



GE Nuclear Energy

General Electric Company  
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April 14, 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 - DFSE  
**Confirmatory Item 7.6.1.3-1**

Dear Chet:

Enclosed is a SSAR markup addressing DFSE Confirmatory Item 7.6.1.3-1.

Please provide a copy of this transmittal to im Stewart.

Sincerely,

Jack Fox  
Advanced Reactor Programs

cc: Norman Fletcher (DOE)  
Mike Song (GE)  
Bill Taft (GE)

*See attached  
list*

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testing feature similar to that described for SSLC is also provided (see Subsection 7.1.2.1.4).

(8) Environmental Considerations

All APRM equipment is operated in the environments described in Section 3.11. The APRM is capable of functioning during and after the design basis events in which continued APRM operation is required (see Sections 3.10 and 3.11).

7.6.1.2 Process Radiation Monitoring System - Instrumentation and Controls

A number of radiation monitoring functions are provided on process lines, HVAC ducts, and vents that may serve as discharge routes for radioactive materials. These include the following:

- (1) Main steam line tunnel radiation monitoring
- (2) Reactor building ventilation system radiation monitoring (including fuel exchange area)
- (3) Liquid radiation monitoring
- (4) Off-gas radiation monitoring
- (5) Gland steam condenser and mechanical vacuum pump off-gas radiation monitoring
- (6) Stack radiation monitoring
- (7) Off-gas system area exhaust radiation monitoring
- (8) Standby gas treatment ventilation system radiation monitoring
- (9) Drywell drain radiation monitoring

The process radiation subsystems are shown in the system design IED (Figure 7.6-5). Subsystems A and B, above, are classified nuclear safety-related while subsystems C through I are classified as nonsafety-related. System descriptions and requirements are described in detail in Section 11.5.

7.6.1.3 High Pressure/Low Pressure Systems Interlock Protection Functions

(1) Function Identification

The low pressure modes of the RHR which connect to the reactor coolant pressure boundary and the instrumentation which protects them from overpressurization are discussed in this section. Such high pressure/low pressure interfaces with the reactor vessel are exclusive to the RHR system for the ABWR. The RHR P&ID may be found on Figure 5.4-10. The RHR IBD may be found on Figure 7.3-4.

(2) Power Sources

The power for the interlocks is provided from the essential power supplies used for the RHR system and its various modes of operation.

(3) Equipment Design

Refer to Table 7.6-3 for a list of high pressure/low pressure interfaces and the rationale for valve interlock equipment.

(4) Circuit Description

At least two valves are provided in series in each of these lines. The RHR shutdown cooling supply valves (E11-FO12 and E11-FO13) have independent sets of interlocks to prevent the valves from being opened when the primary system pressure is above the subsystem design pressure or when reactor water level is below Level 3. These valves also receive a signal to close when reactor pressure is above system pressure, or reactor water level is ~~above~~ Level 3. An additional interlock is RHR equipment area ambient temperature (not shown on Table 7.6-3).

The RHR shutdown cooling/LPFL injection valve E11-FO47 is interlocked to prevent valve opening whenever the reactor pressure is above the subsystem design pressure, and automatically closes whenever the reactor