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U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station OP1-17
Washington, D.C. 20555

**SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED RELIEF REQUEST NO. RR-25
REQUEST FOR AUTHORIZATION TO USE CODE
CASE N-516-2 FOR SUSQUEHANNA SES UNITS 1&2
PLA-5416**

**Docket Nos. 50-387
and 50-388**

The purpose of this letter is to request authorization, pursuant to the requirements of 10 CFR 50.55a(a)(3)(i), for Susquehanna Steam Electric Station (SES) to use ASME Section XI Code Case N-516-2, "Underwater Welding", which is not yet approved by reference in Regulatory Guide 1.147. Code Case N-516-2 provides welding methods and requirements that may be used when a repair welding activity is performed underwater involving P-No. 1 carbon steel components.

In March of 2002 and March of 2003, Susquehanna SES will inspect the Suppression Pool liner plates for Unit 1 and Unit 2 respectively, to meet the requirements of Section IWE of ASME Section XI 1992 with the 1992 Addenda. If there is a need for any repair welding of the Suppression Pool liner plates in our Units, Code Case N-516-2 will allow Susquehanna SES to perform repairs using underwater welding techniques. This will eliminate the necessity of draining and processing 1,000,000 gallons of radioactive water from the Suppression Pool and the possibility of offloading all the fuel, to perform any repairs. The draining and the offloading of all the fuel would severely and unnecessarily impact the personnel exposure, duration and cost of the outage.

ASME Section XI, IWA-4000 provides general requirements for performing repairs and replacements, but does not address the requirements for welded repair or installation of replacement items by welding on ASME Class 1, 2, 3 and MC pressure boundary components when welding is performed underwater. To address this issue, ASME Section XI, has issued Code Case N-516-2, "Underwater Welding." Code Case N-516-2 provides welding methods and requirements that may be used when a repair welding activity is performed underwater involving P-No. 1 carbon steel components.

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Code Case N-516-2 is not yet endorsed in the most recent listing of Code Cases in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability", but a previous version, Code Case N-516, was endorsed in Regulatory Guide 1.147 Revision 12. This original version does not address the underwater repairs and replacements made on P-No. 1 carbon steel components. Code Case N-516-1 and Code Case N-516-2 include the requirements for underwater repairs and replacements of P-No. 1 carbon steel components. Code Case N-516-2 is the reaffirmation of Code Case N-516-1, except for a few minor editorial changes.

10 CFR 50.55a(a)(3)(i) states that proposed alternatives may be used when authorized by the Director of the Office of Nuclear Reactor Regulation provided that the proposed alternatives provide acceptable level of quality and safety. Pursuant to 10 CFR 50.55a(a)(3)(i), PPL Susquehanna, LLC hereby requests NRC authorization to use Code Case N-516-2. Use of this Code Case will provide an acceptable level of quality and safety as discussed in the attachment.

PPL Susquehanna, LLC will use Code Case N-516-2 in its entirety with the following added limitation:

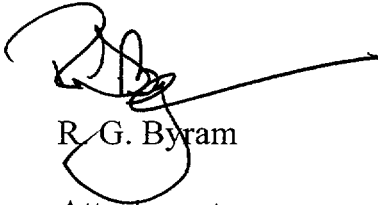
- When welding is to be performed on high neutron fluence Class 1 material, then a mockup, using material with similar fluence levels, should be welded to verify that adequate crack prevention measures were used.

This Relief Request is similar to the following requests approved by the NRC:

- Nuclear Management Company LLC for Duane Arnold Energy Center submitted on May 1, 2001 and approved on May 7, 2001 (TAC No. MB 1822) for use of ASME Section XI, Code Case N-516-1.
- PECO Energy/Exelon for Peach Bottom 2/3 submitted on August 13, 1998 and approved on July 31, 2000 (TAC Nos. MA 4008 and MA 4009) for use of ASME Section XI, Code Case N-516-1.

