

**DRAFT- NOT FOR PUBLICATION**

Before the Board of Trustees  
New England Coalition on Nuclear Pollution  
*Opposing Nuclear Pollution*  
Brattleboro, Vermont  
May 10, 2002

**ADVANCE SUMMARY REPORT**  
(w/o attachments)

IN ANTICIPATION OF

ECONOMIC CONSEQUENCES OF THE EARLY CLOSURE OF  
**MAINE YANKEE ATOMIC POWER STATION**  
WISCASSET, MAINE  
LOCAL – REGIONAL- STATEWIDE

A REPORT TO THE  
NEW ENGLAND COALITION on NUCLEAR POLLUTION  
POST OFFICE BOX 545, BRATTLEBORO, VERMONT 05302

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*(SCHEDULED COMPLETION – ????????)*

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## PREFACE

Maine Governor Joseph Brennan made the following speech in a Statehouse press conference just three days before the 1980 referendum vote on the question of closing Maine Yankee Atomic Power Station.

I have spoken out against closing the plant because I believe that would impose a serious financial hardship on families--particularly low-income people and the elderly- -who are hard-pressed to make ends meet now, without the added burden of a large increase in their electric bills.

I have spoken out because I believe it would inhibit economic development. The higher cost of energy would discourage the plant expansions and the new plants, which create jobs for our people.

Today I am concerned that some might feel that a vote against closing Maine Yankee must automatically be an endorsement of nuclear power. I think that would be a serious mistake in a state where--for far too many people--the day-to-day reality is the struggle for economic survival...it would be wrong to decide that a vote to keep Maine Yankee open would necessarily be a vote of confidence in nuclear power. It would be a vote in favor of our economic future, our family budgets, and our jobs.<sup>1</sup>

This report describes what happened a decade and a half later when the dire economic consequences of closing Maine Yankee projected of the Governor's address were tested.

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<sup>1</sup> Maine Sunday Telegram, September 24, 1980

## SUMMARY

Maine Yankee Atomic Power Station, an 860 Megawatt (e) pressure water reactor, received its full-power operating license on June 6, 1973 and last operated on December 6, 1996. The plant was sited on a salt-water peninsula in the Town of Wiscasset in Lincoln County<sup>2</sup>, Maine.

Wiscasset is located on the Maine coast 150 miles North of Boston and about 45 miles from Portland. Two adjacent coastal counties, Sagadahoc and Knox are included in this study to capture a larger area affected by wages of resident Maine Yankee workers. The population of Lincoln County in 2000 was 33,616. Sagadahoc was 35,214, and Knox, 39,618. The population of Maine in 2000 was 1,274,923.

Median household income (1997 model-based estimate) was \$35,696 for Lincoln, \$39,991 for Sagadahoc, and \$33,478 for Knox. Median household income (1997 model-based estimate) for Maine was \$33,140. Persons below poverty level (1997 model-based estimate) were 9.6 percent for Lincoln, 7.8 percent for Sagadahoc, 10.8 percent for Knox, and 10.7 percent for Maine.

### **A Comparable Setting: Vermont Yankee Nuclear Power Station**

For comparison purposes: U.S. Census-Year 2000 figures for Windham County, Vermont (host to Vermont Yankee Nuclear Power Station) included a population of 44,216 with a median household income (1997 model-based estimate) of \$35,590 and persons below poverty level (1997 model-based estimate) at 9.8 percent.

U.S. Census-Year 2000 figures for the State of Vermont included a population of 608,827 with a median household income (1997 model-based estimate) of \$35,210 and persons below poverty level (1997 model-based estimate) at 9.7 percent.

Vermont Yankee, a 510 Megawatt (e) plant, purports to provide 600 jobs and 1/3 of Vermont's electricity.

Maine Yankee's total payroll was approximately \$30,000,000. Salaries ranged from \$17,000 to \$143,000 with an average of \$54,000. Prior to shutdown, Maine Yankee employed 470 to 480 persons in full-time positions.

The majority of employees lived in Maine in towns scattered over the south and mid-coast region from Saco, 60 miles south, to Camden 50 miles north with the greatest concentration in the local "mid-coast" region.

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<sup>2</sup> See, Attachment One – Map showing location

In 1995, aging phenomena began to register increased operations and maintenance costs that made Maine Yankee power less competitive with replacement power sources. This was exacerbated in 1996 and early 1997 when numerous design and construction defects, improperly installed and analyzed modifications, additional aging phenomena, and mounting maintenance backlogs were brought to light<sup>3</sup>.

