Performance-Based Ratemaking

Virginia Dept of Energy Stakeholder Working Group

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Who am I?

- Executive in charge of regulatory affairs for NRG Energy: Fortune 200 company, provider of energy services to 8M customers throughout North America
  - NRG's Direct Energy is a Competitive Service Provider in Virginia. For their customers (generally, >5 MWs) CSPs are responsible for procuring the energy, capacity, and transmission services. CSPs served 36% of all industrial load in Dominion in 2023
- Recovering regulator: Chairman, Montana Public Service Commission; Past President, National Association of Regulatory Utility Commissioners
- Teaches ratemaking for fun: Lecturer, University of Chicago, Harris School of Public Policy graduate class "Utilities and Electricity Markets: Regulation in the United States"

Roadmap for Today's Presentation

- Incentives in Competitive vs. Cost-of-Service Pricing
- Utilities: Spend More, Make More?
- What is Performance-Based Regulation?
- Examples of Performance-Based Regulation
- Conclusion

Competitive vs. Monopoly Enterprises

- How do competitive firms make money?
  - Lower the cost of goods sold (efficiency of processes, input costs)
  - Increase the value of one's product (e.g., customer service, guarantees, etc.), allowing increased pricing vs. competitors
  - Gain market share (increasing sales volume multiplies profits, often lowers the unit cost of goods sold)
- How do monopolies make money?
  - Spend more!*

*so long as you convince your regulator/legislature to approve recovery of costs

What's the Math?

- Utilities' rates are based on a "revenue requirement", where:

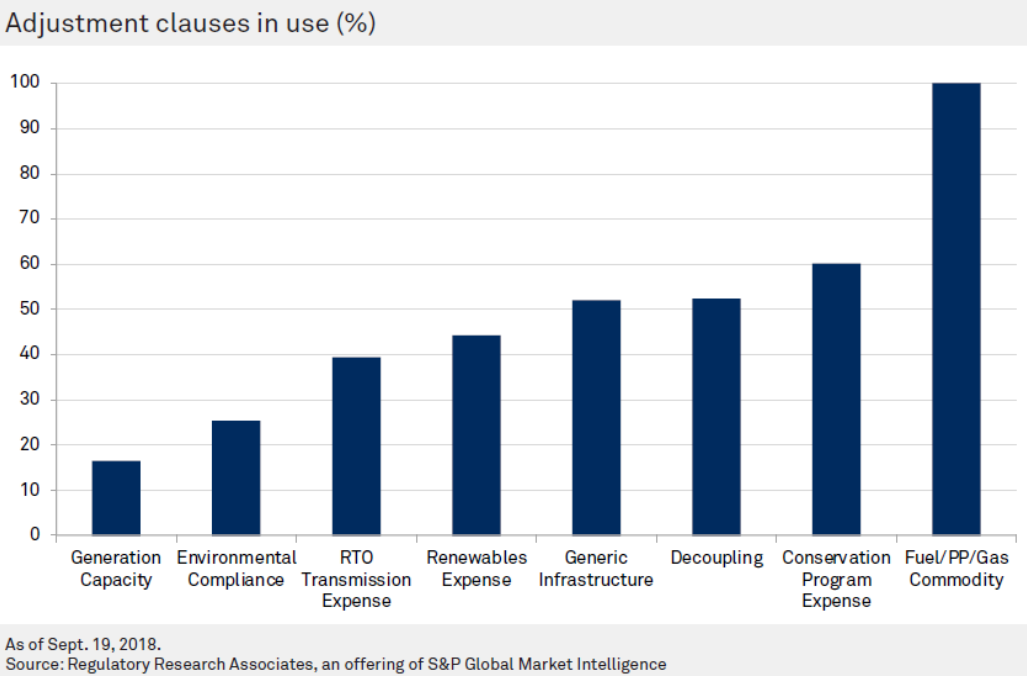
Revenue Requirement = O + T + D + r(RB)

  - O= Operating Expenses
  - T = Taxes
  - D = Depreciation (return *of* capital investment to utility)
  - r= fair rate of return (weighted cost of capital)
  - RB= Rate Base
    - **value of utility plant assets** minus **accumulated depreciation**

- Note how 'RB' is the only variable in this equation that inherently earns a return/profit ('r'). This leads to some inversions versus how most Americans understand businesses to work:
  - Spend more, make more: The more capital a utility spends, the more profit it makes
  - Owning it 'free & clear' is not profitable: The utility makes its greatest profits on any capital item in the first year, and it makes no profits on fully depreciated assets

