C. B. Brinkman, Manager
Washington Nuclear Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 30852

Mr. Stan Ritterbusch
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Regis A. Matzie, Vice President
Nuclear Systems Development
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Richard W. Burke, Sr., Manager
BWR Design Certification
Electric Power Research Institute
3442 Hillview Avenue
Palo Alto, California 94304-1395

cc: Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Analysis
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Muntrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415

MEETING ATTENDEES
MARCH 14, 1994

<u>NAME</u>	<u>AFFILIATION</u>
T. Boyce	NRR/ADAR
M. Finkelstein	OGC
B. Vijuk	Westinghouse
T. Cook	DOE
C. McCracken	NRR/SPLB
N. Fletcher	DOE
F. Ross	DOE
C. Thompson	DOE
G. Vine	EPRI
R. P. McDonald	ARC
T. Kenyon	NRR/PDST
M. Case	NRR/ADAR
B. McIntyre	Westinghouse
R. Architzel	NRR/PDST
M. Malloy	NRR/PDST
M. Franovich	NRR/PDST
P. Marriott	GE Nuclear Energy
J. Quirk	GE Nuclear Energy
T. Rudek	ABB-CE
R. Matzic	ABB-CE
R. Borchardt	NRR/PDST
W. Russell	NRR/ADT
D. Crutchfield	NRR/ADAR
S. Franks	DOE/ALWR
D. McGoff	DOE
J. Santucci	EPRI
A. Beard	GE Nuclear Energy
B. D. Liaw	NRR/DE
A. Thadani	NRR/ADT
J. Wheeler	DOE
C. Poslusny	NRR/PDST
B. Dean	OEDO
P. Lang	DOE
R. Bell	NEI
S. Hucik	GE Nuclear Energy
M. Reinhart	NRR/OTSB
D. McPherson	NRR/DSSA
B. Travers	NRR/ADAR
K. Shembarger	NRR/PDST
B. Zalcman	NRR/PDST
J. Donohew	NRR/PDAR
S. Magruder	NRR/PDST
F. Talbot	NRR/RPEB
J. Leatherman	GE Nuclear Energy
H. Renner	NUS
C. Brinkman	ABB-CE



GE Nuclear Energy

ABWR Certification Program Overview

J. F. Quirk
Project Manager
ABWR Certification

March 14, 1994

ABWR Certification Program Current and Near Term FDA Related Activities

- *Advance Copy of FSER Issued on December 30, 1993*
- *GE Responses to all FSER Open/Confirmatory Items January 14 — February 16, 1994*
- *GE Sr. Mgmt. Briefing of NRC, January 26, 1994*
- *Staff Sr. Mgmt. Briefing of NRC, January 28, 1994*
- *GE/ACRS Final Subcommittee Meeting, January 25 & 26, 1994*
- *NRC Project Staff Pre-Review of Amendment 34 closing all Staff, IRG, and ACRS comments*
- *ACRS Letter Being Drafted*

NOW AT THRESHOLD OF FDA ISSUANCE

SUMMARY

- **Much progress made . . . ABWR @ threshold of receiving first FDA under Part 52**

- **Remaining actions**
 - ACRS Letter, March 1994

 - FSER and FDA issuance, May 1994

 - Early commission action on ANPR process issues needed to maintain schedules for initiating ALWR rulemakings

Design Certification Process Issues Impacting FDA

FDA/DCD SEPARATION

• Proposal for staff issuance of FDA prior to completion of DCD approval process

- Resolution of DCD format issues will not effect content and completeness of safety review and findings supporting approval of FDA
- DCD relates only to DC Rulemaking
- Separation of two issuances would allow design review process to be completed within a time frame consistent with NRC-approved schedules
- Understand that staff supports separating FDA and DCD issuance

**INDUSTRY URGES COMMISSION TO ENDORSE
SEPARATING FDA AND DCD ISSUANCE**

Process Issues Impacting Design Certification

SECONDARY REFERENCES

- Preliminary Staff guidance on DCD treatment of SSAR secondary references caused serious Industry concerns regarding practicality and schedule impacts
- Further interaction has clarified Staff and Industry understanding

**AWAITING NEW STAFF GUIDANCE TO
SATISFACTORILY RESOLVE MATTER**

***Process Issues Impacting Design Certification
(Continued)***

APPLICABLE REGULATIONS

- Staff proposes DC rule adopt as “applicable regulations” various Commission-approved staff positions on severe accidents and other technical issues

— Industry believes that Commission-approved staff positions will be embodied in Tier 1 and Tier 2 DC rule requirements

THIS PROPOSAL SHOULD NOT BE ADOPTED BY COMMISSION

Process Issues Impacting Design Certification (Continued)

TREATMENT OF PRA INFORMATION

- ***Staff proposes DCD include PRA details, including probabilities***

- Would make 50.59 evaluations burdensome and divert licensee and staff resources from more important operating issues to handling of license amendments or exemption requests for trivial increases in PRA probabilities

**ONLY IMPORTANT DESIGN INSIGHTS FROM PRA
SHOULD BE INCLUDED IN DCD AND SUBJECT TO
50.59 REVIEW PRIOR TO CHANGE**

System 80+ Design Certification Program Status

**NRC/DOE/Industry Management
Meeting**

March 14, 1994

Nuclear Systems

sub:industry

ABB

Dr. R. A. Matzie
Vice President, Engineering

Nuclear Systems

sab industry

ABB

System 80+ Design Review Status

- ABB-CE System 80+ ACRS subcommittee meetings initiated December 8, 1993
- Advanced FSER signed February 28, 1994
 - No open issues
 - Eight confirmatory issues
- ACRS letter expected May-June, 1994
- FSER to be published June, 1994
- FDA expected August, 1994
- Notice of Rulemaking September, 1994
- Design Certification December, 1995

Nuclear Systems

sab.industry



System 80+ Advanced FSER

Confirmatory Items

<u>Item No.</u>	<u>Description</u>
1.1-1	Incorporation of agreed upon CESSAR-DC markups in (Amendment V)
1.1-2	Staff consistency review of CDM and CESSAR-DC through (Amendment U)
1.10-1	Review of COL action items
3.8.4.2-1	Joint reinforcing steel details, e.g. (Component Cooling Water/Heat Exchanger Building, Diesel Fuel Storage Structure, Component Cooling Water/Heat Exchanger Tunnel and Nuclear Island Basemat outer wall interfaces).

System 80+ Advanced FSER (Cont.)

Confirmatory Items

<u>Item No.</u>	<u>Description</u>
14.3.7-1	Verify incorporation of additional comments on CDM
14.3.7-2	Independent quality assurance review of CDM and CESSAR-DC
16	Verify incorporation of staff comments, satisfactory completion of independent audit, and ABB-CE certification of the final Technical Specifications
17.1-1	Verify ABB-CE's design control practices (quality assurance) afford an acceptable level of assurance of the design integrity.

ACRS Review Status

- Review is two-thirds complete
- No significant technical issues or design problems identified in meetings to-date
- ABB-CE agreed to investigate ACRS suggestion that the combustion-turbine generator be credited as backup for safety-grade diesels during at-power operation
 - Extension of Technical Specification maintenance (72 hours) via crediting gas turbine
- Last of four meetings scheduled for April 5-6, 1994
- Potential 1/2 day cleanup meeting in early May

Nuclear Systems

sab:industry

ABB

CESSAR-DC Chapters Reviewed by ACRS

Chapter 1 -	General Descriptions -	*
Chapter 2 -	Site Envelope -	Complete
Chapter 3 -	Seismic and Mechanical Design -	Complete
Chapter 4 -	Fuel System -	Complete
Chapter 5 -	Reactor Coolant System -	*
Chapter 6 -	Containment Systems -	*
Chapter 7 -	Instrumentation & Control -	Complete
Chapter 8 -	Electrical Systems -	Complete
Chapter 9 -	Auxiliary Systems -	*
Chapter 10 -	Main Steam System -	Complete
Chapter 11 -	Radwaste Systems -	Complete
Chapter 12 -	Radiation Protection -	Complete

* April 5-6, 1994

Nuclear Systems

sab industry



CESSAR-DC Chapters Reviewed by ACRS (Cont.)

Chapter 13 - Plant Operations -	Complete
Chapter 14 - Startup Testing -	Complete
Chapter 15 - Safety Analysis -	*
Chapter 16 - Technical Specifications -	*
Chapter 17 - Quality Assurance -	Complete
Chapter 18 - Human Factors Engineering -	Complete
Chapter 19 - Probabilistic Risk Assessment & Severe Accidents -	Complete
Appendix A - Generic Safety Issues	*

* April 5-6, 1994

Nuclear Systems

sab.industry

ABB

DCD Development

- Perform a final consistency review of CESSAR-DC
- Perform a consistency review between the FSER and CESSAR-DC
- Start work on draft DCD
 - Using NRC guidance on form and content
 - Utilizing the industry's position on secondary references
 - Utilizing industry definition of PRA requirements



AP600 DESIGN CERTIFICATION PROGRAM STATUS

March 14, 1994

Brian A. McIntyre, Manager
Advanced Plant Safety and Licensing

Westinghouse Electric Corporation

OVERVIEW



ITEMS FROM DECEMBER 22, 1993 SENIOR MANAGEMENT MEETING

TESTING PROGRAM STATUS

MARCH 7, 1994 LETTER

DECEMBER 22, 1993 SENIOR MANAGEMENT MEETING



ISSUES AND ACTIONS

PRA REVIEW

- MEETING HELD WITH STAFF AND CONTRACTOR
 - EXCELLENT FEEDBACK ON SUBMITTAL
 - DIALOGUE INITIATED
 - NEXT MEETING MID APRIL

TESTING PROGRAM CLOSURE

DETAILED SCHEDULE SUBMITTAL

TESTING PROGRAM CLOSURE



DECEMBER 10, 1993 - NRC

- CLARIFIED STAFF CONCERNS

MEETINGS HELD WITH STAFF AND ACRS

APRIL 8, 1994 - NRC

- CLOSE OUT ITEMS FROM DECEMBER 10, 1993 MEETING

CLOSURE REQUIRED ON TESTING PROGRAM

TESTING PROGRAM STATUS



CMT

- MATRIX TESTING UNDERWAY
- CATEGORY 1 TESTING COMPLETION 5/27/94

OSU

- SENIOR MANAGEMENT MEETING 5/10/94
- MATRIX TESTING INITIATION 7/20/94
- CATEGORY 1 TEST COMPLETION 10/21/94

SPES

- MATRIX TESTING UNDERWAY
- CATEGORY 1 TEST COMPLETION 10/21/94

TESTING PROGRAM STATUS (Continued)