The seminal event was a U.S. Nuclear Regulatory Commission Independent Safety Assessment (ISAT) completed in September 1996. This was a comprehensive (vertical) physical, engineering, and analysis examination of four safety-related plant systems (out of about thirty systems) and a (horizontal) performance assessment across all plant systems. Maine Yankee slid from very high Systematic Assessment of Licensee Performance (SALP) scores to the NRC Watch List of troubled plants in one giant step.

Parenthetically, revelations of plant defects in the Maine Yankee ISAT and an earlier Diagnostic Evaluation of Millstone Nuclear Generating Station triggered a complete revamping of NRC inspection, assessment, and reporting procedures. The resultant changes are incorporated in the new NRC Reactor Oversight Process.

Shortly after the ISAT, Maine Yankee was shutdown to deal with electrical cable separation issues. NRC determined that the plant could only be restarted after additional repairs and only with NRC approval.

Maine Yankee owners hired in new management from Entergy Corporation in hopes that the plant could be made ready for restart in timely and cost effective fashion. However with the cost of repairs and projected increased operating costs, Maine Yankee owners determined that the plant had become too costly to run.

On August 4, 1997, eleven years short of its thirty-five year operating license expiration date, Maine Yankee Atomic Power Company filed notice with the U.S. Nuclear Regulatory Commission that the plant had permanently ceased operation and would begin decommissioning.

Maine Yankee would have been automatically eligible for a five-year extension of its license to “recapture” the five-year span between its construction permit, October 21, 1968 and its operating license, June 6, 1973.

In addition Maine Yankee might have been eligible for an additional twenty-year license extension and in early 1997 Maine Yankee was still keeping a brave face on the prospects. The Maine Yankee 1997 Annual Business Plan, issued to its Board of Directors in March offers that the, “ Board has committed itself to provide the leadership and the resources necessary to maintain the plant in a condition that will keep open the option of continuing operation for an extended period (emphasis added) following the end of our current license...”

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<sup>3</sup> See Attachment Two, A List of Defects Discovered At Maine Yankee Atomic Power Station 1996-1997, Raymond Shadis, November 13, 2000.

Between March and May, all funds for improvements were cut and the plant was offered for sale. No buyer satisfactory to Maine Yankee was found and the decision was then made to decommission.

At the time the decision was made to decommission, Maine Yankee had approximately 480 employees: 360 at the plant site and approximately 120 at its corporate headquarters and emergency operations center, some 12 miles away, in Brunswick. An average of approximately 200 contract employees also served the plant, however many of them did not reside in the area and did not apparently play a significant role in regional economic impacts.

The easily traceable economic impacts the early closure of Maine Yankee are few, but they are important to the local community and they are important to individuals and families, most of all to former Maine Yankee employees who are directly affected.

In local, regional, or statewide statistics examined to date, there are barely detectable, or no detectable indicators of impacts in typical economic telltale categories: personal income growth, unemployment, housing construction, retail sales, banking deposits, savings, loan defaults, and so on.

The price of electricity did not jump and has remained stable.

This report will discuss the broad indicators of overall economic health at three levels: County, a three county area including Lincoln, Sagadahoc and Knox Counties, and statewide following a focus on employees and the shift of local tax burdens.

## **THE WORKERS**

- **The first and most direct impact is on employees and contractors.**
- **Loss-of-employment impacts have been softened by the actions of Maine Yankee and by circumstances.**
- **Some jobs continue into decommissioning distributing the total job loss or transition over eight years or longer.**
- **A shortage of nuclear engineers and skilled nuclear workers means most employees willing to relocate need not take a pay cut.**

Employees were released from employment in a phased fashion with active programs to help transition and/or relocation. Approximately 125 employees were immediately eligible for retirement or an early retirement package.

One year the workforce on site was approximately 320 and included the now consolidated corporate offices. Two years into decommissioning the original workforce had shrunk to 200.

Early in decommissioning, the company found that employees were transitioning to new jobs so rapidly and in such numbers that a program of “golden handcuffs” including

higher wages, promotions, and bonuses, was instituted to retain key employees whose skill and knowledge of plant particulars were felt to be needed for decommissioning.

