

Do Trading and Power Operations Mix? The Case of Constellation Energy Group 2008

John E. Parsons
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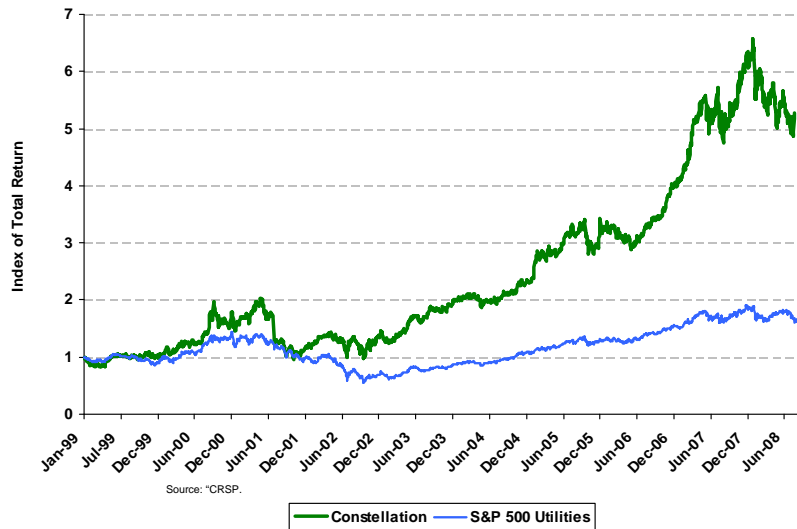