ADS

- UNDER CONSTRUCTION
- MATRIX TESTING INITIATION 6/94
- CATEGORY 2 TEST COMPLETION 10/94

PCCS

- TESTING COMPLETE

MARCH 7, 1994 LETTER



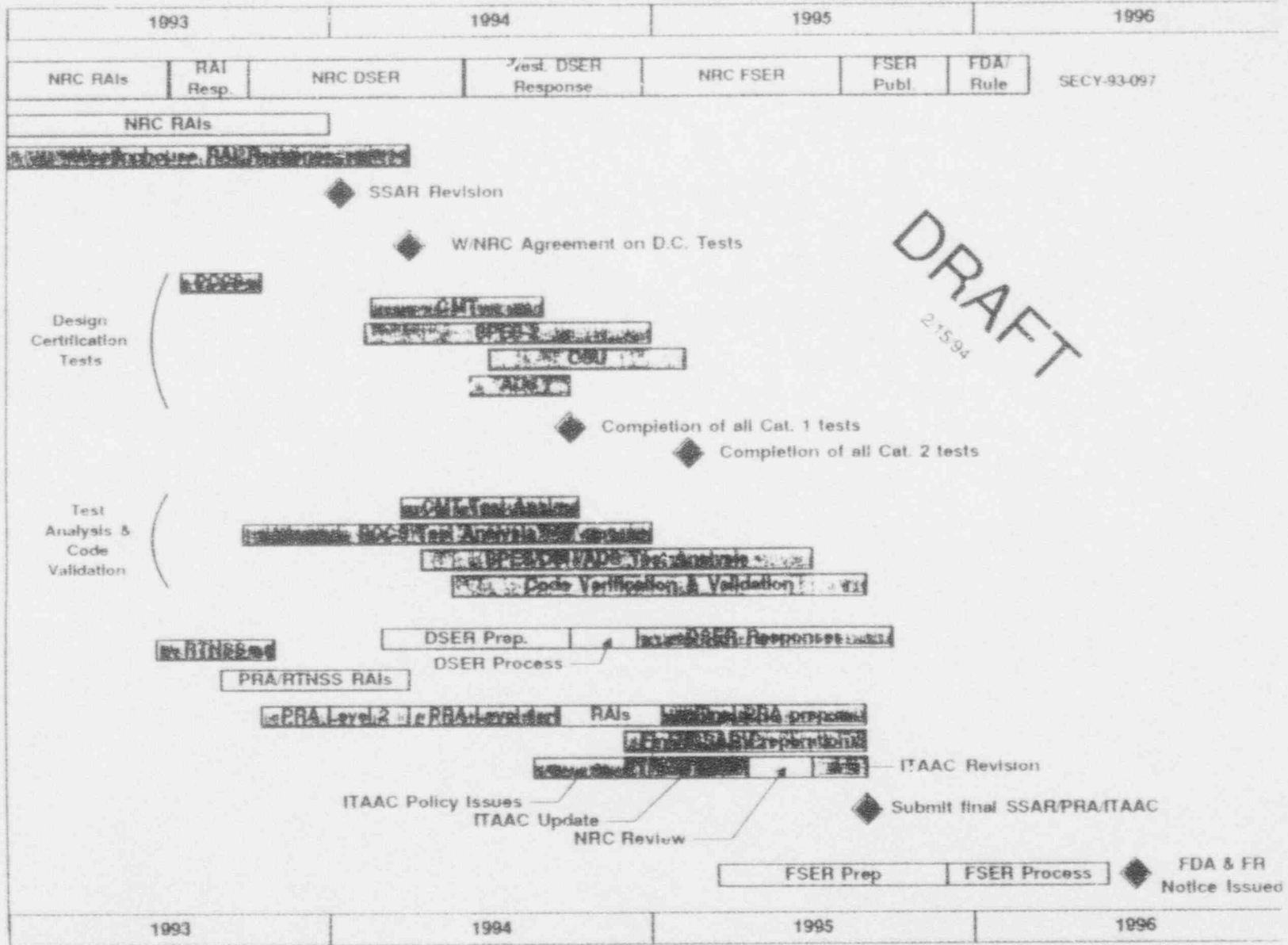
- IMPLIES STAFF IS PURSUING A SPLIT DSER APPROACH
- WESTINGHOUSE TO SUBMIT DETAILED SCHEDULES FOR STAFF PLANNING
- REASONABLE ASSURANCE NEEDED THAT DESIGN IS FINAL

DETAILED SCHEDULE



- MARCH 7, 1994 NPC LETTER
 - IMPLIES SPLIT DSER
- MARCH 9, 1994 WESTINGHOUSE PROVIDED DETAILS
 - SINGLE DSER
 - TESTING PROGRAM CATEGORIZED
 - NECESSARY FOR DSER - CATEGORY 1
 - NECESSARY TO CLOSE OPEN ITEMS - CATEGORY 2
- WESTINGHOUSE RECOMMENDS SINGLE DSER WITH OPEN ITEMS
- CHALLENGE STAFF TO PERFORM SIMILAR LEVEL OF PLANNING
 - BUILD ON WESTINGHOUSE SUBMITTAL

AP600 DESIGN CERTIFICATION SCHEDULE



REQUESTS FOR ADDITIONAL INFORMATION



1292 RECEIVED

1211 RESPONSES

TO SUPPORT DSER IN DECEMBER, RESPONSES ARE REQUIRED BY JUNE 30, 1994

- RAI'S NEEDED BY APRIL 1, 1994

NEAR TERM SUBMITTALS



SSAR UPDATE - JANUARY 13, 1994

- RAI RESPONSE INCORPORATION

PRA UPDATE

- RAI RESPONSE INCORPORATION
- LEVEL 2 REQUANTIFICATION

RAI RESPONSES

- MEETING 90 DAY TURNAROUND

CONCLUSIONS



PROGRESS HAS BEEN MADE IN PRA REVIEW

JOINT PLANNING ESSENTIAL FOR SUCCESS

AP600 DESIGN CERTIFICATION TESTS UNDERWAY

CLOSURE STILL REQUIRED ON TESTING PROGRAM

DETAILED SCHEDULES WILL BE FORMALLY SUBMITTED MARCH 16

RAIs REQUIRED BY APRIL 1 TO SUPPORT DSER



GE Nuclear Energy

SBWR PROGRAM STATUS

P. W. Marriott
Manager, Advanced Plant Technologies

March 14, 1994

Test Overview

- *Testing Done by GE and International Technical Associates*
 - *University Tests*
 - *GIST*
 - *GIRAFFE*
 - *PANTHERS*
 - *PANDA*

Tests in Progress

- ***PANTHERS/PCC***
 - ***Facility in final construction and shakedown***
 - ***Matrix testing designed to establish steady-state performance over a range of steam/air mixtures and conditions***
 - ***GE/DOE Readiness-to-Test Assessment planned for April***
 - ***Matrix testing will start in April***
 - ***Quick-look reports scheduled for June***
 - ***Test report scheduled for July***
- ***PANTHERS/IC Testing Planned for 1995***

PANTHERS/PCC on Track

Tests in Progress

- **PANDA**
 - *Facility under construction*
 - *Planned tests repeat GIRAFFE tests*
 - *NRC-accelerated testing to be completed by December '94*
 - *Quick looks +30 days*
 - *Final Test Report +90 days*
 - *Responsive to NRC Request for 1 year acceleration of 3 tests*
 - *Actual acceleration will be about 9 months*
 - *Test conditions established*

PANDA Schedule Aggressive

NRC Testing Letter (March 7, 1994)

- ***Integral Systems Test required for certification (possibly modified existing facility)***
- ***Additional PANDA tests required for certification***
- ***Isolation Condenser tests required for certification***
- ***Helium tests in integral test facility needed***

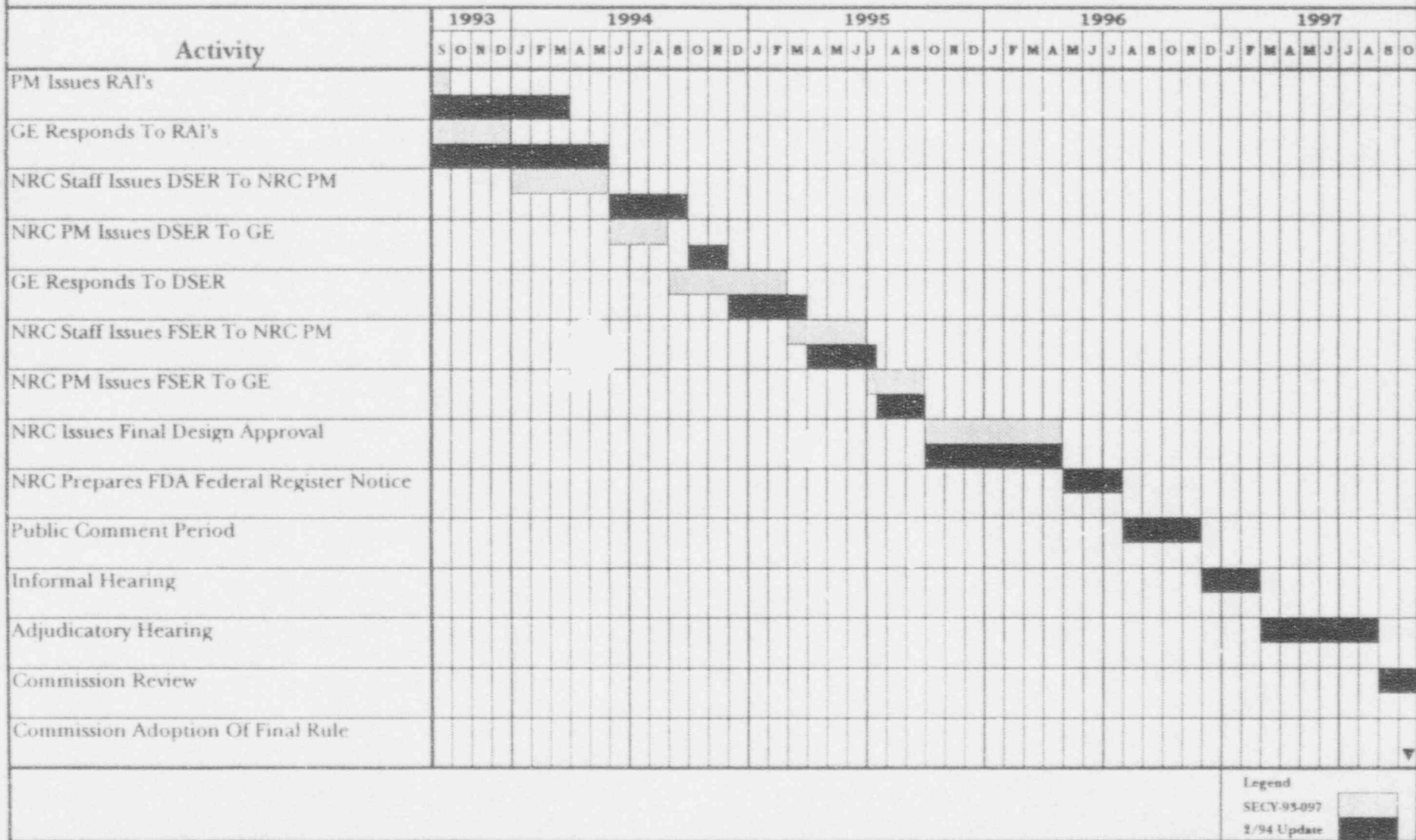
- ***Potential Major Impact on Schedule and Cost***
- ***Plan for Addressing Concerns will be Submitted by End of March***

RAI Responses

- ***GE has now received over 500 RAIs.***
 - ***Responses have been turned-around on negotiated schedules.***
 - ***SBWR may be ~1/4th of the way through the SSAR RAI process.***
- ***Use of "Similarity Document" in the RAI process may allow the same thorough review with half the resources.***



SBWR Design & Certification Program Estimated Certification Schedule



Conclusion

- ***Test Programs: Plans may need modification but facilities are on course***
- ***RAIs: Late start but good turnaround***

May 1996 FDA Should Still Be Our Goal



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 29, 1994

Docket Nos. 52-001, 52-002,
and 52-003, 52-004

APPLICANTS: GE Nuclear Energy (GE), Westinghouse Electric Corporation (W),
and ABB-Combustion Engineering, Inc. (ABB-CE)

PROJECTS: GE Advanced Boiling Water Reactor (ABWR), GE Simplified Boiling
Water Reactor (SBWR), W AP600, and ABB-CE System 80+

SUBJECT: SUMMARY OF MEETING HELD ON MARCH 14, 1994, ON DESIGN
CERTIFICATION REVIEWS

A public meeting was held with representatives of the Nuclear Regulatory Commission (NRC), GE, W, ABB-CE, and the Department of Energy (DOE) on March 14, 1994, in the White Flint offices of the NRC in Rockville, Maryland. The purpose of the meeting was to discuss the progress of reviews for design certification of the evolutionary and passive reactor designs. Enclosure 1 contains a list of the attendees at the meeting. Enclosure 2 contains the handouts presented by industry representatives at the meeting.