As of January 2002, there were approximate 430 people on site at Maine Yankee, of which approximately 100 to 125 were Maine Yankee employees; the remainder was made up of contractors or contract employees. In January, Maine Yankee decided to terminate the services of a contractor handling radiological matters and brought approximately 75 additional technical and managerial positions in-house. An unknown number of former Maine Yankee employees have found positions with contractors on site and may be preferred in hiring for their familiarity with the site.

## THE TAXES

- **Lost property tax revenues are a severe economic blow to the host community.**
- **However, it is also an economic blow that is somewhat softened by a negotiated phase-out, by a growing population, and by the increasing value of coastal real estate.**

In 1996, Maine Yankee's municipal valuation was about \$345,000,000 with a mill rate of 37/1000, which resulted in property taxes paid to the town of \$12,800,000. The total valuation, for assessment purposes, of all property within the town, other than Maine Yankee, was \$33,000,000. The total property tax collected in Wiscasset in 1996 was about \$13,800,000. The budget was just over \$13,000,000. The town (Pop. c.3200) was without debt and holding a reserve of approximately \$13,000,000.

Following a 1997 valuation dispute, Maine Yankee and the Town of Wiscasset settled on a phased valuation/tax reduction over time. In 1997, Maine Yankee was valued at about \$300 million and contributed \$10 million in taxes. In 1998, following a complete town revaluation, Maine Yankee paid \$5,797, 719; in 1999, \$3.6 Million; in 2000, \$2.5 million, and in 2001, \$1.6 million.

The decommissioning is intended to leave the site in "greenfield" condition. Unless a purchase and reuse proposal for the site that satisfies both Maine Yankee and community standards materializes and is accepted, it is anticipated that all above-grade structures on site will be demolished by mid 2004.

There are three exceptions:

- To conform to a Federal Energy Commission rate case settlement with Friends of the Coast-Opposing Nuclear Pollution, a local environmental organization, Maine Yankee will donate a 200-acre saltwater farm (out of the site's 800 acres),

together the farm's buildings, to a tax-exempt non-profit organization to establish a nature preserve and center for environmental policy dialogue. That donation, which is expected during 2002, will remove the farm from the property tax base.

- The second exception to the demolition is an electrical switchyard, originally serving the plant; now upgraded and owned by Central Maine Power Company (no immediate tax figures available).
- The third exception is a dry cask high-level waste storage facility or Independent Spent Fuel Storage Installation (ISFSI). The ISFSI will house 64 vertical concrete and steel storage casks holding 1434 irradiated fuel assemblies (900 tons) plus reactor internal components.

The casks will be stored outdoors on nine concrete pads. The 10.5-acre site will include a cask storage area, earthen berm enclosure, security fencing, an operations/security building of 10,500 square feet, and a 175-foot access road.

The most optimistic projections by the U.S. department of Energy (assuming Yucca Mountain is open in 2010) schedule final waste removal from Maine Yankee in 2028 after which the ISFSI would be demolished. According to the Wiscasset Tax-Collector, until then the ISFSI will be valued and taxed at the cost of construction, an estimated \$ 57,301,000.

Wiscasset, with a population of 3,603 (2000 Census) now has the fourth highest municipal tax rates in the state with median taxes of \$2916 paid on a median home value of \$ 119, 703. This burden represents, on average, 8.22 percent of the median household income of \$35,464. Certain state tax relief programs apply in qualifying low-income households.

The closing of Maine Yankee will also continue to result in a shift of county tax burden to other towns in Lincoln County.

According to a recent report commissioned by Maine Yankee,

The loss of the tax base that Maine Yankee provided for the Town of Wiscasset has resulted in significant State valuation decline, County tax rate increases, and a shifting tax effort within the region.

What follows are highlights of significant findings revealed within the report.

Historical Findings (1995-2000):

- Wiscasset's State valuation plummeted \$186.5 million (a 35.10% decrease). Lincoln County valuation increased only 0.62%.
- The Lincoln County's budget increased 46.36% from 1995 to 2000.

