

# New Hampshire Yankee

Ted C. Feigenbaum  
President and  
Chief Executive Officer

NYN-90196

November 13, 1990

United States Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Document Control Desk

References: a) Facility Operating License No. NPF-86, Docket No. 50-443  
b) PSNH Letter SBN-617 dated January 30, 1984, "Seabrook Station Probabilistic Safety Assessment Main Report and Summary Report", J. DeVincentis to G. W. Knighton

Subject: Request for License Amendment: Turbine Overspeed Protection System Surveillance Frequency

Gentlemen:

Pursuant to 10 CFR 50.90, New Hampshire Yankee (NHY) hereby proposes to amend the Seabrook Station Operating License (Facility Operating License NPF-86) by incorporating the proposed changes, provided herein as Enclosure 1, into the Seabrook Station Technical Specifications. These proposed changes delete the requirement to perform a weekly stroke test of the high pressure turbine control valves. The Surveillance Requirements for the high pressure turbine stop valves and the combined intermediate valves are unchanged, as is the monthly stroke test requirement for the high pressure turbine control valves. Additionally, editorial changes with respect to valve nomenclature have been indicated to provide consistency throughout the Technical Specification.

The basis for this proposed change is provided in Enclosure 2, which includes a safety evaluation of the proposed changes. Based upon the information contained in Enclosure 2, NHY has concluded that the proposed change does not involve an Unreviewed Safety Question pursuant to 10 CFR 50.59, nor does it involve a Significant Hazards Consideration pursuant to 10 CFR 50.92.

New Hampshire Yankee has reviewed the proposed change in accordance with the criteria specified in 10 CFR 50.92 and has determined that the proposed change would not:

1. Involve a significant increase in the probability or consequences of any accident previously evaluated. The Seabrook Station Probabilistic Safety Assessment (SSPSA) [Reference (b)] estimates the frequency of turbine missile generation

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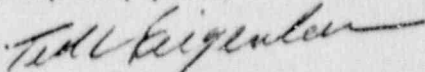
and its consequences. This conservative analysis demonstrates that the risk to public health and safety from turbine missiles is negligible. The SSPSA turbine missile generation estimates are based on statistical and analytical data which show a relatively small contribution by overspeed failures versus failures at operating speed. Given that the generation of turbine missiles is not very sensitive to changes in control system reliability, the extension of the testing frequency for the high pressure turbine control valves will not cause a significant increase in the probability of core damage or radiological consequences from turbine missiles. Also, the in-series stop valves which are tested on a weekly basis provide additional overspeed protection. Redundant isolation capabilities to prevent turbine overspeed are also provided by the main steam isolation valves. Extending the frequency of testing the high pressure turbine control valves reduces the number of power reductions required to perform this testing and reduces the risk of inadvertent turbine trip (and reactor trip) caused by such testing.

2. Create the possibility of a new or different kind of accident from any previously evaluated. The analyses presented in FSAR Section 15.1 and 15.2 bound the two possible failure mechanisms which exist for the high pressure turbine control valves (ie., the possibility of a control valve not closing in conjunction with a stop valve not closing, or spurious control valve closure). The extension of the testing frequency from weekly to monthly does not create a new failure mechanism; therefore, the possibility of a new or different kind of accident is not created.
3. Involve a significant reduction in a margin of safety. Margin of safety as it relates to the protection of safety related structures, systems and components from turbine missiles is measured in terms of the probability of radiological consequences exceeding 10CFR100 limits. FSAR Section 3.5.1.3 specifies the acceptance criteria and analytical results for the probability that a turbine missile is generated and strikes a safety-related area which may lead to consequences exceeding 10 CFR 100 limits. Additionally, the Seabrook Station Probabilistic Safety Assessment (SSPSA) quantifies turbine missile damage frequencies for several common cause initiating events. The SSPSA analysis demonstrates that the probability of core damage from turbine missiles provides negligible contribution to public risk. The SSPSA turbine missile generation estimates are based on statistical and analytical data which show a relatively small contribution by overspeed failures versus failures at operating speed, therefore, damage frequencies would be further reduced if only turbine missiles generated as a result of overspeed were considered. Given that the generation of turbine missiles is not very sensitive to changes in control system reliability, the extension of the testing frequency for the high pressure turbine control valves does not significantly increase turbine missile damage frequencies and therefore does not result in a significant decrease in the margin of safety.



Performance of this surveillance testing requires that power be reduced to approximately 93% of rated thermal power. Extending the frequency of this testing yields economic benefits associated with the reduced number of power reductions and reduces the probability of an inadvertent turbine trip (and reactor trip) caused by testing. It is requested that the NRC complete its review of this license amendment request by January 13, 1991. If you have any questions regarding this request, please contact Mr. Terry L. Harpster, NHY Director of Licensing Services, at (603) 474-9521, extension 2765.

Very truly yours,



Ted C. Feigenbaum

Enclosure(s)

TCF:RRB/tad/ssl

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ENCLOSURE 1 TO NYN - 90196