Vanishing Incentives in Utility Regulation

- Historically, utilities also had profit opportunities by becoming more efficient. Once their rates were set, if their operating expenses decreased, they could pocket difference between revenue collected and actual costs
- The introduction of adjustment clauses or 'trackers' has eroded this incentive over time
- These rate adjustors recover to the utility whatever it happened to spend, regardless of the initial 'budget' for these costs



Virginia is the GOAT in Adjustment Clauses

- Virginia has effectively removed most 'skin in the game' for regulated utilities, with a record 22 adjustment clauses & factors for Dominion alone
- Most rate increases Virginia customers see don't go through traditional rate-review process, but instead channel through siloed "rocket docket" adjustment-clause proceedings
- Utility business model has become aggressively focused on "how much capital can I spend?" rather than "what can I do to provide service most efficiently?"
- Virginia has one of the most talented regulators in America, administering one of the worst systems of economic regulation, from a "performance-based regulation" point of view

DEV Electric Utility Bills
As of July 1, 2024

Recovery Mechanism	Description	Current Residential Bill	Proposed Increase if Pending	Proposed Bill	Requested Effective Date
Base Rates	Base	$ 70.41	$ -	$ 70.41	-
Fuel Factor	Fuel	$ 20.74	$ -	$ 20.74	-
Deferred Fuel Cost Charge	Fuel	$ 3.22	$ -	$ 3.22	-
Rider T1*	Transmission	$ 5.88	$ 3.81	$ 9.69	9/1/24
Rider GEN	Generation	$ -	$ 7.58	$ 7.58	4/1/25
Rider BW	Brunswick Gas CC	$ 2.35	$ (2.35)	$ -	4/1/25
Rider GV	Greensville Gas CC	$ 2.47	$ (2.47)	$ -	4/1/25
Rider B	Biomass	$ 0.63	$ (0.63)	$ -	4/1/25
Rider US-2	Solar	$ 0.17	$ (0.17)	$ -	4/1/25
Rider US-3	Solar	$ 0.69	$ (0.69)	$ -	4/1/25
Rider US-4	Solar	$ 0.27	$ (0.27)	$ -	4/1/25
Rider CE	Solar	$ 2.88	$ -	$ 2.88	-
Rider SNA	Nuclear Relicensing	$ 0.93	$ 0.85	$ 1.78	9/1/24
Rider RPS	RECs	$ 1.32	$ 3.48	$ 4.80	9/1/24
Rider RGGI	RGGI	$ 4.43	$ (4.43)	$ -	7/15/24
Rider OSW	Offshore Wind	$ 4.74	$ 3.89	$ 8.63	9/1/24
Riders C1A/C2A/etc.	Energy Efficiency	$ 1.84	$ (0.16)	$ 1.68	9/1/24
Rider U**	Strategic Undergrounding	$ 1.99	$ 2.18	$ 4.17	8/1/24
Rider GT**	Grid Transformation	$ 3.22	$ -	$ 3.22	-
Rider E	Coal Ash	$ 2.03	$ (0.68)	$ 1.35	11/1/24
Rider CCR	Coal Ash	$ 2.38	$ (1.20)	$ 1.18	12/1/24
Rider RBB	Rural Broadband	$ 0.42	$ -	$ 0.42	-
PIPP USF	PIPP	$ 0.73	$ (0.73)	$ -	-
Total		**$ 133.74**	**$ 8.01**	**$ 141.75**	

Let's Hear What's Being Said To/By Utility Investors

Guidance

Five-year capital summ[illegible]

	Dominion Energy Virginia	Dominion Energy South Carolina	Contracted Energy	Corpora[illegible] & Other	Total[3]
2025 – 2029 capital plan ($B)	$35.5	$5.9	$1.2	$0.6	$43.2
Primary drivers	▪ Economic growth ▪ Zero-carbon generation ▪ Grid transformation ▪ Generation reliability ▪ Transmission and distribution resiliency	▪ Economic growth ▪ Grid transformation ▪ Electric generation	▪ Maintenance, environmental and fuel for Millstone	▪ Information technology and other	
5-[illegible] utility rate base [illegible]AGR YE'24 – YE'2[illegible]	9.0%	6.6%—5.1% *(without and with CCR[1])*	–	–	7.8%—7.5% *(without and with CCR)*
% rider eligible[2]	75%	15%	–	–	64%

