ENCLOSURE

PROPOSED SSER EVALUATION

MILLSTONE NUCLEAR POWER STATION, UNIT 3

NORTHEAST NUCLEAR ENERGY COMPANY

DOCKET NO. 50-423

SUPPLEMENT TO THE SAFETY EVALUATION REPORT INPUT
MILLSTONE NUCLEAR POWER STATION, UNIT 3
AUXILIARY SYSTEMS BRANCH

3.5.1.1 Internally Generated Missiles

3.5.1.2 In the SER Sections 3.5.1.1 and 3.5.1.2, we indicated that the
10.4.9 applicant should provide justification that the missiles from fan blades would not damage safety related equipment both inside and outside containment and to confirm that consideration was given to the single active failure criteria in the analysis.

The applicant, in a letter dated June 13, 1984 stated, that the fan blades were evaluated for missile generation under normal operating speeds due to fatique failure or manufacturing defects. The applicant concluded that fan fragments either lack sufficient energy to penetrate the fan housing or will not result in unacceptable consequences. The applicant also confirmed in a letter dated August 14, 1984, that their analysis has considered the effects of missile impingement from non-safety related equipment concurrent with a single active failure in the redundant safety train on a case by case basis to achieve safe shutdown conditions. We find this acceptable.

In the SER Sections 3.5.1.1 and 10.4.9, we also required the applicant to confirm that the potential missiles from the turbine driven auxiliary feedwater pump will not damage other safety-related equipment. By letter dated June 13, 1984, the applicant has confirmed that a review of the missile trajectories within the auxiliary feedwater pump cubicle indicates that no essential systems or components will be adversely affected by the turbine missiles. The turbine driven pump is located and oriented within a concrete cubicle which will prevent any turbine generated missile from affecting other safety systems such as motor-driven auxiliary feedwater pumps in adjacent cubicles. We find this acceptable.

On the basis of the above, we conclude that the SER Sections 3.5.1.1, 3.5.1.2 and 10.4.9 conforms with GDC 4 as it relates to protection against internally generated missiles.

3.5.2 Structures, Systems And Components To Be Protected From Externally Generated Missiles

In Section 3.5.2 of the SER, we identified an open item regarding tornado-missile protection for the emergency diesel generator exhaust piping. The lack of tornado missile protection for the exhaust piping of the diesel generators is discussed in detail in Section 9.5.8, "Emergency Diesel Engine Combustion Air Intake and Exhaust Systems" of the SER. The exhaust piping for each diesel generator is vulnerable to tornado missiles at two locations which are discussed below.

The Emergency Generator Enclosure has a 48-in. x 168 in. opening in the side wall at an elevation of 27 feet above ground. The full tornado missile spectrum setforth in SRP Section 3.5.1.4, including the utility pole, can enter this opening. The Emergency Generator Enclosure also has an opening at the top, 66-in. x 100-in. at an elevation of 44 ft. from the ground through which the 40-in. diameter exhaust stack passes. Since this opening is above 30 ft., only the smaller missiles from the missile spectrum, e.g., steel pipes and rods, can enter this opening or the end of the exhaust stack.

The applicant has provided an access hatch on the exhaust piping which would be opened during a tornado alert. However, a tornado-missile, entering either the 66" x 100" or the 48" x 168" plenum opening, could damage the exhaust piping upstream of the access hatch thereby restricting the diesel generator exhaust flow. The

applicant in a letter dated August 20, 1984 indicated that required missile trajectories necessary to cause damage to the exhaust stack coincident with the elevation required for missile damage are not credible and that the proximity of an adjacent building decreases the existence of a credible missile path.

We do not agree with the applicant. The top of the machine shop provides a convenient path to facilitate the entry of the tornado missiles into the side opening. It is our position that the two openings should be protected with barriers in accordance with SRP 3.5.2 and Regulatory Guide 1.117, "Tornado Design Classification." If the applicant does not provide barriers, then an analysis should be performed which shows that if a tornado missiles does strike the diesel generator exhaust piping, it will not crimp the exhaust pipe upstream of the access hatch.

An alternate course of action would be to perform a PRA to demonstrate that the probability of significant damage to the diesel generator exhaust piping due to tornado missiles causing a release of radioactivity in excess of 10 CFR Part 100 limits, assuming loss of offsite power, shall be less than or equal to a median value (realistic) of 10^{-7} per year or a mean value (conservative) of 10^{-6} per year. We will report on the resolution of this concern in a future supplement.

3.6.1 Protection Against Postulated Pipe Breaks Outside Containment

In Section 3.6.1 of the SER, we stated that the applicant has recently provided additional information required for the staff to perform an independent calculation to verify the applicant's analysis of the environmental conditions in a compartment after a high energy line break, and that until we perform the independent calculations, we cannot confirm that it meets the guidelines of Branch Technical Position (BTP) ASB 3-1.

We have now performed these independent calculations to check the applicant's analysis for environmental conditions after a high-energy line break. The applicant's analysis of the steam line break did not take into account the possibility of superheated steam conditions occurring as a result of the break. This has been identified by Westinghouse as a generic deficiency in their steam line break analysis. The applicant should revise the FSAR analysis to address this concern. We will report on the resolution of this issue in a future supplement.

9.3.3 Reactor Plant Vent And Drain System(Equipment And Floor Drain System

In Section 9.3.3 of the SER for equipment and floor drainage system, we stated that the diesel generator is designed to start and maintain full load output with the fire protection system operating. This was based on the applicant's response to our Question 410.17 dated May 3, 1983 regarding adequate protection for safety-related equipment from nonseismic piping failure.

Additionally, during the Millstone 3 ACRS subcommittee meeting, a similar question was raised regarding the diesel-generator capability to start and maintain full load output with the fire protection system operating. In the meeting, the applicant stated that the above response was a mistake and they intend to change the fire protection sprinkler system from its present automatic mode to a manual mode in this area with fire brigade members to respond to control room alarm. This is indicated in the applicant's letter dated May 5, 1984 to the Chemical Engineering Branch.

As stated in the SER, each diesel generator is in a separate cubicle to prevent simultaneous flooding. There would be no significant accumulation of water within the diesel generator building to affect safety-affected equipment because the building is located on grade elevation and water would drain to the outside through the door and floor drains. Based on the above, we conclude that the equipment and floor drain system meets the requirements of GDC 2 and acceptance criteria of SRP Section 9.3.3.

9.4.3 Auxiliary and Waste Disposal(Radwaste) Area Ventilation System

In Section 9.4.3 of the SER, we indicated that in the event of SIS or loss of offsite power, the redundant supply and exhaust fans for the charging pump, component cooling water pump and heat exchanger area continue to operate, venting through the turbine building vent after filtration.

During the Millstone 3 ACRS subcommittee meeting, a question was raised concerning qualification of the turbine building vent. The applicant in a letter dated October 23, 1984 stated that the steel frame of the turbine building and vent stack have been designed to withstand tornado winds having a velocity of 360 mph. The turbine building frame has been analyzed to resist seismic forces and the resulting stresses are considerably less than the governing load case of tornado winds. The stack and the support interface with the turbine building has considerable inherent seismic capability and is not considered credible for a design basis seismic event to result in stack collapse which would block ventilation flow.

The applicant's design of the turbine building vent stack is under review and we will provide our response in a supplement to this SSER.