Representatives from GE began the meeting with a presentation of the status of the ABWR design certification program. The major topics of discussion during the presentation were: (1) final design approval (FDA) and design control document (DCD) issuance dates, (2) treatment of standard safety analysis report (SSAR) secondary references in the DCD, (3) applicable regulations in the design certification rule, and (4) treatment of probabilistic risk information in DCD.

Representatives from ABB-CE then presented the status of the System 80+ certification program. The major topics of discussion during the presentation were: (1) the status of the next amendment to CESSAR-DC, (2) actions required to address concerns raised by the February 1994, quality assurance (QA) inspection, and (3) a proposed technical specification (TS) relief request. ABB-CE stated that Amendment V to CESSAR-DC will be issued by the end of April 1994. In order to meet that date, however, ABB-CE will need the staff's comments by the end of March. The staff agreed to work with ABB-CE to meet this schedule.

Regarding the recent QA inspection, ABB-CE stated that an action plan is being developed to address the concerns raised by the inspection team. Specifically, ABB-CE is compiling a list of calculations for which full design verification will be performed prior to the staff's issuance of a FDA. ABB-CE proposed to meet with the staff during the week of March 21, 1994, to discuss their plan. The staff agreed to meet and reiterated its position that the scope of the calculations should include those that form the final design basis and will not be redone by a combined license applicant due to as-procured/as-built conditions. ABB-CE also discussed a proposed relief request from TS requirements for emergency diesel generator limiting conditions for operation while at power. The Advisory Committee on Reactor Safeguards (ACRS) recently questioned ABB-CE about why credit was not taken for the alternate ac source during power operations. ABB-CE stated that this issue will be discussed further with the staff.

Representatives from W then presented the status of the AP600 design certification program. The major topics of discussion during the presentation were: (1) the testing program status, and (2) the need for detailed schedules for the design certification review.

W indicated that they have categorized the tests in the AP600 testing program into those tests that they felt were required for developing the draft safety evaluation report (Category 1 tests) and those that would be necessary to support the FSER and FDA (Category 2 tests), and felt that the staff should be able to develop its review schedules based on this categorization. The staff indicated that it had not had the opportunity to review W's categorizations, and that it concluded that there will be significant open items in the DSER in those technical areas that are affected by the test program. The staff further indicated that it could not complete its safety evaluation of the design until the staff had confidence in the codes, and were sure that the design was finalized. The staff stated that it would not predict in its DSER that the testing will demonstrate that the design is acceptable. Instead, the staff indicated that it would issue a supplement to the DSER to discuss the results of the testing program. That supplement would be issued after the testing was completed, and the staff had a chance to review test results and analysis, as discussed in the March 7, 1994, letter.

W indicated that it would submit detailed testing schedules by March 16, 1994, and that it felt that it needed all of the staff's requests for additional information (RAIs) by April 1, 1994, in order for it to support a DSER by the end of the year.

Representatives from GE then presented the status of the SBWR design certification program. The major topics of discussions during the presentation were: (1) SBWR test overview, (2) tests in progress, (3) NRC testing letter on March 7, 1994, (4) RAIs, and (4) estimated SBWR design certification schedule.

(Original signed by S.Ninh for)

Chester Poslusny, Project Manager
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File PDST R/F PShea
PDR TBoyce

DISTRIBUTION w/o enclosures:

WRussell/FMiraglia, 12G18 DCrutchfield TWambach JNWilson
ATHadani WTravers RBorchardt BDLiaw, 7D26
BDean, 17G21 RArchitzel JMoore, 15B18 TKenyon
MCase MMalloy Mfranovich CPoslusny
MFinkelstein CMcCracken SNinh DTang
SMagruder ACRS (11)

OFC	LA:PDST:ADAR	PM:PDST:ADAR	SC:PDST:ADAR
NAME	PShea	CPoslusny:cz	JNWilson
DATE	3/29/94	3/29/94	3/29/94

cc: Mr. Joseph Quirk
GE Nuclear Energy
175 Curtner Avenue, MC-782
San Jose, California 95125

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20850

Mr. L. Gifford, Program Manager
Regulatory Programs
GE Nuclear Energy
12300 Twinbrook Parkway
Suite 315
Rockville, Maryland 20852

Director, Criteria & Standards Division
Office of Radiation Programs
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Raymond Ng
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006

Marcus A. Rowden, Esq.
Fried, Frank, Harris, Shriver & Jacobson
1001 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20004

Jay M. Gutierrez, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Suite 1000
Washington, D.C. 20036

Mr. Steven A. Hucik
GE Nuclear Energy
175 Curtner Avenue, MC-780
San Jose, California 95125

Mr. Joseph R. Egan
Shaw, Pittman, Potts, & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037-1138

Mr. Patrick W. Marriott, Manager
Advanced Plant Technologies
GE Nuclear Energy
175 Curtner Avenue
San Jose, California 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy
175 Curtner Avenue, MC-781
San Jose, California 95125

Mr. C. B. Brinkman, Acting Director
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Mr. C. B. Brinkman, Manager
Washington Nuclear Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 30852

Mr. Stan Ritterbusch
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Regis A. Matzie, Vice President
Nuclear Systems Development
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Richard W. Burke, Sr., Manager
BWR Design Certification
Electric Power Research Institute
3442 Hillview Avenue
Palo Alto, California 94304-1395

cc: Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Analysis
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 29, 1994

Docket Nos. 52-001, 52-002,
and 52-003, 52-004

APPLICANTS: GE Nuclear Energy (GE), Westinghouse Electric Corporation (W),
and ABB-Combustion Engineering, Inc. (ABB-CE)

PROJECTS: GE Advanced Boiling Water Reactor (ABWR), GE Simplified Boiling
Water Reactor (SBWR), W AP600, and ABB-CE System 80+

SUBJECT: SUMMARY OF MEETING HELD ON MARCH 14, 1994, ON DESIGN
CERTIFICATION REVIEWS

A public meeting was held with representatives of the Nuclear Regulatory Commission (NRC), GE, W, ABB-CE, and the Department of Energy (DOE) on March 14, 1994, in the White Flint offices of the NRC in Rockville, Maryland. The purpose of the meeting was to discuss the progress of reviews for design certification of the evolutionary and passive reactor designs. Enclosure 1 contains a list of the attendees at the meeting. Enclosure 2 contains the handouts presented by industry representatives at the meeting.

Representatives from GE began the meeting with a presentation of the status of the ABWR design certification program. The major topics of discussion during the presentation were: (1) final design approval (FDA) and design control document (DCD) issuance dates, (2) treatment of standard safety analysis report (SSAR) secondary references in the DCD, (3) applicable regulations in the design certification rule, and (4) treatment of probabilistic risk information in DCD.

Representatives from ABB-CE then presented the status of the System 80+ certification program. The major topics of discussion during the presentation were: (1) the status of the next amendment to CESSAR-DC, (2) actions required to address concerns raised by the February 1994, quality assurance (QA) inspection, and (3) a proposed technical specification (TS) relief request. ABB-CE stated that Amendment V to CESSAR-DC will be issued by the end of April 1994. In order to meet that date, however, ABB-CE will need the staff's comments by the end of March. The staff agreed to work with ABB-CE to meet this schedule.

Regarding the recent QA inspection, ABB-CE stated that an action plan is being developed to address the concerns raised by the inspection team. Specifically, ABB-CE is compiling a list of calculations for which full design verification will be performed prior to the staff's issuance of a FDA. ABB-CE proposed to meet with the staff during the week of March 21, 1994, to discuss their plan. The staff agreed to meet and reiterated its position that the scope of the calculations should include those that form the final design basis and will not be redone by a combined license applicant due to as-procured/as-built conditions. ABB-CE also discussed a proposed relief request from TS requirements for emergency diesel generator limiting conditions for operation while at power. The Advisory Committee on Reactor Safeguards (ACRS) recently questioned ABB-CE about why credit was not taken for the alternate ac source during power operations. ABB-CE stated that this issue will be discussed further with the staff.

March 29, 1994

Representatives from W then presented the status of the AP600 design certification program. The major topics of discussion during the presentation were: (1) the testing program status, and (2) the need for detailed schedules for the design certification review.

W indicated that they have categorized the tests in the AP600 testing program into those tests that they felt were required for developing the draft safety evaluation report (Category 1 tests) and those that would be necessary to support the FSER and FDA (Category 2 tests), and felt that the staff should be able to develop its review schedules based on this categorization. The staff indicated that it had not had the opportunity to review W's categorizations, and that it concluded that there will be significant open items in the DSER in those technical areas that are affected by the test program. The staff further indicated that it could not complete its safety evaluation of the design until the staff had confidence in the codes, and were sure that the design was finalized. The staff stated that it would not predict in its DSER that the testing will demonstrate that the design is acceptable. Instead, the staff indicated that it would issue a supplement to the DSER to discuss the results of the testing program. That supplement would be issued after the testing was completed, and the staff had a chance to review test results and analysis, as discussed in the March 7, 1994, letter.

W indicated that it would submit detailed testing schedules by March 16, 1994, and that it felt that it needed all of the staff's requests for additional information (RAIs) by April 1, 1994, in order for it to support a DSER by the end of the year.

Representatives from GE then presented the status of the SBWR design certification program. The major topics of discussions during the presentation were: (1) SBWR test overview, (2) tests in progress, (3) NRC testing letter on March 7, 1994, (4) RAIs, and (4) estimated SBWR design certification schedule.