- Non-Wiscasset towns in Lincoln County have seen their County tax effort rise from \$1.9 million in 1995 to \$2.9 million in 2000 (56.84% increase).
- Wiscasset's County tax effort decreased from \$374,987 to \$353,994 (5.60%).
- Wiscasset's percentage of all Lincoln County taxes fell from 16.79% to 10.83%. From 1995 to 2000 the County tax rate increased 45.45%.
- The County tax rate has increased to cover **both** the increasing costs of County government and the loss of Maine Yankee from Wiscasset's tax base. (Emphasis added)

#### Future Projections (2000 -2020)

- A 39% increase in the valuation of non- Wiscasset towns in Lincoln County is projected from 2000 (\$2,840,500,000) to 2020 (\$3,945,115,129) (a 1.5% annual increase).
- The Lincoln County budget is expected to increase from \$3,269,398 to \$8,644,990, a 164% increase (based on an average annual increases of 8.2%)

#### *With No Development at the Maine Yankee Site\**

*\*And no other development to offset conditions- (qualification added).*

- Wiscasset can expect its valuation to decrease 27% from \$344,980,000 to \$250,184,142.
- A 32% increase in valuation is projected for Lincoln County from 2000 to 2020
- Despite having lost 35% of their valuation from 1995 to 2000, Maine Yankee's 2000 valuation was 43% of Wiscasset's valuation and 5% of Lincoln County's total valuation
- By 2020 the Maine Yankee site will only be 14% of Wiscasset's total valuation and 0.83% of Lincoln County's total valuation.<sup>4</sup>

While area municipal officials are concerned about the rising costs of county government, several have expressed optimism that a continued influx of higher income retirees and strong up-scale vacation home construction will increase town property tax

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<sup>4</sup> “Economic and Property Tax Impact Analysis- a Report Analyzing the Economic Impact of the Maine Yankee Decommissioning and Future Economic Projections with Site Development,” PA Strategies, LLC, Portland, Maine April 19, 2001

bases sufficient to offset most if not all of the shifted municipal obligations in support county services.

One area of shifting tax burden not captured in the above report concerns increases attributable to public education in the area Towns of Alna, Westport, Edgecomb, and Dresden.

For an extended period of years prior to the Maine Yankee shutdown, Dresden high school students, Edgecomb seventh and eight grade students, and all students from Westport and Alna attended Wiscasset Schools under contract arrangements at well below State assigned tuition levels and below cost to Wiscasset. School supplementary, enrichment, and sports programs were generally offered free of charge for all students. This education subsidy, which amounted to tax revenue sharing with the affected communities, was renegotiated in the early 1990's requiring area towns to assume a proportionally greater part of the actual costs. Following the closing of Maine Yankee, tuition and fees to area towns have been further adjusted to reflect Wiscasset's new budget constraints.

In some towns the increased cost has been offset by a shift in demographics and tax-valuation. The Town of Alna, for example, reports a decline in the number of tuition students and a marked increase in tax valuation.

Local realtors are also optimistic regarding continued growth and strong real estate demand in higher priced homes.

In 1999, Wiscasset realtors reported 1998 sales to be the best real estate sales in a decade. The Wiscasset Newspaper reported that while just 11 single family homes sold in Wiscasset in 1997, 32 homes were sold in 1998.

Chris Almasi, a real estate associate who has lived in Wiscasset for 20 years opined, "I think the lack of a functioning nuclear power plant has actually made Wiscasset more attractive. I think many people who may not have looked at Wiscasset in the past have now put it on their list."<sup>5</sup>

Recent statistics reveal both an increase in new home construction and an increase in the price of the average home sold in Lincoln County since 1995.

**Lincoln County**

| <u>Year</u> | <u>New Homes</u> | <u>Home Loss</u> | <u>Net</u> |
|-------------|------------------|------------------|------------|
| 1995        | 133              | 3                | 130        |

<sup>5</sup> ATTACHMENT THREE "1999 Wiscasset Real Estate Sales Best in a Decade, Wiscasset Newspaper January 28 1999

|      |     |    |     |
|------|-----|----|-----|
| 1996 | 124 | 6  | 118 |
| 1997 | 167 | 5  | 162 |
| 1998 | 175 | 5  | 170 |
| 1999 | 173 | 5  | 168 |
| 2000 | 212 | 10 | 202 |
| 2001 | 238 | 13 | 225 |

(Maine State Housing Authority)

| <u>Year</u> | <u>Avg. Selling Price</u> | <u>Count of Home Sales</u> |
|-------------|---------------------------|----------------------------|
| 1995        | \$102,372.59              | 83                         |
| 1996        | \$128,734.69              | 374                        |
| 1997        | \$136,006.74              | 199                        |
| 1998        | \$137,035.45              | 298                        |
| 1999        | \$144,186.42              | 315                        |
| 2000        | \$157,281.94              | 361                        |
| 2001        | \$160,363.65              | 333                        |

