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Washington Public Power Supply System

P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000

May 27, 1982

G02-82-470

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REGION V

Docket No. 50-397

Mr. R. H. Engelken, Director
U.S. Nuclear Regulatory Commission
Region V
Suite 210
1450 Maria Lane
Walnut Creek, CA 94596

Subject: NUCLEAR PROJECT NO. 2
IE BULLETIN 80-06

Reference: Letter G02-82-445, G.D. Bouchev (SS) to A. Schwencer
(NRC), "Outstanding Issue 1.7(11), Engineered Safety
Features (ESF) Reset Control, dated May 14, 1982

Enclosed is the final response to the subject IE Bulletin. The attached report confirms that an analysis of all Engineered Safety Features with respect to the subject bulletin has been completed. Minor design changes have been identified and will be completed prior to fuel load. Additionally, preoperational testing of the Engineered Safety Features to confirm this analysis will be completed during the WNP-2 test and startup program.

The Supply System considers submittal of the attached report as closure for the subject bulletin.

Should you have any further questions regarding this matter, please contact Mr. C. H. McGilton, Safety Engineering Group Manager, WNP-2.

R. G. Matlock
R. G. Matlock
Program Director, WNP-2

MDZ/jca
Attachment

cc: WS Chin - BPA
R Feil - NRC Site
JA Forrest - B&R RO
ND Lewis - EFSEC
TA Mangelsdorf - BECH
A Schwencer - NRC
RE Snaith - B&R NY
V Stello - NRC
JJ Verderber - B&R NY

Washington Public Power Supply System

P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000
May 14, 1982
G02-82-445
SS-L-02-PLP-82-030

Docket No. 50-397

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Schwencer:

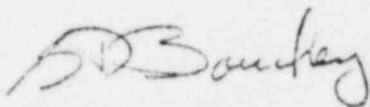
Subject: NUCLEAR PROJECT NO. 2
SAFETY EVALUATION REPORT, NUREG-0892,
OUTSTANDING ISSUE 1.7(11). ENGINEERED
SAFETY FEATURES (ESF) RESET CONTROL

The subject SER outstanding issue requests a response to IE Bulletin 80-06 be provided. The attached report confirms that an analysis of all Engineered Safety Features with respect to IE Bulletin 80-06 has been completed. Minor design changes have been identified and will be implemented prior to fuel load. Additionally, preoperational testing of the Engineered Safety Features to confirm this analysis will be completed during the WNP-2 test and startup program.

Since preoperational testing confirmation is recognized as SER Licensing Condition 1.9(6), the Supply System considers submittal of the attached report as closure for the subject outstanding issue.

Should you have any further questions, please contact Mr. R.M. Nelson, Project Licensing Manager, WNP-2.

Very truly yours,



G. D. Bouchey
Deputy Director, Safety and Security

PLP/jca
Attachment

cc: R Auluck - NRC
WS Chin - BPA
R Feil - NRC Site

820514/185

WNP-2 RESPONSE TO IEB 80-06
ENGINEERED SAFETY FEATURES RESET

QUESTION 031.136

Engineered Safety Features (ESF) Reset Controls (IE Bulletin 80-06)

If safety equipment does not remain in its emergency mode upon reset of an engineered safeguards actuation signal, system modification, design change or other corrective action should be planned to assure that protective action of the affected equipment is not compromised once the associated actuation signal is reset. This issue was addressed in IE Bulletin 80-06 (enclosed). For facilities with operating licenses of March 13, 1980, IE Bulletin 80-06 required that reviews be conducted by the licensees to determine which, if any, safety functions might be unavailable after reset, and what changes could be implemented to correct the problem.

For facilities with a construction permit including OL applicants Bulletin 80-06 was issued for information only.

The NRC staff has determined that all CP holders, as a part of the OL review process are to be requested to address this issue. Accordingly, you are requested to take the actions called for in Bulletin 80-06 Actions 1 thru 4 under "Actions to be Taken by Licensees". Within the response time called for in the attached transmittal letter, complete the review verifications and description of corrective actions taken or planned as stated in Action 1 thru 3 and submit the report called for in Action Item 4. The report should be submitted to the NRC Office of Nuclear Regulation as a licensing submittal in the form of an FSAR amendment.

NSSS Systems

A review of system schematic level drawings of Engineered Safeguard Feature (ESF) functions was performed to determine their compliance to IE Bulletin 80-06.

Our conclusions of the review are as follows:

1. BWR's do not have an "emergency mode" per se. For clarification purposes an "emergency mode" is considered to be an abnormal plant condition in this review.
2. No initiating logic will automatically reset upon the return of the initiating signal to normal. A "seal in" is provided on all initiating logic. SRV's are an exception to this, there is no "seal in" or reset switch.
3. A manually operated system level reset cannot occur unless the cause of the initiation has been cleared. A deliberate operator action is required to accomplish manual system level reset.
4. Upon a deliberate operator initiated system level manual reset, each system status is as follows:

A.1 HPCS

All actuated equipment remains in the abnormal condition (e.g., HPCS pump running, injection valve open). A manual operator action at the component level is required to change state of the actuated equipments.

