

Decommissioning Vermont Yankee January 26, 2011 Testimony



Presentations to:

**House Committee on Natural Resources and Energy
Senate Natural Resources Committee**

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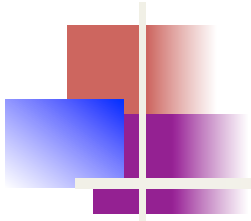
Decommissioning Vermont Yankee A Public Policy Discussion

- Entergy's 2007 TLG Services Report is the decommissioning estimate of record for the Vermont Yankee Nuclear Plant
- Fairewinds Associates recommends that this 2007 Entergy study *should not* be Vermont's baseline for making informed decisions regarding Vermont Yankee's decommissioning and waste storage.



7 Decommissioning Concerns

1. Analysis is technically outdated
2. Extraordinarily divergent cost estimates
3. ENVY made major incorrect assumption as substantiated by former ENVY VP Jay Thayer in Legislative testimony
4. Appearance of conflict of interest
5. Cash flow analysis lacking
6. Decommissioning fund investments not analyzed
7. Texas Dump may be full when VT needs it



4 Recommendations

1. New decommissioning study required
2. New decommissioning contractor
3. Analyze fund asset allocation for risk
4. Review Texas Dump agreement



Status of Fund under Entergy

- Life of Fund under Entergy
2002- \$310M, Current-\$465M: APR= 4.8%
- Peak of Fund prior to market slump
2007- \$440M, Today-\$465M: APR= 1.7%
- First 5-years of Fund, prior to market slump
2002 -\$310M, 2007- \$440M: APR= 6.7%



Decommissioning is not covered by NRC Preemption

According to Federal Code of Regulations 10CFR50.75

"Funding for the decommissioning of power reactors may also be subject to the regulation of ...State Government agencies (e.g., ...State Public Utility Commissions) that have jurisdiction over rate regulation. The requirements of this section, ... are in addition to, and not substitution for, other requirements, and are not intended to be used by themselves or by other agencies to establish rates."



2007 report is technically outdated

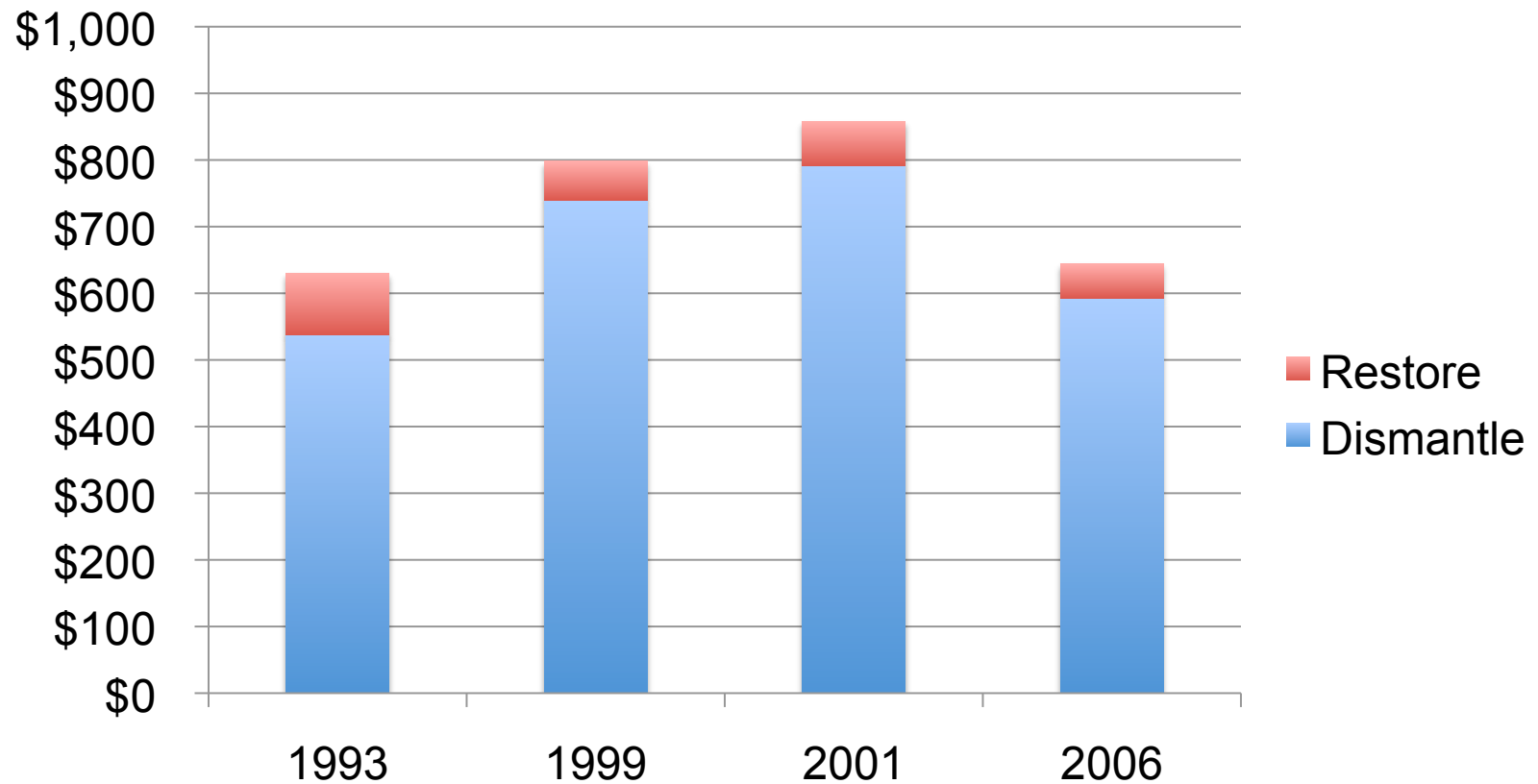
- Study of record written in 2006-cost escalation has changed
- New decommissioning approach lowers costs at Zion nuclear plant but generates more waste
- New computer technology optimizes waste shipments
- Site is significantly more contaminated than 2007 study assumes due to radioactive leaks
- Latest well (#24) was 2,500 pci/l in early December, 7,000 pci/l in late December and 9,200 pci/l in mid January 2011... disturbing trend
- 2007 study lacks clear cash flow for best case for VT



