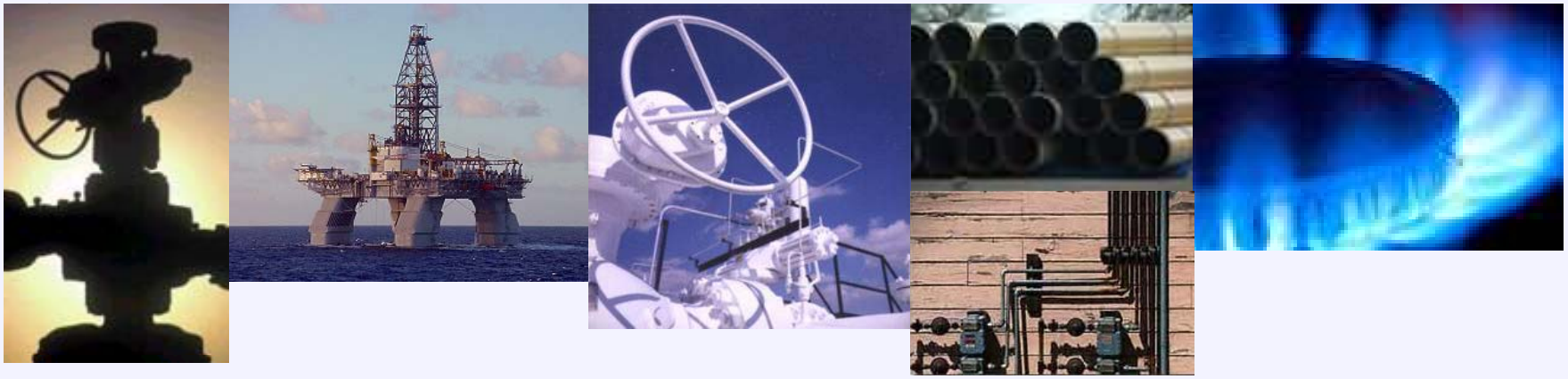


Regulatory and Ratemaking Issues Associated with Cost and Revenue Tracker Mechanisms

National Association of State Utility Consumer Advocates

November 17, 2009

LSU
Center for Energy Studies

David E. Dismukes, Ph.D.
Center for Energy Studies
Louisiana State University

Center for Energy Studies

Overview of Topics

- Definition of Tracker Mechanisms
- Commonly-Cited Rationales For Trackers
- Recent Examples
- Tracker Shortcomings
- Questions to Ask in Examining Tracker Proposals
- Examples (Capital Tracker, Inflation Tracker, WNA)
- Conclusions

Tracker Definitions

- Mechanisms that remove cost and/or revenue recovery from base rates to a separate rider or tariff.
- Can be for the collection of new costs not included in base rates or true-ups of revenues or expense items from levels that differ from the test year.
- Recovery typically periodic and more frequent than rate cases.
- While mechanisms can include surcharges and credits they should not be automatically considered “symmetrical.”
- Mechanisms originally developed with fuel-cost recovery, but have expanded to a variety of other sales, capital and expense-related changes.

LSU
Center for Energy Studies

Tracker Mechanism Examples

Tracker Mechanism	Recovery Type	Purpose
Asset Replacement Riders	Capital	Replace aging or inferior assets.
Inflation Riders	Expense	Inflate costs to match general inflation or other measure.
Asset Development Riders	Capital	Facilitate preferenced assets like baseload generation, smart meters.
Energy Efficiency Riders	Expense	Recover energy efficiency expenses as incurred.
Renewable Energy Riders	Capital	Recovery renewable energy development costs, rebates, and/or PPAs.
Environmental Cost Riders	Capital/Expense	Recovery of capital investment or air emission credits.
Weather Normalization Clauses	Revenue	Recovery of changes in sales due to weather.
Revenue Decoupling	Revenue	Recovery of changes in sales due to other factors.

Center for Energy Studies

Commonly-Cited Rationales for Trackers

Rationale	Driver
Volatile and unknown cost changes.	Recent increases in commodity costs and inflation.
Remove disincentives to purse public policy goals.	Energy efficiency, renewables, fuel diversity.
Required by “Wall Street.”	Capital crisis/recession.
Required to ensure recovery of revenue requirement.	Changes in UPC, climate change, other “exogenous factors.”
Reduce rate cases.	Increase in recent number of rate cases.

LSU
Center for Energy Studies

Selected Examples

Tracker Mechanism	States	Utilities
Asset Replacement Riders	AR, KS, MA, NJ, OR	Centerpoint Energy, Atmos, Bay State Gas Company, NJ Natural Gas, Elizabethtown Gas, Northwest Natural
Inflation Riders	MA (proposed), NE (proposed), CA	National Grid (proposed), SourceGas (proposed), Pacific Gas & Electric
Asset Development Riders	FL, IA, MD (proposed)	FPL (nuclear), PEF (nuclear), IA (coal, allowed, not used), MD (smart grid)
Energy Efficiency Riders	FL, UT, NJ, CA	FPL, Questar, PSE&G, JCP&L, Pacific Gas & Electric, SoCal Gas
Renewable Energy Riders	NJ, MA, MI, VA	PSE&G, JCP&L, National Grid, Detroit Edison, Consumers Energy, VA Electric
Environmental Cost Riders	LA., GA, KS, MS	Entergy Gulf States, Georgia Power, Westar, Mississippi Power
Weather Normalization Clauses	AR, IN, KS, MD, NY, TN, UT	Centerpoint, Indiana Gas, Atmos, Aquila, Chesapeake, ConEd, NYSE&G, Rochester, Piedmont, Questar
Revenue Decoupling	CO, IL, MD, NY, NC, OR, WA	PS Colorado, Peoples Gas, Washington Gas, ConEd, Avista, NW Natural

Tracker Expansion

- While some of these mechanisms are somewhat older in implementation (e.g., WNA, revenue decoupling), others are relatively new (asset development, inflation riders), and others are being modified and expanded (energy efficiency, renewables, environmental cost).
- Another recent theme in tracker proposals is the “multiple proposal” approach being pursued by utilities in various regulatory filings (numerous as opposed to individual tracker proposals).
- Increased adoption by some state commissions has led some utilities to refer to these mechanisms as the “new traditional regulation” or “new chapter” in utility regulation.

Center for Energy Studies

Tracker Shortcomings

Practice/Theory	Traditional Approach	Tracker Approach
Inconsistency with regulatory practice: "regulatory compact."	Utilities have traditionally been tasked with proposing projects, developing projects, and incurring the cost to develop projects. Afterwards, the utility must prove that the investment is used and useful and developed a reasonable cost.	Utilities would incur costs for projects often no defined ex ante, and recover the costs of these projects, as they are incurred, in rates. Afterwards, regulators and other parties would be required to show that the investments were not needed and the costs were unreasonable.
Inconsistency with regulatory theory: the role of "asymmetric information" in utility regulation.	Regulated firms know their cost structures better than regulators. Thus, best policy is to use regulatory lag, or incentive regulation (benchmarking) to drive utilities to efficient outcomes.	Regulators can easily determine the reasonableness of all capital investments and their costs within a matter of months and can comfortably adjust rates accordingly.

Center for Energy Studies

Risk Shifting

Risk Type	How it is Shifted to Ratepayers	Potential Consequence
Regulatory Risk	Ratepayers have higher burden to prove investments are imprudent rather than utilities proving that they are prudent.	Taken away, or significantly reduced the power of a regulatory disallowance that is long recognized as a powerful regulatory tool in minimizing cost and expense inefficiencies and offsetting potential “A-J” or “X-inefficient” outcomes.
Performance Risk	Ratepayers have higher burden to prove that tracker objectives were not met on sometimes illusive (qualitative) cost and investment decisions.	Effectively paying for a service before it has been rendered.
Sales Risk	Ratepayers will make utilities whole for any change in sales regardless of reason (economy, price, weather).	Decoupling revenues from sales is likely to lead to a decoupling of costs from revenues in a regulated cost-based industry.

Risk Shifting: Rejoinders

- **A common utility response is that "risk shifting" is consumer advocate "code" for a confiscatory "takings."**

  <u>Response:</u> Investors are not promised (guaranteed) a specific level of revenues, a specific return nor are they guaranteed to make whole for inflation or imprudent management actions. Utilities and their shareholders are given a reasonable opportunity (not guarantee) for these returns.

