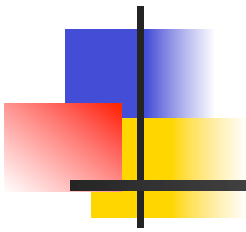


# Presentation to Vermont State Senate Finance Committee and House Natural Resources and Energy Committee



A Chronicle of Issues Regarding  
the Inspection of Buried Tanks and Underground  
Piping at Vermont Yankee

*Fairewinds Associates, Inc*  
*Arnie Gundersen*  
*Maggie Gundersen*

Vermont Yankee File Photo





# Act 189 Requested

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That the Vermont Yankee Public Oversight Panel evaluate:

“An underground piping system that carries radionuclides.”



# Entergy Vermont Yankee Response 1

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“...the Panel is informed there are no underground piping systems carrying radioactivity, the Panel designates the Service Water System, which has buried piping, to be evaluated.”

Email from former State Nuclear Engineer  
William Sherman to Panel: 10/10/08



# Entergy Vermont Yankee Response 2

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“When McElwee and VY said there was no underground radioactive piping (when we were doing the matrix), I specifically quizzed him about this piping. He said the same thing to me as to Tom Buch – the line was abandoned and the current drain is no longer buried piping. Therefore, I was satisfied there was no buried radioactive piping. This is also the reason for the wording in the matrix, “Since the panel is informed there is no underground piping systems carrying radioactivity . . . .”

Email from former State Nuclear Engineer William Sherman to Panel: 12/10/08



# Public Oversight Panel Matrix

## October 28, 2008

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Note 3: The panel is informed that there are no underground piping systems carrying radioactivity at Vermont Yankee.

Note 4: Due to Entergy Nuclear Vermont Yankee's assertion that VY has no underground piping systems carrying radioactivity, the Panel substitutes the Service Water System as a buried pipe system to examine in order to meet the requirements of Act 189. ENVY's Buried Pipe and Tank Inspection Program (BPTIP) will be evaluated as part of the Service Water System review.



# The NSA Report December 2008

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Act 189 included an in-depth inspection of ‘an underground piping system that carries radionuclides’. However, there are no underground piping systems carrying radionuclides at ENVY.

Page 262, NSA Report, December 22, 2008



## ENVY Response to NSA Report

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In his Feb 11, 2009 prefiled testimony, Entergy Nuclear Vermont Yankee (ENVY) VP Mike Colomb had an opportunity to correct the record regarding radioactive underground pipe and made no comment. In his *Review of the Vermont Yankee Comprehensive Reliability Assessment Section 2.9 (Underground Piping Program Evaluation)* no statement is made regarding the page 262 assertions that ENVY has no underground piping carrying radionuclides.



# Public Oversight Panel Report

## March 2009

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“The Panel recommended the following adjustments for the scope identified in Section 3 of Act 189:

1. The Panel was informed that there were no systems with underground piping that carry radioactivity at VY.”



## Sworn Testimony to PSB by Entergy VP Jay Thayer on May 20, 2009

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Under oath and on behalf of ENVY VP Thayer said, “I can do some research on that and get back to you, but I don't believe there are active piping systems underground containing contaminated fluids today.” *Testimony of Jay Thayer, May 20, 2009 at 71.*

ENVY Attorney John Marshall of Downs Rachlin Martin (DRM) then informed PSB that these questions could also be directed to ENVY site VP Mike Colomb.



## Sworn Testimony to PSB by ENVY VP Mike Colomb on May 26, 2009

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In his sworn testimony to the PSB, Mr. Colomb said,

“I believe we have identified one pipe that was underneath the chemistry laboratory that end – I believe leaked in the past, did contaminate some soil under the building, has since been sealed, and a new line that is not underground was routed.” *Testimony of Michael Colomb, May 26, 2009 at 64*



# DPS to PSB

## June 2009

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In his June 2, 2009 testimony to the PSB, State Nuclear Engineer Uldis Vanags said that the decommissioning costs at VY would be less than at Maine Yankee because VY is “fairly unique in that except for that one line from the chemistry drain line, that underground line carrying radionuclides that contaminated some soils underneath the building, oddly they don't have any other lines carrying radioactive effluents or materials underground, which was not the case at Maine Yankee.”

