

THE STATE OF NEW HAMPSHIRE

SUPREME COURT

50-443

1992 TERM

MARCH SESSION

DOCKET NO. _____

APPENDIX TO

APPEAL OF THE OFFICE OF THE CONSUMER ADVOCATE
(Nuclear Decommissioning Finance Committee)

APPEAL BY PETITION PURSUANT TO RSA 541 AND RULE 10

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NDFC 91-1

NUCLEAR DECOMMISSIONING FINANCING COMMITTEE
PROCEEDING TO UPDATE DECOMMISSIONING
FUND FOR SEABROOK I NUCLEAR STATION
SEABROOK, NEW HAMPSHIRE

REPORT AND ORDER

November 26, 1991

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NDFC 91-1

NUCLEAR DECOMMISSIONING FINANCING COMMITTEE
PROCEEDING TO UPDATE DECOMMISSIONING
FUND FOR SEABROOK I NUCLEAR STATION
SEABROOK, NEW HAMPSHIRE

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Appearances: Sheehan Phinney Bass & Green Professional Association by Edward Haffer, Esquire, on behalf of New Hampshire Yankee Division of Public Service Company of N.H.; Michael Holmes, Esquire, Consumer Advocate; Mary K. Metcalf, on behalf of the Seacoast Anti-Pollution League; Robert Cushing, Pro-Se, on behalf of the Campaign for Ratepayers Rights; Shelley Nelkens, Victoria Turner and John Tuthill, Intervenors.

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REPORT

This matter involves the update of a Nuclear Decommissioning Fund (the "Fund") for the Seabrook I Nuclear Station at the Seabrook, New Hampshire under the provisions of RSA 162-F, Section 22. The Fund which was established pursuant to a Report and Order of the Committee dated June 2, 1989. This proceeding was first initiated by the Nuclear Decommissioning Financing Committee by a Notice of Public Meeting dated July 17, 1990. The Background and Procedural History is set forth below.

I. BACKGROUND AND PROCEDURAL HISTORY

The law requiring the establishment of a Nuclear Decommissioning Financing Committee was enacted by the N.H. Legislature in 1981. The effective date of the law was May 4, 1981.

The initial proceeding under this statute to establish a Nuclear Decommissioning Fund for Seabrook Station - Unit I began on August 13, 1986 and ended with a Report and Order of the Committee dated June 2, 1989. The Seventeenth Supplemental Order issued at that time established the amount of the fund and a schedule of monthly payments required to implement and finance the fund.

The Background and Procedural History of that proceeding, Docket No. DF 87-1, is set forth in the Committee's Report and Order dated June 2, 1989, and is hereby incorporated by reference. Set forth therein is a history of chronological events from the date of the enactment of the statute to the Report and Order dated June 2, 1989.

As referred to above, on June 2, 1989, the Committee issued its Seventeenth Supplemental Order in Docket DF 87-1, the initial proceedings, whereby the amount of the Nuclear Decommissioning Financing Fund was established and the Schedule of Payments necessary to implement the Fund was also established.

In that Report and Order, the Committee first ordered that a Nuclear Decommissioning Financing Fund be established for Seabrook Station Unit I, in an amount of \$242,420,000 in 1987 dollars, with this amount to be increased each year after 1987 by a 4% annual inflation factor until the plant began commercial operation. The Committee further ordered that the joint owners of this plant, and all subsequent owners who acquire any interest thereafter, were required to make monthly payments into the Fund in accordance with schedules attached as exhibits to the Order, as adjusted to take the inflation factor into account when the plant began commercial operation. The plant did not begin commercial operation until July 1, 1990.

The last paragraph of the Order provided as follows:

FURTHER ORDERED, that New Hampshire Yankee, or any successor lead company, annually file with the Committee, (A) an update of Exhibit 1-A, Decommissioning Study for Seabrook Station Unit I, which will inform the Committee of all changes which have taken place which affect the decommissioning costs set forth in Exhibit 1-A; (B) an update of the Funding Schedules (Exhibits 1, 1A and 1B of this Order) such update to be prepared by a qualified investment consultant and is to be based on a review of the actual performance and investment experience of the Nuclear Decommissioning Financing Fund established by this Order, and is to include a written report

from such investment consultant, in order to assure the Committee that the fund is making satisfactory progress towards meeting the targeted decommissioning costs; and (C) the annual reports required by Section 10.01E of the "Seabrook Nuclear Decommissioning Fund Master Trust Agreement" - such filing of all such items with the Committee to occur no later than three months after the end of each fiscal year of the Fund.

By Order of the Nuclear Decommissioning Financing Committee this 2nd day of June, 1989.

(DF 87-1 - Seventeenth Supplemental Order, Page 3)

On July 17, 1990 the Committee issued a Notice of Public Meeting to be held at the offices of the Public Utilities Commission in Concord, N.H. on Monday, August 13, 1990. One of the purposes of the meeting was stated as follows:

1. To receive information from the parties in Docket No. NDPC 91-1 and from the public, on the question of whether the Committee should consider increasing or decreasing the Seabrook Nuclear Decommissioning Financing Fund established pursuant to the order of the Committee dated June 2, 1989, or to alter the funding schedules set forth in that order, and on the basis of such information, to determine whether further hearings should be held by the Committee pursuant to the provisions of RSA 162-F:22, III to increase or decrease the Fund or to alter the funding schedules.

The Committee will receive such information and offers of proof on these issues and then decide whether an adjudicatory hearing should be scheduled to determine these issues, or whether no further action should be taken by the committee. (NDFC 91-1 - Notice of Public Meeting dated July 17, 1990)

At the meeting of the Committee on August 13, 1990, after discussion and upon motion made and voted, New Hampshire Yankee was required to file within thirty days its position with respect to whether the \$242 million 1987 estimate was still valid and to provide an update of its projected costs of decommissioning Seabrook.

By letter dated September 12, 1990 from Attorney Edward A. Haffer, New Hampshire Yankee submitted affidavits of Messrs. Thomas S. LaGuardia and H.T. Tracy, Jr., recommending that the Committee take no action that year, but await the filings that were to be made by New Hampshire Yankee on or before October 31, 1991, in accordance with the 17th Supplemental Order.

Thomas S. LaGuardia, President of TLC Engineering, Inc., the author of the 1987 decommissioning study for the Committee, in his affidavit described in general what factors have arisen or changed since that study which could significantly affect the estimate for decommissioning Seabrook. He pointed out that there were a number of factors in existence at that time which could significantly affect the decommissioning cost.

The major factors, he noted, are increases in low-level radioactive waste disposal costs, the expected reduction in volume of low-level radioactive waste due to compaction and decontamination and cost inflation due to inflation. In addition, he stated, there were other areas in developing decommissioning estimates that have been given for the study by his company. These include management staff support functions, on-site storage of spent fuel, decommissioning schedule and nuclear property insurance.

In his affidavit, Mr. LaGuardia discussed these matters further. With respect to the cost of disposal of low-level radioactive waste by off-site burial, Mr. LaGuardia gave the history of the Low-level Radioactive Waste Policy Act of 1980 and pointed out that today, with new uncertainty in low-level waste disposal, associated liability can be proportionately greater. In fact, he stated, a range of costs for operating a new facility to be between \$120 to \$300 per cubic foot of burial volume and that these values represent a factor of four to ten times greater than that used in the 1987 estimate.

Mr. LaGuardia next explained why there should be a reduction in waste volume projections in future cost estimate updates and explained the 4% inflation rate that was recommended during the prior proceeding. Mr. LaGuardia also explained the spent-fuel storage situation as it has changed since the prior proceeding.

Mr. LaGuardia finally noted that New Hampshire Yankee had requested him to update the decommissioning study which he had prepared in 1987 taking the factors he listed into account and have it ready for submission as a part of the 1991 annual update to the committee.

Mr. H.T. Tracy, Jr., Chief Financial Officer of Yankee Atomic Electric Company stated that the purpose of his Affidavit was to provide the additional information as requested by the committee at their August 13, 1990 meeting.

In his affidavit, he made recommendations regarding the fund fiscal year and annual reporting to the committee together with revised schedules. Mr. Tracy also indicated that for the purposes of the revised funding schedules which he attached to his affidavit, the estimated decommissioning cost as of July 1, 1990, the date that the Seabrook Unit 1 became commercially operative, was calculated to be \$278,100,172.00.

Mr. Tracy also indicated that the revised funding schedules were developed using a 4% annual inflation factor pursuant to the 17th Supplemental Order of the Committee.

Finally, Mr. Tracy stated that New Hampshire Yankee had asked its decommissioning cost consultant and witness, Mr. Thomas LaGuardia, to prepare an affidavit in which he would describe what factors have arisen or changed since the 1987 decommissioning study was prepared that could significantly

affect the decommissioning cost estimate. New Hampshire Yankee also asked Mr. LaGuardia to prepare a first annual update to the decommissioning cost estimate for submission to the committee by October 31, 1991.

The Committee held a meeting on October 23, 1990 pursuant to a notice to consider the updated information filed by New Hampshire Yankee. After discussion, a motion was made and adopted to direct the parties to recommend a procedural schedule for an update of the Decommissioning Fund leading to an issuance of a Committee Order on or before December 15, 1991. Attorney Alexander J. Kalinski, Special Counsel to the Committee, was appointed as a Hearing Officer to act on prehearing matters with a right of appeal to the Committee.

Thereafter, a submission was made by New Hampshire Yankee of a proposed Procedural Order and on February 5, 1991, Alexander J. Kalinski, as Hearing Officer for the Committee issued Procedural Order No. 1, which was subsequently amended, and on February 25, 1991, Amended Procedural Order No. 1 was issued, setting forth the dates for updating by New Hampshire Yankee of its filing regarding the Seabrook Nuclear Decommissioning Fund leading to a decision by the Committee no later than December 15, 1991.

New Hampshire Yankee, by letter dated May 15, 1991, complied with the Procedural Order and filed the following:

1. Rule DEC 301.01 Information.
2. Opening Statement.
3. Testimony and Cost Study of Mr. Thomas S. LaGuardia, President of TLG Engineering, Inc.
4. Testimony of Mr. Vincent P. Wright.
5. Testimony of Mr. Irving E. Canner.
6. Testimony of Mr. Gary J. Caine.
7. Testimony of Ms. Judith C. Dunn.
8. Affidavit on publication.

In compliance with Committee Rule DEC 301.0 - Information, the filing identified the lead owner and all of the joint owners of the facility, with their names and addresses and provided the remaining required information such as the location of the facility and the generating unit information, including the method of decommissioning proposed by the lead company, the cost of the method and the proposed schedule of payments.

In its opening statement, New Hampshire Yankee stated that it continued to recommend prompt removal/dismantling ("DECON") as the preferred method of decommissioning of Unit 1 of Seabrook Station. It also stated as follows:

In 1991 dollars, DECON was estimated to cost \$323,624,000, an increase of some \$81 million over the 1987 estimate.

DECON begins on a preliminary basis two years before the facility shuts down, and continues for six years after shutdown.

The alternative of mothballing with delayed dismantling ("SAFESTOR") is estimated to cost \$413,525,000.

It was estimated that the cost for the decommissioning components will escalate at the rate of 4.25% annually.

As of March 31, 1991, the total amount in the fund was \$3,462,224.

The total amount needed to complete decommissioning of the facility through 2036 was estimated to be \$1,926,664,800.

After all the data requests and responses were submitted and all discovery completed and all testimony pre-filed, Procedural Order No. 8 was issued on August 2, 1991 establishing the dates for the First Phase of Hearings in this proceeding. The first hearings were set for September 12, 1991 and September 13, 1991 in Seabrook, N.H.

Three days of hearings were held in this proceeding. They were on September 12, 1991 and September 13, 1991 in Seabrook, N.H., and on September 25, 1991 at the Public Utilities Commission in Concord, N.H.

The witnesses for New Hampshire Yankee were Thomas S. LaGuardia, William A. Cloutier, Jr., Vincent P. Wright, Gary J. Caine, Irving E. Canner, and Adelbert L. Spitzer. The witness for the Office of Consumer Advocate was John S. Rohrbach, an Economist.