- **A common energy/environmental advocates' response is that "risk shifting" is consumer advocate "code" for insensitivity to clean energy policies.**

  Response: The goal of public utility regulation is to govern the industry in the multi-faceted public interest. Benefiting one aspect of this interest at the expense of the other is counter-productive and inconsistent with economic theory and regulatory practice. No one is arguing "don't pursue clean energy agendas." The argument should be "let's pursue those agendas correctly."

LSU
Center for Energy Studies

Hard Questions to Ask in Evaluating Tracker Proposals

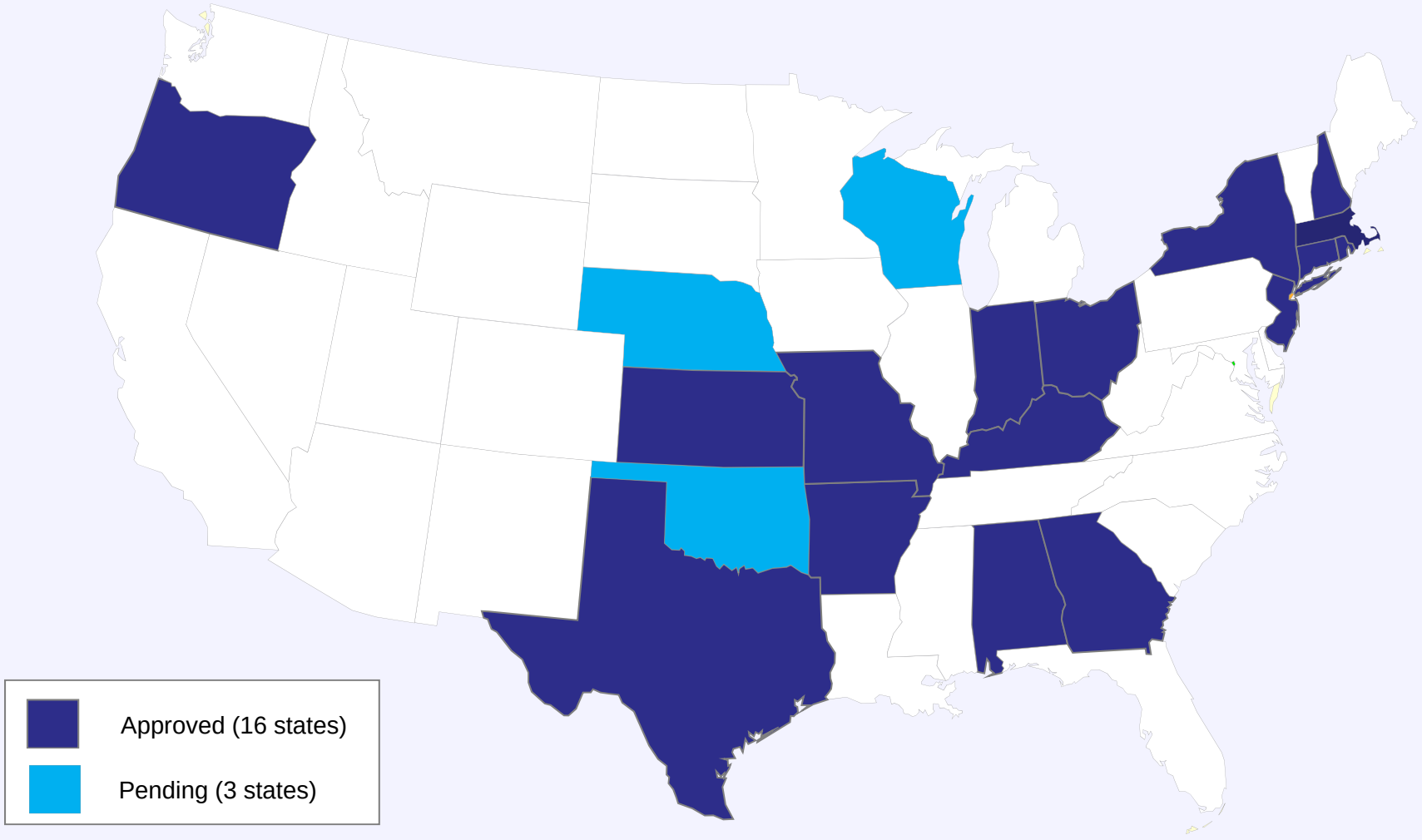
- Is the mechanism allowed by law? (revenue neutral?)
- Is the mechanism well-defined?
- Is the mechanism needed and does it address the problem?
- Are there any performance standards, reciprocity provisions, or other reflections of changes in risk?
- Are there any ratepayer protection mechanisms? (caps, bounds, triggers)
- Are there any alternative approaches that are better suited to addressing the problem?

Capital Tracker Analysis

LSU
Center for Energy Studies

Capital Cost Recovery Mechanisms

Approximately 16 states with capital trackers, all associated with natural gas pipeline replacement costs.



