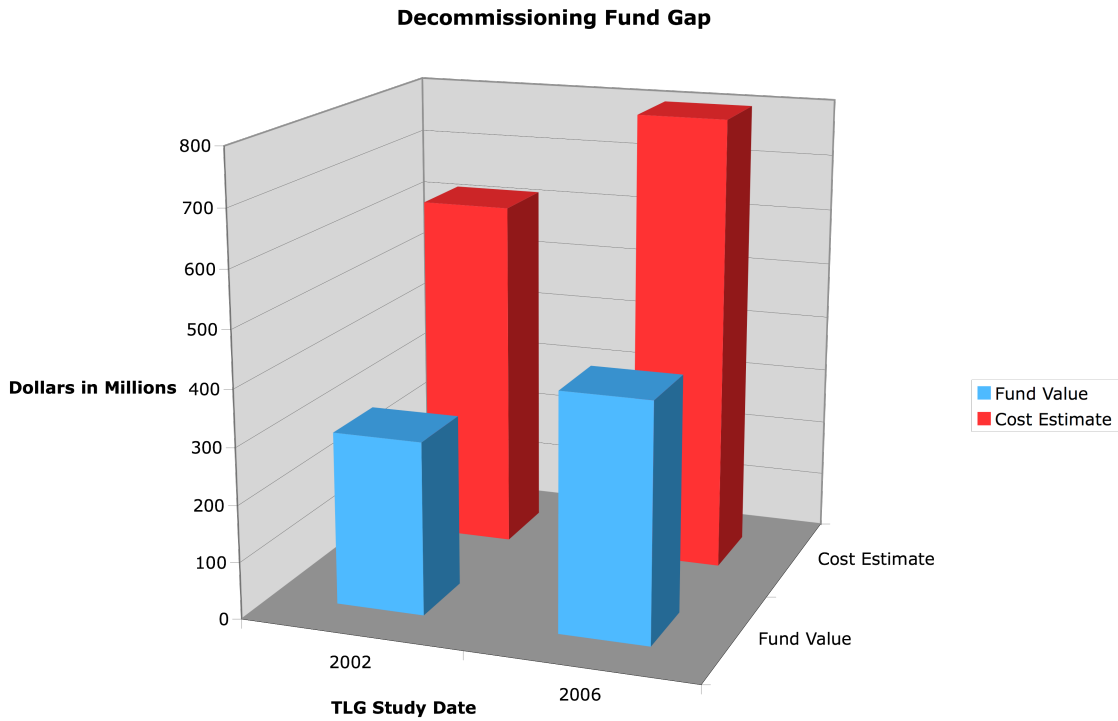


# Decommissioning Vermont Yankee

## Stage 2 Analysis of the Vermont Yankee Decommissioning Fund

### The Decommissioning Fund Gap



Prepared By

*Fairewinds Associates, Inc*  
*Margaret Gundersen, Paralegal*  
376 Appletree Point Road, Burlington, VT 05408  
Phone 802-865-9955 & Fax 802-304-1051  
[fairewinds@mac.com](mailto:fairewinds@mac.com)

## Summary

In November 2007, Margaret and Arnie Gundersen of Fairewinds Associates, Inc issued a report entitled: *Decommissioning The Vermont Yankee Nuclear Power Plant, An Analysis Of Vermont Yankee's Decommissioning Fund And Its Projected Decommissioning Costs*. This second report entitled: *Stage 2 Analysis of the Vermont Yankee Decommissioning Fund, The Decommissioning Fund Gap* is an attempt to answer the myriad of questions we have received from legislators, journalists, and interested parties. The Stage 2 Analysis is an attempt to define and detail the subsequent issues we have discovered in our firm's ongoing review.

We believe these additional issues deserve serious consideration by the Legislature, the appropriate State Agencies, and Vermont's Congressional Delegation. We don't have all the answers, but we do have questions that may be answered by State Regulators like Auditor Tom Salmon, who has said he will be investigating the status of the Vermont Yankee Decommissioning Fund (VYDF). We imagine that other answers will require Legislative review and critique and oversight by Vermont's Congressional Delegation. There are no easy answers; however, it is our belief that once the discrepancies and critical issues we have observed are brought forward, our Legislators, State Regulators and Congressional Delegates will be empowered to take the necessary and appropriate steps to assure that the VYDF has adequate money to enable VY to be appropriately dismantled after it ceases to generate electricity, whether that is 2012 or 2032.