In addition to the witnesses for the parties in the proceeding, a number of individuals, as members of the public, appeared and gave unsworn testimony. These were Mrs. Mary Metcalf, representing the Seacoast Anti-Pollution League, Bruce Montville, David Hills, Robert Cushing, June Daigneault, Jean Lincoln, John Perry.

After the hearings were concluded, New Hampshire Yankee submitted Requests For Findings, the Office of Consumer Advocate submitted a Brief with requested findings, and the Seacoast Anti-Pollution League submitted a Closing Brief.

A total of 15 exhibits by New Hampshire Yankee, and 9 exhibits by the Office of Consumer Advocate were admitted into evidence in this proceeding, which included the prepared testimony of the witnesses.

II. FINDINGS

Under the provisions of Chapter 162-F, Section 14 through 26, the Committee has two fundamental issues to decide in this proceeding:

1. The updated amount of the Nuclear Decommissioning Financing Fund to be established for the Seabrook I Nuclear Station.
2. The amount of the regular monthly schedule for payments into the Nuclear Decommissioning Financing Fund to reach the updated amount established.

There are several subordinate, related and pertinent issues which are discussed below.

Since the issue of funding for a premature shutdown was raised and referred to throughout this proceeding, the Committee notes again, as it did in its Report and Order dated June 2, 1989, that this issue is not before the Committee. The Committee restates this position as set forth in the previous Report and Order as follows:

4. What the funding requirements are for premature decommissioning if decommissioning occurs before the plant completes its anticipated energy-producing life is not an issue before the Committee. For any premature decommissioning, separate proceedings would be conducted under the provisions of RSA 162-F:17, III, 21 and 22. RSA 162-F:1, II, which calls for procedures that assure adequate funding for decommissioning plants "which complete their energy-producing lives", supports this conclusion.

The Committee further notes that under the provisions of RSA 162-F 17, III, it is required to meet at least once a year after establishing the requirements for the fund, in order to increase or decrease the amount of the fund or to alter the funding schedule because of changed circumstances, if it finds good cause to do so. The findings and rulings made herein are, therefore, subject to further change through subsequent hearings under the hearing procedures set forth in RSA 162-F:22.

*(1)

(DF 87-1 - Report and Order - June 2, 1989, pp. 10-11)

*(1) The Committee construes the above language as providing it with discretion to leave its previous findings undisturbed or to amend those findings as appropriate.

AMOUNT OF THE FUND; INFLATION FACTOR; CONTINGENCY

The Committee finds and approves, as reasonable and proper, the required updated amount of the Fund to be \$322,992,000 in 1991 dollars based on the operating life of the plant ending in 2026 at the expiration of its current operating license from the NRC. This amount would be increased each year after 1991 by a 4.25% annual cost escalation factor, and also by a 4% annual inflation factor. This figure assumes prompt removal/dismantling, the so-called DECON method, and includes a 21% contingency, decreased from its previous funding, which the Committee also finds to be reasonable to include for operational problems in decommissioning.

The Committee finds that the reduction of the contingency factor from 25% to 21% results from a line item contingency analysis prepared specifically for the Seabrook plant which reflects, among other things, the additional cost component of 5 years of onsite spent fuel storage, which, though expensive in and of itself, involves relatively low contingency levels.

The Committee finds, as it did in its June 2, 1989 Report and Order, that although the money in the decommissioning fund could appreciate at a rate above that of inflation during the six years needed for prompt removal/dismantling, this comparatively short schedule and

the uncertainties involved in economic projections 40 years into the future justify not including cost of capital in the present estimate of the cost of prompt removal/dismantling. The Committee again notes that if adjustments on this point ever became necessary, they could be made at one of the subsequent periodic reviews as provided by statute.

BASIC ALTERNATIVES FOR DECOMMISSIONING
SITE-SPECIFIC METHODOLOGY

The Committee finds that the three basic alternatives for decommissioning are prompt removal/dismantling (DECON) mothballing with delayed dismantling (SAFESTOR), or entombment with delayed dismantling (ENTOMB).

The Committee finds that NRC Rules, however, discourage the use of ENTOMB unless specific advantages can be shown. See 53 - Fed. Reg. 24023-24. (June 27, 1988).

The Committee finds that, for the purposes of determining the funding amount, DECON is the most reasonable alternative.

The Committee affirms, ratifies and republishes its findings on these subsidiary issues of the alternatives for decommissioning and the site-specific methodology of Mr. LaGuardia as set forth on pages 12-13-14-15 of its June 2, 1989 Report and Order, which are set forth below as follows:

BASIC ALTERNATIVES FOR DECOMMISSIONING

The Committee finds that the three basic alternatives for decommissioning are prompt removal/dismantling called DECON, entombment with delayed dismantling, called SAFSTOR, and mothballing with delayed dismantling, called EMTOMB, and that the prompt removal/dismantling alternative, the DECON method is a proper and reasonable method to consider at this time on which to base the Fund subject to revision in the future if changed circumstances so dictate.

The Committee finds that the DECON or prompt removal/dismantling method allows for compliance with New Hampshire law.

The Committee finds that the DECON or prompt removal/dismantling method allows for compliance with the recently promulgated decommissioning rules of the Federal Nuclear Regulatory Commission. 53 Fed. Reg. 123 pp. 24018-56 (June 27, 1988) (to be codified at 10 C.F.R. Parts 20, 40, 51, 70, and 72.)

The Committee finds that among the benefits of prompt removal/dismantling are:

1. Preparing the property for unrestricted use in much shorter time than mothballing or entombment (six years versus thirty years), with acceptable effects on occupational and public health and safety;

2. Eliminating potential problems that may result from an increasing number of sites contaminated with radioactive materials.
3. Eliminating potential health, safety, regulatory, and economic problems associated with maintaining the nuclear facility.

The Committee finds that prompt removal/dismantling at the end of the facility's life allows for the use of knowledgeable plant staff in decommissioning, and also allows for the use of existing equipment, such as radioactive waste processing equipment, cranes, hoists, electrical and mechanical equipment, ventilating equipment, and other equipment that will still be fully operational and available for decommissioning and that extended delays in decommissioning would involve the loss of these personnel through retirement and attrition and also the degradation of the equipment.

The Committee finds that there has been sufficient experience with dismantling techniques to rely on them, while allowing for adjustments because of improved technology.

The Committee notes that in approving a decommissioning cost estimate based on the DECON prompt removal/dismantling method, it is not committing itself to that method for the operating

life of the Seabrook Plant, but is reserving the right to review and amend these findings based on any changes in circumstances in the future, as provided in the statute.

SITE-SPECIFIC METHODOLOGY

The Committee finds that the site-specific methodology used by New Hampshire Yankee witness Thomas S. LaGuardia is detailed and reliable and is a proper and reasonable method for determining decommissioning costs.

The Committee finds that the site-specific methodology has been thoroughly reviewed by the industry, and has been refined over the years, with the "bottoms up" analysis involved in the site-specific methodology being an enormous improvement over earlier estimating methods, and superior to a generic study or a reference study.

The Committee finds that the site-specific analysis used has detailed all the pertinent information: structures, components, and piping at Seabrook; wage and salary figures for decommissioning; equipment needed for decommissioning; and transportation and burial rates.

The Committee finds that decommissioning cost estimates are unlike construction cost estimates in that a facility has to be dismantled only once, while in construction, work has to be frequently redone or changed. (DF 87-1 - Report and Order - June 2, 1989, pp. 12-15).

UPDATED FUNDING SCHEDULE; UPDATED SCHEDULE OF PAYMENTS;
FUNDS ADEQUATE FOR DECOMMISSIONING

The Committee finds and approves, as reasonable and proper, the funding schedule as recommended by New Hampshire Yankee witness Gary J. Caine, as set forth and attached to a letter from Attorney Edward A. Haffer to Chairman Smukler dated October 17, 1991, and also attached hereto as Attachment A, consisting of the cover letter and forty-three (43) pages, and hereby incorporated by reference.

The Committee finds and approves as reasonable and proper, in accordance with the schedule, that in 1992, all owners would contribute a total of \$6,694,044 with the amount of contributions increasing each year thereafter to the 36th year as shown in the schedules in Attachment A.

The Committee finds and approves as reasonable and proper, for the purpose of updating the schedule of payments to take into account the increased decommissioning cost determined by witness, Mr. LaGuardia, the schedule of payments proposed by New Hampshire Yankee through its witness Gary J. Caine, under which all joint owners will continue to make the updated monthly contributions to the fund over the 36-year operating life, with the contributions being spread equitably over the life of the plant, in order to be fair to all generations of ratepayers, and in order to comply with IRS guidelines.

The Committee finds that a funding schedule that could overburden present ratepayers while underburdening future ratepayers would be unfair.

The Committee finds that if the fund were front-end loaded, such a funding schedule would overburden present ratepayers with a concomitant unwarranted benefit accruing to future ratepayers.

The Committee finds and approves, as reasonable and proper that the funding schedule was designed to determine the contribution level necessary to fund the ultimate costs of decommissioning and to equitably allocate these costs to future periods.

The Committee finds and approves as reasonable and proper, that the schedule projects future earnings and expenses and reflects individual owners' experience to date.

The Committee finds as reasonable and proper the following assumptions which were used in preparing the projections:

Decommissioning Cost	\$322.9 (as of 1/1/91)
Cost Escalation Factor	4.25%
Escalation Period	42 years
Contribution Period	36 years
CPI Inflation Factor	4.0%
Real Earnings Rates (relative to the CPI):	
Fund 1	2.0%
Fund 2	3.5%
Fund 3	2.0%

The Committee finds as reasonable and proper, the assumption in the funding schedule that contributions will

increase annually by inflation to equitably distribute costs over the entire funding period.

The Committee finds as reasonable and proper, the projection in the schedule of fund earnings and expenses.

The committee finds that at the end of the 36th year of the plant's operating life, the monthly contributions and earnings on those contributions (based on an estimated rate of return that is reasonable) should produce a fund that will be adequate for decommissioning, which will be approximately \$1,626,839,659, to complete decommissioning of the facilities through 2032.

36 YEAR ANTICIPATED ENERGY-PRODUCING
LIFE OF SEABROOK PLANT - UNIT I

The Committee finds that it is reasonable to assume that the anticipated energy-producing life of Seabrook Unit I will be 36 years, since the operating license held by the joint owners has a remaining term of 36 years, terminating in the year 2026.

The Committee recognizes that, since the New Hampshire Public Utilities Commission has already calculated the depreciation costs of the plant based on its current licensed life to 2026, reasonable administrative consistency would suggest that the same end date be used for purposes of this Committee's determination of the plant's anticipated energy-producing life.

However, the Committee notes that it will revisit this issue in its annual reviews of the fund and the funding

schedule, and make further findings and adjustments whenever appropriate if an extension to the operating license is approved by the NRC in the future.

COST AND DISPOSAL OF LOW-LEVEL
RADIOACTIVE WASTE

The Committee finds that low-level waste disposal costs of \$139 per cubic foot in 1991 dollars is reasonably representative of the base rate that could be incurred for the disposal of Seabrook decommissioning waste in a low level waste facility.

The Committee finds that the \$139 figure for low-level waste disposal costs takes into account a view of the Governor's office that the volume of low level radioactive waste generated within New Hampshire is insufficient to support the cost of construction and operating a low-level radioactive waste facility within the State; the State is therefore working to enter into contract with another State or compact of States for disposal of its low-level radioactive waste.

To the extent that it is relevant to this proceeding, the Committee affirms, ratifies and republishes its findings with respect to both high-level and low-level radioactive waste as set forth in its Report and Order dated June 2, 1989.

III. DISCUSSION OF FINDINGS

AMOUNT OF FUND; INFLATION FACTOR; CONTINGENCY

The issues before this Committee are: what amount is needed to update the decommissioning fund, and, what schedule of payments should be implemented to reach that updated amount.

The statute provides that the committee should establish a regular monthly schedule for payment of monies into the fund by the owner or owners of the facility. The monthly payment shall not be less than necessary to reach the specified amount needed for decommissioning as determined by the Committee. RSA 162-F, Section 19, II.