Center for Energy Studies

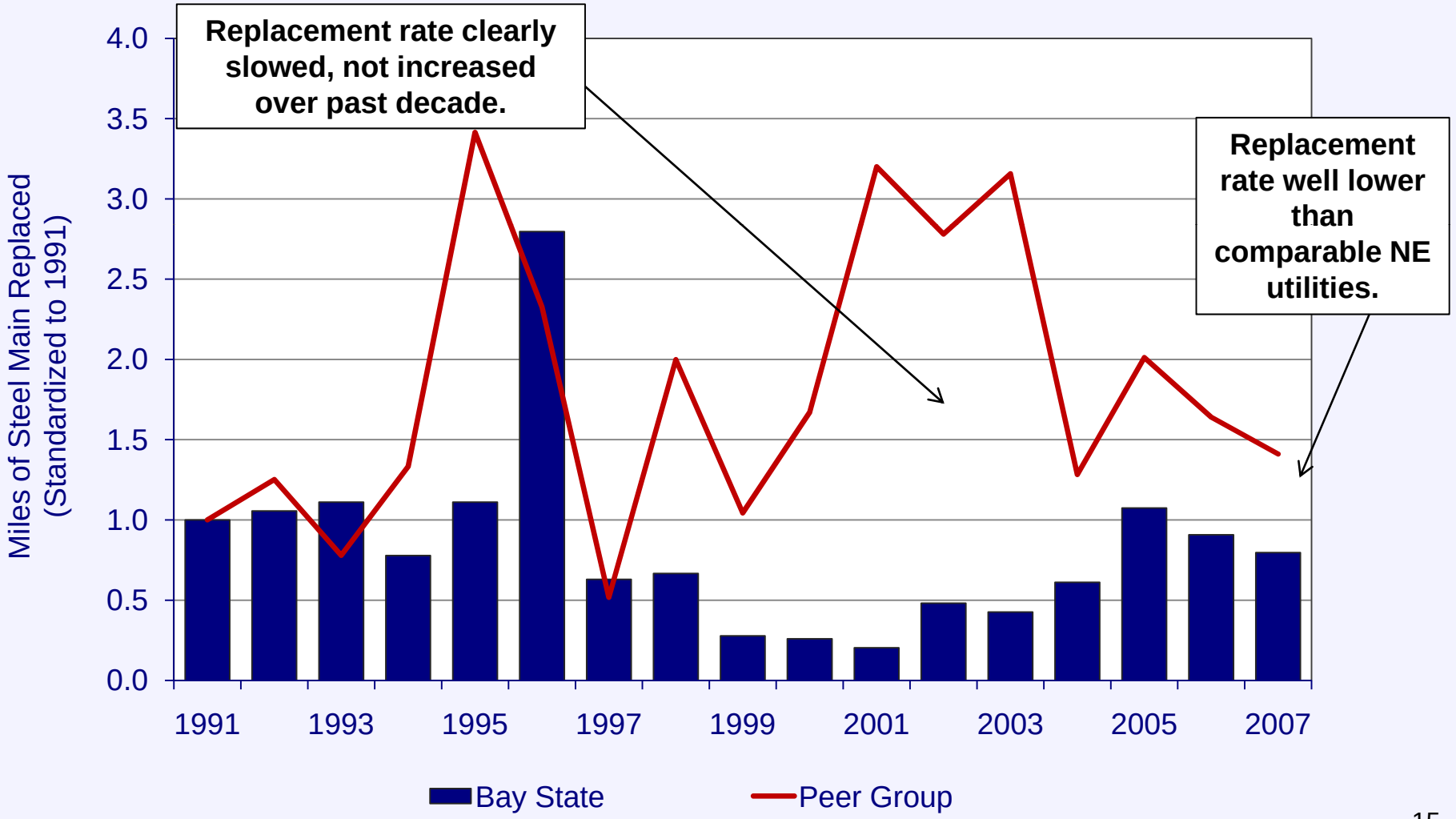
Examples of Tracker Rationales

Company	Tracker Proposal	Tracker Mechanics	Rationale
Bay State Gas Company (Docket 09-30)	Targeted Infrastructure Replacement Factor ("TIRF")	Used to recover cost of replacing cathodically unprotected steel mains. Includes a rate cap limiting the annual change in revenue requirement to 1% of total revenues of the prior year. Subject to a prudence review in each annual TIRF filing.	Cost of investment in non-revenue producing plant, has negative impact on Company's ability to recover adequate revenues to provide safe and reliable utility service.
National Grid (Docket 09-39)	Component of "Revenue Decoupling Ratemaking Plan ("RDR Plan") (CapEx Adjustment)	Would be used to adjust revenue requirement - decoupling removes revenues from increasing sales which is a traditional source of revenue to fund capital investment between rate cases.	Needed to replace "aged" assets; and costs for electric power distribution capital projects have increased rapidly in recent years.

LSU
Center for Energy Studies

Bay State Gas Company
Replacement of Steel Mains

Bay State's replacement rate did not increase relative to historic standards and was considerably behind comparable utilities.

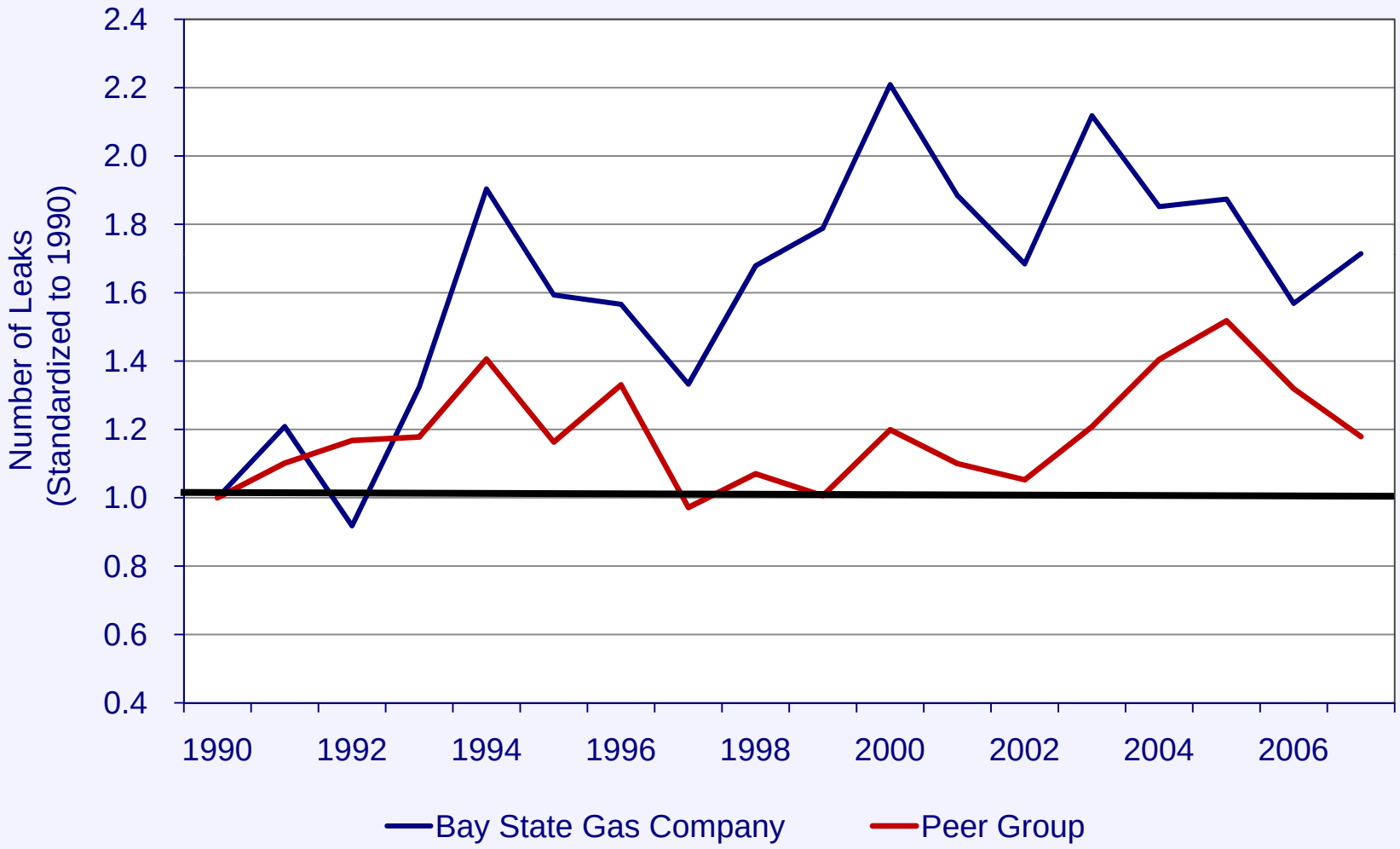


Source: Office of Pipeline Safety, U.S. Department of Transportation

LSU
Center for Energy Studies

Bay State Gas Company
Number of Leaks due to Corrosion

Bay State's corrosion-related leaks worse than peer group as well.