In *Decommissioning The Vermont Yankee Nuclear Power Plant, An Analysis Of Vermont Yankee's Decommissioning Fund And Its Projected Decommissioning Costs*, issued by Fairewinds Associates, Inc in November, we said that Entergy Nuclear Vermont Yankee (ENVY) "*has made a series of non-conservative assumptions concerning the decommissioning of Vermont Yankee Nuclear Power Plant and its Decommissioning Fund*. Moreover, we (Fairewinds Associates, Inc) opine that *Entergy's non-conservative assumptions*, which are clearly delineated in their submittal to the PSB, *may shift both the*

*risk and burden of financing Vermont Yankee's actual dismantlement to the State of Vermont and future generations of Vermonters.”*

Many Legislators, local officials, and residents living in proximity to the plant were stunned to discover that there is not enough money in the Decommissioning Fund to dismantle the plant at its scheduled shutdown in 2012. Senator Mark MacDonald and Representative Sarah Edwards, both members of VSNAP (Vermont State Nuclear Advisory Panel), which is charged by State Statute “to consider issues relating to the present and future use of nuclear power in general, and of the Vermont Yankee Nuclear Power Station in particular”<sup>1</sup> were unaware of these incredible liabilities. Representative Edwards specifically asked ENVY representatives if the Fund had the monies to dismantle the plant at the end of license in 2012 at the August 10, 2007 VSNAP meeting. Although not under oath, the Entergy representative answered in the affirmative in this public meeting before a Vermont State Panel chartered by State Statute.

In our assessment, it is even more disturbing that DPS Commissioner David O’Brien, who chairs VSNAP, appears to have been fully aware of Yankee’s predicament as stated in his radio interview with Mark Johnson on WDEV (November 15, 2007). Mark Johnson asks a question regarding the adequacy of decommissioning fund:

Commissioner O’Brien responded: ... “we’ve spent a lot of time looking at the decommissioning fund. We’ve got a report coming out at the end of the year, or early part of 08 – on the status of the decommissioning fund. [And] we’re looking at it very closely, as the State Nuclear Advisory Panel. The fund is not sufficient to decommission the plant immediately or in 2012; but it is not intended to be so, as a practical matter.

I will say that the owner of the plant – ENTERGY – would like to, whether it is 2012 or 2032 that it ceases to operate – they would like the plant to sit in what is called SAFESTOR mode for a number of years before it’s ultimately dismantled. Truthfully, that’s not my preference. I would rather see the plant dismantled as soon as possible after it ceases to operate. That’s what they did in Maine”... “I think that is what’s fair for the community down there and for the State. But it’s not immediately our decision – it’s an NRC decision, essentially, you know, signing off on what the licensed operator wants to do. In fact we’ve spent a fair amount

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<sup>1</sup> Vermont Department of Public Service website: <http://publicservice.vermont.gov/electric/vermont-yankee/nuclear-advisory-panel.html>

of time talking with Entergy and looking at the options. I would say that we're going to spend a lot of time talking about this before we're done.”  
[Emphasis added]

Ironically, Commissioner O'Brien's statement on the air is in direct opposition to the stand DPS has taken regarding decommissioning funds for windmill farms (called windfarms by the State in its proceedings).

Fairewinds Associates, Inc therefore highlights the following issues from our ongoing investigation:

- **Issue 1: The Decommissioning Fund Gap**

In reviewing documents prepared by the Vermont Department of Public Service (DPS) and testimony given by the DPS to the Vermont Public Service Board, the evidence shows that the Vermont Yankee Decommissioning Fund (VYDF) not only does not have enough money to decommission Vermont Yankee in 2012, but the VYDF has in actuality fallen behind ENVY's original estimates for growth. Most important, in our opinion, is that the VYDF is not growing at the rate DPS originally projected in 2002 or at the rate DPS Commissioner O'Brien alleges in 2007.

- **Issue 2: PSB Double Standard on Decommissioning Penalizes Windfarms**

The Department of Public Service (DPS) recommended and the Public Service Board (PSB) concurred in its Windfarm rulings that 100% of the cost of decommissioning a windfarm must be in place prior to the start of any construction. According to PSB documents, from two recent cases, the applicants took the position that during the windfarm project's useful life the units would either be generating electricity or would have manufacturer warranties that would cover unit repair and/or replacement. In each case, the windfarm applicants believed decommissioning costs should be funded by the end of each windfarm's useful life. In both cases, the DPS attested that an unfunded decommissioning fund would pose too great a risk that there might be insufficient money to remove the towers and turbines at the end of their useful life.