A.2 HPCS Diesel Generator

Manual operator action is required (control switch) to shut the engine off. A system level reset of the ESF actuation signal will not shut down the diesel generator unless a protective trip function (e.g., high jacket water temperature; low lube oil pressure, reverse power; loss of excitation, overcurrent, has been actuated. Then the diesel generator will shut down and lock out. In the emergency mode, the diesel generator is the source of on-site power. During an emergency such as a LOCA, most of the protective trip functions are blocked so that the diesel generators will operate as long as possible, regardless of the damage they may incur. Upon conclusion of the emergency, these protective functions are restored as soon as the ESF signal is manually reset. This restoration of protective functions protects the diesel generators from more damage than absolutely necessary. Since the ESF signal must be manually reset, the trips are, in effect, manually reinstated. Thus, after the LOCA, the diesel generators will continue to run until manually stopped but will do so with protective trips functioning normally.

No modifications are required. This method of operation is in accordance with IE Bulletin 80-06.

B. LPCS

All actuated equipment remain in their abnormal condition. A component level operator action is required to change the state of the actuated equipment.

No modifications are required. This method of operation is in accordance with IE Bulletin 80-06.

C. Automatic Depressurization System (ADS)

ADS valves are equipped with two solenoid pilot valves and two separate control circuits, one for each solenoid. The design also includes a dedicated reset pushbutton in each of the two divisions. When these switches are in their AUTO position, the valves will open when their corresponding pilot solenoid is energized in response to an auto initiation signal. This condition will be sealed in by auxiliary relays and the valves will remain open.

Manual reset of an ESF actuation signal via the operator pushing both of the reset buttons will de-energize the solenoids causing all ADS valves to close interrupting ADS action for 120 seconds. The reset pushbuttons are provided as a means of manually preventing or eliminating inadvertent ADS. This is the only ADS shutout which is available to the operator.

No modification is required. The design is consistent with IEEE standards, and functional requirements.

D.1 RHR (LPCI Mode)

All actuated equipment remains in the abnormal condition following an ESF actuated signal (e.g., pumps, injection valves, etc.). They have to be manually signalled closed at the component level.

D.2 RHR (Steam Condensing Mode)

Pressure/Flow Regulating Valves which are used in the steam condensing mode close upon the initiation of the LPCI mode. These valves will reopen upon reset of the LPCI mode.

It is not necessary to modify the control logic for RHR system valves in order to comply with IE Bulletin 80-06. The principal reason is that both valves have redundant isolation valves which do not change state upon reset.

E. RCIC System

The RCIC system is not considered to be safety related and therefore is not covered by IE Bulletin 80-06. However, there are three RCIC valves which perform a containment isolation function which utilize a control scheme that would be in violation of IE Bulletin 80-06 if utilized in a safety related system.

The control circuits for these valves will be modified so that full conformance to IE Bulletin 80-06 is achieved.

F. Nuclear Steam Supply Shutoff System NS4F.1 Main Steam Isolation Valves MSIV

All eight MSIV remain in their abnormal condition (i.e., closed). A manual operator action is required for each valve to reopen.

No modifications are required. This method of operation is in accordance with IE Bulletin 80-06.

F.2 Radwaste System (RW)

All four isolation valves will close automatically upon receipt of an isolation signal. A seal-in maintains valve closure after the isolation signal has cleared. Reset switches (which can clear the actuation logic for several NS4 systems in addition to the RW system) can be used to break the seal-in once the isolation signal is removed.

Operation of the reset switches will not open RW valves which are already in the normally closed position. Operation of the reset switches will however, cause RW valves to reopen if their switches were in the open position at the time the isolation signal was received. This could be an unexpected consequence of the operator's use of the NS4 isolation valve reset switches since as mentioned earlier, the switches clear the actuation logic for several NS4 systems in addition to the RW System.

The control circuits for these valves will be modified to prevent the valves from reopening when the appropriate reset button is pushed.

F.3 RHR Sample Line Valves, Reactor Water Sample Valves

These valves will reopen upon reset of an isolation signal if they were open originally similar to the RW system described above.

The control circuits for these valves will be modified to prevent the valves from reopening when the appropriate reset button is pushed.

F.4 Motor Operated Isolation Valves

All motor operated isolation valves remain in their abnormal condition. To reopen these valves, an operator manual action (control switch to open) is required for each valve.

No modification is required. This method of operation is in accordance with IE Bulletin 80-06.

BOP Systems

A review of all actuated equipment in the Balance of Plant (BOP) engineered safety feature (ESF) systems confirmed that all the subject equipment remains in a safe condition upon reset of the ESF signal. A component level operator action is required to change the state of the actuated equipment. As a result, no modifications are necessary. This method of operation is in accordance with IE Bulletin 80-06.

The BOP systems reviewed include:

1. Standby Gas Treatment System
2. Standby Service Water System
3. Fuel Pool Cooling System
4. Main Control Room and Critical Switch Gear HVAC
5. Primary Containment and Reactor Vessel Isolation Control Systems
 - a. Containment Exhaust Purge
 - b. Containment Supply Purge
6. Containment Instrument Air
7. Reactor Building Ventilation and Pressure Control System
 - a. Reactor Building Exhaust Air
 - b. Reactor Building Outside Air