(Original signed by S.Ninh for)

Chester Poslusny, Project Manager
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File PDST R/F PShea
PDR TBoyce

DISTRIBUTION w/o enclosures:

WRussell/FMiraglia, 12G18 DCrutchfield TWambach JNWilson
ATHadani WTravers RBorchardt BDLiaw, 7D26
BDean, 17G21 RArchitzel JMoore, 15B18 TKenyon
MCase MMalloy Mfranovich CPoslusny
MFinkelstein C McCracken SNinh DTang
SMagruder ACRS (11)

OFI	LA:PDST:ADAR	PM:PDST:ADAR	SC:PDST:ADAR
NAME	PShea	CPoslusny:tz	JNWilson
DATE	3/29/94	3/29/94	3/29/94

cc: Mr. Joseph Quirk
GE Nuclear Energy
175 Curtner Avenue, MC-782
San Jose, California 95125

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20850

Mr. L. Gifford, Program Manager
Regulatory Programs
GE Nuclear Energy
12300 Twinbrook Parkway
Suite 315
Rockville, Maryland 20852

Director, Criteria & Standards Division
Office of Radiation Programs
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Raymond Ng
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006

Marcus A. Rowden, Esq.
Fried, Frank, Harris, Shriver & Jacobson
1001 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20004

Jay M. Gutierrez, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Suite 1000
Washington, D.C. 20036

Mr. Steven A. Hucik
GE Nuclear Energy
175 Curtner Avenue, MC-780
San Jose, California 95125

Mr. Joseph R. Egan
Shaw, Pittman, Potts, & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037-1138

Mr. Patrick W. Marriott, Manager
Advanced Plant Technologies
GE Nuclear Energy
175 Curtner Avenue
San Jose, California 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy
175 Curtner Avenue, MC-781
San Jose, California 95125

Mr. C. B. Brinkman, Acting Director
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Mr. C. B. Brinkman, Manager
Washington Nuclear Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 30852

Mr. Stan Ritterbusch
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Regis A. Matzie, Vice President
Nuclear Systems Development
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Richard W. Burke, Sr., Manager
BWR Design Certification
Electric Power Research Institute
3442 Hillview Avenue
Palo Alto, California 94304-1395

cc: Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Analysis
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 29, 1994

Docket Nos. 52-001, 52-002,
and 52-003, 52-004

APPLICANTS: GE Nuclear Energy (GE), Westinghouse Electric Corporation (W),
and ABB-Combustion Engineering, Inc. (ABB-CE)

PROJECTS: GE Advanced Boiling Water Reactor (ABWR), GE Simplified Boiling
Water Reactor (SBWR), W AP600, and ABB-CE System 80+

SUBJECT: SUMMARY OF MEETING HELD ON MARCH 14, 1994, ON DESIGN
CERTIFICATION REVIEWS

A public meeting was held with representatives of the Nuclear Regulatory Commission (NRC), GE, W, ABB-CE, and the Department of Energy (DOE) on March 14, 1994, in the White Flint offices of the NRC in Rockville, Maryland. The purpose of the meeting was to discuss the progress of reviews for design certification of the evolutionary and passive reactor designs. Enclosure 1 contains a list of the attendees at the meeting. Enclosure 2 contains the handouts presented by industry representatives at the meeting.

Representatives from GE began the meeting with a presentation of the status of the ABWR design certification program. The major topics of discussion during the presentation were: (1) final design approval (FDA) and design control document (DCD) issuance dates, (2) treatment of standard safety analysis report (SSAR) secondary references in the DCD, (3) applicable regulations in the design certification rule, and (4) treatment of probabilistic risk information in DCD.

Representatives from ABB-CE then presented the status of the System 80+ certification program. The major topics of discussion during the presentation were: (1) the status of the next amendment to CESSAR-DC, (2) actions required to address concerns raised by the February 1994, quality assurance (QA) inspection, and (3) a proposed technical specification (TS) relief request. ABB-CE stated that Amendment V to CESSAR-DC will be issued by the end of April 1994. In order to meet that date, however, ABB-CE will need the staff's comments by the end of March. The staff agreed to work with ABB-CE to meet this schedule.

Regarding the recent QA inspection, ABB-CE stated that an action plan is being developed to address the concerns raised by the inspection team. Specifically, ABB-CE is compiling a list of calculations for which full design verification will be performed prior to the staff's issuance of a FDA. ABB-CE proposed to meet with the staff during the week of March 21, 1994, to discuss their plan. The staff agreed to meet and reiterated its position that the scope of the calculations should include those that form the final design basis and will not be redone by a combined license applicant due to as-procured/as-built conditions. ABB-CE also discussed a proposed relief request from TS requirements for emergency diesel generator limiting conditions for operation while at power. The Advisory Committee on Reactor Safeguards (ACRS) recently questioned ABB-CE about why credit was not taken for the alternate ac source during power operations. ABB-CE stated that this issue will be discussed further with the staff.

Representatives from W then presented the status of the AP600 design certification program. The major topics of discussion during the presentation were: (1) the testing program status, and (2) the need for detailed schedules for the design certification review.

W indicated that they have categorized the tests in the AP600 testing program into those tests that they felt were required for developing the draft safety evaluation report (Category 1 tests) and those that would be necessary to support the FSER and FDA (Category 2 tests), and felt that the staff should be able to develop its review schedules based on this categorization. The staff indicated that it had not had the opportunity to review W's categorizations, and that it concluded that there will be significant open items in the DSER in those technical areas that are affected by the test program. The staff further indicated that it could not complete its safety evaluation of the design until the staff had confidence in the codes, and were sure that the design was finalized. The staff stated that it would not predict in its DSER that the testing will demonstrate that the design is acceptable. Instead, the staff indicated that it would issue a supplement to the DSER to discuss the results of the testing program. That supplement would be issued after the testing was completed, and the staff had a chance to review test results and analysis, as discussed in the March 7, 1994, letter.

W indicated that it would submit detailed testing schedules by March 16, 1994, and that it felt that it needed all of the staff's requests for additional information (RAIs) by April 1, 1994, in order for it to support a DSER by the end of the year.

Representatives from GE then presented the status of the SBWR design certification program. The major topics of discussions during the presentation were: (1) SBWR test overview, (2) tests in progress, (3) NRC testing letter on March 7, 1994, (4) RAIs, and (4) estimated SBWR design certification schedule.

(Original signed by S.Ninh for)

Chester Poslusny, Project Manager
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File PDST R/F PShea
PDR TBoyce

DISTRIBUTION w/o enclosures:

WRussell/FMiraglia, 12G18 DCrutchfield TWambach JNWilson
ATHadani WTravers RBorchardt BDLiaw, 7D26
BDean, 17G21 RArchitzel JMoore, 15B18 TKenyon
MCase MMalloy Mfranovich CPoslusny
MFinkelstein C McCracken SNinh DTang
SMagruder ACRS (11)

OFC	LA:PDST:ADAR	PM:PDST:ADAR	SC:PDST:ADAR
NAME	PShea	CPoslusny:tz	JNWilson
DATE	3/29/94	3/29/94	3/29/94

cc: Mr. Joseph Quirk
GE Nuclear Energy
175 Curtner Avenue, MC-782
San Jose, California 95125

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20850

Mr. L. Gifford, Program Manager
Regulatory Programs
GE Nuclear Energy
12300 Twinbrook Parkway
Suite 315
Rockville, Maryland 20852

Director, Criteria & Standards Division
Office of Radiation Programs
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Raymond Ng
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006

Marcus A. Rowden, Esq.
Fried, Frank, Harris, Shriver & Jacobson
1001 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20004

Jay M. Gutierrez, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Suite 1000
Washington, D.C. 20036

Mr. Steven A. Hucik
GE Nuclear Energy
175 Curtner Avenue, MC-780
San Jose, California 95125

Mr. Joseph R. Egan
Shaw, Pittman, Potts, & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037-1138

Mr. Patrick W. Marriott, Manager
Advanced Plant Technologies
GE Nuclear Energy
175 Curtner Avenue
San Jose, California 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy
175 Curtner Avenue, MC-781
San Jose, California 95125

Mr. C. B. Brinkman, Acting Director
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Mr. C. B. Brinkman, Manager
Washington Nuclear Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 30852

Mr. Stan Ritterbusch
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Regis A. Matzie, Vice President
Nuclear Systems Development
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Richard W. Burke, Sr., Manager
BWR Design Certification
Electric Power Research Institute
3442 Hillview Avenue
Palo Alto, California 94304-1395

cc: Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Analysis
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 29, 1994

ocket Nos. 52-001, 52-002,
and 52-003, 52-004

APPLICANTS: GE Nuclear Energy (GE), Westinghouse Electric Corporation (W),
and ABB-Combustion Engineering, Inc. (ABB-CE)

PROJECTS: GE Advanced Boiling Water Reactor (ABWR), GE Simplified Boiling
Water Reactor (SBWR), W AP600, and ABB-CE System 80+

SUBJECT: SUMMARY OF MEETING HELD ON MARCH 14, 1994, ON DESIGN
CERTIFICATION REVIEWS

A public meeting was held with representatives of the Nuclear Regulatory Commission (NRC), GE, W, ABB-CE, and the Department of Energy (DOE) on March 14, 1994, in the White Flint offices of the NRC in Rockville, Maryland. The purpose of the meeting was to discuss the progress of reviews for design certification of the evolutionary and passive reactor designs. Enclosure 1 contains a list of the attendees at the meeting. Enclosure 2 contains the handouts presented by industry representatives at the meeting.

Representatives from GE began the meeting with a presentation of the status of the ABWR design certification program. The major topics of discussion during the presentation were: (1) final design approval (FDA) and design control document (DCD) issuance dates, (2) treatment of standard safety analysis report (SSAR) secondary references in the DCD, (3) applicable regulations in the design certification rule, and (4) treatment of probabilistic risk information in DCD.

Representatives from ABB-CE then presented the status of the System 80+ certification program. The major topics of discussion during the presentation were: (1) the status of the next amendment to CESSAR-DC, (2) actions required to address concerns raised by the February 1994, quality assurance (QA) inspection, and (3) a proposed technical specification (TS) relief request. ABB-CE stated that Amendment V to CESSAR-DC will be issued by the end of April 1994. In order to meet that date, however, ABB-CE will need the staff's comments by the end of March. The staff agreed to work with ABB-CE to meet this schedule.

Regarding the recent QA inspection, ABB-CE stated that an action plan is being developed to address the concerns raised by the inspection team. Specifically, ABB-CE is compiling a list of calculations for which full design verification will be performed prior to the staff's issuance of a FDA. ABB-CE proposed to meet with the staff during the week of March 21, 1994, to discuss their plan. The staff agreed to meet and reiterated its position that the scope of the calculations should include those that form the final design basis and will not be redone by a combined license applicant due to as-procured/as-built conditions. ABB-CE also discussed a proposed relief request from TS requirements for emergency diesel generator limiting conditions for operation while at power. The Advisory Committee on Reactor Safeguards (ACRS) recently questioned ABB-CE about why credit was not taken for the alternate ac source during power operations. ABB-CE stated that this issue will be discussed further with the staff.

Representatives from W then presented the status of the AP600 design certification program. The major topics of discussion during the presentation were: (1) the testing program status, and (2) the need for detailed schedules for the design certification review.

W indicated that they have categorized the tests in the AP600 testing program into those tests that they felt were required for developing the draft safety evaluation report (Category 1 tests) and those that would be necessary to support the FSER and FDA (Category 2 tests), and felt that the staff should be able to develop its review schedules based on this categorization. The staff indicated that it had not had the opportunity to review W's categorizations, and that it concluded that there will be significant open items in the DSER in those technical areas that are affected by the test program. The staff further indicated that it could not complete its safety evaluation of the design until the staff had confidence in the codes, and were sure that the design was finalized. The staff stated that it would not predict in its DSER that the testing will demonstrate that the design is acceptable. Instead, the staff indicated that it would issue a supplement to the DSER to discuss the results of the testing program. That supplement would be issued after the testing was completed, and the staff had a chance to review test results and analysis, as discussed in the March 7, 1994, letter.

W indicated that it would submit detailed testing schedules by March 16, 1994, and that it felt that it needed all of the staff's requests for additional information (RAIs) by April 1, 1994, in order for it to support a DSER by the end of the year.

Representatives from GE then presented the status of the SBWR design certification program. The major topics of discussions during the presentation were: (1) SBWR test overview, (2) tests in progress, (3) NRC testing letter on March 7, 1994, (4) RAIs, and (4) estimated SBWR design certification schedule.

