

May 21, 2002

MEMORANDUM TO: Richard J. Laufer, Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Eric M. Thomas, Project Manager, Section 1 /RA/
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FAXED TO THE
LICENSEE RE: SUSQUEHANNA STEAM ELECTRIC STATION,
UNITS 1 AND 2, ELIMINATION OF AUTOMATIC HIGH PRESSURE
COOLANT INJECTION PUMP SUCTION TRANSFER TO THE
SUPPRESSION POOL (TAC NOS. MB2190 & MB2191)

Attached is a list of questions received by e-mail from the technical review staff regarding the Nuclear Regulatory Commission (NRC) staff's review of the licensee's application dated June 8, 2001. The attached questions were faxed to the licensee on May 16, 2002, as a follow-up to the licensee's May 7, 2002, response to the staff's request for additional information (RAI) dated December 18, 2001. The questions were discussed during conference calls between the licensee and NRC staff on May 14, 15 and 17, 2002. The licensee's answers to these questions will clarify its May 7, 2002, response and will allow the technical staff to complete its review in a timely manner. This memo documents the NRC staff's clarifying questions in lieu of issuing another formal RAI.

Docket Nos. 50-387 and 50-388

Attachment: As stated

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(301) 415-3780

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Additional Questions Regarding The Susquehanna HPCI Source Auto-Swap Elimination resulting from conference calls between PPL Susquehanna (PPL, the licensee), and the Nuclear Regulatory Commission (NRC) on May 14-15, 2002.

Background

During NRC technical staff's review of the licensee's May 7, 2002, response to its December 18, 2001 request for additional information, the staff identified that PPL's SABRE code does not model the recirculation line fluid and metal mass. PPL indicated that the SABRE code was originally developed to model ATWS and a simple modeling assumption was made not to consider it. For a LOCA, particularly a LOCA mass and energy calculation, the staff believes that it is necessary to model the recirculation line fluid volume and metal mass. Therefore, following a telephone conversation with licensee on May 15, 2002, the staff submits the following questions regarding PPL's calculations based on the SABRE code.

Questions:

1. Mr. Mark Chaiko (PPL) has verbally provided the recirculation line volume and metal mass data during our telephone call. That helps to speed up our review process. Please document these data, the supporting references and calculations.
2. The sensitivity cases documented in EC-052-1025 indicated that the maximum suppression pool temperature was 135 °F, when the vessel pressure reaches LPCI set point. This was calculated without considering the recirculation line fluid volume and metal mass. What will be the resulting suppression pool temperature if the recirculation line fluid volume and metal mass are considered? Furthermore, what will be the impact to the proposed EOP changes if it is higher than 140 °F ?
3. The licensee indicated in EC-052-1025 that a 0.0375 ft**2 break is the most limiting case in terms of the operator reaction time (21 minutes). The licensee pointed out that during a LOCA with a break size larger than 0.0375 ft**3, the downcomer water level would drop below the feedwater sparger and a fast depressurization would bring the vessel pressure down to the LPCI set point due to the condensation. What will be the calculated transient downcomer water level if the recirculation line fluid mass and metal mass are considered? Will the 0.0375 ft**2 break still be the limiting break size? Will 21 minutes still be the earliest time for the operator to take action?

If PPL chooses to modify the SABRE code or input deck to answer these questions, please provide the revised code, input deck and supporting documents for further review.