MIT CEEP

MIT Center for Energy and Environmental Policy Research

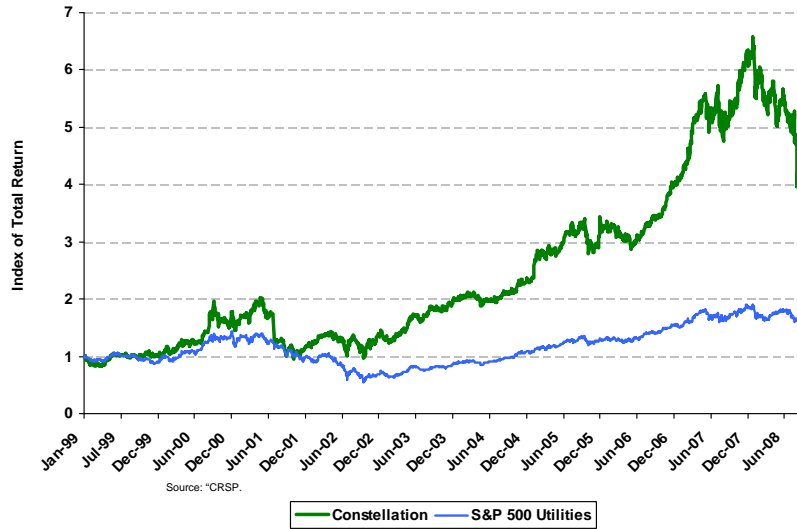
Constellation Energy 1999-2008

Figure 5: Relative Stock Performance



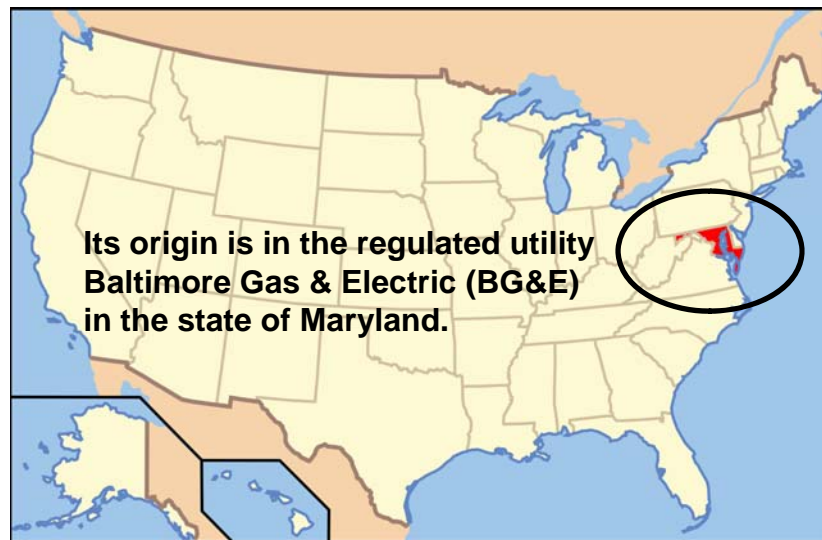
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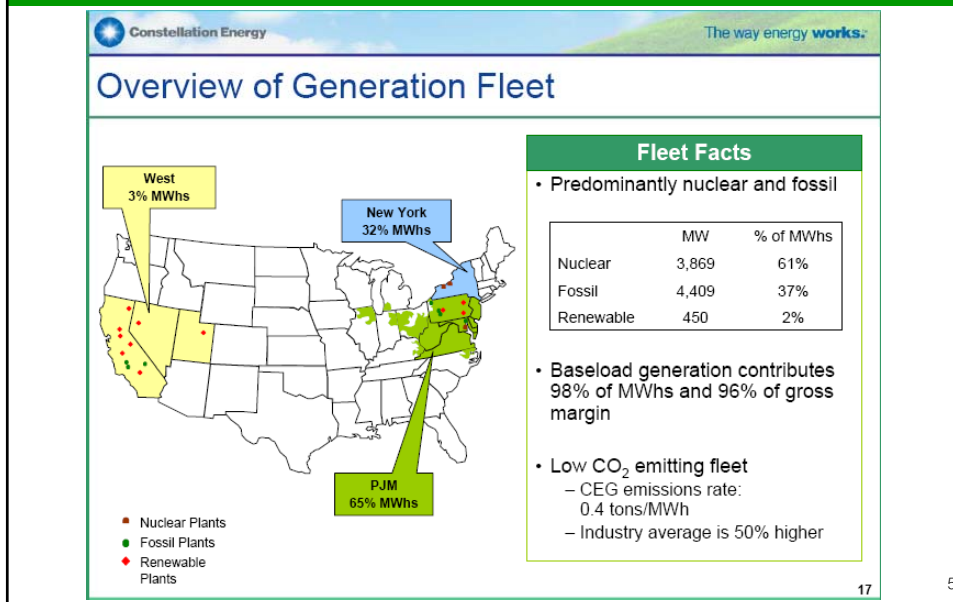
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Who is Constellation Energy?

