

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
BOSTON EDISON COMPANY, et al.,)
Pilgrim Nuclear Generating)
Station, Unit No. 2)

Docket No. 50-471

INTERROGATORIES PURSUANT TO 10 C.F.R.
§§2.740b AND 2.720(h)(2)(ii) BY THE
COMMONWEALTH OF MASSACHUSETTS
ADDRESSED TO NUCLEAR REGULATORY COMMISSION
STAFF CONCERNING THE "NEED FOR POWER" ISSUE

Pursuant to the provisions of 10 C.F.R. §2.740b and 2.720(h)(2)(ii), the Commonwealth of Massachusetts hereby makes the following interrogatories upon the Nuclear Regulatory Commission Staff ("Staff"), and further requests pursuant to 10 C.F.R. §2.720(h)(2)(ii) that the presiding officer find that answers to these interrogatories are necessary to a proper decision in this proceeding and that the answers to these interrogatories are not reasonably obtainable from any other source.

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INTERROGATORIES CONCERNING THE AFFIDAVIT
OF SIDNEY E. FELD, DATED APRIL 25, 1979,
AND FILED IN THIS PROCEEDING BY THE STAFF AS
AN ATTACHMENT TO THE "NRC STAFF RESPONSE IN
SUPPORT OF SECOND MOTION OF THE COMMONWEALTH OF
MASSACHUSETTS TO SUPPLEMENT THE HEARING RECORD ON
THE "NEED FOR POWER ISSUE" DATED APRIL 25, 1979

1. Are the peak demand figures, for the base case scenario and the low price scenario, for the power years 1989-90, 1990-91, and 1991-92 on page 7 of the Feld Affidavit correct? If not, please supply the correct numbers.
2. Please provide citations to, and copies of, all studies or reports upon which Mr. Feld based his conclusion on page 4 of the Affidavit that "a reserve margin of 23% of peak load will be needed to meet NEPOOL's system reliability criteria."
3. Are the equations used to produce the Staff's forecast (page 4 of Feld Affidavit) identical to the equations presented in the October 1978 OPNL Report (NUREG/CR-0250)? If not, please list all changes.
4. Please provide the assumptions of growth in population, residential customer, and real per capita income used by the Staff mentioned on page 5 of the Feld Affidavit, and please provide the National Planning Association data upon which these assumptions were based.
5. Please provide the growth in value added in manufacturing inputs and the F.E.A. projections upon which these inputs were based, mentioned on page 5 of the Feld Affidavit.
6. Please provide the commercial and industrial customer projections mentioned on page 5 of the Feld Affidavit, and please also provide the historical data used and the calculations done to derive the historical trends upon which these projections were based.
7. Please specify the fuel price assumptions made by the Staff for future fuel price, for each case, for each year, for each fuel, and for each sector, as mentioned on page 5 of the Feld Affidavit.

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8. Do the base case assumptions differ from the Hudson/Jorgensen projections discussed on page 5 of the Feld Affidavit? If they do differ, please describe what changes were made and why.
9. For all remaining variables used by the Staff as inputs to their New England energy demand forecast presented in Mr. Feld's Affidavit, and not supplied in response to interrogatories 4-8, supra, please supply all such additional input values used (if any) and the sources of the projections.
10. Please describe all sensitivity runs (if any) made by the Staff in addition to the 3 cases described in the Feld Affidavit; please include the changes in the input values and the resulting changes in the projections.
11. Please provide the Staff's best estimate forecasts of class load factors for the residential, commercial and industrial classes for the forecast period for New England.
12. Please provide the citation for the source of the 61% load factor assumption mentioned on page 3 of the Feld Affidavit.
13. Please provide the criteria used by the Staff in determining the "prudent" in-service date for Pilgrim II mentioned on page 8 of the Feld Affidavit.

INTERROGATORIES CONCERNING "REGIONAL ECONOMETRIC
MODEL FOR FORECASTING ELECTRICITY DEMAND BY
SECTOR AND BY STATE," NUREG/CR-0250, BY THE
OAK RIDGE NATIONAL LABORATORY

14. Referring to page 1-1 of NUREG/CR-0250, please describe in detail the steps which have been taken to model "the impacts of non price-induced conservation and technological change." Please describe the types of conservation and technological change which is being considered. Please explain how each are being, or will be, incorporated into the model.