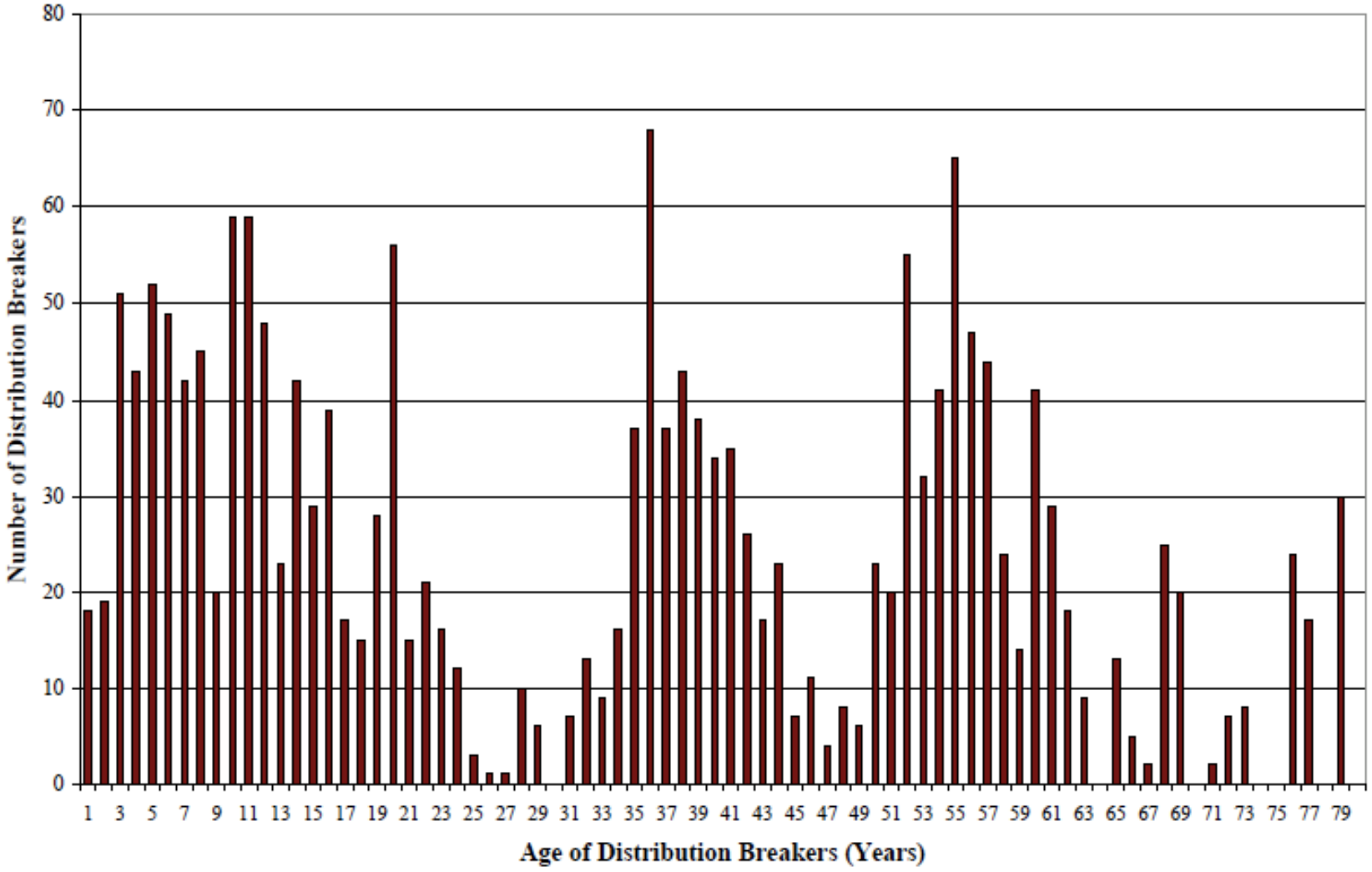


Note: Central Hudson Gas & Electric is standardized to 1991.
Source: Office of Pipeline Safety, U.S. Department of Transportation

Center for Energy Studies

National Grid - Number of Distribution Breakers by Age

Premise of National Grid's proposal was that its assets were "old."

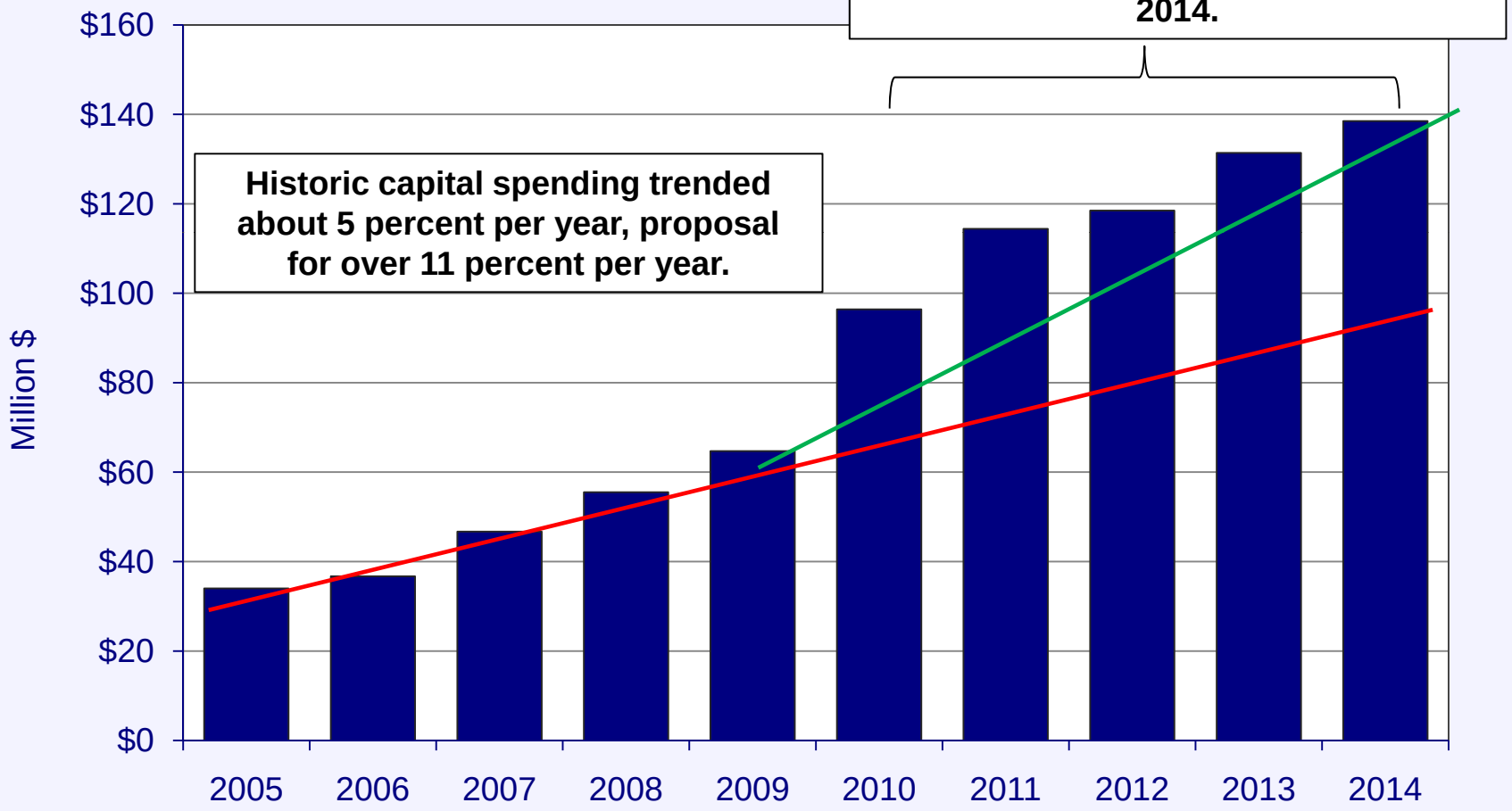


LSU
Center for Energy Studies

National Grid - Asset Replacement and Reliability, Capital Spending

Important to review these proposals within historic context.

Capital spending is estimated to increase almost 44% from 2010 to 2014.



Historic capital spending trended about 5 percent per year, proposal for over 11 percent per year.

Source: Office of Pipeline Safety, U.S. Department of Transportation

LSU
Center for Energy Studies

National Grid: Average Remaining Life Relative to Peers

Important to compare asset ages with comparable utilities. In Grid's case, their asset ages were comparable (in some instances younger) than peer utilities.

Results, interestingly, were in direct contrast to their depreciation study which were finding (requesting) longer asset lives, not shorter ones.

Account:	361 Structures and Improvements	362 Station Equipment	364 Poles, Towers and Fixtures	365 Overhead Conductors and Devices	366 Underground Conduit	367 Underground Conductors and Devices	368 Line Transformers	369 Services	370 Meters	Total Composite
Average Remaining Life (years):										
Massachusetts Electric:										
Proposed Remaining Life from Depreciation Study	36.57	54.99	26.87	29.58	33.78	35.04	20.11	30.27	15.77	31.65
Current Remaining Life from Depreciation Study	34.80	37.88	22.80	23.87	34.87	34.08	19.62	21.97	20.68	26.94
FERC Form 1	30.82	38.37	19.49	20.48	33.71	34.14	17.16	19.58	19.46	25.02
Boston Edison (NSTAR)	41.00	32.90	38.00	42.10	41.90	35.90	26.80	46.17	19.10	36.03
Central Hudson	63.90	36.09	40.70	42.50	47.00	38.90	26.40	36.44	15.70	36.72
Central Maine	62.42	31.08	33.67	46.14	37.17	38.94	23.97	37.05	10.93	33.88
Central Vermont	40.30	31.60	23.40	26.40	34.90	28.30	22.10	25.40	19.50	25.88
Green Mountain	25.60	26.70	25.20	24.80	29.90	21.60	35.80	30.20	23.00	27.71
Maine Public Service	17.49	33.52	29.64	32.70	44.15	30.14	25.75	26.51	28.44	30.02
Orange & Rockland	55.00	23.00	40.00	48.41	18.00	50.00	33.00	38.04	18.00	37.56
Average (excluding Mass Electric)	43.67	30.70	32.94	37.58	36.15	34.83	27.69	34.26	19.24	32.54

Source: FERC Form 1.