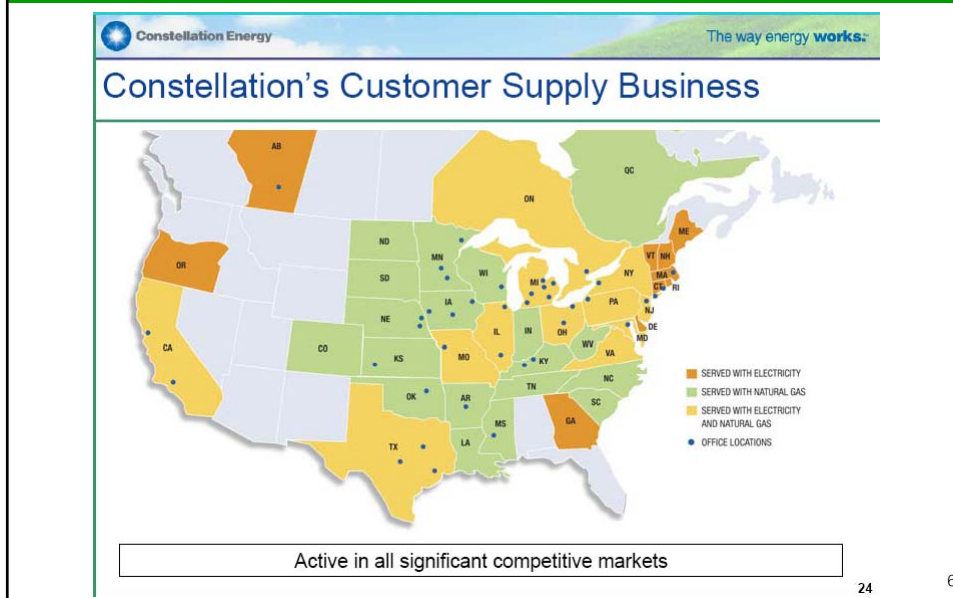


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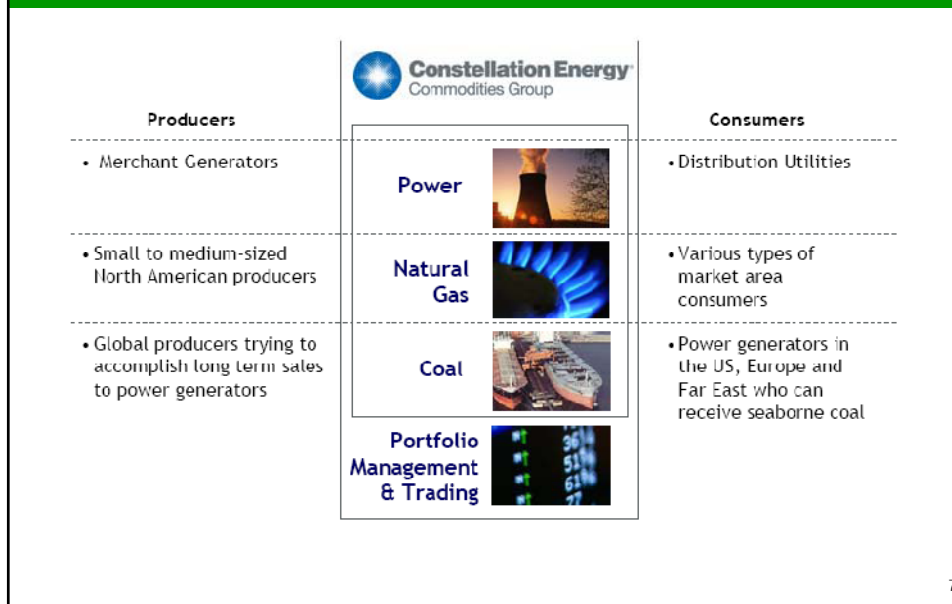
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2008: Constellation's Liquidity Crisis

- July 31, 2008 press release of 2Q earnings:
 - > "...these results significantly exceeded our expectations, reflecting strong execution at each of our operating divisions, with particularly strong performance at our Global Commodities Group [trading]."
 - > Stock price closes at \$83.16.
- August 11, 2008, Form 10Q filing:
 - > Restatement of 1Q disclosure of contingent collateral requirement, from \$1.6 billion to \$3.2 billion.
 - > By 2Q this had grown another 40% to \$4.6 billion.
 - > Stock price closes at \$61.25.
- September 12, 2008:
 - > Stock price closes at \$58.37.
 - > Then, on Monday, September 15, Lehman Brothers collapses.
- September 17, 2008
 - > Stock price closes at \$24.77, a drop of 71%.

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2008: Constellation's Liquidity Crisis (cont.)

- September 18, 2008:
 - Warren Buffet's Mid-American Energy signs a purchase agreement at \$26.50.
 - Injecting cash to resolve Constellation's liquidity problem.
- ...
- Ultimately, in December 2008, EDF (aka Électricité de France) made a counteroffer:
 - buyout Mid-American's position,
 - receiving 50% of Constellation's nuclear assets instead of shares in the company as a whole,
 - deal valued at \$52/share.

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What Happened? ...The Proximate Causes

- Element #1 was Constellation's swift move into coal trading.
- Element #2 was the sharp rise in commodity prices during 2008, especially for coal.
 - Increased Constellation's exposure for any given physical position.
 - Constellation had an asymmetric collateral requirement situation.
- Element #3 was a major failure in Constellation's internal risk management processes leading to an extremely significant mis-reporting of contingent collateral requirements.
- Element #4. Constellation's handling of the public relations surrounding these facts was also problematic.
- Element #5. At this point, Constellation's problem intersected with the wider financial crisis facing the US economy.