Note: Figures include impact of 50% non-controlling equity partner funding 50% [illegible]OW project costs [1] 20-year amortization of rate base associated with the Capital Cost Rider (CCR) [2] For DESC, represents growth capital under the Natural Gas Rate Stabilization [illegible] investment base CAGR reflects regulated rate base at DEV and DESC, plus approximate net book value of CE and non-rate base

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GUGGENHEIM

March 4, 2024

: "Southern-esque" Re-Rating in Time? New ominion, New Southeast Premium Name? Strategic eview Conclusion Marks a Turning Point…

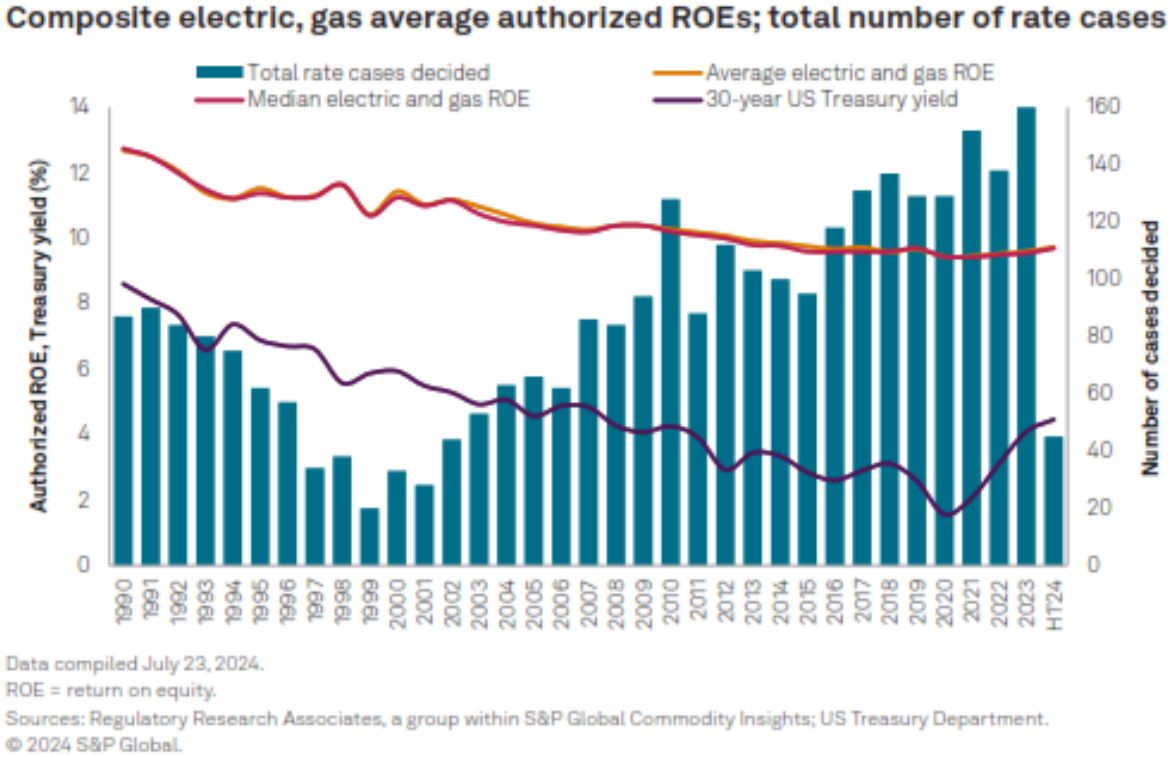
ey Message: Dominion has emerged from its strategic review as a fundamentally formed 5-7% growth story in our view, presenting investors with a fresh entry point to a straightforward and attractive Southeastern rate base and sales-growth story. n the guardrails of the review finalized and half of the large project risk now farmed own, we believe Dominion is positioned for an *eventual* ascent to the premium tier of ur utility coverage – not dissimilar to post-Vogtle SO or post-review CNP. While we

1. Investors are hyping Dominion as a "rate base" story that is "derisked" because of …

2. Riders/Adjustment clauses that allow Dominion to charge customers for costs without traditional regulatory review

Less Risk… More Reward?

