DECOMMISSIONING OF NUCLEAR GENERATING FACILITIES

SUMMARY

REPORT OF THE JOINT SELECT COMMITTEE TO THE MAINE LEGISLATURE

December 2, 1981

Chairmen:

Senator Howard Trotzky of Penobscot
Representative Richard Davies of Orono

Committee Members:

Senator Dana Devoe
Senator Barbara Trafton
Representative Romeo Boisvert
Representative Meredith Bordeaux
Representative Gordon Cunningham
Representative Judy Kany
Representative Patrick McGowan
Representative Richard McKean
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Representative Norman Weymouth

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EXECUTIVE SUMMARY

December 2, 1981

A joint select committee of 13 legislators and 4 other members was created by statute in 1979 to study decommissioning of nuclear power plants.

The committee focussed primarily on making funds available for decommissioning when the time comes. Studies now in progress at the U.S. Nuclear Regulatory Commission and the Federal Energy Regulatory Commission will shed light on the safety, environmental and economic questions surrounding the choice of a method of decommissioning.

The committee found that Maine Yankee will need to be properly decommissioned when it is closed, at a time estimated to be around the years 2002 to 2008, in order to protect the public and the environment from the adverse effects of the radioactive material at the plant. According to the U.S.NRC, technology is available to accomplish this goal. The method of prompt removal and dismantlement was chosen for financial planning purposes. The estimated cost is $57,511,000 (1980$).

At present, Maine Yankee is attempting to set up a decommissioning trust fund, and several utilities have included decommissioning costs in their rates. However, no trust fund has yet been set up.

The committee recommended legislation establishing a tax-exempt trust fund to cover the cost of decommissioning.

The committee also recommended that the legislative committee: review the possibility of a licensee-established trust fund; consider what to do with money already collected by utilities on the basis of decommissioning; and study the financing of spent fuel decommissioning.

Finally, the committee recommended pursuing tax exempt status for the decommissioning fund.

The trust fund will be overseen by a 7-member committee, including the State Treasurer, chairman of the PUC, a member from the town, a member from Maine Yankee, and 3 members named by the Governor. The fund would bill Maine Yankee in order to build up enough money by decommissioning time, according to a plan approved by the PUC. The legal responsibility for decommissioning lies with the licensee. (Maine Yankee) If there was insufficient money in the trust fund, the licensee would be financially responsible. If the licensee had insufficient funds, the owning utilities would be financially responsible.

Introduction

The Joint Select Committee on Decommissioning of Nuclear Generating Facilities was established by chapter 59, P&S Laws of 1979. In the summer of 1980 all members had been appointed and the Committee first met, but it proved difficult to focus adequately on the narrow issue of decommissioning while the referendum to close Maine Yankee was pending. As a result the study was extended until December, 1981. This has led to substantial progress.

The Committee decided to focus primarily on making certain that funds would be available for decommissioning when the time comes. The result is proposed legislation (Appendix A).

There are several related issues which may require further attention at another time, including decommissioning of spent fuel, choice of a physical method of decommissioning, and insurance against a major accident.

The positive results of the study were made possible by the cooperative spirit and willingness to focus on the issues at hand shown by all members of the Committee, including persons with widely divergent views on the merits of nuclear power itself.

Findings

I. Need for Decommissioning

(1) Purpose. Decommissioning is needed after shutdown and removal of any nuclear power plant to protect the public and the general environment from the adverse effects of the radioactive material at the plant. Therefore, there is a strong public interest in decommissioning.

(2) Maine Yankee. There is one nuclear plant in Maine: Maine Yankee at Wiscasset. No others are planned, but it is possible that additional plants could be built in the future.

Maine Yankee will complete its depreciable life in 2002, after 30 years of operation. That year has been used in rate cases as the estimated time of decommissioning, although the operating license extends to 2008, and operational considerations could lead to actual decommissioning occurring either earlier or later. For financial planning purposes an assumed date of 2002 for closing and decommissioning seems reasonable.

(3) Out-of-State Plants. Maine citizens have an economic interest in decommissioning of several other nuclear power plants in New England, including Yankee Atomic (Rowe, Mass.); Connecticut Yankee, Vermont Yankee, Millstone III (Ct.) and Seabrook I & II (NH) (under construction) as well as Point Lepreau (New Brunswick) (under construction), which supply power to Maine, because the cost of decommissioning ultimately appears in the rates.

Maine citizens have an environmental interest in proper decommissioning of any out of State nuclear power plant that is near (roughly, within 50 miles) the border. At present this includes Seabrook and Point Lepreau.