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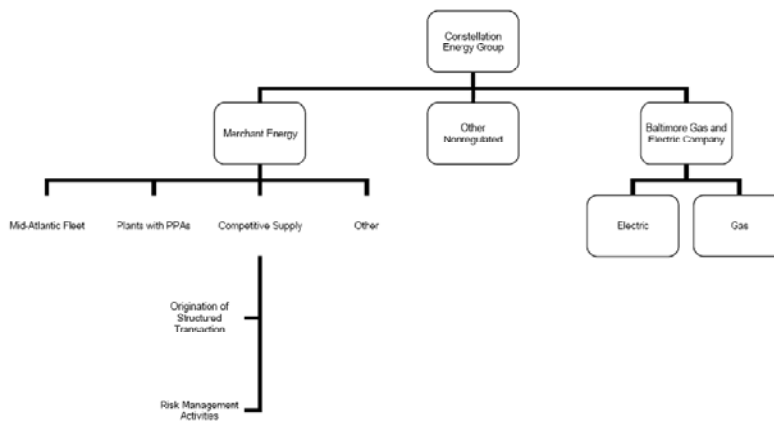
What Happened? ...The Ultimate Cause

- For most of Constellation's history,
 - Trading was a functional capability that served the two main profit making activities: wholesale power marketing and power generation.
 - Trading was not an independent profit center, and proprietary trading was a minor activity.

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Constellation Energy 1998-2007

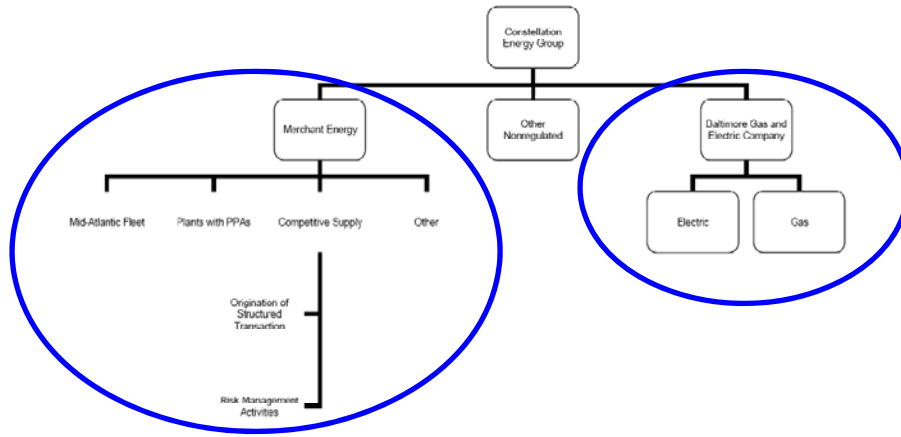
Figure 8: Constellation Financial Reporting Structure, Year-end 2001-2003



