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AUTH.NAME	AUTHOR AFFILIATION
GOLDBERG,J.H.	Florida Power & Light Co.
RECIP.NAME	RECIPIENT AFFILIATION

SUBJECT: Responds to JA Norris & GE Edison 890804 ltr re GL 87-02,  
"Verification of Sesimic Adequacy of Mechanical...."

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P.O. Box 14000, Juno Beach, FL 33408-0420

OCTOBER 2 1989

L-89-352

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D. C. 20555

Gentlemen:

Re: St. Lucie Unit 1  
Docket No. 50-335  
Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
Verification of Seismic Adequacy of Mechanical and  
Electrical Equipment in Operating Reactors  
Unresolved Safety Issue (USI) A-46  
Generic Letter (GL) 87-02

The purpose of this letter is to respond to your letter dated August 4, 1989 from Messrs. Jan A. Norris and Gordon E. Edison to Mr. C. O. Woody on the subject of GL 87-02.

It is Florida Power & Light Company's (FPL) understanding that you have found FPL's plant-specific implementation program (submitted as Appendix B to letter L-88-333 of August 4, 1988), to be acceptable conditional on the inclusion of the additional Pre-walkdown and Post-walkdown items listed in your letter dated August 4, 1989.

FPL plans to submit a supplement to the accepted Appendix B implementation program per your request, and upon receipt of your additional acceptance for the supplement, FPL intends to schedule implementation, starting with a walkdown of St. Lucie Unit 1 during its refueling outage in the Spring of 1990. Pending acceptance FPL continues to reserve the option to exercise its rights under the provisions of 10.CFR 50.54(f) and/or 10 CFR 50.109.

Pre-Walkdown Items

Items 1, 2, 3, 5 and 6 (equipment anchorage) will be addressed in FPL's supplement. Item 4 concerns the issue of relay functionality during the "strong shaking" portion of postulated earthquakes. FPL does not believe that this issue is applicable to our extremely low seismicity sites.

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Post-Walkdown Items

Items 1 and 2 will be addressed in FPL's supplement.

Schedule for Submittal of Supplement

FPL plans to submit an implementation program to a level of detail that will permit it to be "walkdown ready". FPL's present schedule is to submit this program on or before December 15, 1989.

Seismic Hazard Comparisons

Your letter of August 4, 1989 mentions differences between the results of seismic hazard analyses prepared by FPL and seismic hazard analyses prepared by Lawrence Livermore National Laboratories. FPL has investigated these differences and comments are provided in Attachment I.

Very truly yours,



J. H. Goldberg  
Executive Vice President

JHG/JNB/cm

Attachments

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, Turkey Point Plant  
Senior Resident Inspector, USNRC, St. Lucie Plant

## ATTACHMENT I

### SEISMIC HAZARD COMPARISONS

Due to Florida's inherent low seismicity, the seismic hazards at FPL's nuclear sites are based on the effects of distant earthquakes which must travel through the earth and attenuate in the process on the way to Florida.

The selection of attenuation functions is therefore of more importance to FPL than to utilities in higher seismic regions.

FPL used attenuation functions recommended by EPRI while Lawrence Livermore National Laboratory (LLNL) used attenuation functions recommended by a five member expert panel. Four of the LLNL panelists adopted site-effects factors developed by LLNL using analytical models and typical soil profiles; the fifth panelist adopted factors derived empirically by Trifunac and Lee (TL) (Technical Report 86-02, University of Southern California). The fifth panelist also assigned 100% weight to TL, which translated to 20% overall weight after combination with factor weights from the other four panelists, each of whom assigned zero% weight to TL and varying weights to other attenuation functions.

Sensitivity analyses by EPRI have shown that if the TL functions are removed from the LLNL set, the EPRI and LLNL set of attenuation models produce approximately the same central values and uncertainties of hazard. In addition, the TL functions are based on California recordings, which have frequency contents significantly different than in the eastern United States. Finally, there are valid concerns about the distance dependence in the TL functions due to the mathematical method chosen to substitute a regression analysis of instrumental ground motion and intensity into a regression analysis of intensity attenuation.