Entergy's Decommissioning cost estimates for VY vary enormously

- Costs could be as low as \$500M
- Costs could Exceed \$900M
- A similar Boiling Water Reactor (BWR) at Oyster Creek in New Jersey is estimated to cost \$750M to decommission

TLG Projected Costs to Decommission VY – 2012 \$





Decommissioning Estimates by TLG in Pennsylvania

Historically, TLG has grossly miscalculated the decommissioning funding targets. The data from the Unicom merger revealed the following discrepancies:
(Testimony to USNRC, 8/21/05, Eric Epstein)

Generating Stations	1985 Study / 1995 Study
Limerick 1 & 2	\$272m / \$986m
Peach Bottom 2 & 3	\$273m / \$947m
Susquehanna 1 & 2	\$285m / \$724m
Salem 1 & 2	\$271m / \$701m



Who pays for the Interim Spent Fuel Storage Installation? (ISFSI)

- According to former Vermont State Nuclear Engineer William Sherman in 2001, **ISFSI costs are charged back to the Department of Energy.**
- *“Ratepayers have paid for spent fuel disposal through a one-mill charge established by this contract for each kilowatt-hour of Vermont Yankee power produced. Ratepayers should not be liable for paying again for spent fuel disposal, and my expectation is that VYNPC will succeed in receiving fair damages”*



To date, the NRC has never granted a waiver allowing decommissioning funds to be used to pay for Interim Fuel Storage (ISFSI).

- **According to the nuclear industry law firm Winston-Strawn, the NRC does not allow nuclear companies to use decommissioning funds to pay for Interim Fuel Storage (ISFSI).**
- *“NRC Decommissioning Excludes: ... Spent Fuel Management (10CFR 50.44(bb)) Independent Spent Fuel Storage Installation (ISFSI): separate license/separate decommissioning funding.”*



Against this background, Entergy's 2007 TLG Report proposed to use Vermont's funds to build and maintain ENVY's ISFSI.

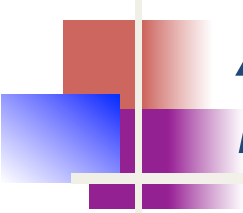
- The cost of the ISFSI can be as much as almost a quarter of a billion \$ from the fund
- These charges delay the cost of decommissioning for several decades.
- This ISFSI assumption was not part of earlier studies in 1991, 1996 and 2001
- The ISFSI assumption was not identified as a major change in the 2007 Report



The DPS hired an industry “expert” who never alerted the DPS or PSB about this glaring regulatory inconsistency. *Slide 1 of 2*

According to the Brattleboro Reformer, August 2007:

- Riley Allen, of the Department of Public Service, told the panel that *the department recently hired William Jacobs of Generation Support Services to complete an extensive review of the economic, environmental and public health concerns related to relicensing the plant. That report would form the basis of the state legislature's and the Public Service Board's decision to approve relicensing...*
- *Panel members --and later, members of the public -- expressed concern about Jacobs' professional objectivity.*



When Steve Darrow of Dummerston, VT asked whether Jacobs was "neutral" on nuclear energy, Allen said, "I can't characterize him in a nutshell. He's objective is what he is."