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15. Please provide the source or the justification for the statement on page 1-1 that "A prediction that understates demand for electricity would cause a strain on existing generating units and would probably result in electrical blackouts."
16. Please document the onset, duration, and the severity of the "shortages in natural gas supply in recent years" in each region for which such shortages occurred mentioned on page 1-6.
17. Please provide, for each New England state and sector:
 - a. backcast and forecast electric price, 1955-1990;
 - b. actual electric price, 1955-1978;
 - c. backcast and forecast electric demand, 1955-1990;
 - d. actual electric demand 1955-1990.
18. NUREG/CR-0250 mentions on page 1-3 an examination of alternative specifications of the electricity price equations. Please supply the models tested, the coefficient estimates, and the test statistics. Please provide the supporting evidence for the statement that "the forecast prices, in some cases, were not consistent with the projected electricity costs" on page 1-3.
19. On page 3-2, NUREG/CR-0250 mentions that "several versions of flow-adjustment models" were tested. Please list all models tested, the equations estimated, the test statistics, and the basis for choosing the logarithmic Koyck models as the "most plausible" model.
20. Please list all model specifications tested in the process of developing the New England model. For each specification, please supply the coefficient estimates, the test statistics, and the reasons for rejecting it.
21. Please supply the historical input data used in estimating the New England model, including the values used for the dummy variables.

22. Please supply the values projected for the independent variables in the New England model.
23. Please describe in detail how TOC (average total costs of generating and distributing electricity) was derived from the cited Federal Power Commission reports.
24. Please supply the data used, the assumptions made, and the calculations done to project TOC for each state in New England.
25. Please provide the projections of TOC and of total average price for each state and for each projection year.
26. For each New England state, please provide the information listed in Table 7.11 on page 7-19.
27. Please explain why in equation 16, page 4-5, β_1 is expected to be negative and β_2 is expected to be positive.

Please take notice that, pursuant to 10 C.F.R. §2.740b(b), interrogatories are to be answered under oath or affirmation, in writing, within 14 days of service.

COMMONWEALTH OF MASSACHUSETTS

BY: FRANCIS X. BELLOTTI
ATTORNEY GENERAL

BY: Michael B. Meyer

Michael B. Meyer
Assistant Attorney General
Utilities Division
Public Protection Bureau
One Ashburton Place, 19th Floor
Boston, Massachusetts 02108
(617) 727-9714

June 7, 1979

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CERTIFICATE OF SERVICE

I, Michael B. Meyer, hereby certify that the attached Interrogatories Pursuant to 10 C.F.R. §§2.740b and 2.721(h)(2)(ii) by the Commonwealth of Massachusetts Addressed to Nuclear Regulatory Commission Staff Concerning the "Need for Power" Issue has been served by hand delivering or by mailing postage prepaid, first class copies to the below parties at their usual business addresses:

Edward Luton, Esq., Chairman
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dr. A. Dixon Callihan
Union Carbide Corporation
P.O. Box Y
Oak Ridge, Tennessee 37830

Dr. Richard F. Cole
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Atomic Safety and Licensing Appeal Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Office of the Secretary
Docketing and Service Section
U.S. Nuclear Regulatory Commission
Washington, DC 20555

George H. Lewald, Esq.
Ropes and Gray
225 Franklin Street
Boston, Massachusetts 02110

Dale G. Stoodley, Esq.
Boston Edison Company
800 Boylston Street
Boston, Massachusetts 02199



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Barry H. Smith, Esq.
Marcia E. Mulkey, Esq.
Office of the Executive Legal Director
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

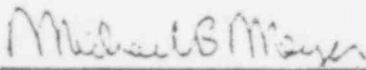
William S. Abbott, Esq.
50 Congress Street, Suite 925
Boston, Massachusetts 02109

Mr. Daniel F. Ford
1208 Massachusetts Avenue
Cambridge, Massachusetts 02138

Henry Hermann, Esq.
151 Tremont Street
Boston, Massachusetts 02111

Chief Librarian
Plymouth Public Library
North Street
Plymouth, Massachusetts 02360

Mr. and Mrs. Alan R. Cleeton
22 Mackintosh Street
Franklin, Massachusetts 02039



Michael B. Meyer
Assistant Attorney General

June 7, 1979

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