



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUL 22 1985

Ms. Nina Bell
Assistant Director
Nuclear Information and Resource Service
1346 Connecticut Avenue, NW, 4th Floor
Washington, DC 20036

IN RESPONSE REFER
TO FOIA-85-363

Dear Ms. Bell:

This is in further response to your letter dated May 8, 1985, in which you requested, pursuant to the Freedom of Information Act (FOIA), eight separate categories of records which you identified in your letter.

By letter dated June 24, 1985, we provided a partial response to your request and informed you that the staff was searching for additional records. At this time, we are responding to the remaining four categories of your request.

Enclosed appendices C and D are lists of additional documents relating to seismic design and earthquake research.

Many of the records listed on Appendix C are of such a general nature that several categories may be appropriate; therefore, no effort was made by the staff to correlate the records with the subject categories. These records are being placed in the NRC's Public Document Room (PDR), 1717 H Street, NW, Washington, DC 20555, in file folder FOIA-85-363 for your inspection and copying. The records listed on Appendix D are Advisory Committee on Reactor Safeguards meeting descriptions and letter and consultant reports, which also relate to the various categories of your letter. These records have previously been made available for inspection and copying at the PDR. Access to these various records may be acquired by referring to the accession number listed by each of these records.

In addition, the staff identified the two records listed on enclosed Appendix E which also have previously been made publicly available at the PDR. The record listed at number one, although not directly related to your FOIA request, may be of interest to you. The second record listed on Appendix E is an additional record which relates to category three. Please refer to the accession numbers listed by these records if you wish to inspect them at the PDR.

This completes NRC's action on your request.

Sincerely,

J. M. Felton, Director
Division of Rules and Records
Office of Administration

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PDR FOIA
BELL85-363 PDR

Enclosures: As stated

APPENDIX C

1. 01/31/77 Letter to Myer Bender from Ben C. Rusche, subject: Request for Interpretation of the Committee Comments on North Anna Power Stations, Units 1 and 2. (3 pages)
2. 02/11/77 North Anna Environmental Coalition, re: VEPCO Reactors 40% Deficient in Design, (2 pages)
3. 04/20/77 Letter to Mr. Ernest Volgenan from North Anna Environmental Coalition (5 pages)
4. 05/20/77 Letter to Frederic J. Coufal, Chairman, from North Anna Environmental Coalition (3 pages)
5. 06/08/77 Letter to Dr. David Okrent, Chairman, from North Anna Environmental Coalition (6 pages)
6. 06/21/77 Letter to Ragnwald Muller from North Anna Environmental Coalition (2 pages)
7. 07/21/77 Letter to Dr. Richard Savio from W. F. Bennet, w/attachment (13 pages)
8. 01/04/78 Letter to Myer Bender from North Anna Environmental Coalition (7 pages)
9. 01/23/78 Letter to Ragnwalk Muller from E. A. Baum, w/attachments (13 pages)
10. 03/01/78 Letter to Raymond F. Fraley from L. P. Crocker w/enclosures (8 pages)
11. 03/08/78 Letter to Raymond F. Fraley from L. P. Crocker w/enclosures (5 pages)
12. 03/14/78 Letter to P. M. Allen from R. F. Fraley (2 pages)
13. 03/16/78 Letter to L. V. Gossick from Stephen Lawroski (1 page)
14. 06/14/78 Memorandum for Dr. Stephen Lawroski from Edson G. Case, subject: North Ann Power Station Units 1 and 2 Seismic Design Margin (4 pages)
15. 01/04/79 Memo to ACRS Member from R. L. Wright w/attachments (3 pages)

APPENDIX C
(Continued)