*Testimony of Uldis Vanags, June 2, 2009 at 191-192*



## Gundersen Email to Commissioner O'Brien July 24, 2009 – Pipes are contaminated!

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“On page 24 of the POP report, we reported to the Vermont Legislature in March 2009 that: " The Panel was informed that there were no systems with underground piping that carry radioactivity at VY." This statement was based on NSA's assurances to the POP which in turn were based on ENVY's statements to NSA.”

“I have since become aware that there may be underground pipes that do indeed carry radioactivity at VY and am trying to understand this apparent discrepancy between published ENVY reports indicating radioactive underground piping and what we said in the POP report.”

“Could you please ask ENVY to confirm in writing the following SPECIFIC question: ***"Is there underground piping that carries radioactivity at VY?" If, for some reason, the POP misunderstood NSA and ENVY and there is, in fact, underground piping that carries radioactivity, I would like ENVY to list those underground pipes it is aware of that may contain radioactivity.***”



## DPS Response to Gundersen Email regarding contaminated piping on site

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“... the Department believes it will be more efficient and less prone to miscommunication if your questions are given directly to Vermont Yankee rather than going through the Department. I copied Dave McElwee to this email as the person at the plant that can help you.” July 28, 2009



## DPS August 12, 2009 Email to Gundersen regarding underground contamination

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“Could you clarify the question .... During the reliability inspection Vermont Yankee stated on many occasion that they do not have any underground active piping carrying radionuclides. They did note the chemistry drain line was found to be leaking in the past, but is not in use any longer (inactive). As a result, we assessed the underground service water piping for the CVA to assess their BTIP program. WSC has asked the plant if there were any other active underground pipes that carry radionuclides and were told that there are none.”



## August 12 Email: DPS to Entergy Regarding Contaminated Pipes

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From DPS To Entergy Legislative Liaison Dave McElwee

“Dave: Arnie has a concern that there maybe underground active pipes carrying radionuclides that we are not aware of. Could you address this?”



## Gundersen Email to DPS August 12, 2009 Panel Did Not Get Correct Information

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- “Please do not share with ENVY .... lets see what they tell us.... Act 189 specifically asked the Panel to look at underground contaminated piping at VY. The Panel asked ENVY to identify all contaminated underground pipes and ENVY said there were no contaminated underground pipes.
- First system is the off gas line from the plant to the stack (contaminated with Fission Products and Sr-90 from fuel failures in the 1970's)
- Second system.... I just found out that on May 14, 2009, ENVY filed a report with the NRC entitled "2008 Annual Radiological Environmental Operating Report". (They refused to give me an electronic copy, mine is paper.) This report indicates that since 1995, there have been contaminated storm drains that enter the CT river. The releases to the river are below NRC limits, but it was news to me that ENVY had contaminated storm sewers that run into the CT river. These pipes would add to the cost of decommissioning even though their releases are claimed to be below NRC limits.
- It is possible that ENVY did not give the Panel the appropriate information.”



## Entergy Responds to Gundersen August 13 “We Have None... This Issue Closed”

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From Entergy Legislative Liaison Dave McElwee to Gundersen, August 13, 2009

“As for your outstanding question on underground piping goes, Act 189 requested that an underground piping system carrying radionuclides be part of the inspection. Other than piping carrying gaseous material (with very low amounts of contamination and no median to contaminate the ground water which was the intent of this item from the legislature) **we have none**. Since this is not an item active in the review of CRA recommendations, we consider **this issue closed**.”

*McElwee cc'd Jay Thayer on Entergy email*



## Rutland Herald article regarding September 15, 2009 LCAR Hearing

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“BRATTLEBORO – Entergy Nuclear refused to say Wednesday how Cobalt 60, a radioactive byproduct of the nuclear fission process, ended up in the Connecticut River in 1997, an issue that surfaced earlier this week during a legislative hearing on radiation monitoring at the Vermont Yankee plant.”