(Maine State Housing Authority)

## THE LOCAL ECONOMY

- **The local economy took a hit but, statistically, the impact is hard to find.**

On average, it is estimated that less than one half of Maine Yankee employees, or about 145, lived in Lincoln County. Those employees would represent about 0.8 percent of the county's labor force of slightly over 18,000

The labor force of the tri-county area considered in this study, including Knox, Lincoln, and Sagadahoc Counties, is over 72,000 making the numeric presence or absence of about 335 or 70 percent of Maine Yankee resident employees statistically almost invisible at 0.46 percent.

Many of the contract employees do not add a significant portion of their wages to the local economy. However the average per diem of \$470 per week for contract workers goes directly into area lodging, meals, and services, thereby to some small degree offsetting the lost wages those employees who have left the area.

Although, when it was operating Maine Yankee and its contractors contributed to the local economy through the purchase of goods and services, most of the company's purchases were made outside of the area. The "multiplier effects" one might expect in other settings were limited for several reasons.

Charles S Colgan, an economist with the University of Southern Maine explains,

Lincoln and Sagadahoc counties are very small economies. Only Bath is an urban area of even moderate size. Lincoln County has no significant urban area. The size of the urban area is important because it is a major determinant of the size of the multiplier effect is the quantity of goods

and services purchased from within a region rather than outside the region.

For Lincoln and Sagadahoc Counties, there is relatively little, “self supply”; most goods and services outside day-to-day retail purchases come from outside the region.”

He continues,

The multiplier effect in Lincoln County is among the smallest in Maine. Maine Yankee was a highly specialized production facility, which had little effect in the local economy outside of wages paid and property taxes. While Bath Iron Works is a huge employer of regional residents, it too is highly specialized with most inputs coming from outside the region. Thus, as the (proposed) redevelopment of the Maine Yankee site opens the doors to a more diverse economy, the development effects of each new job are larger than when Maine Yankee was operating.<sup>6</sup> (emphasis added)

#### **EFFECTS ON THE STATE ECONOMY**

- **We have been able to detect no measurable effect of the Maine Yankee closure on the state economy reflected in published statistics.**
- **Attached to this report are tables of various likely economic indicators originating with various state and federal agencies.**

This is not to say that there have not been statewide effects or effects in other communities in the state. However, thus far, we have been unable to separate any of these effects from the economic background variations. We have also been unable to find any direct causative links to individual or clustered economically negative events, such as the closing of several small businesses including clothing and shoe manufacturers or an increasing trend in the number of Maine bankruptcies reported in U.S Bankruptcy Court.<sup>7</sup>

It may be that had in the 1980s there would have been measurable impact; likewise it may happen ten or twenty years into the future that 800 megawatts of generating capacity will be needed and unavailable. All of that is speculative and debatable.

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<sup>6</sup> PA Strategies, LLC, Portland, Maine April 19, 2001

“1999 Wiscasset Real Estate Sales Best in a Decade, Wiscasset Newspaper January 28 1999

<sup>7</sup> See ATTACHMENT FIVE, Graph 6, “Maine Bankruptcy Filings”. This graph gives the number of bankruptcies and not the dollar amount. It is the only negative trending statewide economic indicator we found and most likely reflects the ongoing strong decline in farming and commercial fishing. The graph depicts an adverse trend beginning in the first quarter of 1995 and rising smoothly without substantial relief until mid 1999. The decline in the number of bankruptcies (positive trend) begins in mid 1999, a time when any bankruptcies that might occur due to the closing of Maine Yankee would most likely be manifest. In addition, the value of bank non-performing loans declines throughout the same reporting period. See, ATTACHMENT FIVE, Graph 7, “Maine Bank Non-Performing Loans.”

What evidence is in hand indicates that there is no detectable statewide effect of the Maine Yankee shutdown on economic growth, sales, employment, or average income, all of which have trended mildly upward over the last decade.

Tables have been attached and will be expanded and annotated in the anticipated full report.

## THE PRICE OF ELECTRICITY

- **The price of electricity has remained relatively stable.**

An electricity production oversupply in the northeast, new natural gas pipelines from Canadian gas fields, new efficient, low-construction cost gas-fired plants, deregulation, and Canadian hydro-power have all contributed to a new energy picture.