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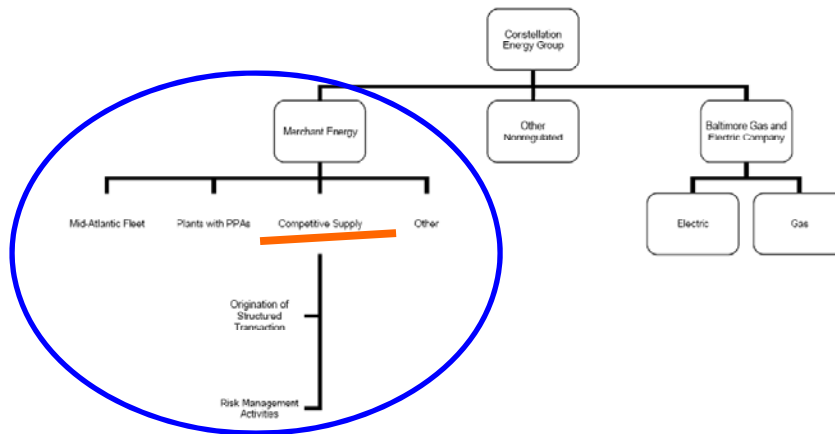
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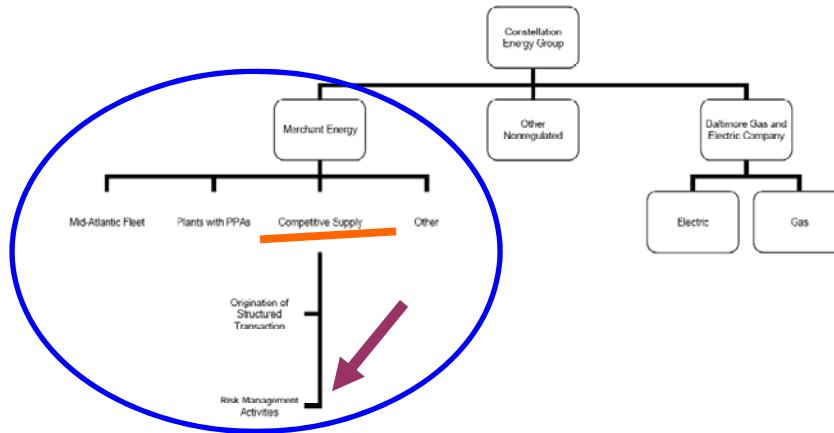
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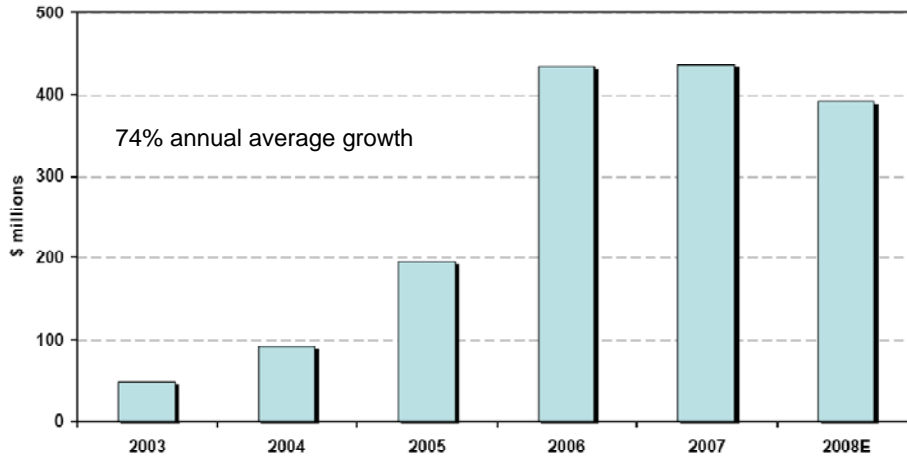
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Growth of Proprietary Trading

Figure 11: Gross Margin on Portfolio Management & Trading

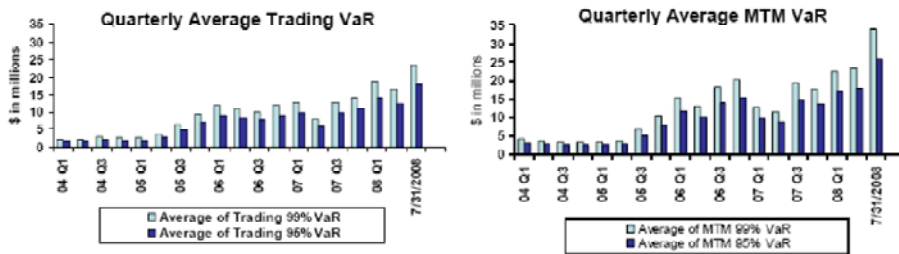


Source: "Constellation Energy 2007 Analyst Presentation," January 31, 2007.

Growth of Proprietary Trading

Figure 12: Value-at-Risk In Constellation's Portfolio

69% annual average growth



Average trading VaR includes all positions in the GCG proprietary trading portfolio.