The hearings which the Committee held in this proceeding were held under Sections 21 and 22 of the Statute, and relate to the updating of the funding requirements for decommissioning upon the plant's completion of its anticipated energy-producing life. In the language of the statute, these hearings constituted the procedure which will provide assurance of adequate funding by utilities for the decommissioning of those nuclear electric generating facilities which complete their anticipated energy-producing lives. RSA 162-F, Section 1, II.

The statute also provides for the Committee to deal with changes and circumstances in Section 22, which requires hearings by the Committee to deal with such changes during the life of the facility, such as changes resulting from an

emergency. The statute provides that at any time during the energy-producing life of the facility, the Committee may determine whether the amount of the fund shall be increased or decreased for reasons including, but not limited to, changes in circumstances, need, or technological advances. RSA 162-F, Section 22, I.

The statute also requires that after the funding requirements have been established, the Committee is required to meet at least once a year, and for good cause, may increase or decrease the amount of the funds or may alter the funding schedules because of changed circumstances. RSA 162-F, Section 22, I, II.

In addition to the testimony presented to the Committee at its hearings, the parties to this proceeding have filed Briefs and Requests For Findings and Rulings at the conclusion of the testimony. They have taken various positions concerning the ultimate issues before the committee and the subsidiary issues related to the ultimate issues.

New Hampshire Yankee continues to recommend the prompt removal/dismantling, DECON, method as the most prudent alternative, both technically and financially. We concur and accept this recommendation. In 1987 dollars, DECON was estimate to cost \$242,429,000, and in 1991 dollars, it is estimated to cost \$322,992,000.

The Consumer Advocate's expert, Mr. John S. Rohrbach, agrees with Mr. LaGuardia that a reasonable estimate of the decommissioning cost in 1991 dollars is \$323,624,000, assuming a 40-year operating life. However, the Committee has made the finding that it will accept the 36-year operating life ending 2026 to be consistent with the current expiration of the plant's operating license, and this changes the decommissioning cost in 1991 dollars to \$322,992,000.

The figure, properly, does not contain any allowance for the nuclear station property tax recently enacted by the Legislature. Such tax applies only to an operating facility. Once the facility ceases operation permanently, the tax no longer applies, and hence, would not affect the decommissioning cost of Seabrook.

The \$322.9 million figure adopted by the Committee represents an increase of approximately \$81 million in nominal dollars ^{*(2)} from the Committee's cost estimate in NDFC 87-1 -- \$242 million in 1987 dollars. The elements of the increase are as follows:

1. Approximately \$26 million is attributable to inflation.
2. Approximately \$33 million is attributable to on-site spent fuel storage costs. These were not included in the 1987 estimate. The Department of Energy now requires that the spent fuel be cooled under water or in dry storage casks for five years

*(2) A true comparison would require that the two amounts be made constant in real dollars before the comparison.

before DOE takes possession of it for disposal. These expenses also involve additional staffing for surveillance, maintenance, and security.

3. Approximately \$22 million is attributable to increases in low level waste disposal cost. According to a study by the Electric Power Research Institute, \$139 per cubic foot in 1991 dollars is reasonably representative of the base rate that could be incurred for the disposal of Seabrook decommissioning waste in a low level waste facility. In NDFC 87-1, that base rate had been calculated to be \$40 per cubic foot in 1987 dollars.

The \$139 figure specified for low-level waste disposal costs, takes into account the view of the Governor's office that the volume of low level radioactive waste generated within New Hampshire is insufficient to support the cost of constructing and operating a low-level radioactive waste facility within the State. The State is therefore working to enter into contract with another State or compact of States for disposal of its low-level radioactive waste. This is expressed in a letter from the Governor's Counsel, Arthur Brennan, which is Exhibit 12.

Other significant changes from the 1987 estimate are taken into account also.

1. Low-level waste volume has been reduced from about 25,700 cubic yards to about 9,800 cubic yards. This reduction reflects the economic reality that decontamination has become cost-effective as a result of the significant increase in disposal expense.

2. The contingency factor has been reduced from 25% to about 21%. The 21% results from a line item contingency analysis prepared specifically for the Seabrook plant. It reflects, among other things, the additional cost component of 5 years of onsite spent fuel storage, which, though expensive in and of itself, involves relatively low contingency levels.

Other important similarities between the 1987 and 1991 estimates include the following:

1. New Hampshire Yankee also continues to recommend the use of Internal Revenue Code Section 468 A to minimize the risk while maximizing savings to ratepayers, the use of either a 36-year or a 40-year operating license period at the "anticipated energy producing life" of Seabrook Unit I, and a payment schedule in equal annual "real" dollars.

2. New Hampshire Yankee also continues to recommend that monies collected for decommissioning be treated and invested prudently and with the objective of minimizing risks while maximizing savings to ratepayers and recommends the means to that objective as the use of Section 468 A of the Internal Revenue Code. Section 468 A provides that, if

certain requirements are met, monies collected for decommissioning are tax deductible. This tax saving to the utility is in effect passed back to ratepayers through lesser charges for decommissioning costs.

3. New Hampshire Yankee also continues to recommend a schedule of regular monthly payments into the fund that take into account historically justified assumptions of inflation and investment return, with the fund to be increased by a 4% annual inflation factor and an annual 4.25% cost escalation factor. Assuming that such payments begin in 1992 and continue to 2026, the end of the current NRC license for the plant, the amount collected for decommissioning at the end will be \$1,626,839,659.

Witness Thomas S. LaGuardia was the only witness in this proceeding with substantial experience in the actual decommissioning of nuclear power plants. His experience and expertise in decommissioning is extensive. It was set forth in the Committee's Report and Order dated June 2, 1989, and is hereby incorporated by reference.

Mr. LaGuardia noted that his testimony and supporting study represents the results of the 1991 update to the 1987 study previously prepared by his company. The 1991 estimate for Seabrook Decommissioning is 324 million in 1991 dollars (based on a 40-year plant life) for the DECON alternative, revised by Mr. Caine's voluntary submittal of October 17, 1991 to \$322,992,000 (representing a 36-year plant life).

The 1987 estimate, he said, was 242 million dollars for the same DECON Scenario.

Mr. LaGuardia indicated what factors included in this update accounted for this increase in cost. They were: First, the increase in low-level waste disposal cost experienced nationally; on-site spent fuel storage requirements imposed by the Department of Energy; and annual inflation and other minor adjustments.

Mr. LaGuardia then pointed out that these increases have been offset by reductions in such activities as waste volume calculations, the waste volume cost estimates and reductions in contingencies.

With respect to the low-level waste disposal cost, Mr. LaGuardia indicated it had increased from approximately \$40.00 per cubic foot in 1987 to an estimated \$139.00 per cubic foot in 1991, and this was based on the study prepared under contract with the Electric Power Research Institute for Seabrook Station. It assumes, he said, an out of state disposal facility.

This low-level waste increase factor, he said, accounts for about 22 million dollars of the increase. The difference from the 1987 estimate arises because that estimate was based on the cost to dispose of these wastes in Barnwell, South Carolina which will be shut down long before Seabrook is expected to be decommissioned.

Mr. LaGuardia stated that the 1991 estimate recognizes the need to store spent fuel on-site for five-years of cooling prior to the United States Department of Energy's acceptance of the fuel for disposal.

Mr. LaGuardia pointed out that under the current Department of Energy design, a five-year cooling period is required for the spent fuel either under water or in dry storage casks on the reactor site before the Department of Energy will accept spent fuel for transportation and disposal.

Mr. LaGuardia indicated that this additional storage time on-site requires additional decommissioning staffing to provide for surveillance and maintenance of the fuel and the security of the fuel during that storage period.

This factor accounts for about 33 million dollars of the increase, he said, and noted that the earlier 1987 estimate followed NRC guidelines which did not include on-site spent storage costs because they were not then recognized as a decommissioning expense by the NRC.

Mr. LaGuardia stated that the other increases including inflation amount to about 2.6% per year which accounts for about 10.8% total increase or 26 million dollars of the increase.

Next, Mr. LaGuardia noted the items which offset these increases as reductions by looking more closely at some of the details of the estimates.

The first reduction was in low-level waste volume, and this was possible based on a more detailed evaluation of the system whereby the piping and component contamination levels and decontamination techniques would be used to release some of the material as clean scrap.

Mr. LaGuardia noted that as low-level waste disposal costs increase, additional dollars can be spent decontaminating some of these components to release them so they can be treated as scrap.

Under this procedure, the low-level waste volume was reduced from approximately 25,700 cubic yards in 1987 down to 9,800 cubic yards in 1991.

Mr. LaGuardia indicated that although the volume of waste was reduced, the cost increase was still quite substantial. The volume was reduced by almost two-thirds, but the cost for the disposal went up by almost a factor of four.

Another area that Mr. LaGuardia and his company looked at more closely was that of contingencies. The contingency adjustment was made in the 1991 estimate to reflect the changes in the composition of the cost.

In the 1987 estimate, they assumed a straight 25% contingency factor for the DECON alternative and this was consistent with industry practice and with the NRC guidelines then.

Mr. LaGuardia noted, however, that with on-site spent fuel storage, an activity that requires the expenditure of substantial dollars yet represents relatively low contingency levels, the overall contingency was substantially reduced and was reduced from 25% down to about 21%.

Mr. LaGuardia testified that his estimate of cost for decommissioning Seabrook in 1991 is based on a 40-year operating life and an average capacity factor of 75%. The 40-year life is the full term NRC License life that it is expected to achieve. Most utilities, he stated, in the United States and most reactors are expected to achieve that full license life. However, as noted above, the Committee has accepted a 36-year life to be consistent with the expiration date of the plant's current license.

Mr. LaGuardia testified that the 75% capacity factor is expected to be obtained through the license life of Seabrook and has been achieved so far by New England Nuclear Power Facilities.

The Committee believes that the overwhelming weight of the evidence supports its findings that the amount of the Decommissioning Fund should be the figure testified to by Mr. LaGuardia, as adjusted by the Committee to reflect the current license life of the plant, and that the schedule of payments presented by Mr. Caine as revised on October 16, 1991 will achieve the indicated amount.

Accordingly, the Committee believes that at the end of the licensed life of the plant, the monthly contributions and earnings of those contributions, based on an estimated rate of return that is reasonable, will produce a fund that will be adequate for decommissioning.

BASIC ALTERNATIVES FOR DECOMMISSIONING

In his testimony, Thomas S. LaGuardia identified the three basic Decommissioning alternatives:

1. Prompt removal/dismantling, termed DECON by the NRC.
2. Safe storage mothballing, with delayed dismantling, termed SAFSTOR by the NRC.
3. Safe storage entombment with delayed dismantling, termed ENTOMB by the NRC.

He explained these three alternatives.

For purposes of determining the funding amount the Committee finds that DECON is the most reasonable alternative. DECON avoids the long-term cost and commitments associated with the maintenance, surveillance, and security requirements of SAFSTOR. Moreover, DECON allows for the use of the plant's knowledgeable current operating staff, which may not be available over the longer period of time involved with SAFSTOR. Furthermore, plant equipment such as cranes, ventilation systems, etc. would be available for DECON, but might not be available for SAFSTOR.

Consumer Advocate John S. Rohrbach accepted the DECON method in his testimony. The Seacoast Anti-Pollution League recommends that the Committee adopt the SAFSTOR alternative.

For the reasons stated above, the Committee does not accept this recommendation. The Committee further incorporates its findings and discussion on this issue as set forth in the Report and Order dated June 2, 1989.

UPDATED FUNDING SCHEDULE AND SCHEDULE OF PAYMENTS

The Committee has found that the funding schedule proposed by New Hampshire Yankee is reasonable, accepting that the decommissioning period runs from 2026 through 2032, the amount to be expended on decommissioning will be approximately \$1,626,839,659.

The New Hampshire Yankee funding schedule is based on constant real dollars, as opposed to constant nominal dollars, which Mr. Rohrbach recommends.

The approach of constant real dollars takes inflation into account, and thus would be more equitable among generations of ratepayers. The approach of constant nominal dollars does not take inflation into account. It would have the practical real-dollar effect of front-end loading, and would thus overburden present ratepayers while underburdening future ratepayers.

The Consumer Advocate's proposal, as set forth by Mr. Rohrbach, would place a significantly greater burden on present ratepayers than would the New Hampshire Yankee proposal.

