



General Electric Company
175 Currier Avenue, San Jose, CA 95128

March 16, 1993

Docket No. STN 52-001

Chet Poslusny, Senior Project Manager
Standardization Project Directorate
Associate Directorate for Advanced Reactors
and License Renewal
Office of the Nuclear Reactor Regulation

Subject: **Submittal Supporting Accelerated ABWR Review Schedule - Resolution
of Chapter 18 DFSER Outstanding Items**

Dear Chet:

Enclosed is a copy of a GE letter addressing resolution of DFSER outstanding items originally faxed to Clare Goodman on March 12, 1993. This March 16, 1993 letter supersedes the March 12, 1993 fax.

It should be noted that those items indicated with "AM 23" or "AM 25" (AM = Amendment) on the right hand side of Table 1 are considered closed by GE. Following our phone call on March 22, 1993, we plan to address all of the outstanding items either by marking up the SSAR (including Revision 4 to proposed Appendix 18E) or provide the rationale to eliminate specific items.

Please provide a copy of this transmittal to Clare Goodman.

Sincerely,

Jack Fox
Advanced Reactor Programs

cc: Norman Fletcher (DOE)
Keith Gregoire (GE)
Monty Ross (GE)

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February 26, 1993

cc: M. A. Ross

To: J. N. Fox

From: Keith E. Gregoire, LCE for ABWR SSAR Chapter 18

Subject: Resolution of ABWR DFSER Open and Confirmatory Issues and GE Positions on NRC-Proposed COL Action Items

Reference: Letter, K. E. Gregoire to J. N. Fox, "Resolution of ABWR DFSER Open and Confirmatory Issues", Feb. 9, 1993

The purpose of this letter is to update and expand the information contained in the reference. Since the reference was written, information has been received from the NRC to the effect that the staff proposes switching six confirmatory issues to COL Action Item classification. The contents of this letter reflect this new information.

Confirmatory & Open Issues Resolvable by SSAR Markups

Those confirmatory and open issues which can be resolved by marking up appropriate passages in or adding new material to the SSAR are listed in Table 1 along with the affected SSAR section or appendix.

Table 1
SSAR Modification Issue Resolutions

<u>Issue Designation</u>	<u>Issue Title or Description</u>	<u>SSAR Section</u>
Conf. Issue No.18.3.2.1-1	Validation of Detailed Design	Append. 18E
Conf. Issue No.18.3.2.1-2	Standard Features & Prototype Evaluation	Subs.18.4.2
Conf. Issue No. 18.3.2.1-3	Operator Workload	Append. 18G
Conf. Issue No.18.3.2.1-4	Tests, Evaluations, Studies	Append. 18G

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Table 1 (Cont'd.)

<u>Issue Designation</u>	<u>Issue Title or Description</u>	<u>SSAR Section</u>	
Conf. Issue No.18.3.2.1-5	Adequacy of HSI Design Requirements	Append. 18G	AM 23
Conf. Issue No.18.3.2.2-1	SPDS Information based on BWROG EPGs	Subs. 18.3	AM 23
Conf. Issue No. 18.3.2.2-2	SPDS Issues	See Note 1	
Conf. Issue No.18.3.3-1	Standard Features	Append. 18G	AM 23
Conf. Issue No.18.4.3-1	Inventory	Append. 18F	AM 25
Conf. Issue 18.5.2.1-1	RSS Design Approach Evaluation	See Note 1	
Open Issue No.18.9.2.2-1	Process Element Guidance Documents	Append. 18E	
Open Issue No.18.9.2.2.1-1	Operating Experience Review	Append. 18E	
Conf. Issue No.18.9.2.2.8-1	Task Analysis Element to Include HRA/PRA	Append. 18E	
Conf. Issue No.18.9.2.2.8-2	Evaluation of Plant Evolutions	See Note 1	

Note 1: This issue is being resolved by the revision of Appendix 18E and, in addition, is proposed by the Staff to be treated as a COL Action Item. See also Table 2.

All of the markups intended to resolve the above issues have been completed and incorporated into the SSAR except for those in Appendix 18E.

Issues Resolvable By Means Other Than SSAR Modifications

Those confirmatory and open issues which require means for resolution other than simple markups of the SSAR are listed below along with comments.

1. Open Issue 18.9.1-1, "ITAAC/Design Description"--This issue will be resolved through the acceptance by the staff of the Tier 1 Design Certification Material (DCM).

