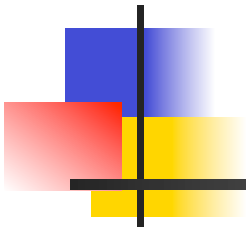
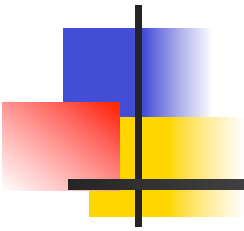


Presentation to House Committee on Natural Resources and Energy



A Comparison of TLG Services Projected
Decommissioning Costs for Vermont Yankee
April 2, 2010 Testimony

Fairewinds Associates, Inc
Arnie Gundersen
Maggie Gundersen



A Comparison of TLG Services Projected Decommissioning Costs for Vermont Yankee April 2, 2010 Testimony

These TLG studies were prepared in assessment of Vermont Yankee in 1994, 1999, 2001, and 2006.

All figures presented here by Fairewinds Associates, Inc are compared on a constant 2012 Dollar.



1994 Report

Immediate 2012 Decommissioning

- Site Restoration-\$44,258,000 in '93\$
- Page 4-13 TLG Report (no fuel storage \$)
- Excludes costs associated with dry fuel storage
- Dismantle-\$254,475,000 in 1993\$



1999 Report

Immediate 2012 Decommissioning

- Dismantle – \$480,806,000 in 1998\$
- Site Restoration – \$37,500,000 in '98\$
- Page 47
- Excludes costs associated with dry fuel storage

2001 Report

Immediate 2012 Decommissioning

- Dismantle – \$514,041,000 in 2001\$
- Site Restoration – \$43,722,000 in '01\$
- Page 58
- Excludes costs associated with dry fuel storage



2006 Report

Immediate 2012 Decommissioning

- Dismantle – \$468,844,000 in 2006\$
- Site Restoration – \$40,053,000 in '06\$
- Page 16, Scenario 1
- Excludes costs associated with dry fuel storage