Center for Energy Studies

Capital Trackers: Take Away Points

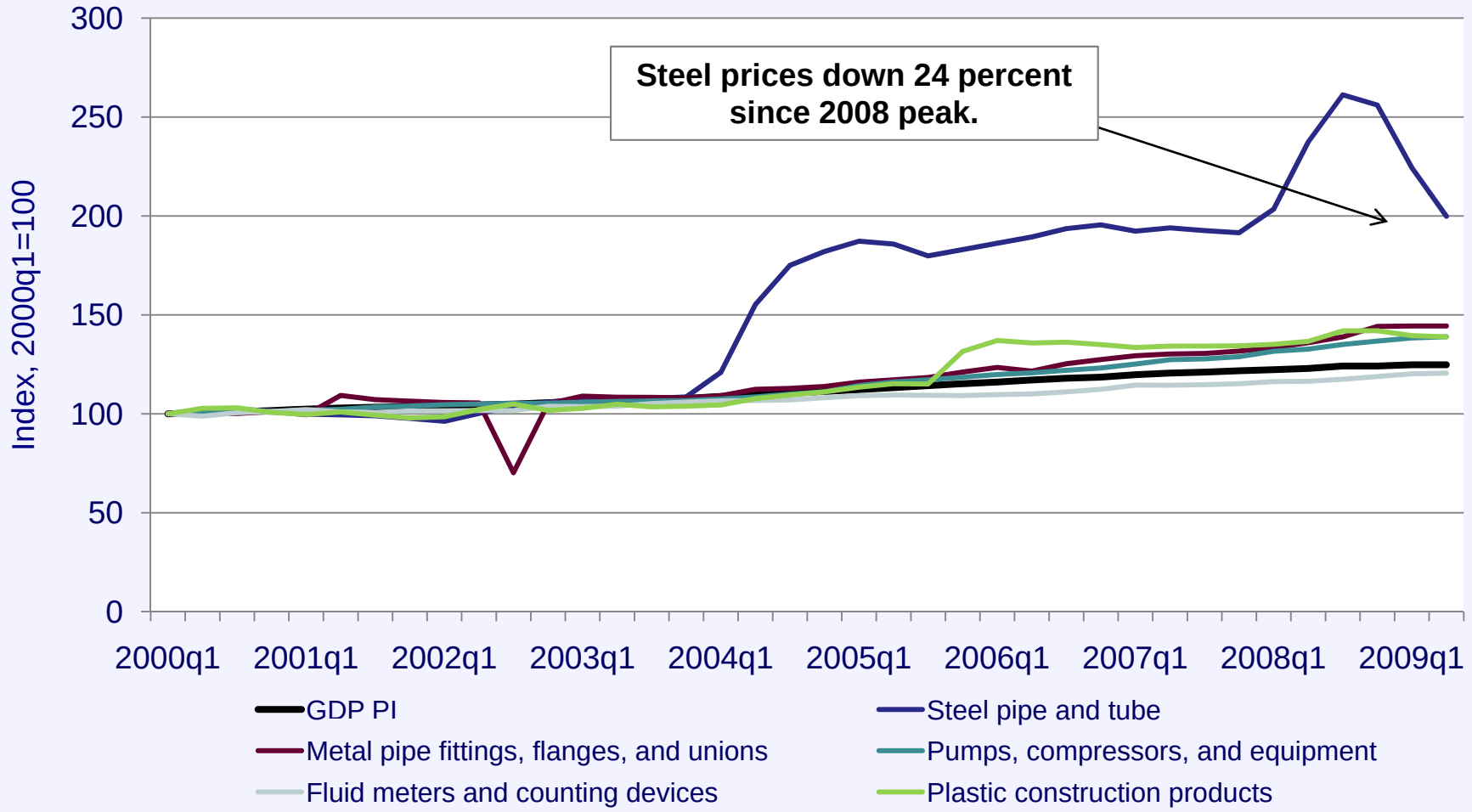
- **Focus closely on the definition of tracker and purported need which is often blurred and confused (i.e., replacement versus growth).**
- **Proposals with limited empirical support should be vigorously questioned.**
- **Comparative statistics (across time and comparable utilities) can be useful tool in evaluating capital tracker proposals.**
- **Important to focus on the outputs (reduced leakages, increased reliability) as well as the inputs (asset replacement). What are ratepayers getting for their support?**
- **No capital tracker should be approved without a clear asset development plan; timetable, benchmarks, development caps, and accountability.**

Inflation Analysis

LSU
Center for Energy Studies

Price Indices for Steel and Metal Pipe, Pumps, Compressors, Meters and Plastic

For the natural gas industry, commodity and capital cost input increases are recent anomalies relative to historic trends. The longer run trend is comparable to the overall level of inflation.

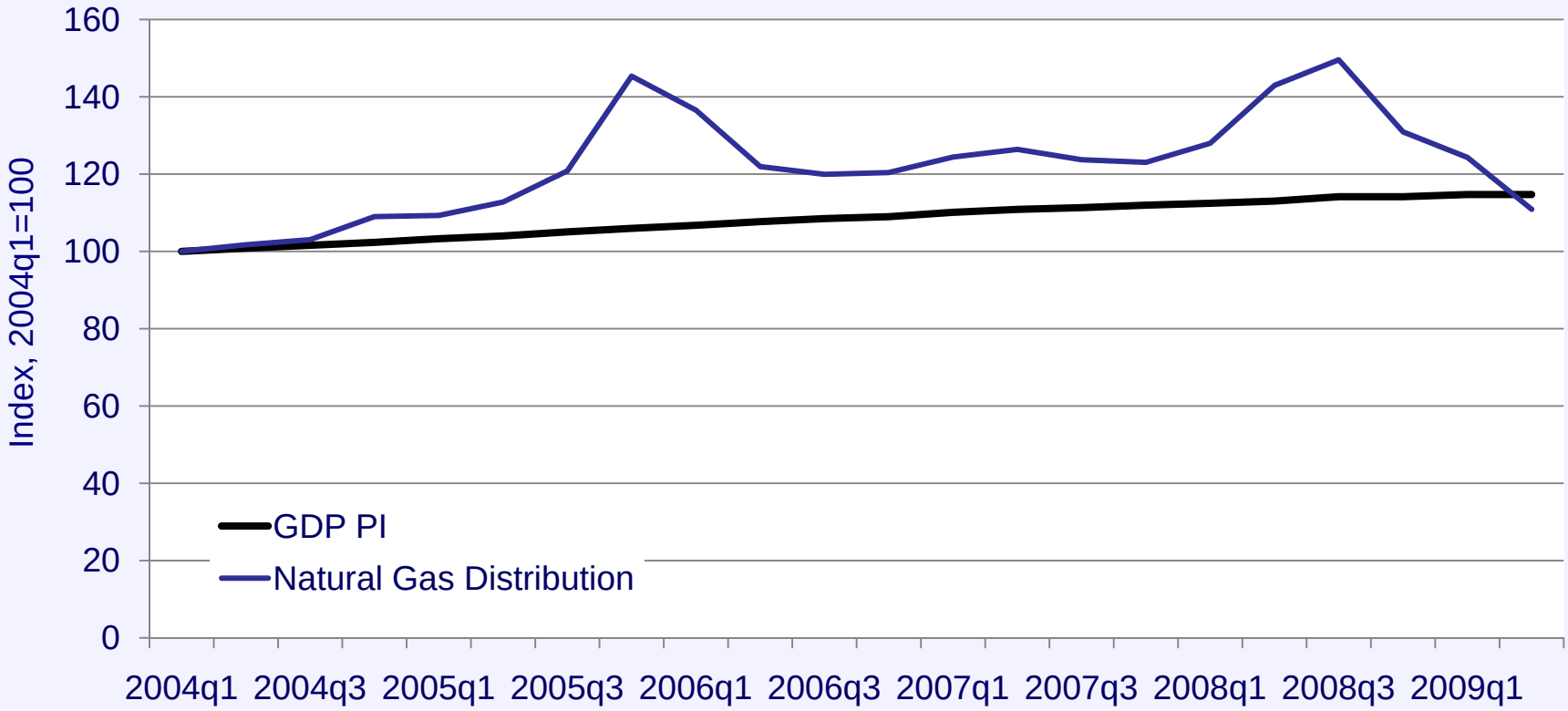


Source: Bureau of Labor Statistics, U.S. Department of Labor; and Bureau of Economic Analysis, U.S. Department of Commerce.

Center for Energy Studies

Price Index for Natural Gas Distribution

Inflation for gas distribution service did increase relative to 2004, but year-over-year rates of change have flattened considerably.