Does a defunct windfarm sitting around for a while present a greater risk than that posed by a defunct 40-year old nuclear reactor and its radioactive fuel sitting on the banks of the Connecticut River for an additional 60 years? Engineering assessments show that it is far easier to accurately estimate decommissioning costs for a windfarm, since it is pretty much just a matter of lowering the turbine and tower and hauling them away, while cleaning up a contaminated nuclear site is an incredibly formidable endeavor. There is in fact no accurate method of determining what level of site contamination will be found or what dismantlement might actually cost. (See Fairewinds Associates, Inc original Decommissioning Fund Analysis for details regarding Connecticut Yankee Nuclear Reactor's unanticipated \$400 Million extra decommissioning costs.).

- **Issue 3: Single Unit SAFESTOR for commercial nuclear power plants over 100 MW does not exist in the Industry.**

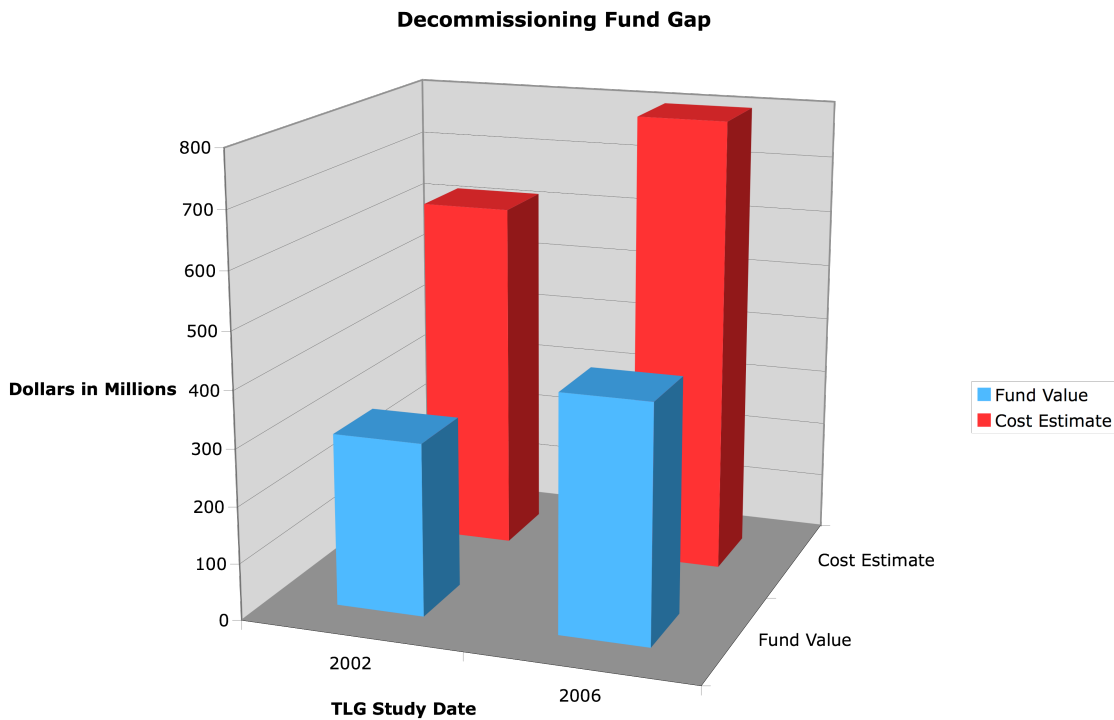
It is clear from the evidence reviewed that SAFESTOR is not normally used at Single Unit Nuclear Power Plant sites like Vermont Yankee. Instead SAFESTOR is reserved for multi-unit sites so that adequately trained personnel and security staff are available full-time to monitor the shutdown plant and protect the surrounding community. At the August VSNAP meeting, Entergy proclaimed that it had sufficient funds to decommission the plant in a timely manner if it was shut down at the end of its license in 2012. However, following questioning by Senator Mark MacDonald at VSNAP's November 12 meeting, ENVY admitted that the plant could not be fully dismantled in 2012 because there simply is not enough money in the VYDF. It is our belief that ENVY is attempting to choose the 60-year SAFESTOR method of mothballing, rather than dismantling Vermont Yankee, in anticipation that the VYDF will grow and that the firm will eventually have the financial wherewithal to completely dismantle the almost 40-year-old plant. At the current rate of growth and without additional funds added by ENVY, the evidence reviewed points to declining revenue not VYDF growth.