Average MTM VaR includes all positions with MTM accounting treatment. The exposure has been increasing primarily due to increased market volatility.

Source: "Constellation Energy 2008 Analyst Meeting Supporting Materials," August 27, 2008

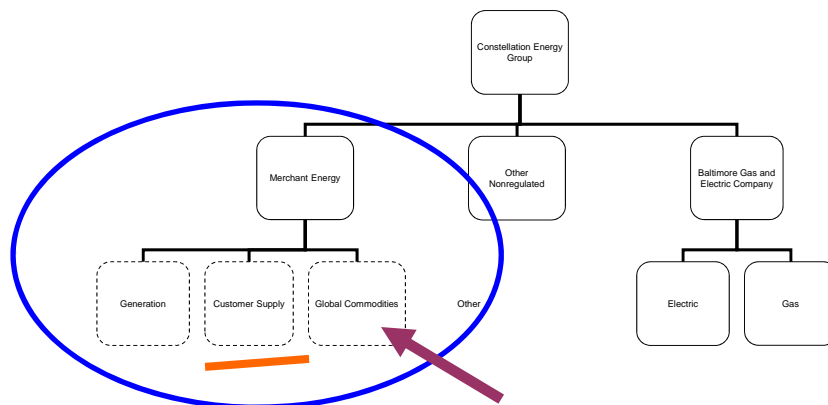
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Constellation Energy 2008

Figure 10: Constellation Financial Reporting Structure, 1st & 2nd Quarter 2008



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 - the company's focus in trading was on profits specifically from proprietary trading, not on the profits from market-making or other trading activities.

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2007 Expected Return 31%

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- So what?

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Do Trading and Power Operations Mix?

- There are 2 problems:
- #1. Mismeasurement of profitability due to an underestimation of the contingent capital requirements associated with trading in physical commodities.
- #2. Misunderstanding the source of profits from trading.
- In the real world, these two technically distinct problems tend to interact.

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Mismeasurement of Profitability

- Proprietary trading makes volatile future demands on equity capital.
- Benchmarking a strategy is a complicated task. The current capital costs of a future dynamic contingent capital requirement are complicated to calculate.
- For financial books consisting of truly liquid securities this problem is finessed. Positions can always be instantaneously liquidated. Fundamentally the problem is turned into an instantaneous investment problem instead of a long-lived investment problem.
 - > Daily V@R.
- The financial crisis of 2008 has emphasized the role of liquidity in all portfolios, but the centrality of the liquidity assumption has been well understood, if sometimes or even regularly overlooked.
- Power trading typically involves significantly less liquid investments in physical positions which cannot be adjusted rapidly.
 - > True for commodity based trading generally
- Therefore the contingent capital requirements are real, and we are thrown back into the vexing problem of calculating the capital at risk.

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Misunderstanding the Source of Profits from Trading

- Exaggerated valuation of proprietary trading's contribution.
- Undervaluation of market-making services.
- Undervaluation of service provided to real operations of wholesale power marketing and generation.

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The Imperialism of Proprietary Trading

- If the champions of proprietary trading have any control within management, they tend to misallocate capital and mis-attribute profitability.
- They underestimate the costs of proprietary trading, exaggerate the costs of other activities.
- They load the business with risks that are implicitly financed by the hard assets of other activities, while attributing the gains to the proprietary trading strategies.
- They drive the firm away from its strategic focus on its real competitive advantages and into risky territory that puts the larger firm at risk.

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Do Trading and Power Operations Mix?

- Is an independent trading unit a problem?
- A poor history as of 2000-2001...
 - Enron, Edison Mission Energy, Dynegy, Williams, Aquila, El Paso and Mirant.
- Sempra Energy counterexample?
- Constellation's trading businesses were sold to others, so someone was making money off them.
 - ✓ Macquarie.
 - ✓ EDF!
- What about the bankers?
 - Goldman et al.

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Do Trading and Power Operations Mix?

- RWE? ...optimizing options

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The End



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