16. 01/22/79 Memo to James P. Knight from Raymond F. Farley, subject: ACRS Comments of Guidelines for Determining Seismic Margins at Davis-Besse Nuclear Power Station Unit No. 1 (2 pages)
17. 01/30/79 Memorandum for Raymond F. Farley from James P. Knight, subject: Guidelines for Determining Seismic Margins at Davis-Besse Nuclear Power Station Unit 1. (9 pages)
18. 06/28/79 Letter to Bob Jackson from Ellis L. Krinitzsky, w/enclosure (3 pages)
19. 07/02/79 Memo to ACRS Members, re: NRC Commissioners' Briefing on Seismic Design Capability of Operating Reactors and Responses to OIE Bulletin on Seismic Analysis--Mr. Darrell Eisenhut, Deputy Director, NRC/DOR (18 pages)
20. 03/13/80 Memo to Dave Okrent from Paul Shewmon, subject: Piping Behavior During Earthquakes (9 pages)
21. 05/01/80 Memorandum for R. F. Farley from Gary G. Zech, subject: Seismic Design Margin Evaluation of Systems and Equipment Required for Safe Shutdown-North Anna Power Station, Units 1 and 2 (NA-1&2) (1 pages)
22. 07/30/80 Memorandum for P. G. Shewmon and D. Okrent from H. Etherington, subject: Seismic Design (4 pages)
23. 12/08/81 Memorandum from Morton W. Libarkin from Richard Savio, subject: December 3, 1981 Letter from Commissioner Gilinsky to J. C. Mark on Seismic Design of Nuclear Power Plants (1 page)
24. 01/27/82 Memorandum for R. F. Farley from J. F. Donoghue, subject: Commissioner Gilinsky request for review of changes in seismic design methodology as proposed by P. C. Jennings (5 pages)
25. 02/02/82 Memorandum for Dr. D. Okrent from Mr. J. MacEvoy, subject: Control Room Indications During and Following Earthquakes (3 pages)
26. 03/04/82 Memorandum for ACRS Members from R. Savio, subject: Possible Relocation of Design Controlling Earthquakes in the Eastern U.S. (1 page)
27. 03/24/82 Memorandum for ACRS Members from R. Savio, subject: ACRS Comments on Dr. Paul Jennings Proposal on Seismic Design Criteria (5 pages)

APPENDIX C
(Continued)

28. 05/27/82 Memorandum for ACRS Members from R. Savio, subject: June 3-5, 1982 ACRS Discussion on Dr. Paul Jennings Proposal on Seismic Design Criteria (113 pages)
29. 06/03/82 Memorandum for H. R. Denton from Robert B. Minogue, subject: Seismic Hazards and Seismic Safety Margin Research Programs (3 pages)
30. 06/05/82 Letter to Dr. Mihailo D. Trifunac from David Okrent w/attachment (24 pages)
31. 06/15/82 Memorandum for D. Okrent and C. P. Siess from R. Savio, subject: Transmittal of March 23, 1982 letter from C. A. Cornell, to L. Beratan, dated 3/23/82. (5 pages)
32. 07/08/82 Memorandum for Dr. David Okrent from Mr. John MacEvoy, subject: Effects of Non-Seismic Category 1 System Failures During Seismic Events (45 pages)
33. 09/01/82 Memorandum for Chairman Palladino, and Commissioners Gilinkwy, Ahearne, Roberts and Asselstine, from Dennis Rathburn, subject: ACRS Interest in Seismic Reanalysis (13 pages)
34. 12/03/82 Memorandum for ACRS Members from R. Savio, subject: Discussion on Seismic Design Methodology (2 pages)
35. 12/21/82 Memorandum for E. Goodwin, from R. Savio, subject: Seismic Design of Nuclear Plants (45 pages)
36. 04/04/83 Memorandum for Commission Ahearne from William J. Dircks, subject: ACRS Comments on Seismic Design Margins (8 pages)
37. 04/07/83 Memorandum for J. J. Ray, from Harold R. Denton, Subject: ACRS Comments of Seismic Design Margins (2 pages)
38. 07/07/83 Memorandum for Chairman Palladino and Commissioners Gilinsky, Roberts and Asselstine from John E. Zerbe, subject: OPE Comment on the Status of the Charleston Earthquake Issue (3 pages)
39. 10/28/83 Memorandum for Richard H. Vollmer from James P. Knight, subject: NRR Task Group-Quantification of Seismic Design Margins (14 pages)

APPENDIX C
(Continued)