(Original signed by S.Ninh for)

Chester Poslusny, Project Manager
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File
PDR

PDST R/F
TBoyce

PShea

DISTRIBUTION w/o enclosures:

WRussell/FMiraglia, 12G18
ATHadani
BDean, 17G21
MCase
MFinkelstein
SMagruder

DCrutchfield
WTravers
RArchitzel
MMalloy
CMcCracken

TWambach
RBorchardt
JMoore, 15B18
MFranovich
SNinh

JNWilson
BDLiaw, 7D26
TKenyon
CPoslusny
DTang
ACRS (11)

OFC	LA:PDST:ADAR	PM:PDST:ADAR	SC:PDST:ADAR
NAME	PShea	CPoslusny:rz	JNWilson
DATE	3/24/94	3/21/94	3/21/94

cc: Mr. Joseph Quirk
GE Nuclear Energy
175 Curtner Avenue, MC-782
San Jose, California 95125

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20850

Mr. L. Gifford, Program Manager
Regulatory Programs
GE Nuclear Energy
12300 Twinbrook Parkway
Suite 315
Rockville, Maryland 20852

Director, Criteria & Standards Division
Office of Radiation Programs
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Raymond Ng
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006

Marcus A. Rowden, Esq.
Fried, Frank, Harris, Shriver & Jacobson
1001 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20004

Jay M. Gutierrez, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Suite 1000
Washington, D.C. 20036

Mr. Steven A. Hucik
GE Nuclear Energy
175 Curtner Avenue, MC-780
San Jose, California 95125

Mr. Joseph R. Egan
Shaw, Pittman, Potts, & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037-1138

Mr. Patrick W. Marriott, Manager
Advanced Plant Technologies
GE Nuclear Energy
175 Curtner Avenue
San Jose, California 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy
175 Curtner Avenue, MC-781
San Jose, California 95125

Mr. C. B. Brinkman, Acting Director
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Mr. C. B. Brinkman, Manager
Washington Nuclear Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 30852

Mr. Stan Ritterbusch
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Regis A. Matzie, Vice President
Nuclear Systems Development
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Richard W. Burke, Sr., Manager
BWR Design Certification
Electric Power Research Institute
3442 Hillview Avenue
Palo Alto, California 94304-1395

cc: Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Analysis
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 29, 1994

Docket Nos. 52-001, 52-002,
and 52-003, 52-004

APPLICANTS: GE Nuclear Energy (GE), Westinghouse Electric Corporation (W),
and ABB-Combustion Engineering, Inc. (ABB-CE)

PROJECTS: GE Advanced Boiling Water Reactor (ABWR), GE Simplified Boiling
Water Reactor (SBWR), W AP600, and ABB-CE System 80+

SUBJECT: SUMMARY OF MEETING HELD ON MARCH 14, 1994, ON DESIGN
CERTIFICATION REVIEWS

A public meeting was held with representatives of the Nuclear Regulatory Commission (NRC), GE, W, ABB-CE, and the Department of Energy (DOE) on March 14, 1994, in the White Flint offices of the NRC in Rockville, Maryland. The purpose of the meeting was to discuss the progress of reviews for design certification of the evolutionary and passive reactor designs. Enclosure 1 contains a list of the attendees at the meeting. Enclosure 2 contains the handouts presented by industry representatives at the meeting.

Representatives from GE began the meeting with a presentation of the status of the ABWR design certification program. The major topics of discussion during the presentation were: (1) final design approval (FDA) and design control document (DCD) issuance dates, (2) treatment of standard safety analysis report (SSAR) secondary references in the DCD, (3) applicable regulations in the design certification rule, and (4) treatment of probabilistic risk information in DCD.

Representatives from ABB-CE then presented the status of the System 80+ certification program. The major topics of discussion during the presentation were: (1) the status of the next amendment to CESSAR-DC, (2) actions required to address concerns raised by the February 1994, quality assurance (QA) inspection, and (3) a proposed technical specification (TS) relief request. ABB-CE stated that Amendment V to CESSAR-DC will be issued by the end of April 1994. In order to meet that date, however, ABB-CE will need the staff's comments by the end of March. The staff agreed to work with ABB-CE to meet this schedule.

Regarding the recent QA inspection, ABB-CE stated that an action plan is being developed to address the concerns raised by the inspection team. Specifically, ABB-CE is compiling a list of calculations for which full design verification will be performed prior to the staff's issuance of a FDA. ABB-CE proposed to meet with the staff during the week of March 21, 1994, to discuss their plan. The staff agreed to meet and reiterated its position that the scope of the calculations should include those that form the final design basis and will not be redone by a combined license applicant due to as-procured/as-built conditions. ABB-CE also discussed a proposed relief request from TS requirements for emergency diesel generator limiting conditions for operation while at power. The Advisory Committee on Reactor Safeguards (ACRS) recently questioned ABB-CE about why credit was not taken for the alternate ac source during power operations. ABB-CE stated that this issue will be discussed further with the staff.

Representatives from W then presented the status of the AP600 design certification program. The major topics of discussion during the presentation were: (1) the testing program status, and (2) the need for detailed schedules for the design certification review.

W indicated that they have categorized the tests in the AP600 testing program into those tests that they felt were required for developing the draft safety evaluation report (Category 1 tests) and those that would be necessary to support the FSER and FDA (Category 2 tests), and felt that the staff should be able to develop its review schedules based on this categorization. The staff indicated that it had not had the opportunity to review W's categorizations, and that it concluded that there will be significant open items in the DSER in those technical areas that are affected by the test program. The staff further indicated that it could not complete its safety evaluation of the design until the staff had confidence in the codes, and were sure that the design was finalized. The staff stated that it would not predict in its DSER that the testing will demonstrate that the design is acceptable. Instead, the staff indicated that it would issue a supplement to the DSER to discuss the results of the testing program. That supplement would be issued after the testing was completed, and the staff had a chance to review test results and analysis, as discussed in the March 7, 1994, letter.

W indicated that it would submit detailed testing schedules by March 16, 1994, and that it felt that it needed all of the staff's requests for additional information (RAIs) by April 1, 1994, in order for it to support a DSER by the end of the year.

Representatives from GE then presented the status of the SBWR design certification program. The major topics of discussions during the presentation were: (1) SBWR test overview, (2) tests in progress, (3) NRC testing letter on March 7, 1994, (4) RAIs, and (4) estimated SBWR design certification schedule.

(Original signed by S.Ninh for)

Chester Poslusny, Project Manager
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File PDST R/F PShea
PDR TBoyce

DISTRIBUTION w/o enclosures:

WRussell/FMiraglia, 12G18 DCrutchfield TWambach JNWilson
ATHadani WTravers RBorchardt BDLiaw, 7D26
BDean, 17G21 RArchitzel JMoore, 15B18 TKenyon
MCase MMalloy Mfranovich CPoslusny
MFinkelstein CMCracken SNinh DTang
SMagruder ACRS (11)

OFC	LA:PDST:ADAR	PM:PDST:ADAR	SC:PDST:ADAR
NAME	PShea	CPoslusny:tz	JNWilson
DATE	3/29/94	3/29/94	3/29/94

cc: Mr. Joseph Quirk
GE Nuclear Energy
175 Curtner Avenue, MC-782
San Jose, California 95125

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20850

Mr. L. Gifford, Program Manager
Regulatory Programs
GE Nuclear Energy
12300 Twinbrook Parkway
Suite 315
Rockville, Maryland 20852

Director, Criteria & Standards Division
Office of Radiation Programs
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Raymond Ng
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006

Marcus A. Rowden, Esq.
Fried, Frank, Harris, Shriver & Jacobson
1001 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20004

Jay M. Gutierrez, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Suite 1000
Washington, D.C. 20036

Mr. Steven A. Hucik
GE Nuclear Energy
175 Curtner Avenue, MC-780
San Jose, California 95125

Mr. Joseph R. Egan
Shaw, Pittman, Potts, & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037-1138

Mr. Patrick W. Marriott, Manager
Advanced Plant Technologies
GE Nuclear Energy
175 Curtner Avenue
San Jose, California 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy
175 Curtner Avenue, MC-781
San Jose, California 95125

Mr. C. B. Brinkman, Acting Director
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Mr. C. B. Brinkman, Manager
Washington Nuclear Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 30852

Mr. Stan Ritterbusch
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Regis A. Matzie, Vice President
Nuclear Systems Development
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Richard W. Burke, Sr., Manager
BWR Design Certification
Electric Power Research Institute
3442 Hillview Avenue
Palo Alto, California 94304-1395

cc: Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Analysis
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 29, 1994

Docket Nos. 52-001, 52-002,
and 52-003, 52-004

APPLICANTS: GE Nuclear Energy (GE), Westinghouse Electric Corporation (W),
and ABB-Combustion Engineering, Inc. (ABB-CE)

PROJECTS: GE Advanced Boiling Water Reactor (ABWR), GE Simplified Boiling
Water Reactor (SBWR), W AP600, and ABB-CE System 80+

SUBJECT: SUMMARY OF MEETING HELD ON MARCH 14, 1994, ON DESIGN
CERTIFICATION REVIEWS

A public meeting was held with representatives of the Nuclear Regulatory Commission (NRC), GE, W, ABB-CE, and the Department of Energy (DOE) on March 14, 1994, in the White Flint offices of the NRC in Rockville, Maryland. The purpose of the meeting was to discuss the progress of reviews for design certification of the evolutionary and passive reactor designs. Enclosure 1 contains a list of the attendees at the meeting. Enclosure 2 contains the handouts presented by industry representatives at the meeting.

Representatives from GE began the meeting with a presentation of the status of the ABWR design certification program. The major topics of discussion during the presentation were: (1) final design approval (FDA) and design control document (DCD) issuance dates, (2) treatment of standard safety analysis report (SSAR) secondary references in the DCD, (3) applicable regulations in the design certification rule, and (4) treatment of probabilistic risk information in DCD.

Representatives from ABB-CE then presented the status of the System 80+ certification program. The major topics of discussion during the presentation were: (1) the status of the next amendment to CESSAR-DC, (2) actions required to address concerns raised by the February 1994, quality assurance (QA) inspection, and (3) a proposed technical specification (TS) relief request. ABB-CE stated that Amendment V to CESSAR-DC will be issued by the end of April 1994. In order to meet that date, however, ABB-CE will need the staff's comments by the end of March. The staff agreed to work with ABB-CE to meet this schedule.

Regarding the recent QA inspection, ABB-CE stated that an action plan is being developed to address the concerns raised by the inspection team. Specifically, ABB-CE is compiling a list of calculations for which full design verification will be performed prior to the staff's issuance of a FDA. ABB-CE proposed to meet with the staff during the week of March 21, 1994, to discuss their plan. The staff agreed to meet and reiterated its position that the scope of the calculations should include those that form the final design basis and will not be redone by a combined license applicant due to as-procured/as-built conditions. ABB-CE also discussed a proposed relief request from TS requirements for emergency diesel generator limiting conditions for operation while at power. The Advisory Committee on Reactor Safeguards (ACRS) recently questioned ABB-CE about why credit was not taken for the alternate ac source during power operations. ABB-CE stated that this issue will be discussed further with the staff.

Representatives from W then presented the status of the AP600 design certification program. The major topics of discussion during the presentation were: (1) the testing program status, and (2) the need for detailed schedules for the design certification review.

W indicated that they have categorized the tests in the AP600 testing program into those tests that they felt were required for developing the draft safety evaluation report (Category 1 tests) and those that would be necessary to support the FSER and FDA (Category 2 tests), and felt that the staff should be able to develop its review schedules based on this categorization. The staff indicated that it had not had the opportunity to review W's categorizations, and that it concluded that there will be significant open items in the DSER in those technical areas that are affected by the test program. The staff further indicated that it could not complete its safety evaluation of the design until the staff had confidence in the codes, and were sure that the design was finalized. The staff stated that it would not predict in its DSER that the testing will demonstrate that the design is acceptable. Instead, the staff indicated that it would issue a supplement to the DSER to discuss the results of the testing program. That supplement would be issued after the testing was completed, and the staff had a chance to review test results and analysis, as discussed in the March 7, 1994, letter.

