

January 31, 1996

Mr. George A. Hunger, Jr.
Manager-Licensing, MC 62A-1
PECO Energy Company
Nuclear Group Headquarters
Correspondence Control Desk
P.O. Box 195
Wayne, Pennsylvania 19087-0195

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR LIMERICK GENERATING STATION,
UNITS 1 AND 2, REVIEW OF MAIN STEAM SAFETY RELIEF VALVE TAIL PIPE
TEMPERATURE AND EMERGENCY CORE COOLING SYSTEM ACTION PLANS
(TAC NOS. M93900 & M93901)

Dear Mr. Hunger:

On October 6, 1995, PECO Energy submitted action plans for review and approval of the main steam safety relief valve tail pipe temperature and emergency core cooling system for Limerick Generating Station, Units 1 and 2. The staff has reviewed the submittal and has determined that additional information, as stated in the enclosure, is needed by the staff to complete our review.

We request that the licensee provide its response within 30 days, to support our review schedule. If you have any questions on the enclosed Request for Additional Information (RAI), please contact me at 415-1447.

This requirement affects nine or fewer respondents, and therefore, is not subject to Office of Management and Budget review under P.L. 96-511.

Sincerely,
/s/

Frank Rinaldi, Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-352/50-353

Enclosure: RAI

cc w/encl: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Sincerely,

A handwritten signature in cursive script that reads "Frank Rinaldi".

Frank Rinaldi, Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-352/50-353

Enclosure: RAI

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Mr. George A. Hunger, Jr.
PECO Energy Company

Limerick Generating Station,
Units 1 & 2

cc:

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REQUEST FOR ADDITIONAL INFORMATION
MAIN STEAM SAFETY RELIEF VALVE
AND EMERGENCY CORE COOLING SYSTEM ACTION PLANS
LIMERICK GENERATING STATION, UNITS 1 AND 2

The following questions relate to the licensee's submittal dated October 6, 1995, regarding the licensee's main steam safety relief valve (MSRV) and emergency core cooling system (ECCS) action plans:

1. Alert and Action level tail pipe temperatures are provided by the licensee which would determine the proper action necessary regarding the occurrence of MSRV leakage. Please describe how the tail pipe temperature is correlated to MSRV leakage for Limerick 1 and 2? Is this correlation based on actual test data or is it analytical? If it is analytical, what are the correlation parameter sensitivities and what is the overall uncertainty in the correlation? What are some of the key parameter values assumed, and what are their expected variabilities?
2. The licensee's Alert level for the tail pipe temperature begins at 225°F which would require that the temperature be trended in order to project when 275°F would be reached. The Action level begins at 250°F and would require that a planned outage be scheduled for when the temperature is projected to reach 275°F. However, at 250°F, the licensee states that the leakage is in the range of 500 to 1000 pounds per hour (lbm/hr). Leakage tests performed on Target Rock 2-Stage MSRVs in 1983, indicated that at 1000 lbm/hr leakage, the setpoint of the valves would be reduced by more than 10%, resulting in little or no simmer margin for normal operating system pressure. In addition, at some leakage less than 1000 lbm/hr, these tests indicate that the setpoint would drift downward to less than that required by the plant Technical Specifications (TSs). Therefore, discuss why 250°F was chosen as the Action level when a significantly lower temperature would appear to be necessary to prevent the spurious opening of an MSRV at power and assure that plant TSs are met?
3. The licensee's action plan indicates that a leaking MSRV would be replaced before the associated tail pipe temperature is expected to reach 275°F. The licensee also states that on September 11, 1995, the Unit 1 "M" MSRV lifted at 295°F and that it took 6 months for the tail pipe temperature to rise from 275°F to 295°F. However, examination of photographs of the "M" MSRV pilot disk reveals that the disk was completely eroded into two pieces and that steam had cut completely through the disk wall thickness and was actually eroding the pilot stem for some time prior to the sudden opening of the valve. It appears that significant damage to the pilot disk may have already occurred prior to reaching a tail pipe temperature of 275°F. Therefore, what would be the maximum tail pipe temperature and maximum operating time criteria which would prevent significant erosion damage of the pilot disk?

4. The licensee stated that the ECCS pump suction strainer differential pressure acceptance criteria will be available by November 1, 1995. Please submit the acceptance criteria, including the maximum allowable differential pressure, for staff review.
5. RHR pumps are used for suppression pool cooling when the suppression pool temperature increases due to MSR/V leakage. Therefore, it appears that the RHR pumps are required to run more frequently than originally designed. Describe how the capability and reliability of the RHR pumps are affected due to the frequent suppression pool cooling. Describe the licensee's action plan to assure the capability and reliability of the RHR