We request that this Relief Request be approved by February 15, 2002, to support the Unit 1 12th Refuel Outage that is scheduled to begin in March 2002. Should you have any questions, please contact Mr. John M. Oddo at (610) 774-7596.

Sincerely,

A handwritten signature in black ink, appearing to be 'R. G. Byram', with a long horizontal line extending to the right.

R. G. Byram

Attachment

Copy: Regional Administrator – Region I
Mr. S. L. Hansell, NRC Sr. Resident Inspector
Mr. D. S. Collins, NRC Project Manager

**PPL SUSQUEHANNA, LLC
SUSQUEHANNA SES, UNITS 1 AND 2
REQUEST FOR RELIEF NO. 25
REQUEST FOR AUTHORIZATION TO USE CODE CASE N-516-2**

SYSTEM/COMPONENT(S) FOR WHICH ALTERNATIVE WILL BE USED

Code Class:	Class 1, 2, 3, and MC
Reference:	ASME, Section XI, IWA-4000
Examination Category:	All
Item Number:	All
Description:	Alternative Requirements to IWA-4000
Component Numbers:	All

CODE REQUIREMENT

The 1992 Edition with the 1992 Addenda of ASME Section XI, IWA-4000 provides the requirements for performing repairs and replacements. Specific criteria on performing underwater welding are not addressed.

Pursuant to 10 CFR 50.55a(a)(3)(i), the Susquehanna Steam Electric Station (SES) proposes to implement the provisions of ASME Section XI Code Case N-516-2, "Underwater Welding," which is not yet approved by reference in Regulatory Guide 1.147.

RELIEF REQUESTED

Pursuant to 10 CFR 50.55a(a)(3)(i) relief is requested to authorize use of Code Case N-516-2.

BASIS FOR ALTERNATIVE

ASME Section XI, IWA-4000 (1992 edition with the 1992 addenda), does not address the requirements for welded repair or installation of replacement items by welding on ASME Class 1, 2, 3 and MC pressure boundary components when welding is performed underwater. To address this issue, ASME Section XI, has issued Code Case N-516-2 "Underwater Welding." Code Case N-516-2 provides welding methods and requirements that may be used when welding for a repair or replacement activity is performed underwater.

Code Case N-516-1 was approved by the ASME Boiler and Pressure Vessel Code Committee on December 31, 1996. Code Case N-516-2 (approved on January 17, 2000) is the reaffirmation of Code Case N-516-1, except for a few minor editorial changes.

Code Case N-516-2 is not yet endorsed in the most recent listing of NRC approved code cases provided in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1." The original version of the Code Case, N-516, is endorsed in Revision 12 of Regulatory Guide 1.147. However, this version of the subject Code Case is only applicable for use on P-No. 8 and P-No. 4X materials. Revisions 1 and 2 of the Code Case extend the applicability to underwater repairs and replacements made on components made of P-No. 1, carbon steel materials as well. Authorization to use the guidance provided in Revision 2 of the subject Code Case will allow the Susquehanna SES to control the performance of underwater welding in accordance with an appropriate industry standard that will adequately assure weld integrity.

The Code Case will provide appropriate controls over the welding processes that are needed to implement such repairs, replacements, and modifications in a safe and effective manner. Susquehanna SES therefore regards these requirements as providing an acceptable level of quality and safety.

ALTERNATIVE EXAMINATION

Susquehanna SES will use Code Case N-516-2 in its entirety with the following added limitation:

When welding is to be performed on high neutron fluence Class 1 material, then a mockup, using material with similar fluence levels, should be welded to verify that adequate crack prevention measures were used.

IMPLEMENTATION SCHEDULE

PPL Susquehanna, LLC requests this Code Case to be approved by February 15, 2002, to support the Unit 1 12th Refuel Outage that is scheduled to begin in March 2002. This approval will remain in effect for the duration of the second 10-year interval of the Inservice Inspection Program for Susquehanna SES Units 1 & 2 (June 1, 2004).