The New Hampshire Yankee proposal would involve a 1992 contribution by the Joint Owners of \$6,694,044. The Consumer Advocate proposal would involve a 1992 contribution by the Joint Owners of \$22,987,599.

The New Hampshire Yankee proposal for funding decommissioning would allow those Joint Owners that are investor owned (about 86% of the Joint Ownership) to fully avail themselves of the deduction provisions of Section 468A of the Internal Revenue Code.

A schedule of decommissioning contributions that continues until 2032, in the amounts proposed by New Hampshire Yankee, satisfies the "level funding" requirements of Section 468A, even if for ratemaking purposes costs are recovered until only 2026.

On the other hand, if costs for ratemaking purposes are recoverable until 2026, but the decommissioning contributions are scheduled to terminate as of 2020 such a funding schedule would violate the level funding requirement of Section 468A and the Internal Revenue Service would disallow deductions to the extent that the decommissioning contribution schedule had been accelerated over level funding.

If the Joint Owners are to use a shorter period of time to fund decommissioning than that which is used for ratemaking purposes, additional amounts would have to be borrowed or collected from the ratepayers to cover the Federal income taxes attributable to the non-deductible portion of the contributions. Regulations under Section 468A require that a decommissioning funding schedule take

into account the projected earnings of the decommissioning fund during the decommissioning period (26 CFR Section 1.468-3(d) (2) (i)). The funding schedule proposed by New Hampshire Yankee satisfies this requirement.

It is true that New Hampshire Yankee witness Spitzer testified that the tax code may allow some prefunding; however, the record is unclear about the limits of prefunding which could be accomplished consistent with the tax code. In any event, the majority of the Committee does not believe that prefunding is appropriate as a matter of policy.

The Committee believes that its findings, and approval as reasonable and proper, of the funding schedule recommended by New Hampshire Yankee witness, Gary J. Caine, on October 16, 1991, is fully supported by the evidence in this proceeding.

36-YEAR ANTICIPATED ENERGY-PRODUCING
LIFE OF SEABROOK UNIT I

In its Requests For Findings, New Hampshire Yankee requests the Committee to find that the anticipated energy-producing life for the plant is in the range of 36 to 40 years.

The Consumer Advocate witness John S. Rohrbach and the Seacoast Anti-Pollution League both request the Committee to adopt a 30-year life. On cross-examination, Attorney Haffer questioned Mr. Rohrbach about his assumption of a 30-year plant life for Seabrook. In response to questions from Mr. Haffer, Mr. Rohrbach explained how he used a computer model that forecast a 24 year life for Seabrook. Basically, he took a 24-year life that his computer model projected and balanced that against a 40-year assumption of Mr. LaGuardia and came down somewhere in the middle of 30 years. Mr. Rohrbach agreed that his computer model had never been used in the proceedings such as this before or by any utility or by any regulatory agency.

Based on this testimony, the Committee does not believe that the computer model underlying Mr. Rohrbach's suggestion of a 30-year life has been adequately validated.

The Committee does not accept the 30-year life recommendation because, based on the testimony presented, a funding schedule on this basis would create intergenerational inequities overburdening present ratepayers at the expense of future ratepayers.

On cross-examination by Attorney Haffer, Mr. Rohrbach agreed that it is important for the committee to be fair not only to this generation of ratepayers but to future generations of ratepayers, and that one generation of ratepayers, to the extent this determination would be made, should not subsidize any other generations of ratepayers.

Also, if a 30-year life were accepted, the availability of tax deductions under Section 468 A of the Internal Revenue Code would be reduced, creating a need to collect even greater amounts from ratepayers.

In response to a question as to what is the least costly and most equitable way of funding for decommissioning from the point of view of the ratepayers, New Hampshire Yankee witness, Gary J. Caine, in his testimony on September 25, 1991, as a panel member, responded as follows:

He said, simply put, the least costly and most equitable method of funding for decommissioning from the point of view of ratepayers is one which maximizes the earnings of the fund contributions at acceptable levels of risk, which distributes the burden among all beneficiaries of the electrical energy produced by Seabrook Station, which takes advantage of available tax incentives and which uses the best information available to insure that the contributions of present and future ratepayers are roughly equal.

Mr. Caine expanded on that statement from the testimony by stating that the most rational way of achieving these goals is to plan the funding over Seabrook's anticipated energy producing life and to utilize a funding schedule that incorporates realistic recognition of inflation, investment performance, in decommissioning escalation. In their view, all of this is in fact accomplished by the funding schedules that were included in the prefiled testimony.

Mr. Caine went on to add that to set up an accelerated funding schedule would surely be unfair to today's ratepayers. You would be asking today's ratepayers, he said, to pre-fund the decommissioning cost for future ratepayers and thereby possibly to forgo tax advantages that are available.

The Committee believes that use of the 36-year life results in the least costly and most equitable treatment of ratepayers, both present and future.

Mr. LaGuardia testified it is probable that the owners of the plant will receive Nuclear Regulatory Commission permission to extend their operating license, so that it will run until 2030, 40 years from 1990, the year commercial operation began.

He also testified that the owners of the plant intend to seek a four-year extension for its NRC license so that it

will have a full license life of 40 years from the date of commercial operation and, that the NRC will probably grant the extension since other utilities in the United States in similar circumstances have received license extensions from the NRC.

As already noted, the Committee does not adopt Mr. LaGuardia's testimony on this point.

The Committee recognizes that, since the New Hampshire Public Utilities Commission has already calculated the depreciation costs of the plant based on its current licensed life to 2026. Reasonable administrative consistency would suggest that the same end date be used for purposes of this Committee's determination of the plant's anticipated energy-producing life.

However, the Committee will revisit this issue in its annual reviews of the fund and the funding schedule, and make further findings and adjustments whenever appropriate if an extension to the operating license is approved by the NRC in the future.

COST AND DISPOSAL OF LOW-LEVEL
RADIOACTIVE WASTE

Mr. LaGuardia testified and the Committee found that low-level waste disposal costs of \$139 per cubic foot in 1991 dollars is reasonably representative of the base rate that could be incurred for the disposal of Seabrook decommissioning waste in a low level waste facility.

Mr. Rohrbach testified that there were indications that this cost will increase up to \$120.00 per cubic foot and, if that were the case, then the \$139.00 a cubic foot would be a somewhat low number to use for planning purposes. He recommended using the company figure of \$139.00 per cubic foot at this time and for the future he recommended an escalation that is approximately 14½%. Mr. LaGuardia and other New Hampshire Yankee witnesses disagreed with this testimony on the basis of the existing law.

The Committee believes that the \$139 figure for low-level waste disposal costs takes into account a view of the Governor's office that the volume of low-level radioactive waste generated within New Hampshire is insufficient to support the cost of construction and operating a low-level radioactive waste facility within the State and that the State is therefore working to enter into contract with another State or compact of States for disposal of its low-level radioactive waste.

The Committee acknowledges that the cost of disposal of low-level waste has risen dramatically since 1987, but it

believes that it would be too uncertain to adopt Mr. Rohrbach's recommendation of this time.

The Committee will revisit this issue also at the time of its annual reviews of the Fund.

IV. RULING ON REQUESTS FOR FINDINGS OF FACT
AND RULINGS OF LAW

The Committee makes the following rulings on the Requests For Findings of New Hampshire Yankee:

GRANTED: Requests Nos. 1, 2, 3, 4.4, 4.5, 4.6, 4.7, 4.9, 4.10, 4.12, 5, 5.2, 5.4, 6, 6.1, 6.2, 8.1, 8.2, 8.3, 9, 10, 10.1, 10.2, 11.2, 12, 13, 14.2, 15, 15.1, 15.2, 16, 16.2, 17, 17.1, 17.3.

DENIED: 5.1, 11.1, 14.1.

NEITHER GRANTED NOR DENIED: 4, 4.1, 4.2, 4.3, 4.8, 4.11, 5, 5.3, 5.5, 7, 8, 13.1, 13.2, 13.3, 13.4, 16.1, 17.1, 17.2.

The requests neither granted nor denied are covered in the Committee's Report and the findings and discussions therein.

The Committee makes the following rulings on the Request for Findings of the Office of Consumer Advocate:

GRANTED: 2, 3.

DENIED: 1, 4, 5.

The Seacoast Anti-Pollution League in its Closing Brief made recommendations but did not make specific requests for findings. Treating SAPL's recommendations as requests, Nos. 1 through 6, are DENIED.

The requests for findings and rulings made by the parties are attached hereto as follows:

ATTACHMENT B: New Hampshire Yankee's Requests For Findings.

ATTACHMENT C: Office of Consumer Advocate Requests For Findings.

ATTACHMENT D: SAPL Summary of Recommendations.

Notations consistent with the above rulings are made indicating for each request, those which were granted, denied, and neither granted nor denied.

V. CONCLUSION

Under the provisions of RSA 162-F, Sections 14 through 26, and in particular, Section 22, the Committee has two fundamental issues to decide in this proceeding:

1. The updated amount of the Nuclear Financing Fund for the Seabrook I Nuclear Station.
2. The updated amount of the regular monthly schedule for payments into the Nuclear Decommissioning Financing Fund to reach the amount established.

AMOUNT OF FUND

The Committee finds and approves, as reasonable and proper, the required amount of the Fund to be \$322,992,000 in 1991 dollars.

FUNDING SCHEDULE

The Committee finds and approves as reasonable and proper, the funding schedule recommended by New Hampshire Yankee witness Gary J. Caine, as set forth in ATTACHMENT A hereto, and his sub-schedules therein, which are hereby incorporated by reference.

The Committee commends all parties who participated in this proceeding for their efforts to inform the Committee, and, in particular, the members of the public who took their time to make statements before the Committee and express their views concerning the issues before the Committee.

NDFC 91-1

NUCLEAR DECOMMISSIONING FINANCING COMMITTEE
PROCEEDING TO UPDATE DECOMMISSIONING
FUND FOR SEABROOK I NUCLEAR STATION
SEABROOK, NEW HAMPSHIRE

..O..

FIRST SUPPLEMENTAL ORDER

The Committee incorporates the foregoing report as a part of this order.

The Committee having held public hearings pursuant to the provisions of RSA 162-F and RSA 541-A, adopts the foregoing Report as its proposed plan for updating the Nuclear Decommissioning Financing Fund for Seabrook Station Unit I and the schedule of payments into the Fund.

Upon consideration of the foregoing report, which has been made a part hereof, it is

ORDERED, that pursuant to the provisions of RSA 162-F:22, II(b), the Committee conduct additional public hearings to take testimony to formalize the payment schedule plan.

As part of the proposed payment schedule plan, the Committee proposes to adopt the following orders when it formalizes the plan:

ORDERED, that the Nuclear Decommissioning Financing Fund for Seabrook Station Unit I is changed and updated to an amount of \$322,992,000 in 1991 dollars; and it is

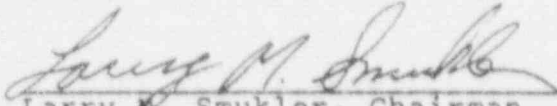
FURTHER ORDERED, that the Joint Owners of Seabrook Station Unit I as listed and set forth in Rule Dec. 301.1 Information filed in this proceeding, and all subsequent owners of the facility who acquire any interest hereafter, are hereby required to make monthly payments into the Nuclear Decommissioning Financing Fund in accordance with the schedules and subschedules attached hereto as ATTACHMENT A, as submitted by witness Gary J. Caine on October 16, 1991, in this proceeding; and it is

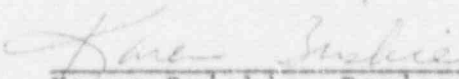
FURTHER ORDERED, that such payments shall commence on February 1, 1992; and it is

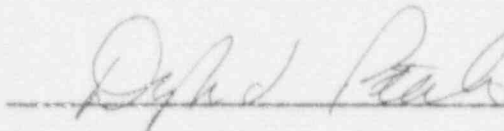
FURTHER ORDERED, that New Hampshire Yankee, or any successor lead company, annually file with the Committee, (A) an update of Exhibit 2, Decommissioning Cost Study for Seabrook Station - Unit I - May, 1991, which will inform the Committee of all changes which have taken place which affect the decommissioning costs set forth in Exhibit 2; (B) an update of the Funding Schedules (ATTACHMENT A hereto, and its sub-schedules), such update to be prepared by a qualified investment consultant and is to be based on a review of the actual performance and investment experience of the Nuclear Decommissioning Financing Fund established by this Order, and is to include a written report from such investment consultant, in order to assure the Committee that the fund is making satisfactory progress towards meeting the

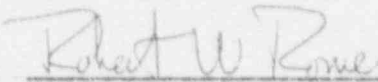
targeted decommissioning costs; and (C) the annual reports required by Section 10.01E of the "Seabrook Nuclear Decommissioning Fund Master Trust Agreement" - such filing of all such items with the Committee to occur no later than December 1, 1992, and annually thereafter on or before December 1 of each succeeding year until this order is modified or amended.