**Analysis**

**Issue 1: The Decommissioning Fund Gap and Fund Management Issues**

In reviewing documents prepared by the State of Vermont Department of Public Service (DPS) and testimony given by the DPS to the Vermont Public Service Board, the evidence shows that not only has the VYDF fallen behind its 2002 estimates for growth, it is, in fact, not gaining as DPS projected at the time of the sale.

- The 2002 TLG Decommissioning Study prepared for ENVY, estimated the cost to decommission Vermont Yankee at approximately \$620M in 2002 dollars (Please note: TLG is an Entergy subsidiary).
- The newly released and recalculated decommissioning projections filed with the State by ENVY in August 2007, (also calculated by TLG) project the cost to decommission VY at more than \$800 Million in 2006 dollars.



The above Table shows that in 2002, TLG estimated the cost to decommission VY at approximately \$620 Million. When that assessment was conducted in 2002, the Fund totaled \$304 Million (source, 2003 hearing testimony). An additional \$316 Million was required to fully fund the VYDF in 2002.

While inflation from 2002 dollars to 2006 dollars accounts for approximately 10% of this increase, what has caused the other 20% increase?

1. Was TLG's original 2002 estimate simply wrong? (In our first report we questioned the accuracy of a “generic” rather than site-specific estimate.)
2. Is the decommissioning analysis so imprecise that a 20% increase is likely?
3. Is it simply coincidence that the uprate was a 20% increase in power and now there is a 20% increase in decommissioning costs? To rephrase the question, how much of this increase was caused by the Uprate? Again, our report and Arnie Gundersen’s testimony during the uprate hearing alerted the State to the escalation in decommissioning costs due to uprate.

The 2007 TLG analysis estimates a dramatic increase in decommissioning costs to more than \$800 Million. ENVY has certified to the State that the VYDF has \$416 Million as of November 2006<sup>2</sup>.

Fairewinds Associates believes that ENVY is not closing the gap in the VYDF, and in fact is losing ground. Comparing the two TLG cost estimates and ENVY’s VYDF analysis shows that there is an additional shortfall of \$68 Million in the VYDF.

Moreover, we believe that one of the reasons that the VYDF has not grown as anticipated is because ENVY has not added any additional funds to VYDF since it purchased VY five years ago. In a VPR interview<sup>3</sup>, John Dillon quoted ENVY nuclear engineer and spokesperson Dave McEllwee, who said, “Entergy has not added any money to the \$431 million decommissioning fund since it bought the plant five years ago”.

In our opinion, NRC regulations highlight several alarming VYDF management issues.

- Note that Entergy states in its 2006 Annual Report that:

"Other income increased for Non-Utility Nuclear primarily due to miscellaneous income of \$27 million (\$16.6 million net-of-tax) resulting from a reduction in the decommissioning liability for a plant as a result of a revised decommissioning cost study and

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<sup>2</sup> Entergy 2007 filing with the DPS.

<sup>3</sup> According a November 16, 2007 Vermont Public Radio (VPR) transcript.

changes in assumptions regarding the timing of when decommissioning of a plant will begin."

- According to NRC Rule 10CFR50.75 *Reporting and Record Keeping for Decommissioning Planning*:

"(ii) External sinking fund. An external sinking fund is a fund established and maintained by setting funds aside periodically in an account segregated from licensee assets and outside the administrative control of the licensee and its subsidiaries or affiliates in which the total amount of funds would be sufficient to pay decommissioning costs at the time permanent termination of operations is expected. An external sinking fund may be in the form of a trust, escrow account, or Government fund, with payment by certificate of deposit, deposit of Government or other securities, or other method acceptable to the NRC... A licensee that has collected funds based on a site-specific estimate under § 50.75(b)(1) of this section may take credit for projected earnings on the external sinking funds using up to a 2 percent annual real rate of return from the time of future funds' collection through the decommissioning period, provided that the site-specific estimate is based on a period of safe storage that is specifically described in the estimate." [Emphasis added]

The evidence shows that there may be a discrepancy between the Federal Code of Regulations regarding nuclear power plant decommissioning funds as delineated in 10CFR50.75 and VYDF and as reported in Entergy's 2006 Annual Report. Fairwinds Associates, Inc recommends that State Auditor Tom Salmon and the Congressional Delegation review this apparent violation of the Code of Federal Regulations (CFR). According to the CFR, any decommissioning fund should be wholly "segregated from licensee assets and outside the administrative control of the licensee and its subsidiaries or affiliates".