Central Maine Power Company, a 38 percent owner of Maine Yankee and the principal supplier of electricity in Southern Maine with over 481,672 residential customers, realized considerable savings with buyouts of non-utility generator contracts that had been set at highest replacement power rates under PURPA.

In Maine, the annual average number of kilowatt-hours used by residential customers declined over a ten-year period from 7,382 kilowatt-hours in 1989 to 5,936 kilowatt-hours in 1999.

Electric rates have reflected these influences.

|                            | 2002  | 2001  | 2000  | 1999  | 1998  | 1997** | 1996  | 1995  | 1994  |
|----------------------------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| Annual Kilowatt-Hours Used | N/A   | N/A   | N/A   | 5,936 | 5,802 | 5,978  | 6,066 | 6,075 | 6,296 |
| Revenue per KWH (cents)    | 1250* | 1203* | 1183* | 13.14 | 13.06 | 12.92  | 12.80 | 12.63 | 12.42 |

\* Maine electric utilities deregulated in 1999 separating transmission and generating costs. KWH costs after 1999 are approximations drawn from a sampling of individual residential electric bills and Maine Public Utilities Commission Staff Worksheets. Figures from 1994 to 1999 are taken Central Maine Power Company's Summary Annual Report for 1999.

\*\* Maine Yankee last generated power on December 6, 1996 and certified permanent shutdown on August 4, 1997.

## QUALITY EFFECTS

- **There are only a few employers in Lincoln County that would provide, as Maine Yankee did, an entry-level position from which a local young person could launch and fulfill a challenging and well-paid technical career.**
- **Many of the dismissed Maine Yankee employees who chose to move or who had no alternative but to move from the communities in which they lived,**

**took with them something, difficult to measure, but of real value to that community.**

Employment opportunities in Lincoln County from which to launch a technical career are limited but not negligible. For example, two area hospitals count over 1000 employees and support numerous opportunities for continuing education.

Some local planners and development officials believe that Maine Yankee may have contributed to retaining young adults in the area who otherwise have left seeking better pay and career opportunities. While the issue of emigration of young adults remains a troubling part of the area's economic picture,<sup>8</sup> and notwithstanding anecdotal accounts of local individuals finding employment at Maine Yankee, no numeric data were found to indicate the influence of Maine Yankee's presence or absence on the overall pattern of emigration statistics. The low percentage of Lincoln County residents between the ages of 18 and 24, compared to the average percentage of residents under age 18, was reflected with little change in both the 1990 Census and again in the 2000 Census and indicates the out migration of Lincoln County's young adults has remained more severe than the statewide average.

Maine Yankee encouraged its employees to participate in community life, schools, charities, volunteer organizations, and civic clubs and they did this out of proportion to their numbers. Those who remain, retired, in other jobs, or engaging in entrepreneur activities, will likely continue to contribute as they have in the past.

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<sup>8</sup> SEE ATTACHMENT EIGHT, "MEMORANDUM" Bob Faunce, Lincoln County Planner to Lincoln County Planning Board Chairmen, July 25, 2001 (2pp.)

## **INTRODUCTION to the FULL REPORT (DRAFT)**

### ***INCLUDED AS AN APPENDIX TO THIS SUMMARY FOR GENERAL BACKGROUND INFORMATION ON THE GENESIS OF THIS REPORT***

In February of 2002, I was asked by the New England Coalition On Nuclear Pollution to serve as an expert witness before the Vermont Public Service Board regarding the underlying reasons for the shutdown in 1996 of the Maine Yankee Atomic Power Station. I was also asked to testify regarding the involvement of the State of Maine and the environmental group, Friends of the Coast, in setting radiological site release criteria and other conditions of decommissioning. The object was to see what lessons could be drawn and applied to consideration in the matter before the Vermont Public Service Board- a proposed sale of Vermont Yankee Nuclear Power Station to Entergy Corporation and the plant's metamorphosis from an entity indirectly regulated through its in state majority owners to a stand alone merchant plant.

The sale involved power purchase agreements that would bind Vermont ratepayers for ten years paying Entergy back its investment while also handing over accumulated decommissioning funds.

From a layman's perspective, the proposed sale looked for all the world like a shuffle in which Vermont Yankee owner utilities, anticipating opposition to full recovery of stranded costs under coming deregulation, had contrived a way to gain immediate full recovery and have Vermont rate payers pay off the utilities' benefactor in ten years, one half in three years, the remainder in the following seven.