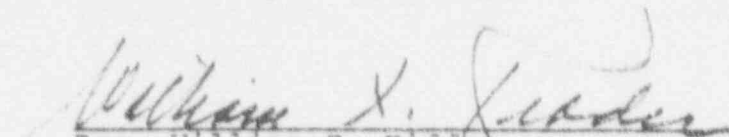
By Order of the Nuclear Decommissioning Financing
Committee this 26TH day of November, 1991.


Larry M. Smukler, Chairman
N.H. Public Utilities Commission


Karen Briskie, Designee of
George A. Thomas, State Treasurer


Douglas L. Patch, Designee of
Commissioner Richard M. Flynn,
Commissioner, Department of Safety


Robert W. Romer, Designee
of New Hampshire Yankee


Rep. William F. Kidder

Committee member, Willard F. Boyle, representing the Town of Seabrook, does not concur with the majority vote of the committee on the New Report and Order of November 26, 1991, and justifies his dissent as follows:

1. I have been a continuous, active, member of this committee since its inception in 1981, when, at the initial meeting of the committee, Representative Barbara Bowler, (author of the decommissioning amendment to RSA-162-F) briefed us on what she intended for the RSA to accomplish. Mrs. Bowler admitted to having placed the committee in an extremely difficult position by asking us to estimate what something will cost at some point in the future, based primarily on unknowns, but said she felt it was essential to protect the tax/ratepayers in N.H. from having to shoulder the entire financial burden of decommissioning Seabrook after the plant had reached the end of its useful life. The appropriate paragraphs do exactly what Mrs. Bowler intended for it to do.

2. A major portion of my disagreement with the committee is centered around a difference of opinion on the interpretation of the decommissioning paragraphs of RSA 162-F. A detailed reading of the RSA shows how "emphasis added" in some parts while omitting other parts gives the intended meaning a completely different look, and narrows the latitude granted to the committee in 1981. For example: F:1,II contains the ever quoted phrase, "complete

their anticipated energy producing lives", which would imply that the legislature intended a fund based on the full planning duration of 40 years. However, the same paragraph begins, "The legislature further recognizes that to insure the safety and well being of the public and future generations, a costly and comprehensive decommissioning procedure is necessary at the end of the useful or serviceable life of nuclear generating facilities." When the "emphasis added" is focused at this point the intent is entirely different, and expands the latitude of the committee.

3. F:21,III broadens the committee's latitude even further with the phrase, "Each committee shall rely on all available data and experience in determining the amount of such fund including, but not limited to, etc."

4. F:21,IV provides somewhat less latitude in the public hearing process but directs that, "Testimony presented at the hearings held pursuant to this paragraph shall be taken into consideration."

5. F:22,I opens the committee's decision making capability even further when it states that the committee may alter the fund up or down at any time, "For reasons including, but not limited to, etc., etc."

6. During the recent hearings the dollar estimates presented by the TLG Engineering study were defended, in part, by emphatic statements which suggested that by adding

more money than recommended to the fund, reducing the collection period, or front loading the fund, the resulting payment schedule would be unfair to present customers and favor future customers. The RSA doesn't address front loading directly, however, references to funding and collection procedures appear to favor higher dollars and front loading of some type. For example: F:19,II says, "The monthly payment shall not be less than.....", F:20,II mentions, "Any earnings of the fund in excess of the specified amount...", and further, that the PUC shall determine how to equitably reduce rates to customers, "To compensate for overpayment to the fund," These inclusions imply that the legislature expected there would be excess money in the fund at decommissioning. Terms like "not less than", "in excess of", and "overpayment" suggest the legislature had some type of front loading or "cost plus" contingency in mind at the beginning.

7. The original study done using 1987 dollars by TLG Engineering and accepted by the committee has created a tunnel vision approach to decommissioning by the committee. In my opinion this has come about because each method of decommissioning has a separate cost figure, and since the DECON method was selected as the desired method, the DECON price tag was accepted. The RSA does not require the committee to tie the fund to the method. We might desire the DECON method, but if the knowledge, information and

experience available do not logically or morally tie the two together the committee should make its decision and ruling based on what we know and have experienced, not on what might be 20 years down the road. Such is the case at this ruling. Testimony at the recent hearings established that the latest best estimate for the opening of a Federal high level waste repository (spent fuel) has slipped again, this time to the year 2010. New Hampshire witness Cloutier highlighted this issue when he stated that, "that repository", due to Seabrook's priority, (apparently low) will not accept the spent fuel until the year 2019, PROBLEM; Seabrook went on line in 1990 and by present design the plant has only 12 years of spent fuel storage on-site, which means that by 2002 the cooling pools are full. By 2014 Seabrook is 100% over design capacity, and more by 2019 when the Federal Repository, (which does not exist at this point in time) is supposed to start accepting our spent fuel. If past experience with Federal estimates continue, that 2010 opening is very suspect. Since full scale decommissioning cannot take place until all spent fuel is removed from the site, and since Seabrook will have an abundance of it laying around in pools or casks or whatever -- so much for DECON and rapid dismantling. As a resident of the town of Seabrook I most certainly want the "remains" of the plant gone at the earliest date possible, but in light of the initial responsibility placed on us to ensure the safety and

well being of the public and future generations, I sincerely believe that until we have more reliable and better data to work with, SAFSTOR should be recommended. TLG Engineering estimates that the new 1991 cost of SAFSTOR is \$413 million and I feel that just by coincidence this figure is realistic because if TLG's present DECON estimate of \$323 million should escalate by another \$81 million as his past estimate did then the final cost figure would be \$404 million. The committee would be better served all around by funding for SAFSTOR and \$413 million. Additionally, I am continually bothered by the personal knowledge that in 10 years on the committee, not a single time or money estimate has been accurate, or at best, overstated...it is always...more money is needed to cover some NEW AND UNEXPECTED COST.

8. New Hampshire Yabkee witness, Spitzer, in response to my questions at the recent hearings, stated that front loading, properly administered, could be accomplished within IRS regulations, and without creating a tax burden on owners or investors.

9. This committee is in the unique position of having the authority to establish whatever funding and payment sequence it determines will best do the job. It is time for us to stop going through the motions by simply falling in line with recommendations made by New Hampshire Yankee's engineer, "because we meet annually anyway and if it is not

right we can fix it next year." We need to start considering all the information available from every source and make some courageous and thoughtful decisions to establish a fund and payment schedule that can survive the scrutiny of the mandated annual meeting without constant changes.

10. Recommendations; I feel the committee would have served the public better (present and future) by ordering the following:

1. Recommend the SAFSTOR method of decommissioning. (the owner makes the actual selection at decommissioning)
2. Fund at the \$413 million level through 2026.
3. Collect funds in equal nominal monthly increments, using 5.96 annual growth cost factor until the storage costs of all levels of waste stabilize or decline.
4. Continue the present 25% contingency calculated to reflect the 2026 time limitation.
5. Front load the fund in line with IRS regulations as a contingency so that some effort can be made to cut into the difference between the fund as it accumulates and the costs which will be required in the advent of premature decommissioning where the tax/ratepayers will be required to pay the lion's share of the cost.

11. As a final punctuation to my dissent, I strongly recommend that the committee request the legislature to review and update RSA 162-F as appropriate. The document leaves much to be desired, primarily due to circumstances which have taken place since it was written, many of which have a direct or indirect bearing on the decommissioning process. The RSA contains many ambiguities and contradicts its own basic intent of having sufficient funds available in the way it approaches the various examples of early shutdown and ultimate decommissioning. (F:22, all) Based on Mr. LaGuardia's testimony that decommissioning incurs the greatest cost immediately after going on line, and for 10 years thereafter, and that there is little possibility of having enough money in the fund to pay for decommissioning at early shutdown, millions of dollars would have to be made up before any type of decommissioning could start. The RSA as presently written stops payments from rate payers and directs the committee, in conjunction with the PUC, to institute a revised schedule of funding needs. If the difference between the costs of early decommissioning and the funds available is as great as testimony and presented graphics have led us to believe, any revised schedule of customer charges would most certainly be a burden on those future customers. The committee would be deluged, and rightfully so, with complaints asking "we didn't plan for

such a contingency by putting more money into the fund earlier. This is conjecture on my part at this time, but my intent is to emphasize that the legislature deserves the courtesy of being advised that conditions do exist, and could exist which are not adequately addressed by RSA 162-F as presently written.

Willard F. Boyle

Willard F. Boyle

Committee Member
representing the Town
of Seabrook

SHEEHAN
PHINNEY
BASS +
GREEN

PROFESSIONAL
ASSOCIATION



December 17, 1991

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603-668-0300

1 HARBOUR PLACE
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03801-3856
FAX 603-433-3126
603-433-2111

TO: ATTACHED SERVICE LIST -- NDFC 91-1

Ladies and Gentlemen:

Enclosed is a copy of the Second Supplemental Order dated December 11, 1991 of the State of New Hampshire Nuclear Decommissioning Financing Committee.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Edward A. Haffer', written over a printed name.

Edward A. Haffer

EAH:d1

Enclosures

CC with enclosure:
State Library
Office of State Treasurer

SERVICE LIST 91-1

Senator Clesson J. Blaisdell
Senate Finance Committee
Room 120 - State House
Concord, NH 03301

Rep. Elizabeth Hager
Chairman, Appropriations Comm.
Room 100 - State House
Concord, N.H. 03301

Georgie Thomas
State Treasurer
Room 121 - State House Annex
Concord, NH 03301

Harry H. Bird, M.D.
Commissioner
Health & Welfare Dept.
Hazen Drive
Concord, NH 03301

Richard M. Flynn, Commissioner
Department of Safety
James K. Hayes Bldg.
Hazen Drive
Concord, NH 03301

William F. Boyle
463 New Zealand Road
Seabrook NH 03874

Mr. Robert W. Romer
N.H. Yankee Corporation
Seabrook Station
P.O. Box 300
Seabrook NH 03874

Larry M. Smukler, Chairman
N.H. Public Utilities Comm.
8 Old Suncook Road
Concord, NH 03301

Mr. Winslow Melvin
88 Pleasant Street
Concord, NH 03301

Alexander J. Kalinski, Esquire
1436 Elm Street
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Manchester, NH 03105

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Executive Director and Secretary
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8 Old Suncook Road
Concord, NH 03301

Audrey Zibelman, Esquire
N.H. Public Utilities Comm.
8 Old Suncook Road
Concord, NH 03301

Michael Holmes, Esquire
Office of Consumer Advocate
Public Utilities Commission
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Concord, NH 03301

Harold T. Judd, Esquire
Assistant Attorney General
Attorney General's Office
25 Capitol Street
Concord, NH 03301-6397

Robert A. Backus, Esquire
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Manchester, NH 03105

Robert Cushing, Jr.
395 Winnacunnet Road
Hampton, NH 03842

Mary K. Metcalf
Seacoast Anti-Pollution League
5 Market Street
Portsmouth, NH 03801

Campaign for Ratepayers' Rights
P.O. Box 563
Concord, NH 03301

Seabrook Selectmen's Office
Seabrook Town Office
Seabrook NH 03874

Mr. John Crosier
President
Business & Industry Association
122 No. Main Street
Concord, NH 03301

Director of Nuclear
Reactor Regulation
Nuclear Regulatory Comm.
Washington, DC 20555

Shelley Nelkens
Box 164
Antrim, NH 03440

Victoria Turner
#124 - Box 253
Bennington, NH 03442

John G. Tuthill
P.O. Box 38
Lempster, NH 03606

William Kidder
40 Barrett Road
P.O. Box 99
New London, NH 03257

THE STATE OF NEW HAMPSHIRE
NUCLEAR DECOMMISSIONING FINANCING COMMITTEE
SEABROOK DECOMMISSIONING FUND
S E C O N D S U P P L E M E N T A L O R D E R
DOCKET NO. NDFC 91-1

ORDER OF NOTICE

Notice is hereby given that the Nuclear Decommissioning Financing Committee (NDFC), established pursuant to RSA 162-F:15, shall continue the public hearing process in accordance with RSA 162-F, RSA 541-A et seq. by holding a hearing to receive testimony and information on Friday, January 17, 1992 from 10:00 A.M. to 4:30 P.M. or earlier, when testimony is concluded.

