



August 18, 1993

Mr. D.H. Grimsley, Director
Division of Freedom of Information and Public Services
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

FREEDOM OF INFORMATION
ACT REQUEST

FOIA-93-473
Rec'd 8-30-93

Dear Mr. Grimsley:

In January 1989, Lawrence Livermore National Laboratory (LLNL), under contract to the NRC, published an eight volume report NUREG/CR-5250 (UCID-21517) on seismic hazard characterization of 69 nuclear power plant sites east of the Rocky Mountains. Two of the sites, Turkey Point and St. Lucie, are owned by Florida Power & Light Company and they were ranked 67th and 68th, respectively in seismic hazard characterization.

In preparation of NUREG/CR-5250, LLNL elicited the opinions of five ground-motion experts, identified as 1GX through 5GX.

In the 1990-1991 time frame, the NRC commissioned LLNL to prepare revised seismic hazard characterizations with ground-motion expert 5GX eliminated. These characterizations were prepared, but have not to date been published as an addendum or revision to NUREG/CR-5250. The attachment to this letter (Pages 165, 166, 167 of the transcript of the Wednesday February 5, 1992 meeting of the Advisory Committee on Reactor Safeguards) provides additional details on the subject of 5GX versus 4GX.

In 1992 the NRC commissioned LLNL to prepare new seismic hazard characterization for all 69 sites by re-eliciting expert opinion on "seismicity" and "ground motion" and using 4GX and 5GX. These new characterizations were prepared and presented at a public meeting in Rockville, MD on March 9, 1993 but have not to date been published as an addendum or revision to NUREG/CR-5250. The new (1992) characterizations appear to lower the seismic hazards by one to two orders of magnitude from the original (1989) characterizations.

The original (1989) version of NUREG/CR-5250, without any revisions or addenda, is the only version presently referenced in the Proposed Rulemaking 10 CFR Parts 50, 52 and 100 "Reactor Siting Criteria" (57 Federal Register 47802 - October 20, 1992 and 55601 - November 25, 1992). The original version is based on including ground-motion expert 5GX.

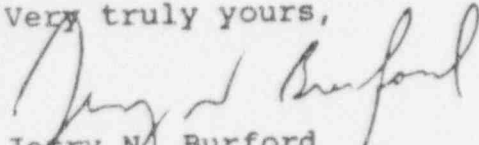
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Pursuant to the Freedom of Information Act and the implementing regulations in title 10 of the Code of Federal Regulations, I hereby request the following documents pertaining to Florida Power & Light Company's Turkey Point and St. Lucie sites for the 1990-1991 revisions to the original (1989) report and also for the new (1992) seismic hazard characterizations.

1. All numerical printouts, graphs and charts providing seismic hazard data and information after the elimination of ground-motion expert 5GX.
2. All numerical printouts, graphs and charts providing comparative data and information with and without ground-motion expert 5GX.
3. All notes, correspondence or other documents to or from the NRC in which ground-motion expert 5GX is mentioned.

Please let me know if the cost of responding to this request will exceed \$100.00.

Very truly yours,



Jerry N. Burford
Section Supervisor
Nuclear Licensing

JNB/JRL/vmg
Attachment

cc: JNL-93-156

upper end. It comes out on the lower end.

MR. MURPHY: Okay.

MR. SIESS: It tells me something. I don't know what.

START →

Are you going to explain the 5GX versus 4GX?

MR. MURPHY: Yes.

The Livermore study made use of five ground-motion experts. There was some controversy associated with one of the ground-motion experts' opinion about what the ground-motion model should be.

Because of this, some sensitivity studies were done with the Livermore program in which the seismic hazard calculations were run without making use of this fifth ground-motion experts' models.

So, we end up with Livermore, five ground-motion experts, and Liver, ^{four}~~six~~ ground-motion experts.

MR. SIESS: Were there any technical, geological, seismological reasons for eliminating that one expert, or was it simply that he was an outlier?

MR. MURPHY: That expert was not eliminated. We simply made a special effort to understand what contributions that his models made to the hazard calculations. We did not eliminate him.

MR. SIESS: In the 4GX line up there?

MR. MURPHY: When we say we did not eliminate him,

Note: Line 16, "six" changed to "four" by FPL

the calculations and so forth. We do have, if you'll forgive me, two sets of Livermore hazard curves.

MR. SIESS: I didn't mean elimination in the Mafia sense. I meant, you know --

MR. MURPHY: Fair enough. He was isolated in the Amish sense, okay?

MR. SIESS: Now, again, was that based on technical evidence or purely probabilistic evidence, that he was an outlier? What made him different?

MR. MURPHY: There were individuals that questioned his ground-motion models, and that was on a technical basis.

He made use, in part, of conversions of magnitude -- of densities to magnitudes and did some of his calculations and ideas that may not be the most current today.

Ten years ago, when this information was originally collected, he was in the forefront of ground-motion modeling and expertise.

MR. SIESS: Okay.

MR. MURPHY: The bottom line is we end up with two target probabilities.

MR. SIESS: Excuse me. It just struck me, with his model out of there, there is no difference between the Livermore and EPRI median medians.

MR. MURPHY: In this particular measure, that is absolutely correct.

MR. SIESS: This is the average of 5 and 10 hertz. It's the median median.

MR. MURPHY: Yes.

MR. SIESS: Fascinating. The means are going to be way different.

MR. CHOKSHI: We wanted to put 4GX here, and the original study was on the hazard and changes, what is the impact on the ground motions and controlling earthquake.

So, you can see, if you were to use different methods, what would be the outcome.

MR. SIESS: Now, with the means -- in the Reg. Guide, the draft guide I had, you didn't have the 4GX, did you?

MR. CHOKSHI: No, we did not.

MR. MURPHY: No, we did not.

MR. SIESS: So, I can't really tell how it would be.

MR. MURPHY: At this moment, in the one that is going around for circulation that has the means and the 85ths eliminated, there is not mention of the 4G expert category either. This is simply here for your information.

MR. SIESS: Okay. I like the 4GX. It agrees with the EPRI, and then we're home-free.

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by FPL from
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X added by FPL