**“Williams said storm drains that carried the Cobalt 60 were not considered underground piping”**

*Rutland Herald, September 17, 2009*



Fairewinds Associates, Inc Report to  
Joint Fiscal Committee October 19, 2009  
Slide 1

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Executive Summary- “When the Panel wrote its report and testified to the legislature in March 2009, its members had based its report on assertions by ENVY that there were no buried underground pipes carrying radioactivity on site... Unfortunately, the information given to the Panel by ENVY was not correct.”

*Copy of report sent to ENVY/ DPS on 10/20/09*

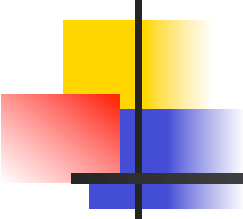


Fairewinds Associates, Inc Report to  
Joint Fiscal Committee October 19, 2009  
Slide 2

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“... this contamination of underground pipes was not relayed to the ... Panel during our review process... The Panel specifically asked Entergy to identify all contaminated underground pipes. We were informed by ENVY that there were no contaminated underground pipes...”

*Copy of report sent to ENVY/ DPS on 10/20/09*



Fairewinds Associates, Inc Report to  
Joint Fiscal Committee October 19, 2009  
Slide 3

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“... the Vermont Yankee Public Oversight Panel Report is inaccurate because it does not include the legislatively mandated complete vertical slice inspection of Vermont Yankee’s “underground piping system that carries radioactivity...”

*Copy of report sent to ENVY/ DPS on 10/20/09*



## Entergy's Response to Fairewinds Associates, Inc October Report to Joint Fiscal Committee

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“While on the subject, we take issue with the entire tone of the consultant’s report which leaves the impression that plant reliability is lacking at VY. Issues cited as “significant” are really routine...”

*Email from Rob Williams, October 22, 2009, to Vermont Press Corps*



## Gundersen Testimony to the Joint Fiscal Committee October 28, 2009

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“We got the wrong information, but I did want to let the Legislature know that we gave you the wrong information. We said there was no underground pipe that was contaminated, and in fact there is.”

*Note: Representatives from both Entergy and DPS were in the hearing room and heard these remarks. Neither the corporation nor the agency took any action or made any comments.*



# Entergy Claims “Miscommunication” On VPR Interview with John Dillon Slide 1

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Arnie: Gundersen) I don't want to attribute whether or not there's any motive behind it, but it was missed and I owe it to the Legislature to tell them.

(Dillon) Yankee spokesman Rob Williams blamed the issue on miscommunication. He said when the company reported to the oversight panel that it didn't have any underground contaminated pipe it was referring to pipes included in a federal safety program. It did not mention storm drains that have carried contaminated water to the Connecticut River.

(Williams) Our storm drains are included in our inspection program, but they are not safety related and they don't normally carry contaminated water. However, there have been instances in years past where they've been minute particles of cobalt actually identified in the river sediment.