The hearing will be held at the Seabrook Community Center located at 311 Lafayette Road, Seabrook, New Hampshire.


Further hearing dates, if any, and the location for further hearings will be announced at the conclusion of the hearing on January 17, 1992.

The purpose of the hearing shall be to take testimony concerning the proposed plan for updating the Nuclear Decommissioning Financing Fund and the schedule of payments into the Fund which was adopted by the Committee on Tuesday, November 26, 1991, in order for the Committee to formalize the updated payment schedule plan as required by statute, RSA 162-F:22 III (b) and 162-F:21, IV. The Committee will also hear public comment on what recommendations it should make to the legislature, if any, on changes to its enabling authority.

New Hampshire Yankee Electric shall give notice of these hearings by causing a copy of this notice to be published at least twice in a newspaper having general circulation in that portion of the State in which operations are conducted and a newspaper having state-wide circulation, the last such publication to be not later than January 8, 1992, said publication to be designated in an affidavit to be made on a copy of this notice and filed with this Committee on or before January 17, 1992.

New Hampshire Yankee Electric shall also post a copy of this notice of the time and place of hearings at two appropriate public places in Seabrook, New Hampshire. New Hampshire Yankee shall further notify all parties on the Service List, the Attorney General's Office, the Public Utilities Commission and the United States Nuclear Regulatory Commission and all Joint Owners by sending a copy of this notice to each of them.

Dated this eleventh day of December, 1991.


Larry M. Smukler
Chairman

THE STATE OF NEW HAMPSHIRE
NUCLEAR DECOMMISSIONING FINANCING FUND
SEABROOK DECOMMISSIONING FUND
DOCKET NO. NDFC 91-1

..0..

T H I R D S U P P L E M E N T A L O R D E R

The Committee incorporates the report dated November 26, 1991 as a part of this order, together with the dissent therein of Committee Member Willard F. Boyle.

The Committee having held public hearings pursuant to the provisions and requirements of RSA 162-F and RSA 541-A and having considered the testimony presented at a hearing on January 17, 1992 pursuant to RSA 162-F:22, III (b) and RSA 162-F:21, IV, adopts the foregoing report as its plan for establishing the updating of the Nuclear Decommissioning Financing Fund and the updated schedule of payments into the fund.

Upon consideration of the foregoing report, which has been made a part hereof, it is

ORDERED, that an updated Nuclear Decommissioning Financing Fund is hereby established for Seabrook Station Unit 1 in an amount of \$322,992,000 in 1991 dollars, with this amount to be increased each year after 1991 by a 4% annual inflation factor and a 4.25% annual cost inflation factor; and it is

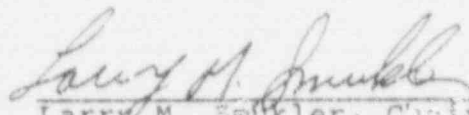
FURTHER ORDERED, that the Joint Owners of Seabrook Station Unit I as listed and set forth in Rule Dec. 301.1 Information filed in this proceeding, and all subsequent owners of the facility who acquire any interest hereafter, are hereby required to make monthly payments into the updated Nuclear Decommissioning Financing Fund in accordance with the schedules attached to the Committee's Report and Order dated November 26, 1991, as adjusted to take the inflation factor and the cost inflation factor into account, and such payments are to be made to the Trustee in accordance with the "Seabrook Nuclear Decommissioning Fund Master Trust Agreement"; and it is

FURTHER ORDERED, that such payments shall commence on the first day of March, 1992, and shall be adjusted to reflect a 4% annual inflation factor and a 4.25% annual cost inflation factor annually thereafter; and it is

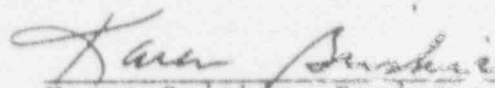
FURTHER ORDERED, that New Hampshire Yankee, or any successor lead company, annually file with the Committee, (A) an update of Exhibit 2, Decommissioning Study for Seabrook Station Unit I, May-1991, which will inform the Committee of all changes which have taken place which affect the decommissioning costs set forth in Exhibit 2; (B) an update of the Funding Schedules (Attachment A to Committee's Report and Order dated November 26, 1991) such update to be prepared by a qualified investment consultant and is to be based on a review of the actual performance and investment experience of the Nuclear Decommissioning Financing Fund

established by this Order, and is to include a written report from such investment consultant, in order to assure the Committee that the fund is making satisfactory progress towards meeting the targeted decommissioning costs; and (C) the annual reports required by Section 10.01E of the "Seabrook Nuclear Decommissioning Fund Master Trust Agreement" - such filing of all such items with the Committee to occur no later than three months after the end of each fiscal year of the Fund.

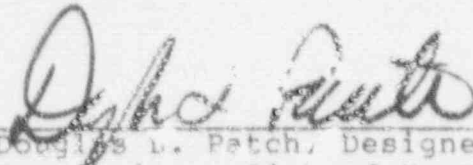
By Order of the Nuclear Decommissioning Financing Committee this 29th day of January, 1992.



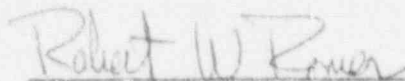
Larry M. Smukler, Chairman
N.H. Public Utilities Commission



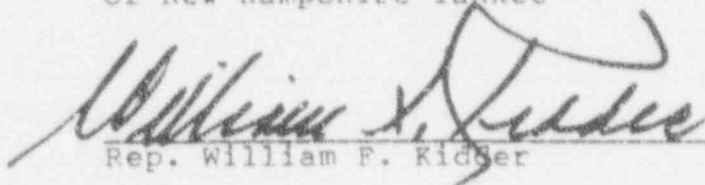
Karen Briskie, Designee of
Georgie A. Thomas, State Treasurer



Douglas L. Patch, Designee of
Commissioner Richard M. Flynn,
Department of Safety



Robert W. Romer, Designee
of New Hampshire Yankee



Rep. William F. Kidder

THE STATE OF NEW HAMPSHIRE
NUCLEAR DECOMMISSIONING FINANCING FUND
SEABROOK DECOMMISSIONING FUND
DOCKET NO. NDFC 91-1

..0..

F I F T H S U P P L E M E N T A L O R D E R

WHEREAS, the Committee, on Wednesday, January 29, 1992, issued the Third Supplemental Order adopting an updated Nuclear Decommissioning Financing Fund and an updated schedule of payments into the Fund; and

WHEREAS, the Office of Consumer Advocate, on February 18, 1992, filed a Motion for Rehearing of the Committee's Third Supplemental Order which incorporates its Report and First Supplemental Order dated November 26, 1991; and

WHEREAS, the Motion for Rehearing by the Office of Consumer Advocate was supported by the Seacoast Anti-Pollution League by a letter dated February 14, 1992; and

WHEREAS, New Hampshire Yankee, on February 18, 1992, filed a Motion for Rehearing, or alternatively, for Amendment of Order requesting a revision and amendment of the Third Supplemental Order; and

WHEREAS, at the request of the Chairman of the Committee, Larry M. Smukler, Alexander J. Kalinski, Special Counsel to the Committee, took a telephone poll of the

Committee Members who issued the Third Supplemental Order and the Fourth Supplemental Order, in order to determine their vote on the granting or denying of the pending Motions for Rehearing by the Office of Consumer Advocate and by New Hampshire Yankee; and

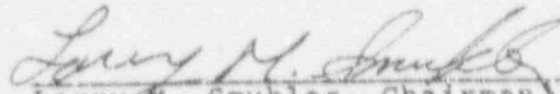
WHEREAS, with respect to the Motion for Rehearing filed by the Office of Consumer Advocate, Committee Members Larry M. Smukler, Karen Briskie, Douglas L. Patch, Robert W. Romer, and William F. Kidder voted to deny the Motion and Committee Member Willard F. Boyle voted to grant the Motion; and

WHEREAS, with respect to the Motion for Rehearing filed by New Hampshire Yankee, Committee Members Larry M. Smukler, Karen Briskie, Douglas L. Patch, Robert W. Romer, William F. Kidder and Willard F. Boyle voted to deny the Motion; and it is

ORDERED, that the Motion for Rehearing filed by the Office of Consumer Advocate is denied and the Motion for Rehearing filed by New Hampshire Yankee is denied; and it is

FURTHER ORDERED that the alternative Motion by New Hampshire Yankee for Amendment of the Third Supplemental Order is not ruled upon but will be taken up at a meeting of the Committee to be held to ratify the telephone poll reflected in this Fifth Supplemental Order in accordance with a notice to be issued by the Committee.

By Order of the Nuclear Decommissioning Financing
Committee this 27th day of February, 1992.



Larry M. Smukler, Chairman
N.H. Public Utilities Commission
Chairman, Nuclear Decommissioning
Financing Committee

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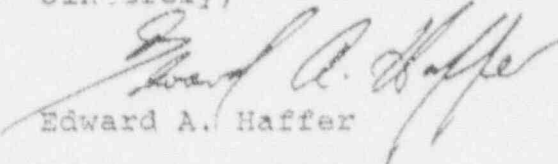
N.H. Public Utilities Commission
8 Old Suncook Road
Concord, NH 03301

RE: NDFC 91-1

Dear Mr. Holmes:

This responds to the inquiry that you made at the hearing on September 25, 1991 concerning the rationale behind the 40-year licensing period. 3 Tr. 56(9)-57(1). In addition to the response that Mr. Cloutier gave at the hearing, we direct your attention to §103(c) of the Atomic Energy Act: "Each such license shall be issued for a specified period, as determined by the Commission, depending on the type of activity to be licensed, but not exceeding forty years, and may be renewed upon the expiration of such period." 42 USC §2133(c).

Sincerely,



Edward A. Haffer

EAH:d1

CC: Service List
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Office of State Treasurer

THE STATE OF NEW HAMPSHIRE

CONSUMER ADVOCATE
MICHAEL W. HOLMES



ASSISTANT CONSUMER ADVOCATE
JOSEPH W. ROGERS

OFFICE OF THE CONSUMER ADVOCATE
8 OLD SUNCOOK ROAD
CONCORD, NEW HAMPSHIRE 03301-5185

603/271-1172

18 February 1992

Larry Smukler, Chairman
Nuclear Decommissioning
Financing Committee
NH Public Utilities Commission
Concord, NH 03301

RE: NDFC 91-1

Dear Chairman Smukler:

Enclosed please find The Office of the Consumer Advocate's Motion for Rehearing pursuant to RSA 541:3. My apology for any inconvenience this Office may have caused by having filed this prematurely on December 16, 1991. You should probably be aware that it is my understanding, according to Arthur Brennan, Counsel to the Governor, that as of January of this year the \$ 120 per cubic foot surcharge will be applied to low-level waste shipped out of state by New Hampshire. The Nuclear Decommissioning Financing Committee may want to verify this directly with Mr. Brennan as there may be nuances to the position take by out of state repositories, of which I am unfamiliar.

Sincerely,

A handwritten signature in cursive script, appearing to read "Michael W. Holmes".

