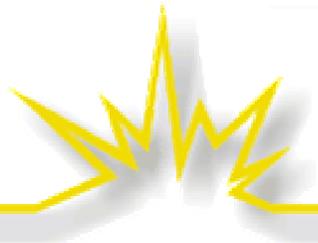


KCPL Resource Workshop

Missouri PSC Docket EW-2004-0596

Richard Sedano

August 19, 2004



The Regulatory Assistance Project

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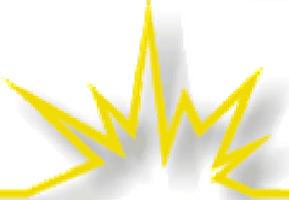


Introduction

Regulatory Assistance Project

RAP is a non-profit organization, formed in 1992, that provides workshops and education assistance to state government officials on electric utility regulation. RAP is funded by the Energy Foundation, the US EPA and the US DOE.

Richard Sedano was Commissioner of the Vermont Department of Public Service, 1991-2001, and presently serves on the Montpelier Planning Commission



General Topics

- Valuing Energy Efficiency
- Utility Incentives for Energy Efficiency
- Administering Energy Efficiency



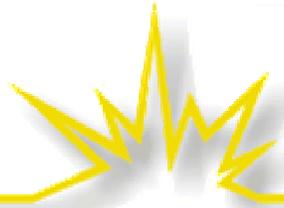
Evaluating Efficiency

- Address real barriers to public interest
- Solid benefit / cost ratios
- Opportunity programs
 - ❖ And other policy priorities
- Solid Monitoring and Verification
- Target added investment to address growth or system deficiencies
- Risk Management Motivation



Value of Consistency

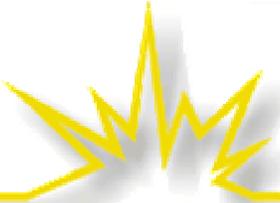
- Professional staff with rising expertise
- Planners get used to factoring in effects and counting on results
- Steady effect to enable economic growth while minimizing demand on electric grid
 - ❖ Emerging resource challenges driven by growth
- Consumers look for efficiency message



Valuing Energy Efficiency

- Stabilize, Optimize Service Area
 - ❖ Avoid risky investments, “lost opportunity” focus
- Target as a resource in high value places
 - ❖ Avoid expensive investments, esp. Peak-driven
- Meet public policy objectives
 - ❖ Synergy with general fund programs, mitigate risk of new environmental controls on generation

Need information about efficiency potential and local system needs to most effectively deploy EE



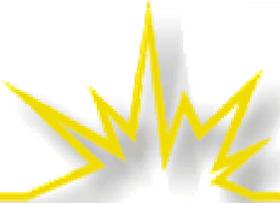
Utility Incentive Issues

- Clearly there is value to align the public interest with the utility interest
 - ❖ Credit to utilities that make this alignment a priority
- Question: to what extent is this realistic, and what changes are needed to accomplish this alignment?

Footnote:

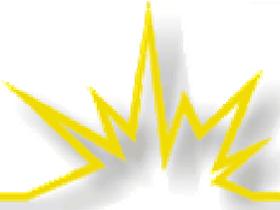
National Petroleum Council

- National Petroleum Council, addressing policy responses to high natural gas costs in the U.S. in advice to the Secretary of Energy, urges a “Balanced” path that seeks to align public and private interests.
- A key recommendation among many is to implement more energy efficiency



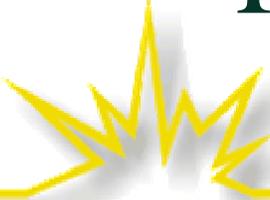
A symptom in instability from Canada

- One concern is that the alignment of weather-sensitive power and natural gas loads may lead to greater peak demand and higher natural gas and power prices during these peak periods. “This introduces additional volatility from power markets and will also alter seasonal consumption and the ... opportunity of using storage to mitigate natural gas prices,” the NEB report says. “Specifically, continuing growth in summer electricity demand for air conditioning will lead to higher natural gas demand and higher prices during the warmest summer months, leaving a greater burden on the milder but more unpredictable shoulder months to replenish storage levels for the winter heating season.” Price-sensitive load includes much of the current dual and alternate fuel use capability. A concern of many participants in the NEB consultations is that, faced with rising energy prices for a number of years, many of the easily attainable gains in energy efficiency and cost reductions have already been made.
 - ❖ PowerWeek Canada August 9, 2004
- See also National Petroleum Council Report, www.npc.org