– VPR 10-28-09



# Entergy Claims “Miscommunication” On VPR Interview with John Dillon Slide 2

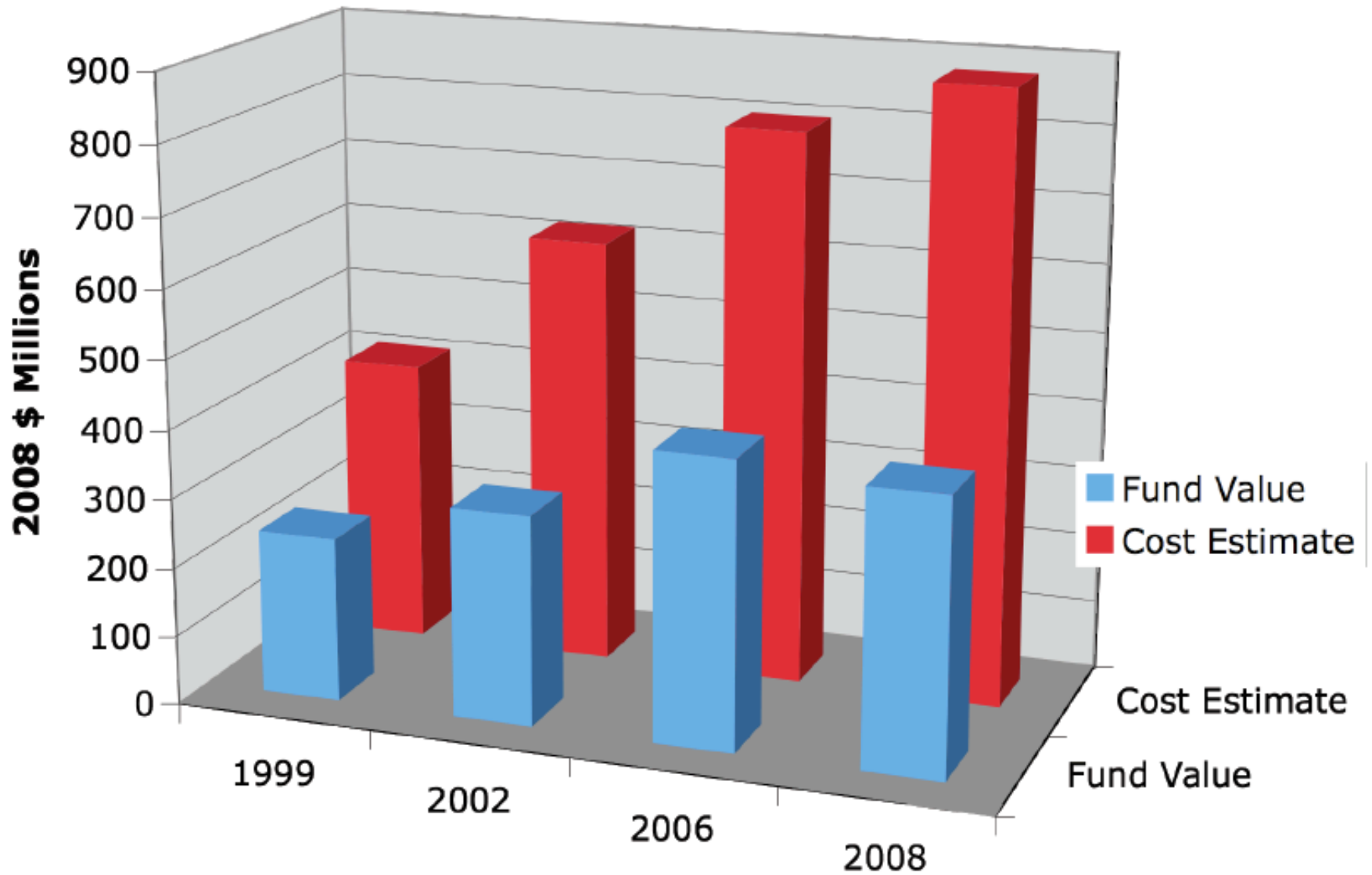
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(Dillon) According to Williams, the contamination ended in 1993. Still, Gundersen questions why Yankee didn't tell the state earlier about the pipe issue.

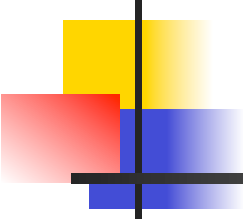
(Gundersen) We asked and their response back was that there was one pipe in the chemistry lab that had leaked into the earth under the power plant, and that pipe had been plugged years ago.... So if they identified a minor pipe in the chemistry lab and they missed all of the piping that drains all of the roofs on the plant, I was surprised.

– VPR 10-28-09

# ENVY Decommissioning Fund 2008



Analysis by Fairewinds Associates, Inc



Arnie Gundersen, Chief Engineer, MSNE  
Fairewinds Associates, Inc  
[www.fairewinds.com](http://www.fairewinds.com)

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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.