2. Confirmatory Issue 18.9.2.2.1-1, "Human Factors Program Plan"-- This issue will be resolved through the acceptance by the staff of the Tier 1 Design Certification Material and the Tier 2 SSAR material in Appendix 18E.
3. Confirmatory Issue 18.9.2.2.5-1, "Detailed Task Analysis"-- Resolved similarly to #2.
4. Confirmatory Issue 18.9.2.2.6-1, "HSI Design Requirements"-- This issue is being resolved by making it a COL Action Item.
5. Confirmatory Issue 18.9.2.2.6-2, "CRT Display Information"-- Resolved similarly to #4.
6. Confirmatory Issue 18.9.2.2.6-3, "Alarm Suppression Criteria/Alarm Setpoints"--Resolved similarly to #4.
7. Confirmatory Issue 18.9.2.2.7-1, "Procedure Development"-- Resolved similarly to #2.
8. Confirmatory Issue 18.9.2.2.8-3, "Operator Workload Analysis"--Resolved similarly to #2.
9. Confirmatory Issue 18.9.2.2.8-4, "ITAAC- Tests & Analysis in DCM Table 3.6" Resolved similarly to #2.
10. Confirmatory Issue 18.9.2.2.8-5, "Fully Functional Control Room Prototype"-- Resolved similarly to #1.

NRC-Proposed COL Action Items

In classifying the NRC-Proposed COL Action Items, the following 4 categories are used:

1. Not clear what the issue is. Needs review/discussion.

2. Will be addressed as part of the MCR/RSS design implementation process, as defined by existing human factors engineering (HFE) DACs. GE agrees that this should be a COL Action Item.
3. Beyond scope of the HFE DACs, but we agree that this should be a COL Action Item.
4. We don't agree that this should be a COL Action Item.

The 16 NRC-Proposed COL Action Items discussed in the DFSEER and the six confirmatory issues which the NRC has recently proposed to treat as COL Action Items are listed and categorized in Table 2.

Table 2
Categorization of COL Action Items

<u>Designation</u>	<u>Description</u>	<u>Category</u>
18.2.2.2-1	Evaluate the number of operators needing access to controls at the main console.	2
18.2.2.2-2	Specify the roles/reponsibilities of the shift supervisor and assistant shift supervisor.	3
18.2.2.2-3	Evaluate automation strategies and their effect on operator reliability.	2
18.3.2.2-1	Assure conformance of the SPDS design with the criteria of Section 3.8a of NUREG-0737, Supplement 1.	2
18.3.3-1	Validate the final design of the standard design features.	2

Table 2 (Cont'd.)

<u>Designation</u>	<u>Description</u>	<u>Category</u>
18.4.3-1	Several specific issues related to the Inventory of Appendix 18F are to be addressed.	1
18.6-1	Provide complete local valve position indication.	4
18.7.2.2.1	Provide for operator training per 10CFR Part 50.	3
18.7.2.2-2	Address TMI Items I.C.1, "Short Term Accident Analysis and Procedure Revision" and I.C.9, "Long Term Program Plan for UpGrading of Procedures".	1
18.7.2.2-3	Address TMI Items I.D.1, "Control Room Design Reviews", I.D.4, "Control Room Design Standard" and I.D.5, "Improved Control Room Instrumentation Research".	1
18.7.2.2-4	Address NUREG-0933 Item 125.I.3, "SPDS Availability".	2
18.7.2.2-5	Address the human factors aspects of TMI Item I.D.3, "Safety System Status Monitoring".	2
18.7.2.2-6	Address the following USI/GSI issues: (1) HF-4.4, "Guidelines for Upgrading Other Procedures", (2) HF-5.2, "Review Criteria for Human Factors Aspects of Advanced Control Room Instrumentation", (3) B-17, "Criteria for Safety Related Operator Actions", (4) HF-01.3.4b, "Interface Annunciators", (5) HF-01.3.4c, "Operational Aids", (6) HF-01.3.4d, "Automation and Artificial Intelligence" and (7) HF-01.3.4e, "Computers and Computer Displays"	1

Table 2 (Cont'd.)

<u>Designation</u>	<u>Description</u>	<u>Category</u>
18.7.2.2-7	Address the following USI/GSI issues: (1) HF-5.1, "Local Control Stations", (2) HF-01.3.4a, "Local Control Stations" and (3) II.K.1(5), "Safety Related Valve Position".	1
18.7.2.2-8	Address the following issues, (1) HF-1.1, "Shift Staffing" and (2) I.A.1.4, "Long Term Upgrade of Operating Personnel and Staffing".	1
18.9.2.2.8-1	Consider malfunctions of the PGCS, as part of Element 8.	2
Confirm. Issue No. 18.3.2.2-2	SPDS Issues	1
Confirm. Issue No. 18.5.2.1-1	RSS Design Approach Evaluations	1
Confirm. Issue No. 18.9.2.2.6-1	HSI Design Requirements	1
Confirm. Issue No. 18.9.2.2.6-2	CRT Display Information	1
Confirm. Issue No. 18.9.2.2.6-3	Alarm Suppression Criteria/Alarm Setpoints	1
Confirm. Issue No. 18.9.2.2.8-2	Evaluation of Plant Evolutions	1