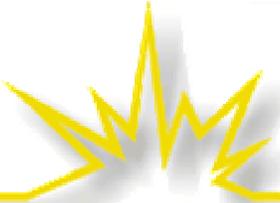
Utility Incentives for Distributed Resources

- Address the throughput incentive
 - ❖ PBR rev cap
 - ❖ ERAM/ACE
 - ❖ Performance incentives



Performance Based Regulation Revenue Cap

- Objective: Sever relationship between electric sales and net income
- A different way to regulate the whole company designed to align consumer and company interests to the maximum degree



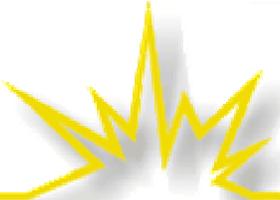
Revenue Cap: How It Works

- Cap on distribution company revenues
- Cap is computed at beginning of first year as average revenue requirement per customer (RPC)
- Allowed revenues at end of year computed as RPC times number of customers.
- RPC adjusted in following years for inflation, productivity, and other factors
- Rates set as usual: per kW and per kWh
- Utility and customers both have incentive to be efficient



ERAM or ACE

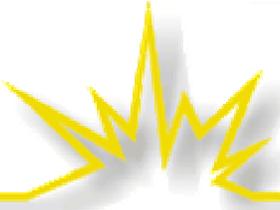
- Electric Revenue Adjustment Mechanism
- Accounting Correction for Efficiency
 - ❖ Calculate lost net income from avoided sales due to demand side activities
 - ❖ Add the revenue to cost of service
 - ❖ Book and defer between rate cases
 - ❖ Amortize over a period set by regulator



ERAM / ACE

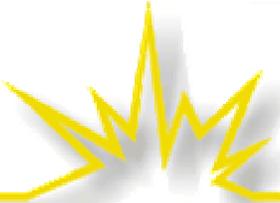
Characteristics

- Direct effect on throughput incentive
- Can be extended to non-EE investments
- Important to resolve annual calculations
- Calculations can be cumbersome and subject to dispute
- Commission retains role of supervising expenses and can disallow as with any cost category



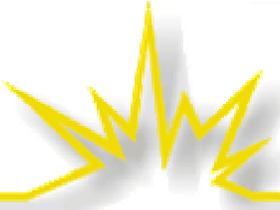
Incentives

- Forces articulation of measures of success
 - ❖ Indicators represent success for consumers
 - ❖ Bonus level should stretch the company
 - ❖ Useful role for a collaborative to propose incentives
- Focuses company on success
 - ❖ Get the Bonus!
 - ❖ Use in Employee Compensation
- Amount can approximate likely ERAM result, yet is a very different calculation



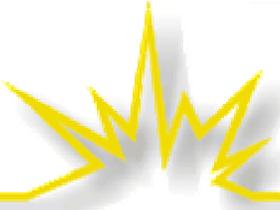
Incentives: An Example

- \$10 million annual program budget
- 5% (\$500K) held back for shareholder incentive
- 5 performance indicators, \$100K for each
- Failure to win bonus means money goes back into program budget
- Sample indicators: total energy saved, total MW saved, penetration of an Energy Star appliance, whole building EE agreements with school districts, number of building operators trained



Serious Energy efficiency investment levels

- Look at other states since restructuring:
 - ❖ CT: 3%,
 - ❖ RI: 2.3%
 - ❖ NY 1%
- And other states still vertically integrated
 - ❖ VT: 2.9%
 - ❖ WA, UT: IRP driven



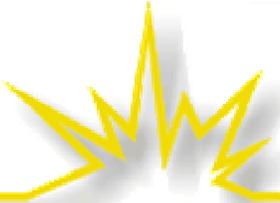
EE as a Resource

- Less costly than other resources
 - ❖ States are procuring EE at 2.5-3.0 cents/kWh
- Avoids risk associated with other resources
 - ❖ Siting? Fuel prices? Environment/Carbon regulation?
- A useful way to accomplish diversity
 - ❖ More time for renewables, surprises, to emerge
- Based on planning that looks for **ALL resources** (refer to RAP's *Efficient Reliability, Portfolio Mgt.*)



Administering Energy Efficiency

- Administrative structures in use
 - ❖ Utility administration
 - ❖ State administration
 - ❖ Independent administration
- All work when implemented well
 - ❖ Collaboratives can be helpful, esp for utility admin.
- Choice suited to state circumstances
 - ❖ Refer to RAP EE Administration review