Michael W. Holmes, Esq.
Consumer Advocate

Enclosure

CC: Service List
State Treasurer
State Library



STATE OF NEW HAMPSHIRE
BEFORE THE
NUCLEAR DECOMMISSIONING FINANCING COMMITTEE

Public Service Company)
of New Hampshire
New Hampshire Yankee Division
Seabrook Station - Unit 1
Nuclear Decommissioning Fund

Docket NDFC 91-1

OFFICE OF CONSUMER ADVOCATE'S
MOTION FOR REHEARING

NOW COMES the Office of Consumer Advocate (OCA) and moves pursuant to NH RSA-541:3 for rehearing of the Report and First Supplemental Order No. NDFC 91-1, 26 November 1991, of the Nuclear Decommissioning Financing Committee (Committee), on the grounds that the decision of the Nuclear Decommissioning Financing Committee (Committee); (1) ignores a record militating against a thirty-six year life and toward the thirty year life proposed by the OCA; (2) violated NH RSA 162-V:22 III when it ignored a record indicating that the low-level radioactive waste (LLW) escalation rate proffered by the OCA was 14.51 percent.

I. THE COMMITTEE'S REASONS FOR NOT ACCEPTING THE 30 YEAR LIFE RECOMMENDATION VIOLATES RSA 162-F:1,II AND NH RSA 162-F:22 III.

The language in RSA 162-F:1, II is explicit:

"The legislature, therefore, hereby establishes a procedure which will provide assurance of adequate funding by utilities for the decommissioning of those nuclear electric generating facilities which complete their anticipated energy-producing lives." (emphasis supplied)

To do this, the Committee was mandated by the Legislature to avail itself of:

"...all available data and experience in determining the amount of such fund..."¹ (emphasis supplied)

The Committee could have done so had it adopted Mr. Rohrbach's unbiased scientific study developed expressly for the planning problem presented by docket NDFC 91-1. The Committee did not address the merits or deficiencies of Mr. Rohrbach's model, saying, instead, that it was not "adequately validated"² because it was heretofore not used before any regulatory body. This logic is unpalatable because it implies that any original analysis is de facto nugatory.³ Indeed, Mr. Rohrbach's technique is well accepted by all Commissions which regulate utilities; only the data and application is new.

¹NH RSA 162-F:22 III.

²Report @ 3.

³The report also claims on page 37 to have dismissed the OCA's thirty-year planning-life because it would "overburden present ratepayers at the expense (sic - to the benefit) of future ratepayers", creating "intergenerational inequities". However it must mean to say it is an incorrect life that results in inequities.

The Committee's rationale is surprising because New Hampshire Yankee's (NHY) own witness's utilized a scientific technique based on central tendencies in other facets of the nuclear decommission trust planning process, even though they did not do such an analysis for plant life.

The fact is, no commercial reactor has reached age thirty-six. Yankee Rowe has shut down after thirty years. Indeed, when the scrim of NDFC 91-1 is lifted it is glaring that the Committee made no effort to probe the nature or dynamics of the Rohrbach model; it was rejected out-of-hand even though econometric models⁴ and statistical inferences based on central tendencies are embedded in the regulation of utilities. Lest the response "[not] adequately validated" become the Committee's shibboleth tantamount to "not by NHY", recall that it is NHY who, when asked to provide the basis for a forty year license could only demonstrate it was the maximum allowed by Congress in 42USC 2133(c). The Committee's endorsement of a thirty six year life without buttressing and corroborating data is a violation of the Legislature's mandate to exploit "...all available data and experience..."⁵ (emphasis supplied). It was the thirty-six

⁴Mr. Rohrbach's econometric model is, we submit, "...sufficient scientific evidence..." to employ a thirty year life. See: Appeal of Campaign for Ratepayer Rights 577 A.2d 1230, 133 N.H. 480 (1990).

⁵NH RSA 162-F:22 III.

year life that was not 'adequately validated'. Whatever presumption as to the anticipated life might be drawn from the license life was rebutted by the presentation of Mr. Rohrbach's analysis. The burden then shifted to NHY to prove its case, and it failed utterly.

At a minimum the Committee must reopen the record and require NHY to justify Seabrook's anticipated life upon some basis other than a law permitting the NRC to grant a license no longer than forty years. Mr. Rohrbach's analysis based on data from over 1500 nuclear reactor years of experience and the Yankee Rowe experience indicate that license life can no longer be presumed to be the anticipated life. In short, license life is at best a rebuttable presumption whereas not a single flaw or weakness was demonstrated to exist in Mr. Rohrbach's analysis.

II. THE OCA'S LLW ESCALATION RATE WAS BASED ON ACTUAL DATA; NHY'S WAS NOT, HENCE REJECTION OF THE OCA ESCALATION RATE IS UNJUST UNDER RSA 162-F:22 III.

RSA 162-F:22 III. requires the use of "relevant cost construction indicators" in the fund planning process. The OCA's LLW escalation rate complies with this mandate, rationally weighing both recent and long term escalation experience by the averaging of the most recent five and ten year compound growth at the Beatty, NV LLW repository. Conversely, NHY's LLW escalation rate, six percent, is bereft of any analytical rigor being a distillation of conversations and readings by the NHY cost escalation witness, and hence does not comply with RSA 162-F:22 III. It amounts to nothing more than wishful thinking, hoping that the future costs of nuclear waste disposal will conform to the country's pattern of inflation in general, contrary to all "experience" and reason.

Incidentally, The Committee erred when it claimed that the OCA's witness, Mr. Rohrbach said the disposal fee could go as high as \$ 120 per cubic foot. Mr. Rohrbach claimed that the penalty for being out-of compliance with the LLW Act could go as high as \$ 120; hence the ultimate disposal fee is the penalty plus the normal disposal fee.

WHEREFORE, the OCA requests that the Committee Grant rehearing of Order No. NDFC 91-1 dated 26 November 1991; or, in the alternative, order NHY, on the sooner of the next NDFC docket or 1 July 1994, to provide data supporting the contention that NRC license life should be equated with anticipated life, and why a LLW escalation rate based on recent and actual data should not control.

Dated: 18 February 1992

Respectfully submitted,
MICHAEL W. HOLMES, ESQ.



Michael W. Holmes, Esq.
Office of Consumer Advocate
8 Old Suncook Road
Concord, NH 03301
603.271.1172

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Motion for Rehearing in Docket NDFC 91-1 were mailed this day to parties of record, either by hand, NH State Messenger Mail, or first class mail, postage prepaid.

Dated: 18 February 1992



Michael W. Holmes, Esq.
Consumer Advocate
Office of Consumer Advocate
8 Old Suncook Road
Concord, NH 03301
603.271.1172

THE STATE OF NEW HAMPSHIRE

CONSUMER ADVOCATE
MICHAEL W. HOLMES



ASSISTANT CONSUMER ADVOCATE
JOSEPH W. ROGERS

OFFICE OF THE CONSUMER ADVOCATE
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CONCORD, NEW HAMPSHIRE 03301-5185

(603) 751-1172

11 September 1991


Larry Smukler, Esq., Chairman
Nuclear Decommissioning
Financing Committee
NH Public Utilities Commission
Concord, NH 03301

RE: NDFC 91-1

Dear Mr. Smukler:

Attached is my rebuttal testimony to the Supplemental Testimony of Mr. Thomas S. LaGaurdia as filed on September 10, 1991, in the above referenced docket.

Sincerely,


John S. Rehrbach
Economist

Enclosures

CC: Service List
State Treasurer
State Library



Q. Do you have any comments regarding the Supplemental Testimony of Mr. LaGuardia's dated 10 September 1991?

A. Yes. Mr. LaGuardia appears not to have read the answer to my data response number 8 to NHY dated 7 August 1991. Therefore, his question and my response is set out below:

Q. "Using the appropriate inputs that would have been applicable to the Yankee Rowe plant at the beginning of its operating life, what would be the forecasted life and the predicted capacity factor estimate by year using your model."

Response:

Such an analysis is possible and results in a capacity factor profile and forecasted life as attached. However, such an analysis is meaningless; and econometrically inappropriate given the functional form embodied in NDFC.SAS and SEABROOK.PROJ assumes "learning" reactor to reactor, therefore to forecast the performance of Rowe from the beginning of its operating life with the data base used for the 1586 reactor years of experience incorporated into the Seabrook life forecast (i.e. "KGWH.DAT") would do so with the positive time-dependent experiences of all reactors commencing operations past the beginning of operations at Rowe. To properly forecast Rowe would entail excluding all reactors past the commencement of operations, i.e., the only reactors in the data base would be Shippingport and Dresden I. There are not enough data points in that set to accurately estimate the performance of Rowe, and even if there were, the sample from which the coefficients were generated would be different from KGWH.DAT.

I would note that Dr. Heinze-Fry, in Reference R-4, predicts the last year of operations at Rowe to be 2000 (see: page F-7), and the levelized capacity factor to be 81.71 percent (see: page 72).

Thus, the Rowe analysis is meaningless and therefore the NDFC should give little weight to the the supplemental testimony of Mr. LaGuardia.

In addition, I point to the following article, which in addition to the work of Dr. Heinze-Fry, indicates that nuclear power plants performance falls as they age.

Lester, Richard and Mark McCabe (1988) "The Effect of Industrial Structure on Learning By Using In Nuclear Power Operation" MIT-EL-88-024WP, Center for Energy Policy Research, MIT.

SHEEHAN
PHINNEY
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PROFESSIONAL
ASSOCIATION



September 10, 1991

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FAX 603-433-3126
603-433-2111

VIA HAND DELIVERY

Larry Smukler, Chairman
Nuclear Decommissioning
Financing Committee
N.H. Public Utilities Commission
8 Old Suncook Road
Concord, New Hampshire 03301

RE: NDFC 91-1

Dear Mr. Smukler:

I enclose for filing the Supplemental
Testimony of Mr. Thomas S. LaGuardia on Behalf of
New Hampshire Yankee.

Sincerely,

Edward A. Haffer

FAH:dl

Enclosures

CC with enclosures:
Service List
State Library
Office of State Treasurer

1
2
3 SUPPLEMENTAL TESTIMONY
4 of
5 Mr. Thomas S. LaGuardia
6 on Behalf of New Hampshire Yankee
7
8

9 Q. HAVE YOU REVIEWED THE DIRECT TESTIMONY OF MR. JOHN S.
10 ROHRBACH OF THE STATE OF NEW HAMPSHIRE'S OFFICE OF THE
11 CONSUMER ADVOCATE AND HIS RESPONSE TO THE DATA REQUESTS
12 OF NEW HAMPSHIRE YANKEE?

13 A. Yes.

14
15 Q. DO YOU WISH TO COMMENT ON ANY ASPECTS OF MR. ROHRBACH'S
16 DIRECT TESTIMONY, OR HIS RESPONSES TO NEW HAMPSHIRE
17 YANKEE'S DATA REQUESTS?

18 A. Yes. I would like to take issue with Mr. Rohrbach's
19 suggestion that a commercial nuclear power plant's
20 capacity factor generally declines with age.

21
22 Q. HAVE YOU REVIEWED MR. ROHRBACH'S ANALYSIS OF THE PREDICTED
23 CAPACITY FACTORS FOR YANKEE ROWE USING HIS COMPUTER
24 MODEL AS PRESENTED IN RESPONSE TO NEW HAMPSHIRE YANKEE'S
25 DATA REQUEST NO. 8?

26 A. Yes.

27
28 Q. DO YOU HAVE ANY COMMENTS?

Mr. Thomas S. LaGuardia

1 A. Yes. I believe it shows the great difficulty, if not
2 futility, of trying to predict capacity factors using the
3 statistical-based program that Mr. Rohrbach describes.
4

5 I have attached a curve of the capacity factors that were
6 predicted by Mr. Rohrbach's program for Yankee Rowe
7 versus the plant's actual capacity factors. There is
8 little correlation in Mr. Rohrbach's analysis as his
9 computer model predicts Yankee Rowe's capacity factor is
10 negative in the year 1978, then begins to increase again.
11 Such unexplained drastic reductions and subsequent
12 increases in calculated capacity factors suggest that the
13 code may not have been validated and verified, and
14 certainly should not be relied upon for rate regulatory
15 purposes. The actual performance of Yankee Rowe shows no
16 such anomalies. In fact, Yankee Rowe's capacity factor
17 increases in its early years, leveling off at an industry
18 high level in excess of 75%.