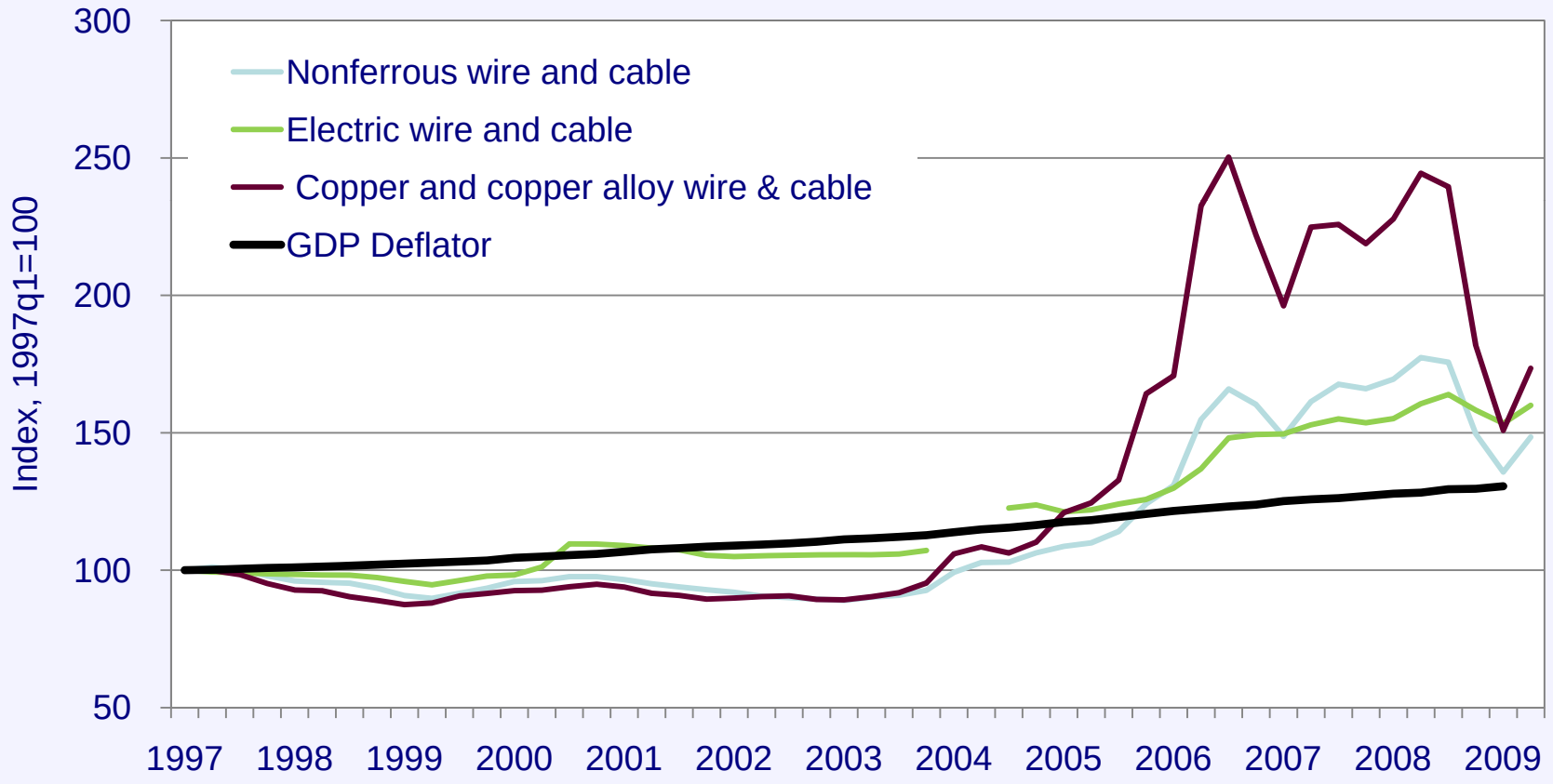


Source: Bureau of Labor Statistics, U.S. Department of Labor; and Bureau of Economic Analysis, U.S. Department of Commerce.

LSU
Center for Energy Studies

Price Indices for Electric Wire and Cable

Commodities important to the electric industry have seen copper wire by close to 30 percent from its high in 2006. Similarly, nonferrous wire has decreased over 17 percent in less than one year.

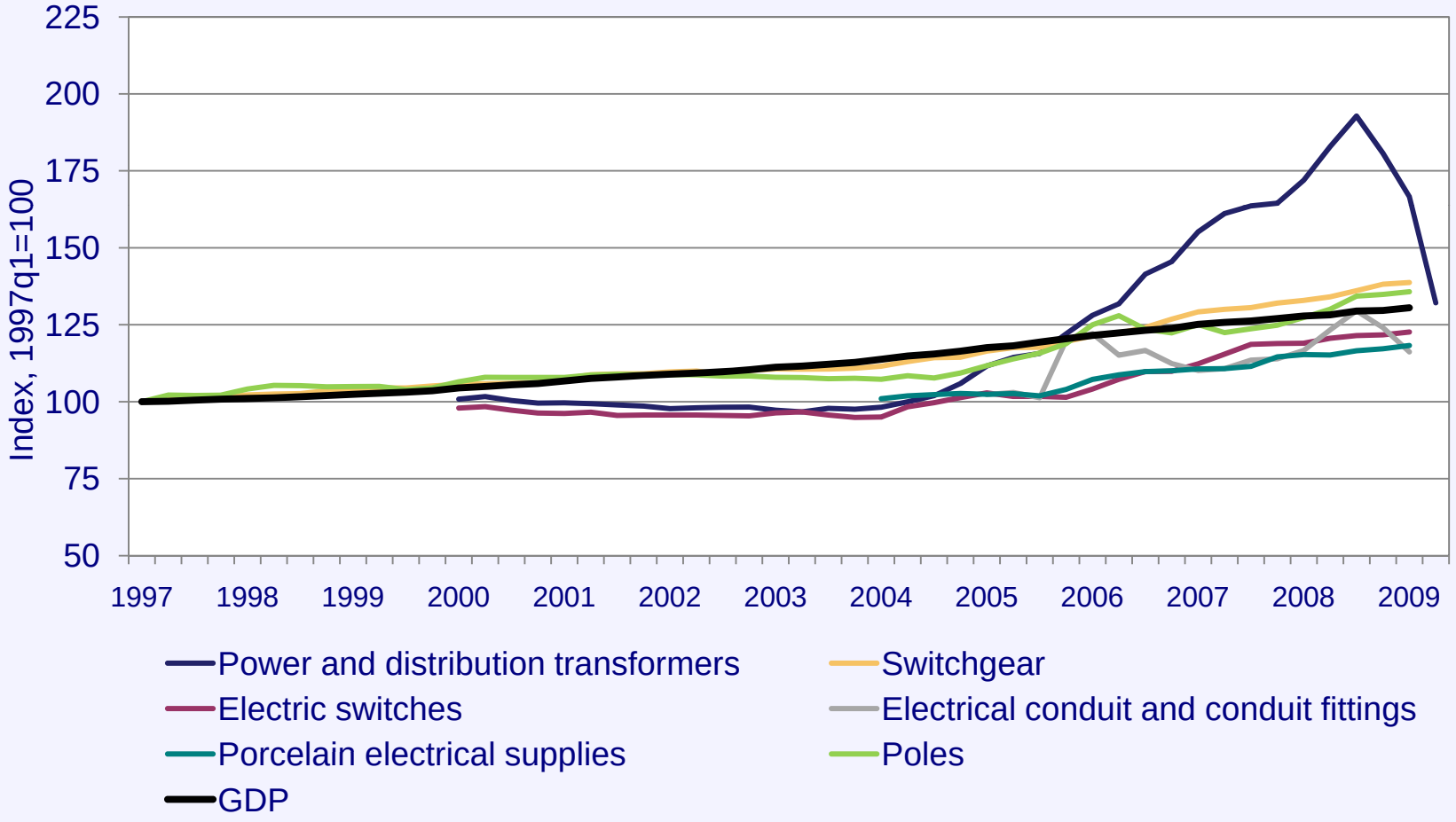


Source: Bureau of Labor Statistics, U.S. Department of Labor; and Bureau of Economic Analysis, U.S. Department of Commerce.

LSU
Center for Energy Studies

Price Indices for Other Electric Distribution Components

The costs for other important electric cost components has actually been below the general rate of inflation.

