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FACIL:50-335 St. Lucie Plant, Unit 1, Florida Power & Light Co. 05000335
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UHRIG,R.E. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
REID,R.W. Operating Reactors Branch 4

SUBJECT: Notifies of intention to use Kerite cable in underground duct bank sys for replacement of existing cross-linked polyethylene cables & mods to existing sys.NRC approval of Kerite for use on Unit 2 applies to use on Unit 1.

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FLORIDA POWER & LIGHT COMPANY

March 31, 1980
L-80-110

Office of Nuclear Reactor Regulation
Attention: Mr. R. W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Reid:

Re: St. Lucie Unit 1
Docket No. 50-335
Use of Kerite Cable

During the operating license review for St. Lucie Unit 1 and the construction permit review for St. Lucie Unit 2, the NRC Staff raised a concern over the environmental qualification of cross-linked polyethylene (CLPE) insulated cable for service in the underground electrical duct bank system. (See the Staffs Safety Evaluation Report (SER) at Section 8.3.2 for Unit 1 and Section 8.3.1 for Unit 2). The concern focused on the variability of the environmental conditions which may be wet, dry or alternately wet and dry. The environmental conditions and basic design features for Unit 1 & 2 are identical, thus the conclusions reached for one unit applied to both.

Qualification data was provided to the Staff. The Staff concluded that the qualification data was not truly representative of the intended service environment. (See Supplement No. 1 to the Unit 1 SER at Section 8.3.2). Additional technical data was provided to the Staff as well as a commitment for inservice testing to monitor any possible degradation of cable properties in the service environment. The Staff concluded that the qualification data reinforced by the inservice testing commitment adequately resolved the concern. (See Supplement No. 2 to the Unit 1 SER at Section 8.3.2). The Staff also concluded that the Unit 2 design was also acceptable since the design of the Unit 2 Class 1E underground cabling, as well as the basic design of the installation features are identical to that for Unit 1. (See Supplement No. 1 to the Unit 2 SER at Section 8.3.1).

To ensure that the Staff's evaluation remained valid, a commitment was made in Section 8.3.1.1.9 of the Unit 1 FSAR and Unit 2 PSAR not to use an insulation other than CLPE in the dry, wet or alternately wet and dry environment associated with the underground electrical duct bank system without prior Staff approval.

To be responsive to a more recent Staff concern regarding the fire retardancy capability of cable insulation, a technical submittal was made to the Staff to

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support use of Kerite insulated cable on Unit 2. (See our Unit 2 letter L-77-363 dated December 6, 1977). The change, which could be accommodated in the Unit 2 construction schedule allowed us to maintain the dry/wet/alternately wet and dry properties required while offering enhanced fire retardancy capability. The Staff concluded that the Kerite insulated cable is an acceptable substitute for the CLPE insulated cable for installation in the underground duct bank system of St. Lucie Unit 2. (See NRC Unit 2 letter dated January 31, 1978.)

As discussed with Mr. Peter Erickson of your Staff, because the Kerite cable offers enhanced fire retardancy capabilities, it is our intention to also use this cable in the underground Unit 1 duct bank system for replacement of existing CLPE cables and for modifications to the existing Unit 1 system. Since the operating wet/dry/alternately wet and dry environment, as well as the basic underground duct bank design for Unit 1 & 2 are identical, the Staff's approval of Kerite for use on Unit 2 apply equally to Unit 1. Any Kerite insulated Class 1E cable installed in the underground duct bank system of Unit 1 will be subject to the existing Unit 1 Technical Specifications, which require periodic monitoring of insulation resistance.

Please feel free to call if you have any question in this matter.

Yours very truly,

Robert E. Uhrig

Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/FGF/DLS/ah