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OCT 12 1984

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ENGINEERING AND RESEARCH

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Docket Nos.: 50-352
50-353

Subject: Limerick Generating Station, Units 1&2
Additional Information for Power
Systems Branch (PSB) Regarding Turbine
Overspeed Protection System

Reference: Telecon between B. Siegel/E. Tomlinson
(NRC) and R. J. Stipceovich (PECO), 10/12/84.

File: GOVT 1-1 (NRC)

Dear Mr. Schwencer:

Limerick Technical Specification section 4.3.8.2.b specifies cycling of high pressure turbine control valves at least once per 31 days. Attached per the reference telecon is General Electric Technical Information Letter No. 969 which is applicable to Limerick and which provides technical justification for the 31 day test interval.

Sincerely,

J. S. Kemper
for J. S. Kemper

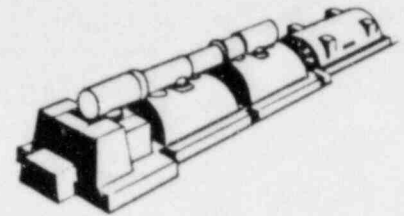
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cc: See Attached Service List

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MAY 22, 1984

Periodic Turbine Steam Valve Test - Nuclear Units

GE recommendations for periodic nuclear turbine steam valve tests as contained in the Turbine Instruction Book call for daily test of the main stop, intermediate stop, and intercept valves and weekly test of the control valves.

These recommendations are similar to the test frequencies that have been in practice since the late 40's and early 50's on fossil-fueled turbines.

The operating experience accumulated on in-service nuclear units during the past 24 years has shown considerably lower valve failure rates than those values upon which the recommendations were based. These reduced failure rates are due to many design improvements to the nuclear turbine valves and controls that have been incorporated through Technical Information Letters (TIL's) and Engineering Change Notices (ECN's).

In the "Kemo Report - Hypothetical Turbine Missiles - Probability of Occurrence," dated March 14, 1973, the probability of runaway failure and wheel burst of a GE nuclear turbine was given, based on the nuclear experience up to that time. Included in the probability calculations were the recommended valve test intervals; i.e., daily for main stop and intermediate stop & intercept valves, weekly for control valves. The Nuclear Wheel Information Letter No. 2, dated November 8, 1982, gave comparative values for the increased over-speed probabilities due to increasing test intervals.

Based on past in-service experience with nuclear turbine steam valves, turbine steam inlet valve reliability and testing intervals are no longer the major contributing factors in determining hypothetical turbine missiles. The overall probability of a hypothetical missile is therefore increased only a negligible amount by increasing the test interval of the valves. Increasing test intervals will correspondingly decrease the probability of a system upset during such testing and should therefore increase the nuclear plant availability. Of course any problems detected during any testing should be brought to the attention of your local A&ES service engineer. The service engineer may call on the LST-G Dept. if further assistance is necessary.

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3-82 (30M)

Effective with this Technical Information Letter, the recommended valve test intervals for nuclear turbines are:

Main Stop Valves	Weekly
Intermediate Stop Valves	Weekly
Intercept Valves	Weekly
Control Valves	Monthly

Recommended test intervals for other control components remain unchanged.

Utilities should revise their Instruction Books to the new test intervals based on this TIL. Revised Instruction Book Articles will not be sent from General Electric Co.

Because of the higher temperature and resulting increased oxidation build-up on the stems and bushings of fossil-fueled turbines, the valve test interval recommendations remain unchanged; i.e., daily test of the main stop, combined intercept and reheat stop valves, and weekly test of the control valves.

If your Technical Specification or other documentation upon which your NRC operating license is based contains any obligation or commitment to test on a specific schedule, it is suggested that you take appropriate steps to modify that document if you wish to change your test intervals to these new recommendations.