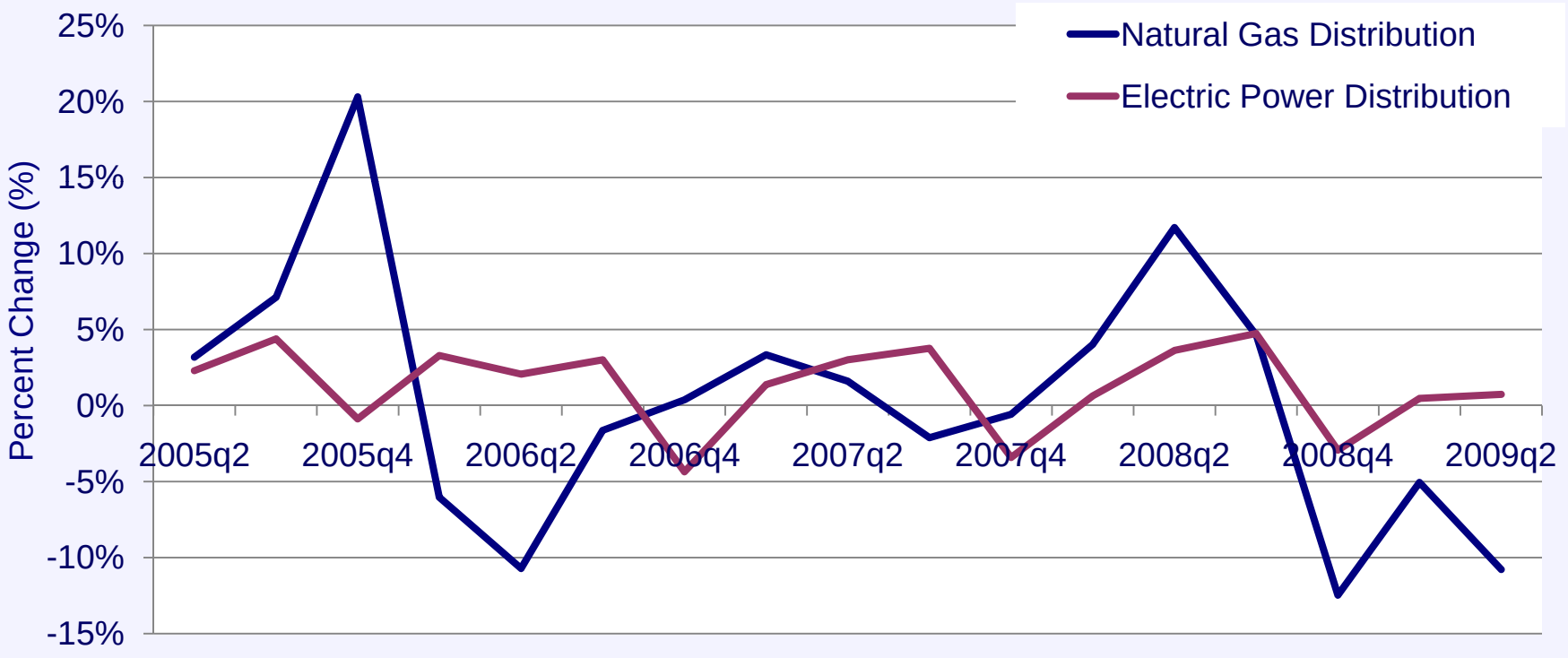


Source: Bureau of Labor Statistics, U.S. Department of Labor; and Bureau of Economic Analysis, U.S. Department of Commerce.

LSU
Center for Energy Studies

Annual Change in Natural Gas and Electric Power Distribution Price Indices

The annual rate of change for both indices has been falling.



Source: Bureau of Labor Statistics, U.S. Department of Labor; and Bureau of Economic Analysis, U.S. Department of Commerce.

Center for Energy Studies

Inflation Trackers: Take Away Points

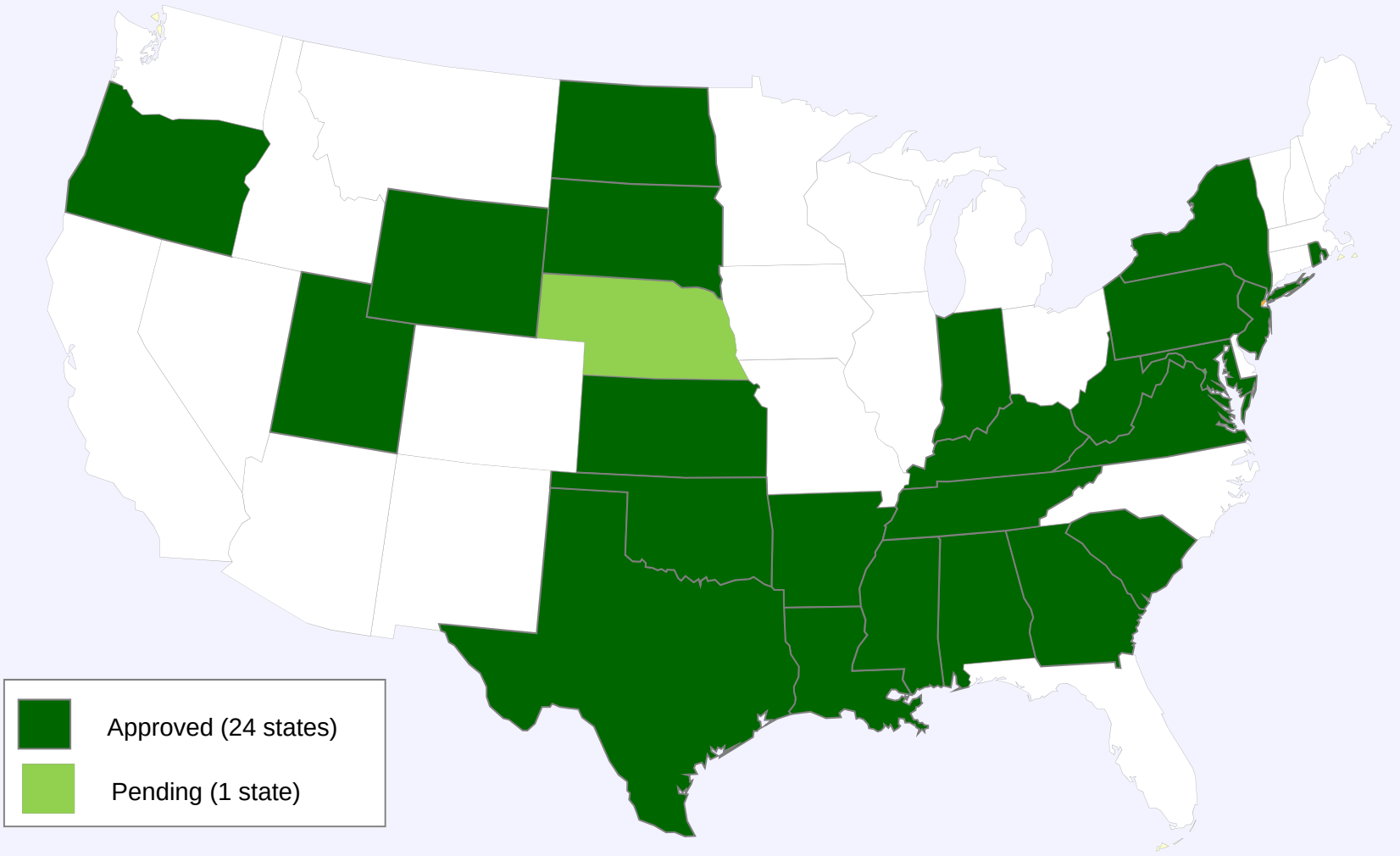
- **Inflation allowances should be rejected out of hand. Entirely inconsistent with sound regulatory and economic principles.**
- **Proposals will do nothing but increase costs to ratepayers.**
- **Inflation adjustments should only be considered within the context of a PBR or other incentive/performance based mechanisms that offers benefits to customers.**

Weather Adjustment Analysis

Center for Energy Studies

Weather Normalization Adjustment Mechanisms

Approximately 24 states with WNA clauses.



