

SNUPPS

Standardizer Nuclear Unit
Power Plant System

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Executive Director

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SLNRC 81-081 FILE: 0541
SUBJ: NRC Request for Information
-Mechanical Section of Power
Systems Branch

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

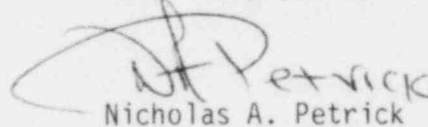
Docket Nos.: STN 50-482, STN 50-483, and STN 50-486

Dear Mr. Denton:

In a May 14, 1981 meeting with the NRC's Power Systems Branch, the NRC requested additional information. This information was incorporated with the 430-series questions in FSAR Revision 5. In discussions with Dr. Gordon Edison, NRC project manager for the SNUPPS applications, it was learned that additional clarifications are required.

The enclosure to this letter provides the additional clarifications and will be incorporated in the next FSAR revision.

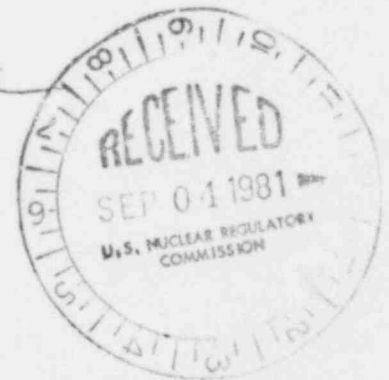
Very truly yours,


Nicholas A. Petrick

RLS/dck/3a14

Enclosure: FSAR pp. 430.11-1, 430.32-1, and 430.32-2

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SNUPPS

Q430.11 The FSAR text and Table 3.2-1 states that the components and piping systems for the diesel generator auxiliaries (fuel oil system, cooling water, lubrication, air starting, and intake and combustion system) that are mounted on the auxiliary skids are designed seismic Category I and are ASME Section III Class 3 quality. The engine mounted components and piping are designed and manufactured to DEMA standards, and are seismic Category I. This is not in accordance with Regulatory Guide 1.26 which requires the entire diesel generator auxiliary systems be designed to ASME Section III Class 3 or Quality Group C. Provide the industry standards that were used in the design, manufacture, and inspection of the engine mounted piping and components. Also show on the appropriate P&ID's where the Quality Group Classification changes from Quality Group C.

RESPONSE

Only those components and piping supplied with the standard diesel engine and which either make up an integral part of the engine or whose design and reliability have been proven through years of previous diesel engine service are not Quality Group C. All other piping, tubing, and components are ASME Section III, Class 3. A tabulation of components, indicating those which are not Quality Group C, is attached.

The FSAR figures for the diesel engine auxiliary systems differentiate between seismic and nonseismic portions of the systems and identify those portions of the systems provided by the diesel engine manufacturer.

The standards used in the design, manufacture, and inspection of the Non-Quality Group C components are the manufacturer's standards, developed from his manufacturing and testing experience. By nature of its design and construction, the engine mounted piping is considered to provide equivalency to ANSI B31.1 standards.

430.32 In section 9.5.7.2 of the FSAR you state that pre-lubrication of the rocker arm assembly during standby conditions is done periodically in accordance with the engine manufacturer's recommendations. Provide the following:

- a. We require that the electric prelube pump (RSP) automatically prelube the rocker arm assembly and that alarms be provided which alert the operator of pump failure to start on automatic prelubrication.
- b. Provide the manufacturer's periodic prelubrication recommendations.
- c. Discuss how the lubricating oil in the rocker arm assembly lubrication system is cooler during engine operation and kept warm to enhance engine starting during standby operation.

RESPONSE

The SNUPPS emergency diesel generator includes an electric motor-driven prelube/keepwarm pump as an integral part of the lube oil system. This pump circulates lube oil from the engine crankcase through a keepwarm heater and a filter, then into the main lube oil system, through a strainer, and into the engine header. During engine standby, this system provides continuous prelubrication and filtering of the oil charge at keepwarm temperature. During engine operation, this system is used for continuous filtration of the oil charge. Additionally, the engine includes a separate rocker arm lubrication system.

This system includes an electric motor-driven prelubrication pump, which is manually operated and is intended to be used prior to test starts. The rocker arm prelube pump is manually started from the Engine Gauge Panel. The pump will be operated once every week for a period of 5 to 30 minutes. (The amount of time can be adjusted between 5 and 30 minutes by means of a built-in timer.) After operating for the preset time period the pump will automatically shut off. It is not considered detrimental by the engine manufacturer for the rocker arms to operate with reduced oil pressure for the short period of time during which the engine is coming up to speed in an emergency start situation.

The rocker lube oil system is employed in all Colt-Pielstick diesel engines. This is true whether the engine is in maritime, commercial, or nuclear service. The vendor (Colt) has stated that, based on both his extensive shop testing and operational service of the Colt-Pielstick diesel engine, no

cooling of the rocker lube oil is required. Additionally, since the system is not considered vital to emergency start-up of the engine, a keep-warm feature is not provided. The diesel generator building is maintained at a minimum of 50 F, which is sufficient to prevent excessive cooling of the lube oil. ←

Colt-Pielstick diesel engines are installed at two operational nuclear power plants, Virgil Summer Station 1 and Farley Unit 1.

During normal engine operation, the engine driven rocker lube oil pumps provide the required supply of lube oil to the rocker arms. Makeup to the rocker lube oil system is provided from the main engine lube oil system. This is to replenish any oil which might leak past the valve stems.

The components discussed above are shown in FSAR Figure 9.5.7-1, Sheets 1 and 2.

Rocker lube oil system temperature will be monitored in the initial test program to confirm proper operation