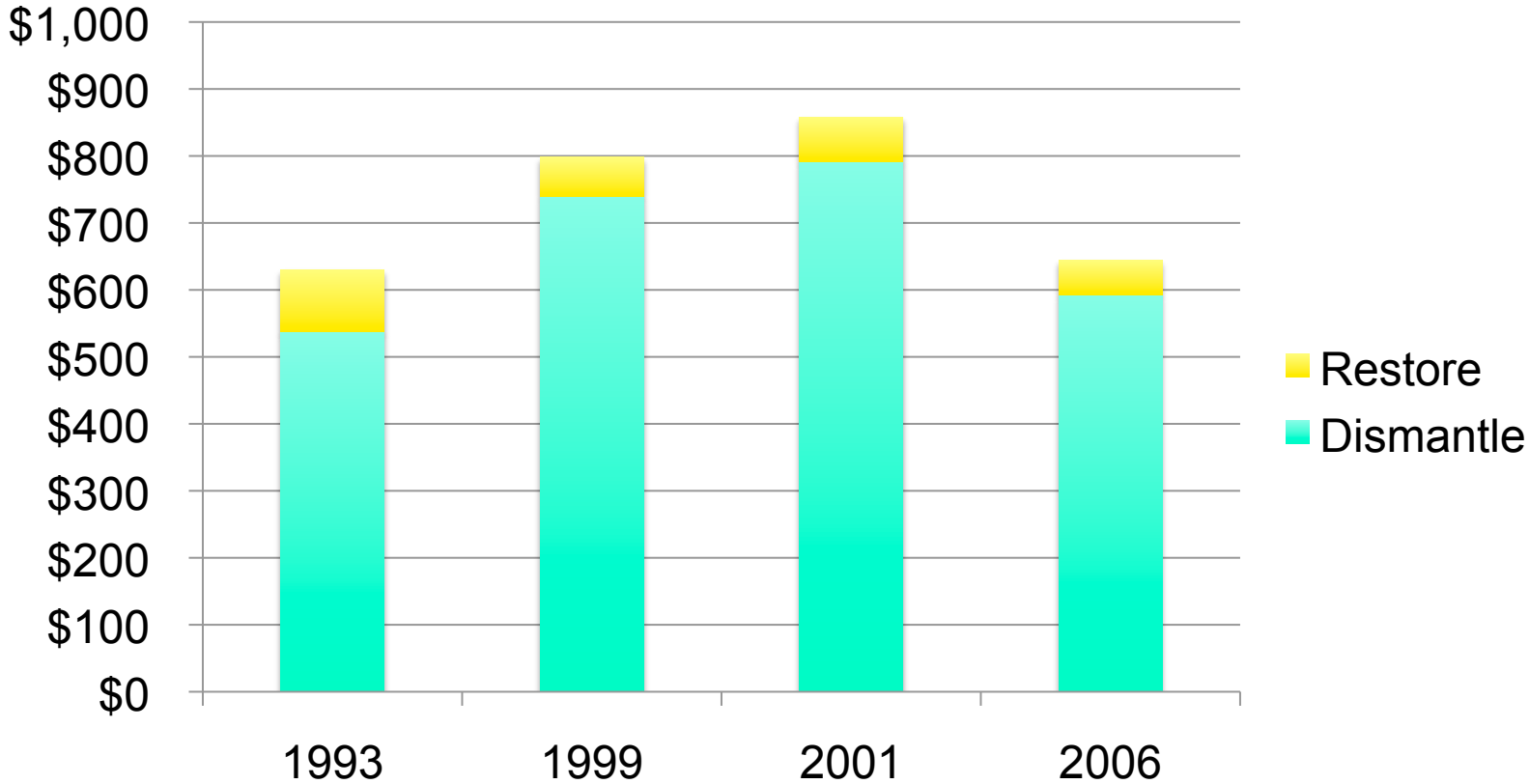


Summary of VY Decommissioning Projections from all four studies

Study Year	Dismantle \$ (,000)	Restore \$ (,000)	Total \$ (,000)	2012 \$ Dismantle (,000)	2012 \$ Restore (,000)	2012 \$ Total (,000)
1993	254,475	44,258	298,733	536,140	93,245	629,385
1999	480,806	37,500	518,306	740,179	57,730	797,909
2001	514,041	43,722	557,763	791,343	67,308	858,651
2006	468,844	40,053	508,897	593,237	50,679	643,916

Note - Costs escalated at 4% per year

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



TLG Expert Testifies in 2009

Associated Press - May 19, 2009

“MONTPELIER, Vt. - An expert on nuclear decommissioning says current estimates of the costs of dismantling the Vermont Yankee nuclear plant could be too low.

William A. Cloutier Jr., a **consultant** to Vermont Yankee owner Entergy Nuclear, tells the Public Service Board that **several factors could make the costs higher than the \$800 million to \$900 million now estimated.**

The testimony of Cloutier, who works for an Entergy affiliate, comes on the heels of the Vermont Legislature's passage of a bill that would require Entergy to shore up the Vermont Yankee decommissioning fund.”

[Emphasis Added]



How accurate are TLG decommissioning estimates?

- “It has been TLG’s experience that the results of a risk analysis, when compared to the base case estimate for decommissioning, indicate that the chances of the base decommissioning estimate’s being too high is a low probability, and the chances that the estimate is too low is a much higher probability.”
- Page 47, TLG 2001 study, and Page 35, TLG 1999 study



Not a “greenfield” 1

Page 31, 2006 TLG report

- Following completion of decommissioning operations, site restoration activities may begin. Efficient removal of the contaminated materials and verification that residual radionuclide concentrations are below the NRC limits will result in substantial damage to many of the structures.
- *In plain English this statement means* that there will be many damaged structures left onsite in the process of reaching the NRC limit 25 mrem.



Not a “greenfield” 2

Page 31, 2006 TLG report

- Although performed in a controlled, safe manner blasting, coring, drilling, scarification (surface removal), and the other decontamination activities will substantially degrade power block structures including the reactor, turbine and radwaste buildings.
- *In plain English this statement means as walls are chiseled out to meet NRC standards, a number of degraded buildings will be left on site.*



Not a “greenfield” 3

Page 31, 2006 TLG report

- Verifying that subsurface radionuclide concentrations meet NRC site release requirements may require removal of grade slabs and lower floors, potentially weakening footings and structural supports.
- *In plain English this statement* mentions again that NRC site requirements are met.



Not a “greenfield” 4

Page 31, 2006 TLG report

- This removal activity will be necessary for those facilities and plant areas **where historical records, when available**, indicate the potential for radionuclides having been present in the soil, where system failures have been recorded, or where it is required to confirm that subsurface process and drain lines were not breached over the operating life of the station.
- *In plain English this statement means* that the process will remove areas where there is an historical record for the potential of radionuclides in the soil – i.e. not removing drain lines or other areas where there is no record of leakage. Again, NRC standard is 25 mrem.



Concerns About Bill #1

Legislature needs to make sure that the \$40M figure mentioned to which Entergy will currently be providing financial assurance for post NRC decommissioning cleanup to reach *greenfield* status is not seen as an upper bound on their liability. Site remediation after reaching NRC standards of 25 mrem could easily cost much more because the leak will contaminate foundations previously anticipated to be *clean* by NRC standards.



Concerns About Bill #2

- We have reviewed the TLG reports for '94, '99, '01, and '06 and have been uncover any assessment or analysis that TLG projected *greenfield* site remediation costs of this site.
- The TLG reports do not state that specific lower radiation limits apply to cleaning up this site after the NRC criteria of 25 mrem is met.



Arnie Gundersen, Chief Engineer, MSNE
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Arnie is an energy advisor with 38-years of nuclear power engineering experience. A former nuclear industry senior vice president, he earned his Bachelor's and Master's Degrees in nuclear engineering, holds a nuclear safety patent, and was a licensed reactor operator.

During his nuclear industry career, Arnie managed and coordinated projects at 70-nuclear power plants around the country.

In addition to his work as a nuclear engineering, management, and safety expert witness, Arnie currently speaks on television, radio, and at public meetings regarding the need for a new paradigm in energy production.



Maggie Gundersen, President
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Maggie is a freelance paralegal specializing in environmental, nuclear safety, and energy litigation in federal and state administrative law hearings. She founded Fairewinds Associates in 2003. Maggie earned her Bachelors Degree in Law and Society from Skidmore College and her Paralegal Certificate with a 4.0 from Burlington College. She was the recipient of the Vermont Paralegal Organization Scholarship 2002-2003. From her experience as a former nuclear industry spokesperson and an engineering assistant in nuclear fuel reload core design for Pressurized Water Reactors (PWR's), Maggie is well-versed in energy issues, nuclear technology, NRC terminology, and the Code of Federal Regulations. A former professional newspaper journalist, Maggie also writes for two blogs and appears regularly on local TV and radio to discuss women in media and politics, broad energy issues, and nuclear safety, reliability and decommissioning issues.