Before the Vermont Public Service Board could really settle in to its hearing process, Vermont Yankee received a black eye from the US Nuclear Regulatory Commission in the form of a grade "yellow" finding that the company had failed an NRC security response exercise

The events of 9/11 followed and had record numbers of people considering a third option: closing Vermont Yankee and seeking replacement power at competitive rates on the open market.

The State Nuclear Engineer, advocating the sale, promptly tripled the estimated benefit to ratepayers that he had projected for the sale from \$13 million to \$39 million. Vermont spokesmen for the utility volunteered that Vermont ratepayers had \$262 million to gain in the sale, more than six times the state's new estimate. The obvious implication was that, if the sale didn't go through, that much would be lost.

In February, an unorganized handful of local citizens put the question of approving or disapproving the sale before the annual town meetings of nine municipalities in the

vicinity of Vermont Yankee. It was a fascinating contest in which the seven towns voted to stop the sale but the popular vote favored the sale by a margin of 4 percent.

Calling the non-binding town-by-town referenda, the “Yankee Shutdown” campaign, Vermont Yankee’s in house newsletter proudly chortled,

When all the votes were counted, Vermont Yankee won 52% of all votes cast in the nine towns. We won (VY President) Ross Barkhurst’s hometown of Townshend 75 to 48 and swept Brattleboro by a margin of 1807 to 1340 for the biggest victory of the day. These two wins brought us an overall total of 2471 votes, compared to 2315 for the opposition. To all of you who worked on the phone banks, signed postcards, stood out with signs, got signatures on the petitions, put up lawn signs, contributed money to Theresa Derting’s amazing fundraising campaign, or belongs to one of the unions who so generously paid for advertising in the newspapers, or helped out in any other way, you have my sincerest thanks. : Congratulations on a great campaign and again, thank you. : Brian (Cosgrove) [public relations].

We were later interested to learn that Vermont Yankee had donated \$216,000 [two hundred and sixteen thousand dollars] to gain their victory of 156 votes or about \$1384 per vote.

However, what captured my closest attention was the rhetoric, hot and up-tempo, in a classic health and safety versus the economy debate. Vermont Yankee spokesmen and “campaign” literature equated rejecting the sale with forcing the shutdown of the plant. In turn, a shutdown was described in the bleakest economic terms:

If the sale is blocked and the plant is arbitrarily shut down, our local and state economy would be seriously damaged.

- If Vermont Yankee is shut down, our electric rates would increase forcing homeowners and businesses to pay several hundred million dollars more for electricity over the next 10 years
- The loss of taxes paid by Vermont Yankee would force cuts in funding for education, public safety and local roads and bridges, or increases in our taxes, or both.
- If the plant is shut down, hundreds of local people would lose their jobs.
- Replacing Vermont Yankee’s electricity would force increased use of imported energy including environmentally damaging sources, such as oil and coal<sup>9</sup>.

According to the Brattleboro Reformer, Brian Cosgrove, Yankee’s Director of Public relations defended the company’s extraordinary campaign expenditures by contrasting them to the monetary impact of a shutdown. “ I think the only money I really want to talk about is the \$100 million the community would lose “ (annually if Yankee shut down early), he said. Also quoted in the Reformer, Elizabeth Gentile, Executive Director of the Brattleboro Region Chamber of Commerce, called the premature shutdown of the reactor “irresponsible” and said it would have a “devastating” effect on the community. Brattleboro Fire Chief David Emery endorsed the grim prognosis. “If we lose Vermont

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<sup>9</sup> Citizens Against the Shutdown of Vermont Yankee, flyer and Community Feedback form, February 2002. See Appendix A.

Yankee and we lose C&S (a distributor), I can see this town having a pretty severe, bleak future,”<sup>10</sup> he said.

Hundreds out of work, hundreds of millions in lost income, skyrocketing taxes and electric bills sinking household budgets and driving away business: what’s a community to do?

Similar prospects faced the voters, the business community and political leadership in Maine on several occasions throughout the politically unique and tumultuous 24-year operating history of the Maine Yankee Atomic Power Station.

