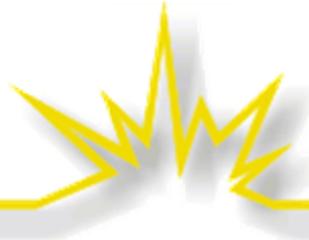


Energy Efficiency Can Cure What Ails the Power Sector, but Will Utilities Survive the Cure? (of course they will, better if we're smart about it!)

Richard Sedano

Law Seminars International

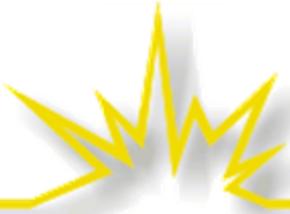
October 4, 2010



The Regulatory Assistance Project

U.S. Offices: Vermont ♦ Maine ♦ New Mexico ♦ California ♦ Illinois ♦ Oregon ♦
Washington

Website: <http://www.raonline.org>



About the Regulatory Assistance Project

- RAP is a non-profit organization providing technical and educational assistance to government officials on energy and environmental issues. RAP Principals all have extensive utility regulatory experience.
 - Richard Sedano was commissioner of the Vermont Department of Public Service from 1991-2001 and is an engineer.
- Funded by foundations and the US Department Of Energy. We have worked in nearly every state and many nations.
- Also provides educational assistance to stakeholders, utilities, advocates.



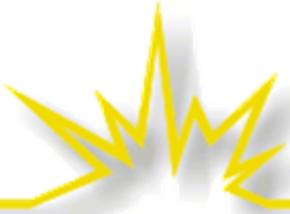
The Blurb

- Energy efficiency and its implications for rates:
 - Reduces Sales
 - Delays new utility-owned investments
- These sound like good things!
- This is an incomplete list of the effects of energy efficiency on utilities that affect their motivation to support it



A Related Subject

- Energy Efficiency and its implication for cost to consumers at-large:
 - Reduces costs compared with alternatives, more expensive and risky prospective utility- and independently-owned investments: **GOOD**
 - Enables more cost-effective achievement of environmental targets and RPS: **GOOD**
 - Are there losers?



Litany of Utility Financial Issues

- Fair and reliable system of cost recovery
- Elimination of the throughput incentive
- Financial performance incentives



Not typical RAP rap about utility incentives

- See www.raponline.org for our workshop presentation and papers about decoupling and performance incentives details
- Won't be covering cost recovery mechanisms in this talk but happy to discuss later



The Throughput Incentive

- Alive and well
 - Where it has not been reduced or eliminated
- **Revenue** to cover approved fixed costs should not be jeopardized just for doing the right thing (all cost effective EE plus)
 - This is different than assuring a **profit** level – utility is responsible for managing its costs and can come up short on ROE



How Changes in Sales Affect Earnings

% Change in Sales	Revenue Change		Impact on Earnings		
	Pre-tax	After-tax	Net Earnings	% Change	Actual ROE
5.00%	\$9,047,538	\$5,880,900	\$15,780,900	59.40%	17.53%
4.00%	\$7,238,031	\$4,704,720	\$14,604,720	47.52%	16.23%
3.00%	\$5,428,523	\$3,528,540	\$13,428,540	35.64%	14.92%
2.00%	\$3,619,015	\$2,352,360	\$12,252,360	23.76%	13.61%
1.00%	\$1,809,508	\$1,176,180	\$11,076,180	11.88%	12.31%
0.00%	\$0	\$0	\$9,900,000	0.00%	11.00%
-1.00%	-\$1,809,508	-\$1,176,180	\$8,723,820	-11.88%	9.69%
-2.00%	-\$3,619,015	-\$2,352,360	\$7,547,640	-23.76%	8.39%
-3.00%	-\$5,428,523	-\$3,528,540	\$6,371,460	-35.64%	7.08%
-4.00%	-\$7,238,031	-\$4,704,720	\$5,195,280	-47.52%	5.77%
-5.00%	-\$9,047,538	-\$5,880,900	\$4,019,100	-59.40%	4.47%



Ah Ha!

- Regulation can minimize internal conflicts in priorities
 - Ask a utility to do a lot of energy efficiency and reduce sales by supporting DG, T&D efficiency
 - Is in conflict with regulation that connects sales and profits
 - Judgment call about whether earnings associated with avoided generation need to be addressed



Decoupling Addresses the Throughput Incentive

- And addresses risks to utility from reduced sales
- And causes no disturbance to rate design
 - Rate design should be about customers **price signals**, not about utility revenue **adequacy**
 - **Smart grid, and economic efficiency** should prompt consideration about rate design, not the throughput incentive



Decoupling Becoming Standard Practice?

- Approaching $\frac{1}{4}$ of states in electric sector
- Experience getting longer, lessons being learned, no significant problems
 - Commitment to decoupling still appears shallow in some states implementing it
 - Decoupling off the table in many states

Aside on

Lost Revenue Adjustments

- Popular in early 90s
- Series of debilitating conflicts calculating the adjustment
- Throughput incentive remain
- Largely abandoned
- Coming back recently
 - (short institutional memories?)