In his foreword to *Financial Insecurity* by Synapse Energy Economics, Inc., former NRC Commissioner Peter Bradford, also a Vermont resident, said,

"This report dissects a troublesome set of developments on the cusp between economic and safety regulation, namely the rearrangement of nuclear power plant ownership into the limited liability subsidiaries of a few large companies. Because this arrangement has occurred during an era of lax and dispirited regulation, some important issues have not been



pursued effectively. As a result, the consolidation of nuclear ownership – although probably a positive development if carried out wisely – now risks the shifting of accident and decommissioning costs from the plant owners to the general public because the relatively secure financial backing of substantial utility companies has in many cases been replaced by a limited liability subsidiary whose only asset is an individual nuclear power plant.” [Emphasis added]

*Financial Insecurity* by Synapse Energy Economics, Inc. is a scathing expose that highlights how energy deregulation and Limited Liability Corporations (LLC’s) like ENVY risk, as Peter Bradford noted in his foreword, “shifting of accident and decommissioning costs from the plant owners to the general public”. *Financial Insecurity* also emphasizes the NRC’s inability to oversee and manage decommissioning fund assessments:

“However, it is unclear whether the NRC has the staff resources or the expertise to conduct adequate reviews of licensee’s financial qualifications. For example, the NRC’s Executive Director for Operations informed the Commissioners in April 1997 that the expertise of the NRC Staff in matters of finance and economic analysis were “limited.” At the same time, the size of the NRC Staff has been reduced by approximately ten percent since 1997.”

## **Issue 2: PSB Double Standard on Decommissioning Penalizes Windfarms**

The Vermont State Legislature spent the better part of the 2007 Legislative Session seriously exploring investments in energy efficiency and renewable energy. Leveling the playing field for renewables like windfarms vs. special deals that have previously been created for the more traditional and heavily subsidized industries like nuclear, oil or gas, were a critical part of the discussion. Both the House and Senate approved H.520: The Conservation Of Energy And Increasing The Generation Of Electricity Within The State By Use Of Renewable Resources. This critical bill was vetoed by Governor Douglas.

In the Sheffield Windfarm Decision and the East Haven Windfarm Decision, the Public Service Board decided that the fund for decommissioning the windmills can grow as the project infrastructure is installed, but at all times it must cover 100% of the cost of removing the installed infrastructure.

The windfarm applicants took the position that during the project's useful life it will either be generating electricity or manufacturer warranties will kick in to cover repair or replacement, so the cost of decommissioning need be funded only at the end of useful life. The DPS in both the Sheffield and East Haven Decisions said that dismantlement posed too great a risk that there would be insufficient funds to remove the towers and turbines. Furthermore, the DPS was concerned that the corporate entity might become bankrupt and sought protection of the entire fund against bankruptcy.

In its *Certificate for Public Good to UPC Vermont LLC*, the PSB said:

“32. UPC shall file a decommissioning plan with the Board and parties prior to commencement of construction. The decommissioning plan may allow the fund to grow as the construction process proceeds such that the funding level is commensurate with the costs of removing infrastructure in place. The amount of the fund may not net out the projected salvage value of the infrastructure. In addition, the decommissioning plan must include a description of how the fund would be secured and why that mechanism is appropriate; and if UPC elects to utilize a corporate guarantee to secure the fund, it must demonstrate how such a guarantee would be bankruptcy remote.”

The DPS's position on requiring 100 % of the funds be available for the immediate dismantlement of windfarms and set in an established Windfarm Decommissioning Fund prior to operation is directly opposite to its stand regarding the VYDF. According to Vermont Public Radio (John Dillon, Friday, November 16):

“(Dillon) Officials at the Public Service Department - which represents ratepayers - are not worried about the [Vermont Yankee] Decommissioning fund. Steve Wark is a department spokesman. He says the fund was not intended to pay for full decommissioning when the plant's original license expires. He said the fund should have enough money a decade later - by 2022.

(Wark) That said, if for some reason 2012 is the date where Vermont Yankee no longer operates, the Safe Store method is a completely feasible way of dealing with the waste.”

Similarly, on the November 15, 2007 Mark Johnson show, Commissioner O'Brien said, “The fund is not sufficient to decommission the plant immediately or in 2012; but it is not intended to be so, as a practical matter.”

**Issue 3: Single Unit SAFESTOR for commercial nuclear power plants over 100 MW does not exist in the Industry.**

In our opinion, SAFESTOR is a very unusual choice as a decommissioning alternative given that Vermont Yankee is a stand-alone reactor with no other nuclear infrastructure on site.