40. 04/12/84 Memorandum for Jesse C. Ebersole, from William J. Dircks,
subject: Quantification of Seismic Design Margins (5 pages)
41. 12/24/84 Memorandum for Chairman Palladino and Commissioners Roberts,
Asselstine, Bernthal and Zech from William J. Dircks,
subject: Progress Report and Schedule Change in NRC Program
Plan Relating to Clarification of U.S. Geological Survey
Position Regarding Seismic Design Earthquakes in the Eastern
Seaboard of the United States (2 pages)
42. 02/22/85 Memorandum for Raymond F. Farley from J. E. Richardson and J.
P. Knight, subject: Status of NRC and Industry Activities on
Seismic Design Margins (4 pages)
43. 02/26/85 Memorandum for D. Okrent, R. Axtmann, M. Carbon,
H. Etherington, H. Lewis, P. Shewmon, D. Ward ,
from Richard Savio, subject: Transmittal of Report on the
NRC Staff's Seismic Design Margins (1 page)
44. 06/15/83 Memorandum for Raymond F. Fraley from Samuel J. Chilk,
subject: July 8 Commission Meeting with ACRS (1 page)

APPENDIX D

ACRS DOCUMENTS IN THE PDR

ACRS MEETINGS

<u>Date</u>	<u>Description</u>	<u>ACRS Accession Numbers</u>	
		<u>Minutes</u>	<u>Transcripts</u>
010577	North Anna Units 1&2	ACRS-1400	ACRST-1400
0210-1277	202nd ACRS Meeting (N. Anna Seismic Design Margins (SDM))	1411	0423/0424
070677	North Anna Units 1&2	1444	0466
1006-0877	210th ACRS Meeting (N. Anna SDM)	1486	0514
0209-1178	214th ACRS Meeting (" ")	1520	0551
0309-1078	215th ACRS Meeting (" ")	1524A	0557
0406-0778	216th ACRS Meeting (Seismic Monitoring on Eastern Seaboard)	1532	0564
0207-0980	238th ACRS Meeting (Wolf Creek SDM)	1717	0731
0226-2781	VC Summer Station	1832	0829
031181	VC Summer Station	1836	0834
0806-0881	256th ACRS Meeting (VC Summer SD)	1888	0993
0128-2982	Extreme External Phenomena Sbcte	1947	1049
070782	" " " "	2010	1115
081182	" " " "	2019	1123
1021-2282	" " " "	2035	1142
1104-0582	271st ACRS Meeting	2042	1149
1209-1182	272nd ACRS Meeting	2057	1164
121582	Reliability & Probabilistic Assessment (RPA) & Extreme External Phenomena (EEP) Sbctes	2058	1165
041383	RPA & EEP Sbctes	2091	1196
051183	RPA & EEP Sbctes	2104	1208
101283	Extreme External Phenomena Sbcte	2146	1251
1208-0983	" " " "	2164	1269
042684	EEP/Structural Engineering/Seismic Design of Piping Sbctes	2203	1304
052484	Diablo Canyon & EEP Sbctes		1313
032185	EEP/Diablo Canyon/Structural Engrg Sbctes	2296	1391

LETTER REPORTS

061080	Plesset ltr to Dircks, Factoring of Quantitative Estimates into Seismic Safety Evaluation	ACRSR-0882
060882	Shewmon ltr to Gilinsky, re Paul Jennings Ltr on Proposed Changes in Seismic Design Methodology	ACRSR-0980
011183	Ray ltr to Palladino, Quantification of Seismic Design Margins	ACRSR-1011

(continued)

ACRS DOCUMENTS IN THE PDR (Cont'd) - 2 -

071283	Libarkin memo to Dircks, Comments on Pilot Program to Utilize Seismic Experience Data for Seismic Qualification	ACRSR-1036
011884	Ebersole ltr to Palladino, Quantification of Seismic Design Margins	ACRSR-1072
041785	Ward ltr to Dircks, Comments on NRC Programs for Quantification of Seismic Design Margins	ACRSR-1130
011283	Letter to Nunzio J. Palladino from J. J. Ray, subject: Quantification of Seismic Design Margins	ACRSR-1011
061783	Letter to Nunzio J. Palladino from J. J. Ray, w/attachments, subject: Comments on the NRC Safety Research Program Budget for Fiscal Years 1985 and 1986.	ACRSR-1032
041433	Letter to Professor William Kerr from Paul W. Pomeroy	CT-1565

