GE Nuclear Energy

General Electric Company
175 Curtner Avenue, San Jose, CA 95125

April 9, 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 - **DFSER Open Item 9.4.6-1**

Dear Chet:

Enclosed are SSAR markups addressing DFSER Open Item 9.4.6-1.

Please provide a copy of this transmittal to Butch Burton.

Sincerely,

Jack Fox

Jack Fox
Advanced Reactor Programs

cc: Norman Fletcher (DOE)
Bernie Genetti (GE)

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9.4.6 Radwaste Building HVAC System

9.4.6.1 Design Bases

9.4.6.1.1 Safety Design Bases

The radwaste building HVAC system has no safety-related function as defined in Section 3.2. Failure of the system does not compromise any safety-related system or component and does not prevent safe reactor shutdown. Provisions are incorporated to minimize release of radioactive substances to atmosphere and to prevent operator exposure. The radwaste building HVAC P&ID is shown in Figure 9.4-10.

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9.4.6.1.2 Power Generation Design Bases

The radwaste building ventilation system is designed to provide an environment with controlled temperature and airflow patterns to insure both the comfort and safety of plant personnel and the integrity of equipment and components. The radwaste building is divided into two zones for air conditioning and ventilation purposes. These zones are the radwaste control room and the balance of the radwaste building.

A positive static pressure with respect to the balance of the building and to atmosphere is maintained in the radwaste control room. The balance of the radwaste building is maintained at a negative static pressure with respect to atmosphere.

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The system design is based on outdoor summer maximum of 115°F. Summer indoor temperatures include 75°F in the radwaste control station, 90°F in operating areas and corridors, a maximum temperature of 104°F in areas that may be occupied and 110°F in the equipment cells. Winter indoor design temperatures include 60°F in occupied areas, 70°F in the radwaste control room and 60°F in the equipment cells, based on an outdoor design temperature of -40°F.

9.4.6.2 System Description

9.4.6.2.1 Radwaste Building Control Room

Heating, cooling and pressurization of the control room are accomplished by an air-conditioning system. The air-conditioning system is a unit air-conditioner consisting of a water-cooled condenser, compressor, cooling coil, heating coil, filters and fan. Outdoor air and recirculating air are mixed and drawn through a prefilter, a heating coil, a cooling coil, and two 100% supply fans. One fan is normally operating and the other fan is onstandby. A pressure differential controller regulates the exfiltration from the control room to maintain it at a positive static pressure, preventing airborne contamination from entering.

The exhaust air system consists of two 100% exhaust fans. One fan is normally operating and the other is on standby. Exhaust air from the control room is monitored for airborne radioactivity before exhausting to the atmosphere.

9.4.6.2.2 Radwaste Building HVAC Control System

The HVAC control system for the remainder of the radwaste building is a once-through type. Outdoor air is filtered, tempered and delivered to the noncontaminated areas of the building. The supply air system consists of a prefilter, heating coil, cooling coil, and two 100% supply fans. One fan is normally operating and the other fan is on standby. The supply fan furnishes conditioned air through ductwork and diffusers, or registers to the work areas of the building. Zone preheat coils installed in the supply air ductwork provide temperature control. Air from the work areas is exhausted through the tank and pump rooms. Thus, the overall airflow pattern is from the least potentially contaminated areas to the most contaminated areas.

The exhaust air system consists of two 100% exhaust fans, one normally operating and one on standby. Exhaust air from the silo, waste filter rooms, oil separator room and the mixing and filling station is monitored for airborne radioactivity. Under normal conditions with no contamination, normal ventilation in the same circuit as the other spaces in the building is maintained. Each of the above-noted spaces is separately monitored. A high level of radioactivity activates an alarm in the main control room, simultaneously isolating the effected space. The exhaust air is exhausted through the main plant stack.

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