10024 52-001

GE Nuclear Energy

ABWR

Date 3/26/92

To GREG GALLETTI
NRC - LHFB

Fax No. _____

This page plus 1 page(s)

From CAL TANG

Mail Code ___
175 Curtner Avenue
San Jose, CA 95125

Phone (408) 925- 6901

FAX (408) 925-1193
or (408) 925-1687

Subject PROCESS DESCRIPTION FOR
ABWR APPENDIX 18F

Message GREG:
INFO PER YOUR REQUEST. PLEASE
CALL MONTY ROSS @ 408.925-6930
or me for discussion, if needed.

Cal Tang

D050
1/1

DESCRIPTION OF PROCESS FOR DEVELOPING EMERGENCY OPERATION INFORMATION AND CONTROLS FOR CHAPTER 18, APPENDIX 18F.

An analysis of operator control and information needs is performed based upon the ABWR EPGs as given in Appendix 18A and based upon the results of analysis of important operator actions in the PRA. The analysis results is documented in Appendix 18F in the form of tables. A table is used for each EPG step or PRA-important operator action as described below:

(1) STEP REFERENCE	(2) STEP	(3) DESCRIPTION OF STEP	(4) INFORMATION TO PERFORM STEP	(5) CONTROL FUNCTIONS TO PERFORM STEP
State whether this step is from the EPGs or an important PRA operator action.	State the specific EPG step or PRA reference. Include each entry condition, caution, and note as a separate step.	Provide a description of the step. In many cases, this is quoted from the EPGs. Also provide any further clarification or additional information comparable to that of the EOPs, if appropriate.	List information necessary to determine if operator action is to be performed (usually plant or process conditions, i.e. symptoms)	List control functions to perform the stated step

(6) PARAMETER DISPLAYS TO EXECUTE STEP	(7) CONTROLS TO EXECUTE STEP	(8) ALARMS TO PERFORM STEP	(9) OPERATOR AIDS TO PERFORM STEP	(10) DISPLAYS TO JUDGE ACTION ACCOMPLISHMENT OR INITIATION
List parameter displays to execute the step. The parameters listed in this column should be the implementation of the information given in column 4*.	List the control devices for executing the step. The control devices listed in this column should be the implementation of the control functions given in column 5*.	List alarms necessary to perform the step. The alarms listed in this column should implement certain information needs given in column 4*.	List all operator aids required by the operator to perform the step (nomographs, steam tables, procedures, etc.).	List the displays used for feedback to the operators to ensure that each operator action has been accomplished or initiated appropriately*.

(11) POSITION OF CONTROLS TO JUDGE ACTION ACCOMPLISHMENT OR INITIATION	(12) ALARMS TO JUDGE ACTION ACCOMPLISHMENT OR INITIATION	(13) OPERATOR AIDS TO JUDGE ACTION ACCOMPLISHMENT OR INITIATION	(14) DISPLAY, CONTROL, OR ALARM CLASS 1E OR REG. GUIDE 1.97 INSTRUMENT
List the controls used for feedback to the operators to ensure that each operator action has been accomplished or initiated appropriately*	List the alarms used for feedback to the operators to ensure that each operator action has been accomplished or initiated appropriately*	List the operator aids used for feedback to the operators to ensure that each operator action has been accomplished or initiated appropriately.	State whether the displays, controls, or alarms are provided by Class 1E instrumentation. In addition, identify parameter displays that are Regulatory Guide 1.97 parameters.

* For parameter displays, controls, and alarms, state whether these are fixed position, divisional VDU, or VDU devices. To obtain information for these devices, system design documents such as P&IDs, Instrument Electrical Diagrams (IEDs), or Interlock Block Diagrams (IBDs) are reviewed. In these design documents, the device functions are given but how and where these devices are located are generally not available as such decisions are to be made as part of the main control room design implementation process. The information given in columns 6, 7, 8, 10, 11, and 12, regarding the "how" and "where" the functions are provided, is based in part upon the results of the design and development program conducted for the ABWR main control. The information in column 14 is based upon design specifications and Section 7.5 of the SSAR. The operations analyses documented in Appendix 18F also addressess other design implementation details which are beyond the scope of the existing (i.e., vendor equipment independent) design documentation (e.g., special EOP related alarm processing and logic bypass functions). As stated in Section 18.3.3 of the SSAR, those controls, displays and alarms which are critical to the execution of the operator actions addressed in these operation analyses are presented in Tables 18F-13.1 through 3 and each ABWR referencing the Design Cerufication will implement the design in accordance with the design implementation details presented in those tables.

Appendix 18F was developed and reviewed by individuals experienced in the areas of EPGs and plant operation, system design, control and instrumentation, and nuclear engineering.