CONSULTANTS REPORTS

063077	Seed	CT-0818
030778	Page	0955
030878	Philbrick	0949
030878	Thompson	0956
030978	Wilson	0950
072878	Maxwell	1020
080679	Zudans	1163
120179	Maxwell	1199
061080	Page	1253
061080	Thompson	1252
061480	Maxwell	1254
062080	Zudans	1259
021681	Maxwell	1316A
062481	Pomeroy	1353
032982	Zudans	1431
092482	Zudans	1507
041683	Davis	1582
082483	Luco	1650
121983	Luco	1702
121983	Maxwell	1703
052984	Page	1749
053084	Thompson	1750
061184	Luco	1751
061484	Trifunac	1752
061684	Maxwell	1753
040585	Trifunac	1806
042085	Maxwell	1809
050785	Pomeroy	
052585	Scavuzzo	1805

Re: FOIA-85-363

APPENDIX E

1. 11/09/83 Inspection report 50-220/83-24 to G.K. Rhode, Niagara Mohawk from R. Starostecki, NRC. Accession No. 8311280407.
2. 07/02/84 Inspection Report 50-277/84-15 and 50-278/84-13 to S.L. Daltroff, Philadelphia Electric, from R. Starostecki, NRC. Accession No. 8407230358.



Nuclear Information and Resource Service

1346 Connecticut Avenue NW 4th Floor, Washington, D.C. 20036 (202) 296-7555

FREEDOM OF INFORMATION
ACT REQUEST

May 8, 1985

James M. Felton, Director
Division of Rules and Records
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

FOIA-85-363

rec'd 5/16/85

FREEDOM OF INFORMATION ACT REQUEST

Dear Mr. Felton:

Pursuant to the Freedom of Information Act, 5 U.S.C. 522, as amended, the Nuclear Information and Resource Service requests the following documents regarding seismic design and earthquake research. Please consider "documents" to include reports, studies, test results, correspondence, memoranda, meeting notes, meeting minutes, working papers, graphs, charts, diagrams, notes and summaries of conversations and interviews, computer records, and any other forms of written communication, including internal NRC Staff memoranda. The documents are specifically requested from, but not limited to, the Office of Nuclear Regulatory Research (Research); Office of Nuclear Reactor Regulation (NRR); Generic Issues Branch of the Division of Safety Technology, NRR; and the Operating Reactors Branches of the Division of Licensing. In your response, please identify which documents correspond to which requests below.

Pursuant to this request, please provide all documents prepared or utilized by, in the possession of, or routed through the NRC related to:

1. Preliminary results from the New Madrid Seismotectonic Program;
2. Draft reports of the "Engineering Characterization of Ground Motion" research program, related briefings and correspondence and schedules for finalization of research reports;
3. The April 22, 1984 earthquake near Lancaster, Pennsylvania and August 17, 1984 earthquake near Charlottesville, Virginia, and microearthquakes near Mineville, New York;
4. "Earthquake-Hazard Analysis for Nuclear Power Plants," in the June 1984 issue of Energy & Technology Review (published by Lawrence Livermore National Laboratory) and NRC Staff

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responses thereto;

5. The perceived need for research contracts on the seismic potential of regions of the country (e.g. "Charleston Research Program" RS-RES-84-128 and "Northwestern U.S. Neotectonic Research" RS-RES-84-116);
6. Possible need for reassessment of the appropriate Safe Shutdown Earthquake, including responses to a January 17, 1977 letter from M. Bender ACRS Chairman to M.A. Rowden, NRC Chairman regarding a minimum SSE of 0.2g for plants in the Eastern United States;
7. Analyses of the potential for operator error during a seismic event; and
8. Recommendations made by the United States Geological Survey to NRC that the Charleston earthquake be postulated up and down the Eastern coastal region.

In our opinion, it is appropriate in this case for you to waive search charges, pursuant to 5 U.S.C. 552(a)(4)(A) "because furnishing the information can be considered as primarily benefiting the general public." The Nuclear Information and Resource Service is a non-profit organization serving local organizations concerned about nuclear power and providing information to the general public. Information required by 10 CFR 9.14a was provided by letter dated August 3, 1984.

Sincerely,



Nina Bell
Assistant Director

cc: File