When, in 1966, a consortium of ten New England utilities proposed construction of the world’s largest nuclear reactor at Wiscasset, Maine, the Portland Press Herald and Portland Evening Express chastised activists for requesting licensing hearings. The project was deemed too important to Maine’s economic future to risk any delay. Proponents of Maine’s sole venture into nuclear power told the host community to busy itself preparing industrial parks for the many businesses that would be drawn to the region by cheap, reliable, abundant, electricity. If the plant were not built, it was said, Maine would lose a singularly bright hope for being economically competitive.

On December 28, 1972, Maine Yankee’s reactor generated electricity for the first time.

By the spring of 1980, referendum to determine if voters would opt to shut the plant down had been secured through citizen initiative and a vote in special election was scheduled for September.

From the plant start-up, forward through the 1980’s, the Town of Wiscasset, relying on Maine Yankee for more than 90% of its tax revenues, gorged on municipal services: a new town hall, fire station, school construction, waterfront facilities, road improvements, a new municipal water system and the like. No comparable fortune accrued to the economies of area residents however. No state university branches or technical colleges were established. No large, successful industrial parks were built in the vicinity. No major employers rushed to the state to plug into Maine Yankee’s electricity. The state was offering tax incentives to Pratt & Whitney and the Bath Iron Works (BIW). Parenthetically, BIW is located just six miles from Maine Yankee and is the state’s largest single employer with a work force that varies from 6000 to 8000 employees. Keyes-Fiber, a mid-Maine manufacturer, was threatening to pull up stakes unless offered relief from high industrial electricity rates. Shoe, clothing, and textile manufacturers were closing with perennial regularity.

Who would dare to shut off an economical source of “one-third” of the state’s electricity supply at a time (from about 1660 forward) when Maine’s economy was struggling? The Committee to Save Maine Yankee advised that if the plant were shutdown, Mainers, just

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<sup>10</sup> “Yankee Funds Group Working to Counteract Sale Opponents,” Brattleboro Reformer, February 20, 2002. See Appendix A.

over a million men, women and children, would have to pay an additional \$140 million for electricity in the first year alone. A Save Maine Yankee flyer intoned,

Passage of the nuclear energy shutdown referendum,” “ will cost us \$140 million dollars for replacement oil in 1981 and billions in the future. The \$140 million price tag for 1981 will be shared by all Mainers in many ways... the cost of heating and lighting our homes will increase... businesses will have to pass along their increased costs to their customers... some businesses are already analyzing the possibility of leaving Maine if this referendum passes. That means lost jobs and increased unemployment

Economist Roberta M. Weil, Former Vice Chairman of the Commission on Maine’s Future, is quoted in the same flyer,

While it is not possible to measure the precise economic impact of closing Maine Yankee, it would certainly have a negative impact on every Maine citizen and upon prospects for the State’s future economic development.

Three days before election, Governor Joseph Brennan expressed his concern for the impact closing Maine Yankee would have on the state’s economy, the ability of Maine businesses to compete, and most of all the hardship of added electricity costs on low-income and fixed income Mainers.

At day’s end, 41.9% of the voters statewide called for a shutdown. Exclusive of the host town, towns in the vicinity of the plant voted in the majority for a shutdown. In the host town 1/3 of the voters decided that the blessings of 90% tax relief did not outweigh the risks and voted for a shutdown.

Two additional shutdown referenda followed, in 1982 and 1987 with similar results and similar advice on the economic effects. In 1987 though, Former Governor Brennan and John Menario, the former mayor of Portland, who had headed the 1980 Committee to Save Maine Yankee, informed by events at Chernobyl and a growing nuclear waste problem, both endorsed the early closure of Maine Yankee.

Bill Clinton, still a political fledgling, had yet to articulate, “ It’s the economy, stupid!”

Maine Yankee boasted world record production runs and company executives announced the plant fit for license renewal and twenty additional years of service.

However, on December 6, 1996, Maine Yankee generated its last watt of nuclear electricity.

The value of Maine Yankee’s contributions to the region and the State were now to be measured. The predictions of the economic consequences of its shutdown were about to be tested.

The purpose of this report is to take “first-cut” at exploring the broad range of actual economic consequences of the early closure of Maine Yankee.

It is intended to be the beginning of an iterative process that will lead to a better understanding of life and the economy after the termination of any large industrial entity.

It is the author’s hope that interested parties will read the report and offer criticism, observations, and suggestions that may be incorporated into future editions.

*Raymond Shadis*  
*Edgecomb, Maine May 3, 2002*