The NRC has assigned three terms to the methods of decommissioning nuclear power reactors: DECON, SAFSTOR<sup>4</sup>, or ENTOMB.

- Under DECON (immediate dismantlement), soon after the nuclear facility closes, equipment, structures, and portions of the facility containing radioactive contaminants are removed or decontaminated to a level that permits release of the property and termination of the site's NRC license.
- Under SAFSTOR, often considered "delayed DECON," a nuclear facility is maintained and monitored in a condition that allows the radioactivity to decay; afterwards, it is dismantled. However, since most of the radiation within a nuclear power plant decays (disintegrates) during the first four to six years after shutdown, in our opinion delayed Decon beyond four to six years will have minimal impact on additional radiation reduction.
- Under ENTOMB, radioactive contaminants are encased in a structurally sound material such as concrete and appropriately maintained and monitored until the radioactivity decays to a level permitting release of the property.

According to the NRC documents reviewed, the plant owner makes the choice as to what form of decommissioning will be used. Each corporation may also choose to adopt a combination of the first two choices in which some portions of the facility are dismantled or decontaminated while other parts of the facility are left in SAFSTOR. According to

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<sup>4</sup> SAFSTOR is an acronym created by the NRC that allegedly stands for Safe Storage (nuclear plant in retirement). While the NRC spells it SAFSTOR, the Vermont Public Service Board and agencies around the country in other states spell it SAFESTOR or SAFESTORE.

the NRC, the decision may be based on factors besides radioactive decay such as the availability of waste disposal sites, or as Commissioner O'Brien stated, "...The fund is not sufficient to decommission the plant immediately or in 2012;" (Mark Johnson Radio Show, November 15, 2007).

It is important to note that SAFESTOR is not normally used on single plant sites. While the term SAFESTOR implies that Vermont Yankee will somehow be safe or safer than it currently is, simply is not true. SAFESTOR is one of those euphemisms that the nuclear industry use even though Industry experience shows that SAFESTOR is not necessarily safe. While the Dresden 1 reactor in Illinois was in SAFESTOR with its fuel pool cooling system still operating and nuclear fuel still stored in its fuel pool, a pipe froze and burst in the SAFESTOR containment building. The resulting accident then leaked 55,000 gallons of radioactive water into the containment filling it several feet deep. Afterward, an analysis of the SAFESTOR containment indicated that the fuel pool itself almost had frozen pipes, which would have resulted in draining the pool and exposing personnel to 26,000 REM (26,000,000 mrem) of gamma exposure. It was a close call. Had such an accident occurred, the 26,000 REM would have killed anyone within the confines of the plant within about 15 minutes.

Stand alone units like Maine Yankee, Yankee Rowe, and Connecticut Yankee were all completely dismantled (put into DECON to use NRC terminology) when they shutdown. Millstone 1 is in SAFESTOR, but its site companions Millstone 2 and 3 are still operational. Dresden 1 is in SAFESTOR with both Dresden 2 and 3 operational. The benefit of a multiunit site is that there is still a full contingent of nuclear engineers, operating personnel, security and health physics personnel at the adjoining operating nuclear power plants in order to adequately monitor and repair the unit that exists in so-called SAFESTOR shutdown.

The following Table shows land-based nuclear power plants that produce greater than 100 MW of electricity and have been permanently shutdown. Fully decommissioned plants are those that have no structures remaining. SAFESTOR sites are those that have

most, if not all, radioactively contaminated systems and structures still on site. Single unit sites and Multi-unit sites are also indicated.

The evidence indicates that no single unit sites, like Entergy Nuclear Vermont Yankee have been placed in SAFESTOR.

**Decommissioned Power Reactors Greater than 100 MWe**

	<b>Name</b>	<b>Type of Decommissioning</b>	<b>Number Units</b>
1	Dresden 1	Safestor	Multi
2	Fermi 1	Safestor	Multi
3	Connecticut Yankee	Full Decommissioning (Decon)	Single
4	Shoreham	Full Decommissioning (Decon)	Single
5	Indian Point 1	Safestor	Multi
6	Trojan	Full Decommissioning (Decon)	Single
7	Millstone 1	Safestor	Multi
8	Maine Yankee	Full Decommissioning (Decon)	Single
9	Peach Bottom 1	Safestor	Multi
10	Rancho Seco	Full Decommissioning (Decon)	Single
11	San Onofree 1	Full Decommissioning (Decon)	Multi
12	Three Mile Island 2	Safestor	Multi
13	Shippingport	Full Decommissioning (Decon)	Single
14	Yankee Rowe	Full Decommissioning (Decon)	Single
15	Zion 1 and 2	Safestor	Multi
16	Ft. St. Vrain	Full Decommissioning (Decon)	Single

The Table was extracted from data @ - <http://www.nrc.gov/info-finder/decommissioning/power-reactor/> <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/decommissioning.html>.