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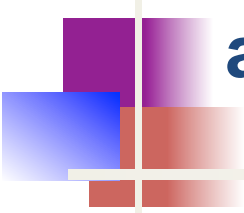
- *"It's curious to me that a person who's been in the industry for 30 years would be the principal person," said [former] New England Coalition President Diana Sidebotham.*
- *After the meeting O'Brien defended Jacobs, saying that most nuclear experts have, at one time or another, worked for power plant operators.*

"We vetted Dr. Jacobs pretty thoroughly," he said. "Our assessment of him is that he's a seasoned professional."



On April 14, 2009 Entergy VP Jay Thayer reversed this position in testimony to the Senate Finance Committee, saying:

*“So the point I want to make here is during the remaining operation of Vermont Yankee for however long that may be we are -- **I fully intend to recover the cost of fuel storage from the Department of Energy because they failed to perform.** After the plant shuts down, whenever that may be, we also fully intend to collect those costs from the Department of Energy. So those costs will not be taken from -- will not be removed from the decommissioning fund. Okay.”*



Despite Entergy VP Jay Thayer's policy reversal in his 2009 Senate Finance testimony, neither the DPS nor PSB were notified by ENVY that the entire premise and critical financial assumptions of the 2007 report are wrong.

The financial differences between these two ENVY testimonies could equal one quarter of \$1 Billion (\$250 Million) less money in the VY Decommissioning Fund and extend decommissioning for 60 or more years of SAFESTOR.



Conflict Of Interest?

[Appearance or real?]

- TLG Services was an independently-owned firm when it began analyzing Vermont Yankee's decommissioning fund.
- By 2002, Entergy had acquired both Vermont Yankee and TLG Services. Is this a conflict of interest or only the appearance of a conflict of interest?
- Additionally, there are many unexplained calculational changes between the 2007 TLG report and prior VY reports and those TLG has prepared for other nuclear plants.



CASH FLOW ANALYSIS

When the decommissioning funds are available and when those funds are required is critical to determining if VY can be promptly decommissioned.

This key data was not provided in the 2007 report.



ASSETS MAY NOT BE CONSERVATIVELY INVESTED

“The assets appear to be housed in a safe location and, in all probability, the managers are capable. That said, there is no disclosure of the individual equities. I do find this odd.

At the minimum I think the State should have in their files a list of the individual holdings at regular intervals. Without this, it is very difficult to benchmark performance or to get a sense of risk.”

– *Vermont Investment Banker*



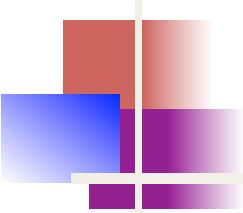
Texas Dump

- Use by other states may reduce availability to VT
- Compact has no technical staff and relies upon contractor for all assessments
- Compact has no legal staff
- Recommendation: Hire paid staff for Compact
- Two Compact Commissioners and 8 Texas Legislators believe it is unwise to open Texas waste facility to 36-other States
- Space limitation due to cubic feet and curie limits



If Vermont Yankee is promptly decommissioned (a 10 to 15-year process),

- ◆ The space allotted in the Texas Waste Dump may not be large enough for Vermont's nuclear waste, especially given the recent radioactive leaks and projected soil contamination.
- ◆ A shortage of space in Texas for VT's nuclear waste might trap the radioactive waste in Vermont and force SAFESTOR.



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Arnie Gundersen has 39-years of nuclear power engineering experience. He is a former nuclear industry senior vice president, earned his Bachelor's and Master's Degrees in nuclear engineering from RPI, holds a nuclear safety patent, and was a licensed reactor operator.

During his career, Mr. Gundersen has managed and coordinated projects at 70-nuclear power plants around the country. In addition to his current work as chief engineer and a nuclear engineering, management, and safety expert witness with Fairewinds Associates, Inc, Mr. Gundersen currently speaks on television, radio, and at public meetings regarding the lack of adherence to nuclear safety regulations.



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Maggie Gundersen is a freelance paralegal specializing in nuclear safety and reliability in federal and state administrative hearings. She founded Fairewinds Associates in 2003 and she earned her BS in Law and Society, a Paralegal Certificate, and is currently pursuing a Master's Degree in Mediation at Champlain College.

Mrs. Gundersen's experience as a nuclear industry PR rep and an engineering assistant in nuclear fuel reload core design for Pressurized Water Reactors (PWR's) means she is well-versed in nuclear technology, NRC terminology, and the Code of Federal Regulations. A professional print journalist, for 5-years, she also blogs and appears regularly on TV and radio to discuss: nuclear safety, nuclear reliability, decommissioning issues, and women in media and politics.