19

20 Q. HOW HAVE THE NEW ENGLAND NUCLEAR POWER PLANTS PERFORMED,
21 AS MEASURED BY CAPACITY FACTOR?

22 A. I have attached a graph depicting the average of the
23 reported capacity factors for the seven (7) New England
24 nuclear units (Yankee Rowe, Vermont Yankee, Connecticut

Mr. Thomas S. LaGuardia

1 Yankee, Millstone Units 1,2 and 3, and Maine Yankee).
2 This group includes some of the oldest plants in the
3 country. The data for these units does not support a
4 correlation of decreasing capacity over a plant's
5 operating life.
6

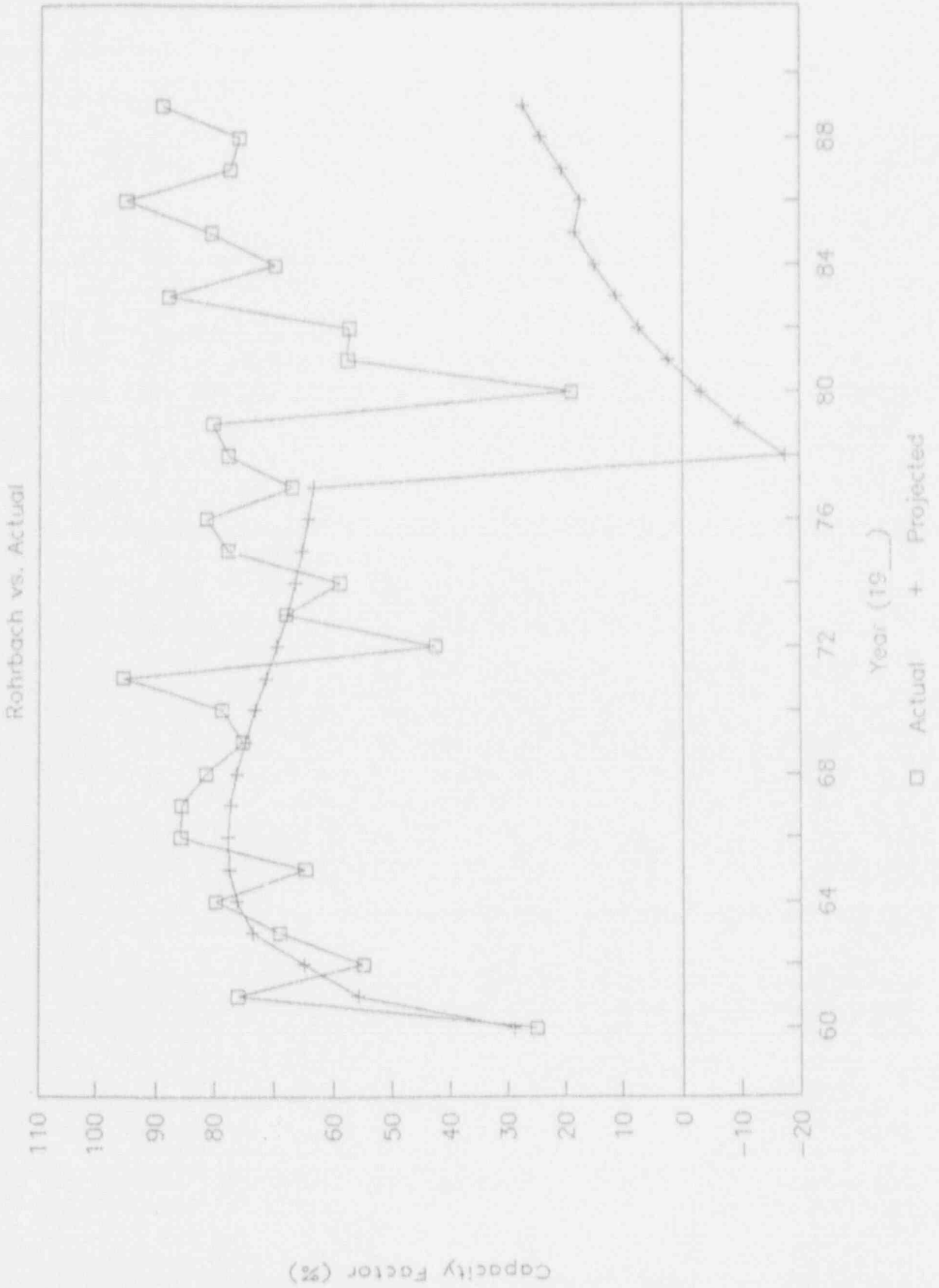
7 Q. WILL NHY OR TLG BE OFFERING ANY OTHER TECHNICAL WITNESSES
8 IN REGARDS TO THE DECOMMISSIONING COST STUDY SUBMITTED TO
9 THE STATE OF NEW HAMPSHIRE NUCLEAR DECOMMISSIONING
10 FINANCING COMMITTEE?

11 A. Yes. Mr. William A. Cloutier, Jr., will be available
12 during my appearance before the Committee. Mr. Cloutier
13 is the Manager of Decommissioning Projects at TLG and was
14 instrumental in preparation of the study. His educa-
15 tional and professional background is provided as an
16 attachment to my supplemental testimony.
17

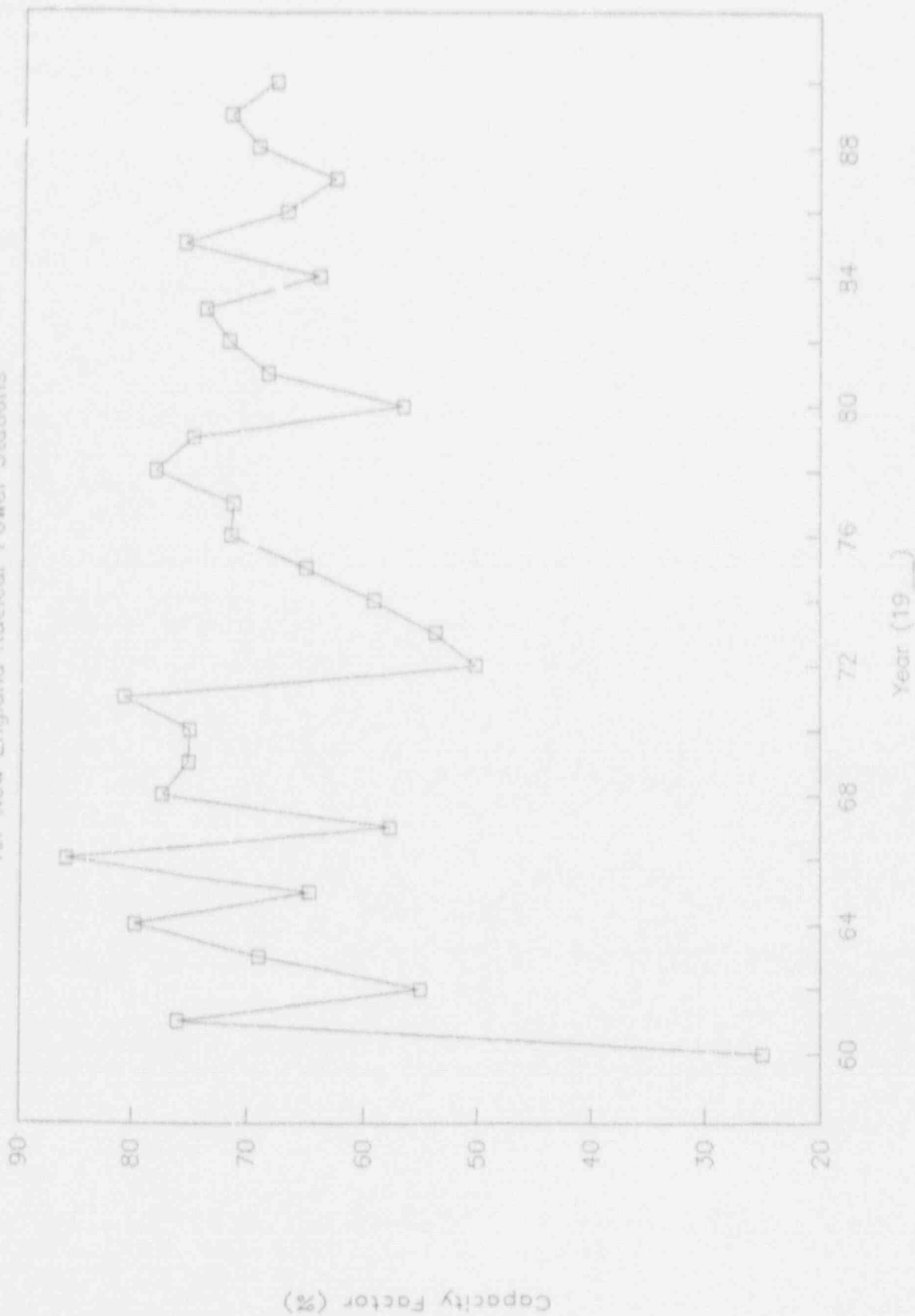
18 Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL TESTIMONY?

19 A. Yes.

Yankee Rowe Capacity Factors



Average Capacity Factor for New England Nuclear Power Stations



TLG ENGINEERING, INC.

NAME: William A. Cloutier, Jr.
POSITION: Manager, Decommissioning Projects
EDUCATION: B.S. Mechanical Engineering,
Worcester Polytechnic Institute,
Worcester, MA, U.S.A., 1977

EXPERIENCE:

Mr. Cloutier has over thirteen years of experience in the areas of decommissioning planning and radioactive waste management. His current position is as Manager of Decommissioning Projects with TLG Engineering, Inc., located in Brookfield, Connecticut (U.S.A). He is responsible for the company's technical and financial studies involving the decommissioning of nuclear power stations, both current and future. These studies address all the major issues associated with disposition of both high-level and low-level radioactive waste.

Mr. Cloutier is currently lending support to the Sacramento Municipal District in the decommissioning planning for the Rancho Seco Nuclear Generating Station. This activity has required the identification of both radiological and hazardous/mixed waste at the site, development of a long term site remediation plan, disposal/treatment alternatives and development of site sampling/verification program and the investigation of volume reduction alternatives.

He has co-authored several papers on the issues surrounding reactor decommissioning, radioactive waste management and was a contributing author on a study for the Atomic Industrial Forum to standardize the estimating of decommissioning cost.

1980 - 1983

Prior to his current position at TLG Engineering, Mr. Cloutier was employed with Nuclear Energy Services, Inc. as a Waste Management Engineer. He provided technical expertise in the planning and engineering of nuclear facility decontamination and decommissioning as well as developed methodologies and cost-benefit approaches in facility dismantlement. At NES, Mr. Cloutier participated in the initial planning and engineering for decommissioning the Western New York Nuclear Service Center, a fuel reprocessing facility. This effort included an on-site phase where assessments of both waste volume and disposal options were performed. He also participated in the engineering planning for decommissioning the Shippingport Atomic Power Station, in areas of waste management and control, as well as led the initial technical assessment for decommissioning the Humboldt Bay Unit 3 generating station.

1977 - 1980

As a lead Radwaste Engineer at EBASCO Services, Mr. Cloutier was responsible for the development, engineering and hardware procurement of radioactive waste treatment and associated cleanup systems. These activities were in direct support of commercial nuclear power plant construction.

TLG ENGINEERING, INC.

NAME: William A. Cloutier, Jr.

PUBLICATIONS:

"Impediments to Nuclear Decommissioning Due to the Presence of Spent Fuel On-Site," with Francis W. Seymore, presented at the ASTM Las Vegas meeting, January 1990.

"Influence of Decommissioning on Radioactive Waste Stream", with J. Adler and F.W. Seymore, presented at the 1988 ANS Topical Conference: Radiological Effects on the Environment Due to Electrical Generation, July 1988.

"Decommissioning of Commercial Power Reactors: Rationale, Impetus, Execution and Consequence," with Francis W. Seymore, presented at the Low Level Waste Forum, January 1988.

AIF/NESP-036, "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," with Thomas S. LaGuardia et al, May 1986.

TESTIMONY EXPERIENCE

August 1989, before the North Carolina Utilities Commission, for Duke Power Company, Carolina Power & Light, and Virginia Power Company on decommissioning costs and waste volumes for decommissioning the Catawba Nuclear Station and Brunswick Steam Electric Plant, docket E-100, Sub 56.