W indicated that it would submit detailed testing schedules by March 16, 1994, and that it felt that it needed all of the staff's requests for additional information (RAIs) by April 1, 1994, in order for it to support a DSER by the end of the year.

Representatives from GE then presented the status of the SBWR design certification program. The major topics of discussions during the presentation were: (1) SBWR test overview, (2) tests in progress, (3) NRC testing letter on March 7, 1994, (4) RAIs, and (4) estimated SBWR design certification schedule.

(Original signed by S.Ninh for)

Chester Poslusny, Project Manager
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File PDST R/F PShea
PDR TBoyce

DISTRIBUTION w/o enclosures:

WRussell/FMiraglia, 12G18 DCrutchfield TWambach JNWilson
ATHadani WTravers RBorchardt BDLiaw, 7D26
BDean, 17G21 RArchitzel JMoore, 15B18 TKenyon
MCase MMalloy Mfranovich CPoslusny
MFinkelstein CMcCracken SNinh DTang
SMagruder ACRS (11)

OFC	LA:PDST:ADAR	PM:PDST:ADAR	SC:PDST:ADAR
NAME	PShea	CPoslusny:tz	JNWilson
DATE	3/29/94	3/29/94	3/29/94

cc: Mr. Joseph Quirk
GE Nuclear Energy
175 Curtner Avenue, MC-782
San Jose, California 95125

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20850

Mr. L. Gifford, Program Manager
Regulatory Programs
GE Nuclear Energy
12300 Twinbrook Parkway
Suite 315
Rockville, Maryland 20852

Director, Criteria & Standards Division
Office of Radiation Programs
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Raymond Ng
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006

Marcus A. Rowden, Esq.
Fried, Frank, Harris, Shriver & Jacobson
1001 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20004

Jay M. Gutierrez, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Suite 1000
Washington, D.C. 20036

Mr. Steven A. Hucik
GE Nuclear Energy
175 Curtner Avenue, MC-780
San Jose, California 95125

Mr. Joseph R. Egan
Shaw, Pittman, Potts, & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037-1138

Mr. Patrick W. Marriott, Manager
Advanced Plant Technologies
GE Nuclear Energy
175 Curtner Avenue
San Jose, California 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy
175 Curtner Avenue, MC-781
San Jose, California 95125

Mr. C. B. Brinkman, Acting Director
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Mr. C. B. Brinkman, Manager
Washington Nuclear Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 30852

Mr. Stan Ritterbusch
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Regis A. Matzie, Vice President
Nuclear Systems Development
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Richard W. Burke, Sr., Manager
BWR Design Certification
Electric Power Research Institute
3442 Hillview Avenue
Palo Alto, California 94304-1395

cc: Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Analysis
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 29, 1994

Docket Nos. 52-001, 52-002,
and 52-003, 52-004

APPLICANTS: GE Nuclear Energy (GE), Westinghouse Electric Corporation (W),
and ABB-Combustion Engineering, Inc. (ABB-CE)

PROJECTS: GE Advanced Boiling Water Reactor (ABWR), GE Simplified Boiling
Water Reactor (SBWR), W AP600, and ABB-CE System 80+

SUBJECT: SUMMARY OF MEETING HELD ON MARCH 14, 1994, ON DESIGN
CERTIFICATION REVIEWS

A public meeting was held with representatives of the Nuclear Regulatory Commission (NRC), GE, W, ABB-CE, and the Department of Energy (DOE) on March 14, 1994, in the White Flint offices of the NRC in Rockville, Maryland. The purpose of the meeting was to discuss the progress of reviews for design certification of the evolutionary and passive reactor designs. Enclosure 1 contains a list of the attendees at the meeting. Enclosure 2 contains the handouts presented by industry representatives at the meeting.

Representatives from GE began the meeting with a presentation of the status of the ABWR design certification program. The major topics of discussion during the presentation were: (1) final design approval (FDA) and design control document (DCD) issuance dates, (2) treatment of standard safety analysis report (SSAR) secondary references in the DCD, (3) applicable regulations in the design certification rule, and (4) treatment of probabilistic risk information in DCD.

Representatives from ABB-CE then presented the status of the System 80+ certification program. The major topics of discussion during the presentation were: (1) the status of the next amendment to CESSAR-DC, (2) actions required to address concerns raised by the February 1994, quality assurance (QA) inspection, and (3) a proposed technical specification (TS) relief request. ABB-CE stated that Amendment V to CESSAR-DC will be issued by the end of April 1994. In order to meet that date, however, ABB-CE will need the staff's comments by the end of March. The staff agreed to work with ABB-CE to meet this schedule.

Regarding the recent QA inspection, ABB-CE stated that an action plan is being developed to address the concerns raised by the inspection team. Specifically, ABB-CE is compiling a list of calculations for which full design verification will be performed prior to the staff's issuance of a FDA. ABB-CE proposed to meet with the staff during the week of March 21, 1994, to discuss their plan. The staff agreed to meet and reiterated its position that the scope of the calculations should include those that form the final design basis and will not be redone by a combined license applicant due to as-procured/as-built conditions. ABB-CE also discussed a proposed relief request from TS requirements for emergency diesel generator limiting conditions for operation while at power. The Advisory Committee on Reactor Safeguards (ACRS) recently questioned ABB-CE about why credit was not taken for the alternate ac source during power operations. ABB-CE stated that this issue will be discussed further with the staff.

Representatives from W then presented the status of the AP600 design certification program. The major topics of discussion during the presentation were: (1) the testing program status, and (2) the need for detailed schedules for the design certification review.

W indicated that they have categorized the tests in the AP600 testing program into those tests that they felt were required for developing the draft safety evaluation report (Category 1 tests) and those that would be necessary to support the FSER and FDA (Category 2 tests), and felt that the staff should be able to develop its review schedules based on this categorization. The staff indicated that it had not had the opportunity to review W's categorizations, and that it concluded that there will be significant open items in the DSER in those technical areas that are affected by the test program. The staff further indicated that it could not complete its safety evaluation of the design until the staff had confidence in the codes, and were sure that the design was finalized. The staff stated that it would not predict in its DSER that the testing will demonstrate that the design is acceptable. Instead, the staff indicated that it would issue a supplement to the DSER to discuss the results of the testing program. That supplement would be issued after the testing was completed, and the staff had a chance to review test results and analysis, as discussed in the March 7, 1994, letter.

W indicated that it would submit detailed testing schedules by March 16, 1994, and that it felt that it needed all of the staff's requests for additional information (RAIs) by April 1, 1994, in order for it to support a DSER by the end of the year.

Representatives from GE then presented the status of the SBWR design certification program. The major topics of discussions during the presentation were: (1) SBWR test overview, (2) tests in progress, (3) NRC testing letter on March 7, 1994, (4) RAIs, and (4) estimated SBWR design certification schedule.

(Original signed by S.Ninh for)

Chester Poslusny, Project Manager
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File PDST R/F PShea
PDR TBoyce

DISTRIBUTION w/o enclosures:

WRussell/FMiraglia, 12G18 DCrutchfield TWambach JNWilson
ATHadani WTravers RBorchardt BDLiaw, 7D26
BDean, 17G21 RArchitzel JMoore, 15B18 TKenyon
MCase MAlloy MFranchovich CPoslusny
MFinkelstein CMcCracken SNinh DTang
SMagruder ACRS (11)

OFF	LA:PDST:ADAR	PM:PDST:ADAR	SC:PDST:ADAR
NAME	PShea	CPoslusny:tz	JNWilson
DATE	3/29/94	3/29/94	3/29/94

cc: Mr. Joseph Quirk
GE Nuclear Energy
175 Curtner Avenue, MC-782
San Jose, California 95125

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20850

Mr. L. Gifford, Program Manager
Regulatory Programs
GE Nuclear Energy
12300 Twinbrook Parkway
Suite 315
Rockville, Maryland 20852

Director, Criteria & Standards Division
Office of Radiation Programs
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Raymond Ng
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006

Marcus A. Rowden, Esq.
Fried, Frank, Harris, Shriver & Jacobson
1001 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20004

Jay M. Gutierrez, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Suite 1000
Washington, D.C. 20036

Mr. Steven A. Hucik
GE Nuclear Energy
175 Curtner Avenue, MC-780
San Jose, California 95125

Mr. Joseph R. Egan
Shaw, Pittman, Potts, & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037-1138

Mr. Patrick W. Marriott, Manager
Advanced Plant Technologies
GE Nuclear Energy
175 Curtner Avenue
San Jose, California 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy
175 Curtner Avenue, MC-781
San Jose, California 95125

Mr. C. B. Brinkman, Acting Director
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Mr. C. B. Brinkman, Manager
Washington Nuclear Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 30852

Mr. Stan Ritterbusch
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Regis A. Matzie, Vice President
Nuclear Systems Development
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Richard W. Burke, Sr., Manager
BWR Design Certification
Electric Power Research Institute
3442 Hillview Avenue
Palo Alto, California 94304-1395

cc: Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Analysis
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 29, 1994

Docket Nos. 52-001, 52-002,
and 52-003, 52-004

APPLICANTS. GE Nuclear Energy (GE), Westinghouse Electric Corporation (W),
and ABB-Combustion Engineering, Inc. (ABB-CE)

PROJECTS: GE Advanced Boiling Water Reactor (ABWR), GE Simplified Boiling
Water Reactor (SBWR), W AP600, and ABB-CE System 80+

SUBJECT: SUMMARY OF MEETING HELD ON MARCH 14, 1994, ON DESIGN
CERTIFICATION REVIEWS

A public meeting was held with representatives of the Nuclear Regulatory Commission (NRC), GE, W, ABB-CE, and the Department of Energy (DOE) on March 14, 1994, in the White Flint offices of the NRC in Rockville, Maryland. The purpose of the meeting was to discuss the progress of reviews for design certification of the evolutionary and passive reactor designs. Enclosure 1 contains a list of the attendees at the meeting. Enclosure 2 contains the handouts presented by industry representatives at the meeting.

Representatives from GE began the meeting with a presentation of the status of the ABWR design certification program. The major topics of discussion during the presentation were: (1) final design approval (FDA) and design control document (DCD) issuance dates, (2) treatment of standard safety analysis report (SSAR) secondary references in the DCD, (3) applicable regulations in the design certification rule, and (4) treatment of probabilistic risk information in DCD.

Representatives from ABB-CE then presented the status of the System 80+ certification program. The major topics of discussion during the presentation were: (1) the status of the next amendment to CESSAR-DC, (2) actions required to address concerns raised by the February 1994, quality assurance (QA) inspection, and (3) a proposed technical specification (TS) relief request. ABB-CE stated that Amendment V to CESSAR-DC will be issued by the end of April 1994. In order to meet that date, however, ABB-CE will need the staff's comments by the end of March. The staff agreed to work with ABB-CE to meet this schedule.

Regarding the recent QA inspection, ABB-CE stated that an action plan is being developed to address the concerns raised by the inspection team. Specifically, ABB-CE is compiling a list of calculations for which full design verification will be performed prior to the staff's issuance of a FDA. ABB-CE proposed to meet with the staff during the week of March 21, 1994, to discuss their plan. The staff agreed to meet and reiterated its position that the scope of the calculations should include those that form the final design basis and will not be redone by a combined license applicant due to as-procured/as-built conditions. ABB-CE also discussed a proposed relief request from TS requirements for emergency diesel generator limiting conditions for operation while at power. The Advisory Committee on Reactor Safeguards (ACRS) recently questioned ABB-CE about why credit was not taken for the alternate ac source during power operations. ABB-CE stated that this issue will be discussed further with the staff.

