UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

J. Stevens, NRR
Enclosure 1

JAN 27 1986

MEMORANDUM FOR: H. L. Thompson, Jr., Director, Division of Pressurized Water Reactor Licensing-A, NRR

FROM: Carl J. Paperiello, Director, Division of Reactor Safety, Region III

SUBJECT: REQUEST FOR ASSISTANCE - THE ACCEPTABILITY OF SWITCHBOARD WIRE NOT QUALIFIED IN ACCORDANCE WITH IEEE 383-1974, IN IN CLASS 1E AND OTHER EQUIPMENT IMPORTANT TO SAFETY AT BRAIDWOOD (AITS F03004186)

Region III has determined as a result of both the Construction Appraisal Team and regional inspections, that switchboard wire not qualified in accordance with IEEE 383-1974 has inadvertantly been used in Class 1E and other equipment important to safety. This is an apparent deviation from Braidwood Plant SAR commitments. The licensee has documented this condition on nonconformance documents (Nonconformance Report No. 707) and in the instances where these inadvertant installations are in harsh environments the switchboard wire which did not conform to IEEE 383-1974 requirements has been replaced with wire which was tested in accordance with IEEE 383-1974. In those instances where the apparently nonconforming switchboard wire is installed in equipment located in "mild" environments the licensee has indicated that no corrective action will be taken. Further, the licensee contends that this action is in agreement with their SAR commitments. The wire actually installed was tested in accordance with Underwriter's Laboratory Standard VW-1, "Vertical Flame Test".

This matter was previously discussed briefly with the Braidwood Project Manager and other members of your staff on November 5, 1985, and on January 22, 1986. It was initially documented as an unresolved issue in Region III Inspection Report Nos. 50-456/85007 and 50-457/85007.

The background on this issue is attached. We request your assistance in determining the use in "mild" environments of switchboard wire which was not tested in accordance with IEEE 383-1974 for Class 1E equipment at the Braidwood Power Plant.

In view of the ongoing Braidwood hearing preparation, we would appreciate expeditious resolution of this matter. Should you require additional information on this issue, please contact Mr. C. C. Williams (FTS 388-5598) or Mr. J. J. Harrison (FTS 388-5635) of my staff.

Carl J. Paperiello

Carl J. Paperiello, Director
Division of Reactor Safety

Attachment: As stated

cc w/attachment:
B. K. Grimes, IE
J. Stevens, NRR

ATTACHMENT

BACKGROUND ON BRAIDWOOD SWITCHBOARD WIRE ISSUE

The Braidwood Station Construction Assessment Team (CAT) inspection identified the use of General Electric (GE) Vulkene SIS SI-57275 switchboard wire in Class 1E motor control centers. It was determined from documents that the subject wire was not tested in accordance with the type tests of IEEE 383-1974. Subsequent inspections by Region III identified use of the subject switchboard wire in control panels throughout the Braidwood Unit 1 Auxiliary Building. The Braidwood SAR Section 8.3, states, in part, that "The construction of Class 1E cables of the types furnished for . . . Braidwood have passed the flame test of IEEE 383-1974". On April 11, 1985, the licensee issued a letter entitled, "Qualification of Switchboard Wire". In summary, the letter stated that "Vulkene switchboard wire is acceptable for its application in safety-related equipment since the auxiliary building is not considered a harsh environment and Vulkene meets Underwriters Laboratory (UL) VW-1 vertical flame test". The letter further states in context that IEEE 383-1974, does not apply to any equipment other than cable splices and connections. This document references Amendment 10, Question 7.1.44 of the Braidwood Preliminary Safety Analysis Report (PSAR); and concludes that IEEE 383-1974 is not applicable to the subject switchboard wire.

Region III has reviewed the licensee's contention that the Vulkene SIS-57275 switchboard wire is not subject to the requirements of the SAR commitment to IEEE 383-1974. Based on our review, we currently believe that the requirements of IEEE 383-1974 are applicable to the subject switchboard wire. We can not determine the acceptability of the licensee's rational which concludes in effect, that switchboard wire which meets UL VW-1 flame test is equivalent for installations in a mild environment.

Region III has reviewed Amendment 10 of the Braidwood Preliminary Safety Analysis Report (PSAR), NRC Question 7.1.44 which states in part, "With regard to environmental qualification of all balance of plant instrument, control and electrical equipment important to safety, we require . . . that IEEE 383-1974 be included in the criteria for qualifying Class 1E equipment". The licensee's answer to question 7.1.44 states in part, "IEEE 383-1974 applies to Class 1E electrical cables, splices and connections, it does not apply to any other equipment. The applicant intends to comply with the requirements of IEEE 383-1984 to the maximum extent possible. The applicant will justify any noncompliance". Based on Region III review, it appears that IEEE 383-1974 is applicable to switchboard wire.

FROM

C. PAPERIELLO, RIII

DATE OF DOCUMENT: 1/27/86

DATE RECEIVED: 1/30/86

NO: #7

AD FOR PWR-A

LTR | MEMO | REPORT | OTHER

TO

H. THOMPSON

ORIG. X | CC | OTHER

ACTION NECESSARY [X] | NO ACTION NECESSARY [ ]

CONCURRENCE [ ] | COMMENT [ ]

DATE ANSWERED BY 3/7/86

CLASSIF | POST OFFICE | REG. NO.

FILE CODE:

DESCRIPTION (Must Be Unclassified)

REQ. FOR ASSISTANCE - THE ACCEPTABILITY OF SWITCHBOARD WIRE NOT QUALIFIED IN ACCORDANCE WITH IEEE 383-1974, IN CLASS 1E & OTHER EQUIP. IMP. TO SFTY. AT BRAIDWOOD (AITS F03004186)

ENCLOSURES

REFERRED TO	DATE	RECEIVED BY	DATE
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Enclosure 2