II. Procedures for Decommissioning

(4) Past Experience. At least 65 nuclear reactors have already been decommissioned (ref. NUREG/CR-0130, page 3-2), but these ranged from 1 to 70 megawatts electric and were much smaller than typical commercial power plants including Maine Yankee (840 megawatts, electric).

(5) Methods. Three methods of decommissioning are generally described:

- Prompt removal & dismantlement (DECON) means removing all radioactive materials down to levels which permit release of the property for unrestricted use.

- Mothball (SAFSTOR) means placing a radioactive facility in a safe storage condition, allowing for decontamination some years later.

- Entombment (ENTOMB) means to encase and maintain a radioactive facility in concrete or similar material until the radioactivity decays to a level acceptable for unrestricted use.

The study did not evaluate these methods, because that will be done by USNRC. But, the study did find that financial plans based on prompt removal and dismantlement should be adequate to cover any method actually chosen. Maine Yankee has selected this method for purposes of cost estimates.

(6) Technology. According to USNRC, technology is available for decommissioning, public exposure to radiation is very small, occupational exposure is similar to that during operations, and costs are significant but manageable. Details are given in the technical appendix, Appendix K.

(7) Regulations. The USNRC has only minimal regulations on decommissioning. NRC approval is required to terminate an operating license (10 CFR 50.82). According to testimony received from the NRC comprehensive regulations will not be promul-

gated until 1983.

(8) Waste Disposal. Completion of decommissioning depends on the availability of radioactive waste disposal sites. Some low-level sites now exist, and discussions are proceeding rapidly to develop regional sites around the country. No high level sites have been established.

III. Cost of Decommissioning

(9) Maine Yankee estimates. Maine Yankee has taken several steps towards planning for decommissioning. A technical analysis has been done for them by Nuclear Energy Services, May 22, 1980 under contract to Stone & Webster, who were the architect-engineers for Maine Yankee. The estimated cost is $57,511,000 (1980), using the method of prompt dismantlement and removal.

(10) NRC estimates. Batelle Pacific Northwest Laboratories has completed technical studies for the US Nuclear Regulatory Commission on decommissioning. One of these (NUREG/CR-0130) applies to pressurized water reactors of the same general type as Maine Yankee. This provides sufficient technical basis for cost estimates, although the details may change when actual decommissioning occurs. According to testimony from USNRC these cost estimates are generally conceded to be accurate within a factor of two.

(11) Taxation (Federal). At present the IRS considers money received through rates for decommissioning as corporate income in the year received, and as an expense in the years decommissioning actually occurs. As a result of the corporate income tax, ratepayers must initially pay about twice as much as they otherwise would to create a decommissioning fund of a given size. This is unfair to the ratepayers, even though the tax is

eventually recouped, at decommissioning time. For Maine Yankee the situation is even worse. Because that is a single-asset company, it will have no income at decommissioning time against which to offset the decommissioning expense, and there will be no way to recoup those taxes.

(12) Taxation (State). The proposed bill provides for State tax exemption of funds collected for Nuclear decommissioning and the income on the trust fund. That portion should be reviewed by the Standing Committee on Taxation before action on the bill by the legislative committee.

IV. Method of Funding

(13) Assurance. Assurance that sufficient funds will be available for decommissioning at the time of closing of a nuclear power plant is of primary importance in order to assure that decommissioning will be accomplished expeditiously and safely. A separate trust fund is the best way to provide that assurance. Of course, the licensee has the legal responsibility and, when the fund is exhausted, the financial responsibility.

(14) Trust Fund Insufficient. In case the trust fund is insufficient to cover the actual cost of decommissioning due to premature closing or miscalculation, further assurance is necessary that the shortfall can be financed by the licensee or the owners.

(15) Responsibility. Maine Yankee Atomic Power Company is a single-asset company, and the liability for decommissioning costs is unclear, in the event Maine Yankee should be unable to pay them. Some testimony was received that the 11 electrical companies who are the owners of Maine Yankee would be liable. That seems reasonable, but it needs legal clarification in order

to make it definite.

(16) Present Situation.

(A) No Trust Fund. At present there is no trust fund or other financial arrangement for decommissioning.

(B) FERC. The US FERC has not promulgated a rule on inclusion of decommissioning costs in rates but has dealt with cases individually.

Maine Yankee has applied to FERC for inclusion of decommissioning cost in its rates. After a year of delay, FERC now promises expedited review.

(C) Maine Utilities. Central Maine Power, Maine Public Service and Bangor Hydroelectric have received PUC approval to include their share of decommissioning costs in their retail rates.