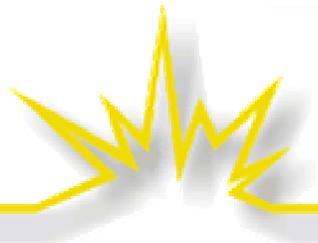
Thanks for your attention

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❖ 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.*

Back up Slides on Revenue Cap Performance Based Regulation

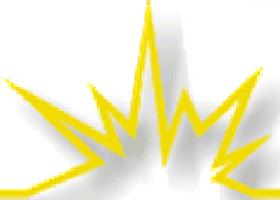


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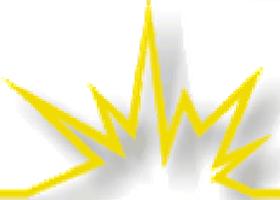
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Types of Rate Making

- Traditional Cost of Service
- Incentive Regulation
 - ❖ Price Caps
 - ❖ Revenue Caps



Traditional Ratemaking

- Rate Base
- x Rate of Return
- + Expenses
- = Revenue Requirement
- / Sales
- = Rate per unit



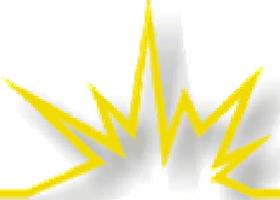
Rate Base

- Original Investment in Plant
- - imprudent investment
- - accumulated depreciation
- + regulatory assets
- + working capital
- = Rate Base



Rate of Return

- Cost of common equity x equity ratio
- + Cost of debt x debt ratio
- Include Short term debt;
Ratepayer supplied capital
- 40% equity @ 12%
- + 60% debt @ 8%
- = 9.6% overall rate of return



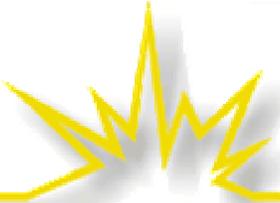
Expenses

- Prudently incurred
- Necessary for service
- Remove non-recurring
- Remove out of period
- Include taxes
- Insure all investment-related payments are included in capital account



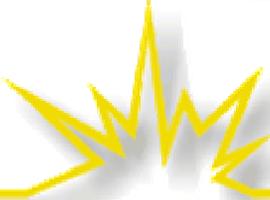
Example Traditional Revenue Requirement

- Rate base = \$500 million
- Rate of return = 9.6%
- Return = \$48 million
- Expenses = \$100 million
- Revenue Requirement = \$148 million



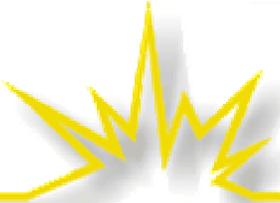
Forms of Incentive Regulation

- Rate case moratorium
- Price Caps
- Revenue Caps
- Fuel efficiency / cost incentives
- Portfolio incentives - DSM, Renewables
- Service quality incentives



Price Cap Incentive Regulation

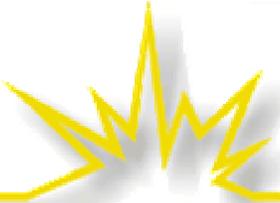
- Multi-year mechanism
- Price in period 2 = price in period 1 + adjustments
- Inflation (upward) adjustment
- Efficiency (downward) adjustment
- Incentive: increase sales, decrease costs per unit



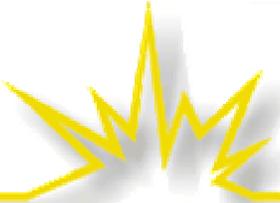
Revenue Cap Incentive Regulation

- Revenue per customer is capped, not rate
- If sales increase, rates are reduced
- If sales decline, lost revenue is restored
- Incentive: minimize cost of meeting customer needs

Example of Revenue Cap



- Allowed RPC = \$100
- Current sales / customer =
1000 @ \$.10/kwh.
- Displace 200 kwh with
DSM @ \$.05/kwh
- Avoid \$.06/kwh in fuel;
other costs unchanged
- Utility benefits by
\$.01/kwh x 200 kwh



Essential with Incentive Regulation

- Make sure there are not undesirable incentives
- Provide for method to protect service quality
- Monitor impact on economy
- Be able to re-open mechanism if flaws are found