## **Conclusion**

In summation, Fairewinds Associates, Inc believes that the SAFESTOR option for decommissioning Vermont Yankee is not an appropriate choice for a single unit site. In our opinion, the choice of SAFESTOR is being driven solely by the financial gap in the Vermont Yankee Decommissioning Fund and could have been remedied by Entergy contributing to the Fund since acquiring the plant. In our first report we noted that ENVY generates more than \$100 Million per year in profit for its parent company Entergy, and therefore we believe that the firm is fully capable of making up the Fund's financial shortfall. Vermont is noted for its pristine and protected environment, therefore we believe that Entergy's decision that VY should be placed in SAFESTOR for 60 more years directly contradicts the clean and environmentally compatible image for which Vermont is striving. Vermont businesses, the tourism industry, the ski industry, fish and game, and Vermont's incredible farms all rely upon Vermont's image of purity. Whether it is maple syrup, cheese and rich cream, or organic vegetables, fruit, poultry or meat, in our opinion, "Made in Vermont" does not include holding onto corporate nuclear waste for 100 years.

**Documents Reviewed**

GAO-02-48 NUCLEAR REGULATION NRC's Assurances of Decommissioning Funding During Utility Restructuring Could Be Improved, December 2001, United States General Accounting Office, Washington, DC  
<http://www.gao.gov>

NUREG-1577, Rev. 1 Standard Review Plan On Power Reactor Licensee Financial Qualifications Decommissioning Funding Assurance, United States Nuclear Regulatory Commission, Washington, DC

NUREG-1713 Standard Review Plan for Decommissioning Cost Estimates for Nuclear Power Reactors Final Report, U.S. Nuclear Regulatory Commission Office of Nuclear Reactor Regulation, Washington, DC 20555-0001

\*FINANCIAL INSECURITY: The Increasing Use of Limited Liability Companies and Multi-Tiered Holding Companies to Own Nuclear Power Plants, August 7, 2002, David Schlissel, Paul Peterson and Bruce Biewald, Synapse Energy Economics, 22 Pearl Street, Cambridge, MA 02139  
[www.synapse-energy.com](http://www.synapse-energy.com)

\*note: Foreword entitled: *Where Have All the Safeguards Gone* written by Vermont resident and former NRC Commissioner Peter Bradford.<sup>5</sup>

FALSE PROMISES: Debunking Nuclear Industry Propaganda, Nuclear Power Is Not The Answer To Climate Change, GRACE Energy Initiative, New York, NY, October 2006

\*note: Vermont resident and former NRC Commissioner Peter Bradford, Nuclear Energy Advisor, GRACE Energy Initiative contributed to this report. See Footnote 1.

Code of Federal Regulations 10 CFR (Energy) Ch. I (1-1-06 Edition) § 70.25 US Government Printing Office, Washington, DC [Federal Regulations directing the NRC regarding Decommissioning Funds]

Decommissioning Nuclear Power Plants, Fact Sheet Office of Public Affairs, US Nuclear Regulatory Commission, Washington, DC  
<http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/decommissioning.html>

Site Characterization Data Report for the Vernon/Vermont Yankee Site, Volume 1- The Report, November 1991, Prepared for the Vermont Low-Level Radioactive Waste Authority by Battelle Memorial Institute, Richland, WA  
[www.battelle.org](http://www.battelle.org)

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<sup>5</sup> Former Nuclear Regulatory Commission (NRC) Commissioner Peter Bradford resides in Peru, VT. A strong critic of the nuclear industry, Commissioner Bradford is one of the few former NRC commissioners who has not sought lucrative employment within the nuclear industry. Visiting Lecturer in Energy Policy and Environmental Protection, Yale University; Former Chair, New York State Public Service Commission and Maine Public Utilities Commission; Past President, National Association of Regulatory Utility.

\*David Lochbaum<sup>6</sup>, *Walking a Nuclear Tightrope: Unlearned Lessons of Year-plus Reactor Outages* Union of Concerned Scientists, Washington, DC, UCS Publications, Cambridge, MA, September 2006

\*note: David Lochbaum, was retained by the Vermont Department of Public Service to testify to the Vermont Public Service Board as the State's Expert Witness in the Vermont Yankee Uprate Hearings Case 6812, Montpelier, VT January 2004. David Lochbaum is the director of the nuclear safety project in the UCS Global Security Program.

