Franklin Research Center
A Division of The Franklin Institute

September 30, 1980

United States Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. Edward J. Butcher, Jr.
Project Officer (MS 416)

Reference: NRC Contract NRC-03-79-118
NRC TAC No.: 11924
Project: SEP Plants, Topic III-12, Electrical Equipment Environmental Qualification (EEQ)
FRC Project/Task No. C5257/193

Subject: FRC Review of DOR Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors

Dear Mr. Butcher:

The final version of our "guidelines" review is enclosed.

If consideration is given to revising the guidelines after a period of rule-making to establish acceptable deviations from them, some thought should be given to a few concerns we have as a consequence of our equipment qualification evaluations.

Our experience in reviewing the documentation of equipment environmental qualification has shown that many licensees do not understand that qualification always must be expressed in terms of: (1) equipment location in the plant (i.e., it is the local normal and abnormal environmental service conditions that must be considered in qualification), (2) the specified function (and the associated operational service conditions) of the equipment as distinguished from general performance capabilities, and (3) a qualified life.

In addition, we have noted a failure to appreciate the importance of verifying that the equipment addressed in the qualification program is truly representative of the equipment installed in the plant, with due consideration to interfaces with other parts of the safety system and mounting configuration.

Another matter that is usually overlooked is the impact of degradation that occurs between the time equipment is manufactured and the time of plant startup (including the effects of shipping and handling) on qualified life.

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The Benjamin Franklin Parkway, Philadelphia, Pa. 19103 (215) 448-1000 TWX-710 670 1889

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In view of long plant construction times and poor conditions that may exist during storage and after installation, a substantial portion of the qualified life may be consumed prior to plant startup.

We hope that our comments will be useful, and we will be pleased to provide further assistance with refinement of the guidelines.

Very truly yours,

S. P. Carfagno

SPC/ih

Enclosure

cc: Z. Rosztoczy
J. Lombardo