Representatives from W then presented the status of the AP600 design certification program. The major topics of discussion during the presentation were: (1) the testing program status, and (2) the need for detailed schedules for the design certification review.

W indicated that they have categorized the tests in the AP600 testing program into those tests that they felt were required for developing the draft safety evaluation report (Category 1 tests) and those that would be necessary to support the FSER and FDA (Category 2 tests), and felt that the staff should be able to develop its review schedules based on this categorization. The staff indicated that it had not had the opportunity to review W's categorizations, and that it concluded that there will be significant open items in the DSER in those technical areas that are affected by the test program. The staff further indicated that it could not complete its safety evaluation of the design until the staff had confidence in the codes, and were sure that the design was finalized. The staff stated that it would not predict in its DSER that the testing will demonstrate that the design is acceptable. Instead, the staff indicated that it would issue a supplement to the DSER to discuss the results of the testing program. That supplement would be issued after the testing was completed, and the staff had a chance to review test results and analysis, as discussed in the March 7, 1994, letter.

W indicated that it would submit detailed testing schedules by March 16, 1994, and that it felt that it needed all of the staff's requests for additional information (RAIs) by April 1, 1994, in order for it to support a DSER by the end of the year.

Representatives from GE then presented the status of the SBWR design certification program. The major topics of discussions during the presentation were: (1) SBWR test overview, (2) tests in progress, (3) NRC testing letter on March 7, 1994, (4) RAIs, and (4) estimated SBWR design certification schedule.

(Original signed by S.Ninh for)

Chester Poslusny, Project Manager
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File
PDR

PDST R/F
TBoyce

PShea

DISTRIBUTION w/o enclosures:

WRussell/FMiraglia, 12G18
ATHadani
BDean, 17G21
MCase
MFinkelstein
SMagruder

DCrutchfield
WTravers
RArchitzel
MMalloy
CMcCracken

TWambach
RBorchardt
JMoore, 15B18
MFranchovich
SNinh

JNWilson
BDLiaw, 7D26
TKenyon
CPoslusny
DTang
ACRS (11)

OFF	LA:PDST:ADAR	PM:PDST:ADAR	SC:PDST:ADAR
NAME	PShea	CPoslusny:tz	JNWilson
DATE	3/29/94	3/29/94	3/29/94

cc: Mr. Joseph Quirk
GE Nuclear Energy
175 Curtner Avenue, MC-782
San Jose, California 95125

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20850

Mr. L. Gifford, Program Manager
Regulatory Programs
GE Nuclear Energy
12300 Twinbrook Parkway
Suite 315
Rockville, Maryland 20852

Director, Criteria & Standards Division
Office of Radiation Programs
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Raymond Ng
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006

Marcus A. Rowden, Esq.
Fried, Frank, Harris, Shriver & Jacobson
1001 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20004

Jay M. Gutierrez, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Suite 1000
Washington, D.C. 20036

Mr. Steven A. Hucik
GE Nuclear Energy
175 Curtner Avenue, MC-780
San Jose, California 95125

Mr. Joseph R. Egan
Shaw, Pittman, Potts, & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037-1138

Mr. Patrick W. Marriott, Manager
Advanced Plant Technologies
GE Nuclear Energy
175 Curtner Avenue
San Jose, California 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy
175 Curtner Avenue, MC-781
San Jose, California 95125

Mr. C. B. Brinkman, Acting Director
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Mr. C. B. Brinkman, Manager
Washington Nuclear Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 30852

Mr. Stan Ritterbusch
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Regis A. Matzie, Vice President
Nuclear Systems Development
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Richard W. Burke, Sr., Manager
BWR Design Certification
Electric Power Research Institute
3442 Hillview Avenue
Palo Alto, California 94304-1395

cc: Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Analysis
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 29, 1994

Docket Nos. 52-001, 52-002,
and 52-003, 52-004

APPLICANTS: GE Nuclear Energy (GE), Westinghouse Electric Corporation (W),
and ABB-Combustion Engineering, Inc. (ABB-CE)

PROJECTS: GE Advanced Boiling Water Reactor (ABWR), GE Simplified Boiling
Water Reactor (SBWR), W AP600, and ABB-CE System 80+

SUBJECT: SUMMARY OF MEETING HELD ON MARCH 14, 1994, ON DESIGN
CERTIFICATION REVIEWS

A public meeting was held with representatives of the Nuclear Regulatory Commission (NRC), GE, W, ABB-CE, and the Department of Energy (DOE) on March 14, 1994, in the White Flint offices of the NRC in Rockville, Maryland. The purpose of the meeting was to discuss the progress of reviews for design certification of the evolutionary and passive reactor designs. Enclosure 1 contains a list of the attendees at the meeting. Enclosure 2 contains the handouts presented by industry representatives at the meeting.

Representatives from GE began the meeting with a presentation of the status of the ABWR design certification program. The major topics of discussion during the presentation were: (1) final design approval (FDA) and design control document (DCD) issuance dates, (2) treatment of standard safety analysis report (SSAR) secondary references in the DCD, (3) applicable regulations in the design certification rule, and (4) treatment of probabilistic risk information in DCD.

Representatives from ABB-CE then presented the status of the System 80+ certification program. The major topics of discussion during the presentation were: (1) the status of the next amendment to CESSAR-DC, (2) actions required to address concerns raised by the February 1994, quality assurance (QA) inspection, and (3) a proposed technical specification (TS) relief request. ABB-CE stated that Amendment V to CESSAR-DC will be issued by the end of April 1994. In order to meet that date, however, ABB-CE will need the staff's comments by the end of March. The staff agreed to work with ABB-CE to meet this schedule.

Regarding the recent QA inspection, ABB-CE stated that an action plan is being developed to address the concerns raised by the inspection team. Specifically, ABB-CE is compiling a list of calculations for which full design verification will be performed prior to the staff's issuance of a FDA. ABB-CE proposed to meet with the staff during the week of March 21, 1994, to discuss their plan. The staff agreed to meet and reiterated its position that the scope of the calculations should include those that form the final design basis and will not be redone by a combined license applicant due to as-procured/as-built conditions. ABB-CE also discussed a proposed relief request from TS requirements for emergency diesel generator limiting conditions for operation while at power. The Advisory Committee on Reactor Safeguards (ACRS) recently questioned ABB-CE about why credit was not taken for the alternate ac source during power operations. ABB-CE stated that this issue will be discussed further with the staff.

Representatives from W then presented the status of the AP600 design certification program. The major topics of discussion during the presentation were: (1) the testing program status, and (2) the need for detailed schedules for the design certification review.

W indicated that they have categorized the tests in the AP600 testing program into those tests that they felt were required for developing the draft safety evaluation report (Category 1 tests) and those that would be necessary to support the FSER and FDA (Category 2 tests), and felt that the staff should be able to develop its review schedules based on this categorization. The staff indicated that it had not had the opportunity to review W's categorizations, and that it concluded that there will be significant open items in the DSER in those technical areas that are affected by the test program. The staff further indicated that it could not complete its safety evaluation of the design until the staff had confidence in the codes, and were sure that the design was finalized. The staff stated that it would not predict in its DSER that the testing will demonstrate that the design is acceptable. Instead, the staff indicated that it would issue a supplement to the DSER to discuss the results of the testing program. That supplement would be issued after the testing was completed, and the staff had a chance to review test results and analysis, as discussed in the March 7, 1994, letter.

W indicated that it would submit detailed testing schedules by March 16, 1994, and that it felt that it needed all of the staff's requests for additional information (RAIs) by April 1, 1994, in order for it to support a DSER by the end of the year.

Representatives from GE then presented the status of the SBWR design certification program. The major topics of discussions during the presentation were: (1) SBWR test overview, (2) tests in progress, (3) NRC testing letter on March 7, 1994, (4) RAIs, and (4) estimated SBWR design certification schedule.

(Original signed by S.Ninh for)

Chester Poslusny, Project Manager
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
see next page

DISTRIBUTION w/enclosures:

Docket File PDST R/F PShea
PDR TBoyce

DISTRIBUTION w/o enclosures:

WRussell/FMiraglia, 12G18 DCrutchfield TWambach JNWilson
ATHadani WTravers RBorchardt BDLiaw, 7D26
BDean, 17G21 RArchitzel JMoore, 15B18 TKenyon
MCase MMalloy MFrnovich CPoslusny
MFinkelstein CMcCracken SNinh DTang
SMagruder ACRS (11)

OFF	LA:PDST:ADAR	PM:PDST:ADAR	SC:PDST:ADAR
NAME	PShea	CPoslusny:tz	JNWilson
DATE	3/29/94	3/29/94	3/29/94

cc: Mr. Joseph Quirk
GE Nuclear Energy
175 Curtner Avenue, MC-782
San Jose, California 95125

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20850

Mr. L. Gifford, Program Manager
Regulatory Programs
GE Nuclear Energy
12300 Twinbrook Parkway
Suite 315
Rockville, Maryland 20852

Director, Criteria & Standards Division
Office of Radiation Programs
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Raymond Ng
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006

Marcus A. Rowden, Esq.
Fried, Frank, Harris, Shriver & Jacobson
1001 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20004

Jay M. Gutierrez, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Suite 1000
Washington, D.C. 20036

Mr. Steven A. Hucik
GE Nuclear Energy
175 Curtner Avenue, MC-780
San Jose, California 95125

Mr. Joseph R. Egan
Shaw, Pittman, Potts, & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037-1138

Mr. Patrick W. Marriott, Manager
Advanced Plant Technologies
GE Nuclear Energy
175 Curtner Avenue
San Jose, California 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy
175 Curtner Avenue, MC-781
San Jose, California 95125

Mr. C. B. Brinkman, Acting Director
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Mr. C. B. Brinkman, Manager
Washington Nuclear Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 30852

Mr. Stan Ritterbusch
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Regis A. Matzie, Vice President
Nuclear Systems Development
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Richard W. Burke, Sr., Manager
BWR Design Certification
Electric Power Research Institute
3442 Hillview Avenue
Palo Alto, California 94304-1395

cc: Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Analysis
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 29, 1994

Docket Nos. 52-001, 52-002,
and 52-003, 52-004

APPLICANTS: GE Nuclear Energy (GE), Westinghouse Electric Corporation (W),
and ABB-Combustion Engineering, Inc. (ABB-CE)

PROJECTS: GE Advanced Boiling Water Reactor (ABWR), GE Simplified Boiling
Water Reactor (SBWR), W AP600, and ABB-CE System 80+

SUBJECT: SUMMARY OF MEETING HELD ON MARCH 14, 1994, ON DESIGN
CERTIFICATION REVIEWS

A public meeting was held with representatives of the Nuclear Regulatory Commission (NRC), GE, W, ABB-CE, and the Department of Energy (DOE) on March 14, 1994, in the White Flint offices of the NRC in Rockville, Maryland. The purpose of the meeting was to discuss the progress of reviews for design certification of the evolutionary and passive reactor designs. Enclosure 1 contains a list of the attendees at the meeting. Enclosure 2 contains the handouts presented by industry representatives at the meeting.

Representatives from GE began the meeting with a presentation of the status of the ABWR design certification program. The major topics of discussion during the presentation were: (1) final design approval (FDA) and design control document (DCD) issuance dates, (2) treatment of standard safety analysis report (SSAR) secondary references in the DCD, (3) applicable regulations in the design certification rule, and (4) treatment of probabilistic risk information in DCD.