Center for

SourceGas Distribution
Difference Between Actual and Average HDDs

Line No.	[A] Weather Station	[B] NOAA	[C] 30	[D] 25	[E] 20	[F] 15	[G] 10	[H] 5
			Number of Years Included in Average					
Total HDD - Actual Exceeds Average - HDD								
1	Broken Bow	(1,464)	4,294	3,671	2,877	1,716	694	180
2	Cambridge	(720)	3,356	3,012	2,611	1,960	1,326	965
3	Hastings	(5,508)	(1,284)	(1,415)	(1,056)	(936)	(1,074)	(598)
4	Hay Springs	(2,479)	(493)	(467)	(507)	(601)	(682)	(510)
5	Kearney	(7,060)	(4,246)	(4,050)	(3,491)	(3,151)	(2,687)	(1,745)
6	Norfolk	(11,008)	(8,023)	(7,203)	(5,984)	(4,841)	(3,782)	(2,202)
7	North Platte	(8,498)	(6,374)	(5,832)	(4,957)	(3,867)	(2,787)	(1,382)
8	O'Neill	(6,412)	(633)	(646)	(540)	(754)	(818)	(266)
9	Scottsbluff	(4,201)	(936)	(640)	(419)	(94)	297	349
10	Sidney	(760)	(1,957)	(3,052)	(3,809)	(4,013)	(3,486)	(2,136)
11	All Stations Average	(4,811)	(1,629)	(1,662)	(1,527)	(1,458)	(1,300)	(734)
12	% Improvement*		66%	65%	68%	70%	73%	85%
Percent of Years Actual Exceeds Average - %								
13	Broken Bow	56%	36%	44%	48%	48%	52%	48%
14	Cambridge	52%	36%	36%	36%	48%	52%	48%
15	Hastings	76%	60%	64%	64%	56%	56%	56%
16	Hay Springs	60%	60%	60%	56%	60%	60%	52%
17	Kearney	72%	72%	68%	64%	64%	64%	60%
18	Norfolk	80%	76%	76%	76%	72%	68%	60%
19	North Platte	80%	72%	72%	60%	60%	52%	52%
20	O'Neill	68%	56%	56%	52%	60%	56%	44%
21	Scottsbluff	72%	56%	60%	56%	56%	56%	56%
22	Sidney	52%	64%	68%	68%	72%	72%	76%
23	All Stations Average	67%	59%	60%	58%	60%	59%	55%
Number of Years Actual Exceeds Average								
24	Broken Bow	14	9	11	12	12	13	12
25	Cambridge	13	9	9	9	12	13	12
26	Hastings	19	15	16	16	14	14	14
27	Hay Springs	15	15	15	14	15	15	13
28	Kearney	18	18	17	16	16	16	15
29	Norfolk	20	19	19	19	18	17	15
30	North Platte	20	18	18	15	15	13	13
31	O'Neill	17	14	14	13	15	14	11
32	Scottsbluff	18	14	15	14	14	14	14
33	Sidney	13	16	17	17	18	18	19

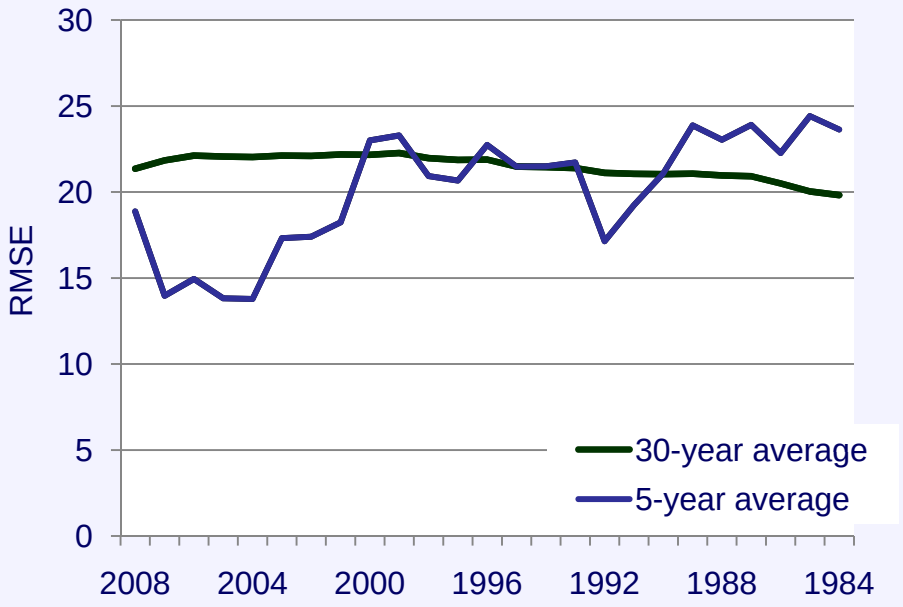
Note: *Improvement represents the % decrease in total difference relative to the difference from NOAA Normal

Center for Energy Studies

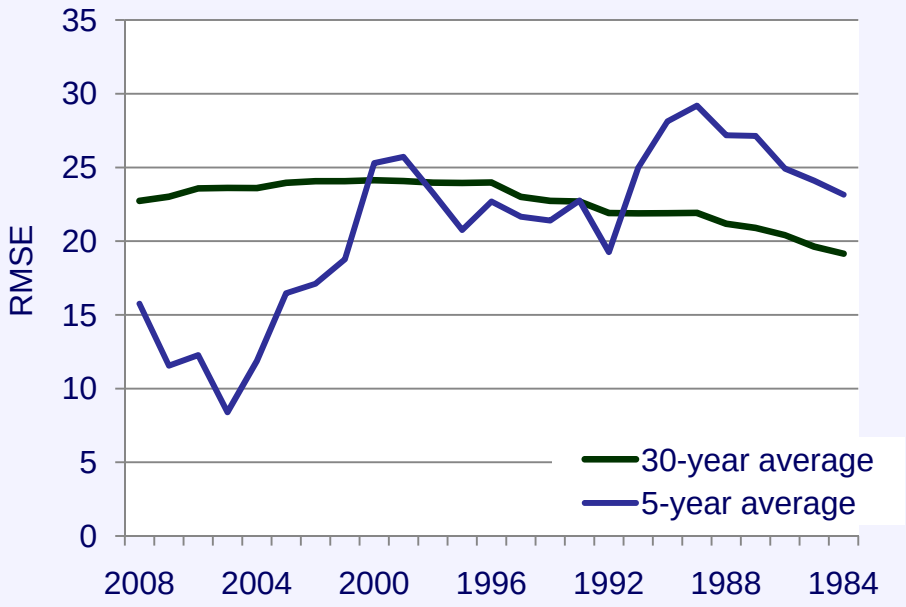
RMSE Comparison

A comparison of the RMSE shows that the 30-year average is more stable and robust than those estimated for a proposed-five year weighted average normalization period.

Weighted Average of 10 Stations



Broken Bow



LSU
Center for Energy Studies

Southern Connecticut Gas ROE Comparison (With and Without WNA)

Year	Percent ROE with WNA	Percent ROE without WNA	Difference
1994	11.97%	12.05%	0.08%
1995	11.34%	9.79%	-1.55%
1996	12.38%	13.52%	1.14%
1997	12.35%	11.71%	-0.64%
1998	11.53%	8.19%	-3.34%
1999	12.46%	10.48%	-1.98%
2000	12.74%	12.28%	-0.46%
2001	15.05%	13.80%	-1.25%
2002	8.49%	6.40%	-2.09%
2003	10.44%	11.57%	1.13%
2004	10.84%	10.45%	-0.39%
2005	7.42%	7.05%	-0.37%
2006	7.04%	5.13%	-1.91%
2007	11.93%	10.98%	-0.95%
2008	11.27%	9.84%	-1.43%
Average	**11.15%**	**10.22%**	**-0.93%**

Connecticut DPUC found that SCG's WNA had not equally benefited ratepayers and the Company.

During the time SCG's WNA was in place, SCG received a total of $43.6 million in net WNA revenue.

Ratepayers benefited in only three of the 15-plus years. Further, the Company's ROE benefited significantly.

The average ROE with the WNA was 11.15% versus 10.22% without a WNA, an increase of 93 basis points.

Source: Application of the Southern Connecticut Gas Company for a rate increase. Connecticut Department of Public Utility Control. Docket No. 08-12-07. July 17, 2009.

WNA: Take Away Points

- Utilities are asking for free weather derivative and should be asked to pay, or at least share in the cost of this instrument.
- These mechanism are likely to not be symmetrical in the "expected utility" received by the contracting parties.
- In other words, the expected (dis)utility of weather-related revenue losses to the utility are not likely to be the same as the expected utility of foregone rate decreases, and vice versa, even if HDDs are equally balanced.

Center for Energy Studies

Questions, Comments, & Discussion

Center for Energy Studies

www.enrg.lsu.edu

dismukes@lsu.edu