May 4, 2001

Mr. Oliver D. Kingsley, President
Exelon Nuclear
Exelon Generation Company, LLC
200 Exelon Way, KSA 3-E
Kennett Square, PA 19348

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - REQUEST TO APPLY AMERICAN SOCIETY OF MECHANICAL ENGINEERS BOILER AND PRESSURE VESSEL CODE (ASME CODE) CASE N-516-1 "UNDERWATER WELDING," LIMERICK GENERATING STATION, UNITS 1 AND 2 (TAC NOS. MB1018 & MB1019)

Dear Mr. Kingsley:

The Nuclear Regulatory Commission (NRC) staff is currently reviewing PECO Energy Company's (PECO) submittal of proposed alternatives to the requirements of Section 50.55a of Title 10 of the *Code of Federal Regulations*, dated January 9, 2001. As a result of this review, the staff has developed questions which are enclosed.

The submittal of proposed alternatives to the requirements of 10 CFR 50.55a included a request by PECO to use ASME Code Case N-516-1, "Underwater Welding." Code Case N-516-1 allows for the repair or replacement of P-1, P-8, and P-4X materials by use of underwater welding. This code case also establishes the requirements for this type of welding. The NRC staff questions relate to the proposed use of Code Case N-516-1.

Exelon Generation Company (EGC) succeeded PECO as the licensed operator of Limerick Generating Station on January 12, 2001. By letter dated January 30, 2001, EGC requested that the NRC staff continue to process and disposition licensing actions previously docketed and requested by PECO.

We request that you provide your response within 14 days, as discussed with Mr. Tom Loomis of your staff on May 1, 2001. If you have any questions, please call me at (301) 415-1055.

Sincerely,

/RA/

Christopher Gratton, Senior Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosure: As stated

cc w/encl: See next page

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DATE	5/4/01	5/3/01	5/4/01		

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REQUEST FOR ADDITIONAL INFORMATION

REQUEST TO APPLY ASME CODE CASE N-516-1

UNDERWATER WELDING

LIMERICK GENERATING STATION UNITS 1 & 2

DOCKET NOS. 50-352 AND 50-353

Paragraph 3.2 in Code Case N-516-1 allows for a radiographic examination in lieu of a mechanical bend test on carbon steel (P-1) welder qualifications, if the mechanical bend test fails. This does not agree with ASME Section IX, "Welding and Brazing Qualifications," which states, if a welder fails the mechanical bend test, then her/his retest shall be by mechanical bend test. Also, paragraph 5.0 in this code case allows Charpy V-Notch testing of carbon steel (P-1) materials in lieu of the bend tests required for Welding Procedure Qualifications. This paragraph also does not agree with ASME Section IX.

Underwater welding, can, by its very nature, be a high hydrogen process. Radiography and Charpy V-Notch tests generally cannot identify hydrogen embrittlement of steel materials. However, a slow bend test could possibly identify this problem. Underwater welding also gives a very high cooling rate, a water quench to the weldment which can make an excessively hard weld.

1. Provide technical justification detailing why an underwater weld will not be affected by hydrogen embrittlement, since there is a high probability that this weld will contain hydrogen. If the bend tests are eliminated, the possibility of identifying this problem may also have been eliminated. Have any supplementary tests been done to show that these underwater welds will be acceptable and not prone to hydrogen cracking?

2. Provide a technical justification why an underwater weld will not be brittle and not prone to cracking due to the high cooling rate associated with underwater welding. Have any supplementary tests been done to show that these underwater welds will be acceptable and not excessively hard?

3. In the context of 1 and 2 above, provide technical justification as to why the elimination of the bend test meets the requirements of 10 CFR 50.55a(a)(3)(i).

Enclosure

Limerick Generating Station, Units 1 & 2

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