Order By State Of Vermont Public Service Board Docket No. 6812: *Petition of Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc., for a certificate of public good to modify certain generation facilities at the Vermont Yankee Nuclear Power Station in order to increase the Station's generation output.* Order entered: 3/15/2004 Montpelier, VT. Michael H. Dworkin, Board Chairman, David C. Coen and John D. Burke, Board Members

Order By: State Of Vermont Public Service Board Docket No. 6545 *Investigation into General Order No. 45 Notice filed by Vermont Yankee Nuclear Power Corporation re: proposed sale of Vermont Yankee Nuclear Power Station to Entergy Nuclear Vermont Yankee, LLC, and related transactions.* Order entered: 6/13/2002, Montpelier, VT. Michael H. Dworkin, Board Chairman, David C. Coen and John D. Burke, Board Members

Certificate Of Public Good Issued Pursuant To 30 V.S.A. Section 248 State Of Vermont Public Service Board Docket No. 7156 *Amended Petition of UPC Vermont Wind, LLC, for a Certificate of Public Good, pursuant to 30 V.S.A. § 248, authorizing the construction and operation of a 40 MW wind electric generation facility, consisting of 16 wind turbines, and associated transmission and interconnection facilities, in Sheffield, Vermont, to be known as the "Sheffield Wind Project";* Order entered: 8/8/2007, Montpelier, VT

Final Order State Of Vermont Public Service Board Docket No. 7156 *Amended Petition*

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<sup>6</sup> David Lochbaum is the director of the nuclear safety project in the UCS Global Security Program. He was retained by the Vermont Department of Public Service to testify to the Vermont Public Service Board as the State's Expert Witness in the Vermont Yankee Uprate Hearings Case 6812, Montpelier, VT January 2004. David Lochbaum holds a degree in nuclear engineering from the University of Tennessee and worked for nearly 20 years in the U.S. commercial nuclear power industry prior to joining UCS in 1996.

The Union of Concerned Scientists is a nonprofit partnership of scientists and citizens combining rigorous scientific analysis, innovative policy development, and effective citizen advocacy to achieve practical environmental solutions.

The UCS Global Security Program seeks to bring about a safer world by eliminating the risks posed by nuclear arsenals and nuclear terrorism, improving nuclear power plant safety, preventing the deployment of anti-satellite and spaced-based weapons, and enhancing international dialogue on security issues.



*of UPC Vermont Wind, LLC, for a Certificate of Public Good, pursuant to 30 V.S.A. § 248, authorizing the construction and operation of a 40 MW wind electric generation facility, consisting of 16 wind turbines, and associated transmission and interconnection facilities, in Sheffield, Vermont, to be known as the "Sheffield Wind Project"; Order entered: 8/8/2007, Montpelier, VT PSB: James Volz, Chairman, David C. Coen, and John D. Burke, Board members*

#### ENTERGY ANNUAL REPORTS

Entergy, 2006 Annual Report....

[http://www.entergy.com/investor\\_relations/2006\\_publications.aspx](http://www.entergy.com/investor_relations/2006_publications.aspx)

Entergy, 2005 Annual Report....

[http://www.entergy.com/investor\\_relations/2005\\_publications.aspx](http://www.entergy.com/investor_relations/2005_publications.aspx)

Entergy, 2004 Annual Report....

[http://www.entergy.com/investor\\_relations/2004\\_publications.aspx](http://www.entergy.com/investor_relations/2004_publications.aspx)

Vermont Yankee Nuclear Power Station Post Shutdown Decommissioning Activities Report (VYNPS PSDAR) Pursuant to Docket No. 6545 Sale Order August 7, 2007, and Primmer, Piper, Eggleston & Cramer Cover Letter to the Vermont Public Service Board regarding this late Compliance Filing --- herein called VYNPS PSDAR.

Downs, Rachlin, Martin PLLC Compliance Letter to the Vermont Public Service Board regarding the status of the Vermont Yankee Decommissioning Fund [Condition No. 8 of the Certificate of Public Good] dated: January 10, 2007.

Decommissioning Cost Analysis for the Vermont Yankee Nuclear Power Plant prepared by TLG Services, Inc. January 2007 (Document E11-1559-002, Rev. 0) ---- herein called the TLG Report.