- Regulator-authorized profits (Return on Equity) reached an all time high in 2020, net of the "risk-free" rate (as measured by 30-Y Treas bonds)
- Recent increases in 30-year Treasuries have eroded the most extraordinary profits
- Nevertheless, investors in utilities can make either a 4% Treasury return vs a ~9-10% return in a utility sector that, thanks to adjustment clauses, has been largely de-risked



So what?

- Utilities' profits depend on growth in utility spending – and not other variables that would be influential in a competitive environment
- A few take-aways:
  - Utilities are good at spending money – but not in operationalizing it (e.g., spend money to deploy the smart meters but not use them)
  - Lots of "services" the utility might provide are *not* profit centers (customer service, timely interconnection, etc.)
  - If given the choice between "in-house" capital-intensive solution, and outsourced solution, they have an incentive to choose the former (e.g., in-house servers vs. cloud computing)

Performance-Based Regulation

- “PBR” means different things to different people
- Core idea behind PBR is a recognition that existing incentives for utilities are not well aligned to the public interest
- Two integral concepts of PBR are
  - Creating incentives that simulate the incentives of a competitive landscape
    - “putting utilities on a budget” / “shared savings”,
    - allowing trade-offs between different costs, and between cap-ex vs. op-ex, to happen across the utility’s entire budget
  - Targeted bonuses for utilities to achieve certain outcomes; “pay for performance.”

PBR Component #1: Multi-Year Rate Plan

- **Put utilities on a budget**. Terminate nearly all adjustment clauses, and fold these costs back into base rates that are re-set only 3-5 years (or a long enough period for utilities to be positioned to profit from managerial decisions)

- If annual rate changes are permitted, they should be tied to wider economic indicators, e.g.

$$\text{Revenue Requirement} = RR_t + RR_t*(I - P), \text{ where}$$

-RRt represents the revenue requirement of the previous interval (e.g., the one authorized by regulator in last rate case),

-"I" is an economy-wide measure of inflation, e.g., the U.S. GDP-Price Index

-"P" is a measure of productivity, or the rate of efficiency in the utilization of capital and labor

Treats utilities more like other businesses in the economy

PBR Component #2: Shared Savings

- Fuel & Purchased Power Costs are big & volatile. A ‘tracker’ or ‘factor’ may seem inevitable
- “Sharing” profits/losses still possible
  - Utilities today typically recoup 100% costs from customers through a ‘tracker’. If current rates do not recover a utility’s spending, a surcharge / rebate will be in effect
  - Instead of a “100% tracker”, regulators can introduce a sharing provision that sets a baseline for utilities to recover a certain fraction (e.g., 90%) of the difference between actual revenue and actual costs.
    - E.g., If the ‘revenue requirement’ is $100MM for fuel/purchased power purchases, but a utility ends up spending $150MM and earning $120MM from authorized rates during a cold, volatile-priced winter, then the remainder $30MM would be subject to 90% recovery from customers, while 10% ($3M) would be charged to utility shareholders

PBR Component #3: Pay for Performance

- PBR also includes “performance incentive mechanisms” (PIMs) that ride atop a Multi-Year Rate Plan.
  - Adequate performance around a PIM should make up a significant enough part of a utility’s authorized return as to meaningfully incentivize performance, with bonus & penalty bands for exceptional or inadequate performance
- These PIMs should focus on outcomes that the Multi-Year Rate Plan may not naturally incentivize, specifically the tendency for monopolies to offer poor quality service (because they have a captive customer base)
  - Are customers satisfied with the utility’s customer service? What do wait times look like?
  - Are customers wanting new construction or distributed-resources to be connected to grid waiting too long?
  - Is the data created by utility meters being accurately and timely provided to authorized third parties?

PIMs alone are *not* PBR

- Some stakeholders appear to believe "performance-based regulation" is all about specific, targeted incentives (i.e., PIMs)
- That is not the first or most important part of PBR (and it's not alone what HJ30 says to study)
- Individually incentivizing 14+ difference 'performance areas' would make Virginia regulation *even worse*
  - Balkanizing incentives would eliminate the more organic trade-offs that happen in utility management under multi-year rate plans
  - Lacking a reform of the adjustment clauses, these PIMs would be working at cross purposes with the major feature of VA regulation
  - The bonus return associated with performance on any individual item may try to work against but are unlikely to outweigh the inverse incentive established for rate base

A well-designed Multi-Year Rate Plan that eliminates/reforms trackers covers at least 8 of HJ30's "performance areas"

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