CMP has been collecting rates based on decommissioning, among other things, for a year, but has been unable to make payment to Maine Yankee due to lack of FERC approval. Therefore, they have been using the fund for general operating purposes. This practice is the subject of Kany v. CMP which is pending before the PUC.

Maine Public Service has been collecting rates based on decommissioning since June, 1981. Bangor Hydro will, when their next rate schedule takes effect.

(D) Maine Yankee. Maine Yankee is actively exploring the private establishment of a trust fund to hold decommissioning funds.

V. Other Matters

(17) Review of Draft. The proposed legislation involves the intricacies of trust and tax law. The draft should be reviewed by an experienced trust and tax lawyer.

(18) Spent Fuel. Spent fuel is being accumulated on site at Maine Yankee until suitable waste storage or reprocessing facilities are constructed. Disposal of the last core load will be necessary at the time of decommissioning, and if the spent fuel problem is not solved before then, the disposal of all the accumulated spent fuel will also be necessary.

For accounting purposes, spent fuel costs are considered separately from other decommissioning costs. The present study did not address them, but they do merit further study.

Recommendations

The Joint Select Committee on Decommissioning Nuclear Generating Facilities recommends that:

(1) Legislation should be enacted establishing a decommissioning trust fund. A proposed bill is included in Appendix A.

(2) The possibility of a licensee-established decommissioning trust fund should be reviewed by the legislative committee prior to final action on the proposed bill.

(3) The question of what to do about money collected by electric utilities based on decommissioning costs but not actually transferred to any decommissioning fund should be reviewed by the legislative committee prior to final action on the proposed bill.

(4) The Joint Standing Committee on Public Utilities should conduct further study of the problem of financing decommissioning spent fuel, with a report to the 111th Legislature.

(5) Steps should be taken to establish tax exempt status for the decommissioning trust fund. These include a revenue ruling on the proposed bill from the IRS, and requesting the support of the Congressional delegation if federal legislation is needed.

JOINT SELECT COMMITTEE ON NUCLEAR DECOMMISSIONING

COMMITTEE BILL

AN ACT to Ensure Funding for the Eventual Decommissioning of Any Nuclear Power Plant

Be it enacted by the People of the State of Maine, as follows:

35 MRSA c. 269, sub-c. II is enacted to read:

SUBCHAPTER II

DECOMMISSIONING

§3341. Findings. The Legislature finds that timely proper decommissioning of any nuclear power plant is essential to protect public health, safety and the environment at the time of closing that nuclear power plant and that the cost will be significant. To ensure that customers who receive the benefits of such facilities pay for these decommissioning costs, the Legislature finds that it is prudent for the state to require the licensee operating any nuclear power plant to collect sufficient funds during the remaining useful life of the plant to pay for these costs. The Legislature further finds that the best way to ensure that the funds collected will be available when they are needed for decommissioning is to require that the funds be placed in a separate trust fund for each plant and invested by a trustee until they are needed for decommissioning. The Legislature further finds that funds set aside for decommissioning protect the people of the State, that payment of taxes on these funds would be an unreasonable burden on the ratepayers, and therefore that the fund should be tax exempt.

The Legislature further finds that assurance is needed that funds will be available for the cost of decommissioning which would occur if a nuclear power plant is prematurely closed.

(Text Omitted)

STATEMENT OF FACT

Maine Yankee will complete its depreciable life in 2002, after 30 years of operation. That year has been used in rate cases as the estimated year of decommissioning, although the operating license extends to 2008, and operational considerations could lead to actual decommissioning occurring either earlier or later. For financial planning purposes an assumed date of closing and decommissioning of 2002 seems reasonable. Maine Yankee has selected prompt removal and dismantling as the method of decommissioning. The estimated cost is $57,511,000. The Public Utilities Commission has already approved collection of $684,000 annually for decommissioning from ratepayers in the most recent Central Maine Power Company rate case.

The purposes of this bill are to establish a decommissioning trust fund to be financed by regular payments from the licensee operating any nuclear power plant; to provide for prudent management of the fund by a trustee, under the guidance of a Decommissioning Fund Committee composed of government and public members and one representative of the licensee; and to provide assurance that

funds collected for decommissioning will be segregated for decommissioning purposes only, and that they will be tax exempt and not considered as income to the company for either state and federal tax purposes.

The bill also makes it clear that the licensee has the ultimate responsibility for decommissioning, and that if the resources of the fund are insufficient, the licensee and owners are jointly and severally liable. The State has no financial responsibility for decommissioning.

In the event that the licensee can set up a satisfactory Fund Committee that meets all the criteria, that licensee-established committee may replace the statutory committee.