Representatives from ABB-CE then presented the status of the System 80+ certification program. The major topics of discussion during the presentation were: (1) the status of the next amendment to CESSAR-DC, (2) actions required to address concerns raised by the February 1994, quality assurance (QA) inspection, and (3) a proposed technical specification (TS) relief request. ABB-CE stated that Amendment V to CESSAR-DC will be issued by the end of April 1994. In order to meet that date, however, ABB-CE will need the staff's comments by the end of March. The staff agreed to work with ABB-CE to meet this schedule.

Regarding the recent QA inspection, ABB-CE stated that an action plan is being developed to address the concerns raised by the inspection team. Specifically, ABB-CE is compiling a list of calculations for which full design verification will be performed prior to the staff's issuance of a FDA. ABB-CE proposed to meet with the staff during the week of March 21, 1994, to discuss their plan. The staff agreed to meet and reiterated its position that the scope of the calculations should include those that form the final design basis and will not be redone by a combined license applicant due to as-procured/as-built conditions. ABB-CE also discussed a proposed relief request from TS requirements for emergency diesel generator limiting conditions for operation while at power. The Advisory Committee on Reactor Safeguards (ACRS) recently questioned ABB-CE about why credit was not taken for the alternate ac source during power operations. ABB-CE stated that this issue will be discussed further with the staff.

Representatives from W then presented the status of the AP600 design certification program. The major topics of discussion during the presentation were: (1) the testing program status, and (2) the need for detailed schedules for the design certification review.

W indicated that they have categorized the tests in the AP600 testing program into those tests that they felt were required for developing the draft safety evaluation report (Category 1 tests) and those that would be necessary to support the FSER and FDA (Category 2 tests), and felt that the staff should be able to develop its review schedules based on this categorization. The staff indicated that it had not had the opportunity to review W's categorizations, and that it concluded that there will be significant open items in the DSER in those technical areas that are affected by the test program. The staff further indicated that it could not complete its safety evaluation of the design until the staff had confidence in the codes, and were sure that the design was finalized. The staff stated that it would not predict in its DSER that the testing will demonstrate that the design is acceptable. Instead, the staff indicated that it would issue a supplement to the DSER to discuss the results of the testing program. That supplement would be issued after the testing was completed, and the staff had a chance to review test results and analysis, as discussed in the March 7, 1994, letter.

W indicated that it would submit detailed testing schedules by March 16, 1994, and that it felt that it needed all of the staff's requests for additional information (RAIs) by April 1, 1994, in order for it to support a DSER by the end of the year.

Representatives from GE then presented the status of the SBWR design certification program. The major topics of discussions during the presentation were: (1) SBWR test overview, (2) tests in progress, (3) NRC testing letter on March 7, 1994, (4) RAIs, and (4) estimated SBWR design certification schedule.

(Original signed by S.Ninh for)

Chester Poslusny, Project Manager
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File
PDR

PDST R/F
TBoyce

PShea

DISTRIBUTION w/o enclosures:

WRussell/FMiraglia, 12G18
ATHadani
BDean, 17G21
MCase
MFinkelstein
SMagruder

DCrutchfield
WTravers
RArchitze?
MMalloy
CMcCracken

TWambach
RBorchardt
JMoore, 15B18
MFranovich
SNinh

JNWilson
BDLiaw, 7D26
TKenyon
CPoslusny
DTang
ACRS (11)

OFI	LA:PDST:ADAR	PM:PDST:ADAR	SC:PDST:ADAR
NAME	PShea	CPoslusny:tz	JNWilson
DATE	3/29/94	3/29/94	3/29/94

cc: Mr. Joseph Quirk
GE Nuclear Energy
175 Curtner Avenue, MC-782
San Jose, California 95125

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20850

Mr. L. Gifford, Program Manager
Regulatory Programs
GE Nuclear Energy
12300 Twinbrook Parkway
Suite 315
Rockville, Maryland 20852

Director, Criteria & Standards Division
Office of Radiation Programs
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Raymond Ng
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006

Marcus A. Rowden, Esq.
Fried, Frank, Harris, Shriver & Jacobson
1001 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20004

Jay M. Gutierrez, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Suite 1000
Washington, D.C. 20036

Mr. Steven A. Hucik
GE Nuclear Energy
175 Curtner Avenue, MC-780
San Jose, California 95125

Mr. Joseph R. Egan
Shaw, Pittman, Potts, & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037-1138

Mr. Patrick W. Marriott, Manager
Advanced Plant Technologies
GE Nuclear Energy
175 Curtner Avenue
San Jose, California 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy
175 Curtner Avenue, MC-781
San Jose, California 95125

Mr. C. B. Brinkman, Acting Director
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Mr. C. B. Brinkman, Manager
Washington Nuclear Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 30852

Mr. Stan Ritterbusch
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Regis A. Matzie, Vice President
Nuclear Systems Development
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Richard W. Burke, Sr., Manager
BWR Design Certification
Electric Power Research Institute
3442 Hillview Avenue
Palo Alto, California 94304-1395

cc: Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Analysis
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 29, 1994

Docket Nos. 52-001, 52-002,
and 52-003, 52-004

APPLICANTS: GE Nuclear Energy (GE), Westinghouse Electric Corporation (W),
and ABB-Combustion Engineering, Inc. (ABB-CE)

PROJECTS: GE Advanced Boiling Water Reactor (ABWR), GE Simplified Boiling
Water Reactor (SBWR), W AP600, and ABB-CE System 80+

SUBJECT: SUMMARY OF MEETING HELD ON MARCH 14, 1994, ON DESIGN
CERTIFICATION REVIEWS

A public meeting was held with representatives of the Nuclear Regulatory Commission (NRC), GE, W, ABB-CE, and the Department of Energy (DOE) on March 14, 1994, in the White Flint offices of the NRC in Rockville, Maryland. The purpose of the meeting was to discuss the progress of reviews for design certification of the evolutionary and passive reactor designs. Enclosure 1 contains a list of the attendees at the meeting. Enclosure 2 contains the handouts presented by industry representatives at the meeting.

Representatives from GE began the meeting with a presentation of the status of the ABWR design certification program. The major topics of discussion during the presentation were: (1) final design approval (FDA) and design control document (DCD) issuance dates, (2) treatment of standard safety analysis report (SSAR) secondary references in the DCD, (3) applicable regulations in the design certification rule, and (4) treatment of probabilistic risk information in DCD.

Representatives from ABB-CE then presented the status of the System 80+ certification program. The major topics of discussion during the presentation were: (1) the status of the next amendment to CESSAR-DC, (2) actions required to address concerns raised by the February 1994, quality assurance (QA) inspection, and (3) a proposed technical specification (TS) relief request. ABB-CE stated that Amendment V to CESSAR-DC will be issued by the end of April 1994. In order to meet that date, however, ABB-CE will need the staff's comments by the end of March. The staff agreed to work with ABB-CE to meet this schedule.

Regarding the recent QA inspection, ABB-CE stated that an action plan is being developed to address the concerns raised by the inspection team. Specifically, ABB-CE is compiling a list of calculations for which full design verification will be performed prior to the staff's issuance of a FDA. ABB-CE proposed to meet with the staff during the week of March 21, 1994, to discuss their plan. The staff agreed to meet and reiterated its position that the scope of the calculations should include those that form the final design basis and will not be redone by a combined license applicant due to as-procured/as-built conditions. ABB-CE also discussed a proposed relief request from TS requirements for emergency diesel generator limiting conditions for operation while at power. The Advisory Committee on Reactor Safeguards (ACRS) recently questioned ABB-CE about why credit was not taken for the alternate ac source during power operations. ABB-CE stated that this issue will be discussed further with the staff.

Representatives from W then presented the status of the AP600 design certification program. The major topics of discussion during the presentation were: (1) the testing program status, and (2) the need for detailed schedules for the design certification review.

W indicated that they have categorized the tests in the AP600 testing program into those tests that they felt were required for developing the draft safety evaluation report (Category 1 tests) and those that would be necessary to support the FSER and FDA (Category 2 tests), and felt that the staff should be able to develop its review schedules based on this categorization. The staff indicated that it had not had the opportunity to review W's categorizations, and that it concluded that there will be significant open items in the DSER in those technical areas that are affected by the test program. The staff further indicated that it could not complete its safety evaluation of the design until the staff had confidence in the codes, and were sure that the design was finalized. The staff stated that it would not predict in its DSER that the testing will demonstrate that the design is acceptable. Instead, the staff indicated that it would issue a supplement to the DSER to discuss the results of the testing program. That supplement would be issued after the testing was completed, and the staff had a chance to review test results and analysis, as discussed in the March 7, 1994, letter.

W indicated that it would submit detailed testing schedules by March 16, 1994, and that it felt that it needed all of the staff's requests for additional information (RAIs) by April 1, 1994, in order for it to support a DSER by the end of the year.

Representatives from GE then presented the status of the SBWR design certification program. The major topics of discussion during the presentation were: (1) SBWR test overview, (2) tests in progress, (3) NRC testing letter on March 7, 1994, (4) RAIs, and (4) estimated SBWR design certification schedule.

(Original signed by S.Ninh for)

Chester Poslusny, Project Manager
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File PDST R/F PShea
PDR TBoyce

DISTRIBUTION w/o enclosures:

WRussell/FMiraglia, 12G18 DCrutchfield TWambach JNWilson
ATHadani WTravers RBorchardt BDLiaw, 7D26
BDean, 17G21 RArchitzel JMoore, 15B18 TKenyon
MCase MMalloy MFranchovich CPoslusny
MFinkelstein CMcCracken SNinh DTang
SMagruder ACRS (11)

OFC	LA:PDST:ADAR	PM:PDST:ADAR	SC:PDST:ADAR
NAME	PShea	CPoslusny:tz	JNWilson
DATE	3/29/94	3/29/94	3/29/94

cc: Mr. Joseph Quirk
GE Nuclear Energy
175 Curtner Avenue, MC-782
San Jose, California 95125

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20850

Mr. L. Gifford, Program Manager
Regulatory Programs
GE Nuclear Energy
12300 Twinbrook Parkway
Suite 315
Rockville, Maryland 20852

Director, Criteria & Standards Division
Office of Radiation Programs
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Raymond Ng
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006

Marcus A. Rowden, Esq.
Fried, Frank, Harris, Shriver & Jacobson
1001 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20004

Jay M. Gutierrez, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Suite 1000
Washington, D.C. 20036

Mr. Steven A. Hucik
GE Nuclear Energy
175 Curtner Avenue, MC-780
San Jose, California 95125

Mr. Joseph R. Egan
Shaw, Pittman, Potts, & Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037-1138

Mr. Patrick W. Marriott, Manager
Advanced Plant Technologies
GE Nuclear Energy
175 Curtner Avenue
San Jose, California 95125

Mr. John E. Leatherman, Manager
SBWR Design Certification
GE Nuclear Energy
175 Curtner Avenue, MC-781
San Jose, California 95125

Mr. C. B. Brinkman, Acting Director
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Mr. C. B. Brinkman, Manager
Washington Nuclear Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 30852

Mr. Stan Ritterbusch
Nuclear Systems Licensing
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Regis A. Matzie, Vice President
Nuclear Systems Development
ABB-Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Mr. Richard W. Burke, Sr., Manager
BWR Design Certification
Electric Power Research Institute
3442 Hillview Avenue
Palo Alto, California 94304-1395

cc: Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Analysis
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415