Aside on

Third Party Administration

- Even where a state implements a third party administrator (as in VT OR HI)
- Addressing / Eliminating throughput incentive is valuable to the energy efficiency effort
 - Utility influential in customer engagement
 - Decoupling practiced in VT OH HI



Regulatory Trap

- “Now, utility witness, if we approve your decoupling proposal, will you do more energy efficiency?”
- *After thinking about the fact that the statute says utility is already supposed to do all cost-effective energy efficiency “No.”*
- **WRONG!**



Commissions Need “A Reason”

There is a difference between **compliance** in the face of the throughput incentive and **excellence and innovation** with incentives resolved.

“With approval we will be more encouraged to find ways to stretch the boundaries of ‘all cost-effective energy efficiency.’”



Recent Decoupling Issue

- Revenue under decoupling is essentially determined by a formula
 - What is in the formula?
 - Decoupling is not one thing, but rather a result
- Should capital spending be part of the formula?



Decoupling Features

Feature#	Gas Decoupling#	Electric Decoupling#
Revenue change between rate cases		
Revenue-per-customer	23	4
Attrition adjustment	3	4
No change	3	1
No separate tariff	3	3
Timing of Rate True-ups		
Annual	19	8
Semi-annual/quarterly	2	1
Monthly	4	3
Weather		
Not weather-adjusted	20	10
Weather-adjusted	8	2
Limit on adjustments and/or dead-band	9	6
Per class calculation and adjustments	25	7
Earnings Test	4	
Pilot/known expiration date	11	4
Surcharges only	3	
Total Utilities Analyzed	28	12

Source: Lesh, *Rate Impacts And Key Design Elements Of Gas And Electric Utility Decoupling: A Comprehensive Review*, The Electricity Journal (June 2009)



Decoupling Works Well When...

- Revenue formula elements are ministerial and transparent
 - Judgment calls complicate things, but can be accommodated with regulatory diligence



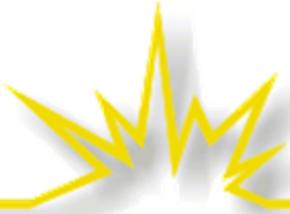
News: Utility Sector Entering Capital Bubble

- If capital spending is going to be the biggest driver of utility costs...
- And capital is not transparent or ministerial
 - There are many judgments and regulators have to pay attention to gold-plated systems...
- How should capital costs be factored into decoupling?
 - It can be done, but it adds a complication



Distinction between Wires and Vertically Integrated?

- Is there generation to protect?
- Is generation vulnerable to reduced sales?
 - Does it tend to run at or above marginal cost?
 - Is it vulnerable to prospective environmental regulation?
 - Is it subject to significant capital requirements
- Anecdotal evidence in RTO governance suggests generators resist changes that promote energy efficiency



Distinction between Wires and Vertically Integrated?

- On the other hand:
 - Proportion of fixed cost affected by reduced sales can be higher in wires-only company

		Vertically Integrated Utility	Distribution-Only Utility
(a)	Average Retail Rate/kWh	\$0.08	\$0.04
(b)	Annual Sales, kWh	1,776,000,000	1,776,000,000
(c)	Annual Revenues, (a) * (b)	\$142,080,000	\$71,040,000
(d)	Rate Base	\$284,000,000	\$113,600,000
(e)	Authorized Rate of Return on Equity	11.00%	11.00%
(f)	Debt/Equity Ratio	50.00%	50.00%
(g)	Net income, (d) * (e) * (f)	\$15,620,000	\$6,248,000
(h)	% Reduction in Sales	5%	5%
(i)	Reduction in kWh Sales, 0.05 * (b)	88,800,000	88,800,000
(j)	Associated Revenue Reduction	\$7,104,000	\$3,552,000
(k)	Average Power Cost/kWh	\$0.04	na
(l)	Power Cost Savings from Reduction in Sales	\$3,552,000	na
(m)	Net Revenue Loss after Power Cost Savings	\$3,552,000	\$3,552,000
(n)	Reduction in Net Income, (m)/(g)	(22.74%)	(56.85%)

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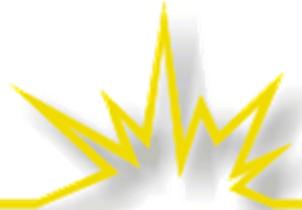
To address wires company concern

- Decoupling and fair, reliable cost recovery



To address integrated company concern

- Financial performance incentives – how much?
 - Enough to capture interest (trying to replace foregone earnings is futile since those foregone assets are not useful)
 - Not so much to trigger third party administration or violate front page test
 - Lots of implementation history



Final Note on Attribution

- Are the only energy efficiency savings we care about the ones utilities can cause?
 - And how hard is it to count second order effects
- Utilities have powerful influences in the communities they serve
 - Should we encourage utilities to enable others to invest in energy efficiency in some way?
 - Should we worry as much as we do about direct attribution to meet savings goals?



Thanks for your attention

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- <http://www.raponline.org>
- RAP Mission: *RAP is committed to fostering regulatory policies for the electric industry that encourage economic efficiency, protect environmental quality, assure system reliability, and allocate system benefits fairly to all customers.*