

10 October 2017

Addressing the Throughput Incentive through Revenue Regulation (i.e., Decoupling)

Mid-Atlantic Distributed Resources Initiative (MADRI)

John Shenot
Senior Associate
The Regulatory Assistance Project (RAP)[®]

Fort Collins, Colorado
United States

+1 802 498 0728
jshenot@raponline.org
raponline.org

1 Rate of Return Regulation and the Throughput Incentive



Rate of Return Regulation

Revenue Requirement

=

Test Year Expenses + Depreciation + Taxes

+

(Rate of Return * Rate Base)

How Retail Rates Are Set

Price/kWh

=

**(Revenue Requirement – Customer Service
Charge Revenue)**

÷

Projected Sales

Actual Revenues

Revenues

=

Customer Service Charge Revenues

+

(Actual Sales * Retail Rate)

Impact on Earnings is Amplified

	Revenue Change		Impact on Earnings		
% Change in Sales	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%

What's the Problem with the Throughput Incentive?

- Discourages end use energy efficiency
 - Discourages customer-sited resources
 - Distracts from a focus on service, policy goals
 - Is a Risk Factor, promoting revenue volatility
-
- Too much other stuff matters for throughput to matter so much!

2 Revenue Regulation (i.e., Decoupling)



What Does Decoupling Do?

- Adjusts rates (prices) and usually revenues between rate cases
- Relies on found revenue requirement
- When sales deviate from rate case assumption, rate is adjusted to collect calculated revenue
 - Basis can reflect changes owing to trends or forecasted events, an added level of complexity

The Decoupling Calculation

Periodic Decoupling Calculation

From the Rate Case

Target Revenues	\$10,000,000
Test Year Unit Sales	100,000,000
Price	\$ 0.10000

Post Rate Case Calculation

Actual Unit Sales	99,500,000
Required Total Price	\$ 0.1005025
Decoupling Price	\$ 0.0005025

Decoupling Can Solve (or Reduce) the Throughput Incentive

- Focuses on allowed revenue
- Rates change to reconcile revenue
- No change in retail rate design required
- Multi-year solution
- Can be designed by PUC to achieve desired policy outcomes and protect consumers

Decoupling Can Lower the Cost of Capital

- Earnings are more stable
- Utility can carry a lower equity ratio and still protect bondholders from risk of insolvency
- S&P: ~3% more debt for a utility with decoupling, for the same bond rating
- 3% more debt (and less equity) means about \$3+ million/year in lower revenue requirement per \$1 billion of rate base

3 Resources for Adopting a Decoupling Mechanism



First paper

Revenue Regulation and Decoupling:

A Guide to Theory
and Application

Decoupling Case Studies: Revenue Regulation Implementation in Six States

Authors

Janine Migden-Ostrander, Betty Watson, Dave Lamont, Richard Sedano

An illustration of a person from behind, wearing a dark shirt, standing in front of a large whiteboard. The person is holding a pen in their right hand and pointing with their left hand. A desk lamp is positioned at the top left of the whiteboard.

Decoupling Design: Customizing Revenue Regulation to Your State's Priorities

Authors

Janine Migden-Ostrander and Rich Sedano

Designing Decoupling

1.



Decide what's covered

Decoupling can be applied to:

- Distribution alone
- Distribution and transmission
- Distribution, transmission, and generation

It can cover residential, commercial, and industrial customers or apply selectively. Exclude fuel or power purchase costs if they are already covered in a rider, fuel adjustment mechanism, etc.

2.



Choose how to adjust utility revenue

There are about a half-dozen options for "Revenue Adjustment Mechanisms" (RAMs) to adjust utility revenue to provide stability to utilities and customers. Among them:

- Revenue per customer
- Annual review decoupling
- No adjustment at all

Power Bill

CREDIT

3.

Select how to handle refunds or surcharges

Truing up actual utility revenues with what utilities are allowed to earn can be done monthly or at longer intervals. Refunds or charges can be applied to all customers evenly or be allocated to customer classes. They can also be directed to encourage a particular policy goal, like rewarding low energy usage.

Customer Considerations

Refunds if utilities over-collect

Caps on rate increases or decreases?

More energy efficiency

Reducing cost of capital



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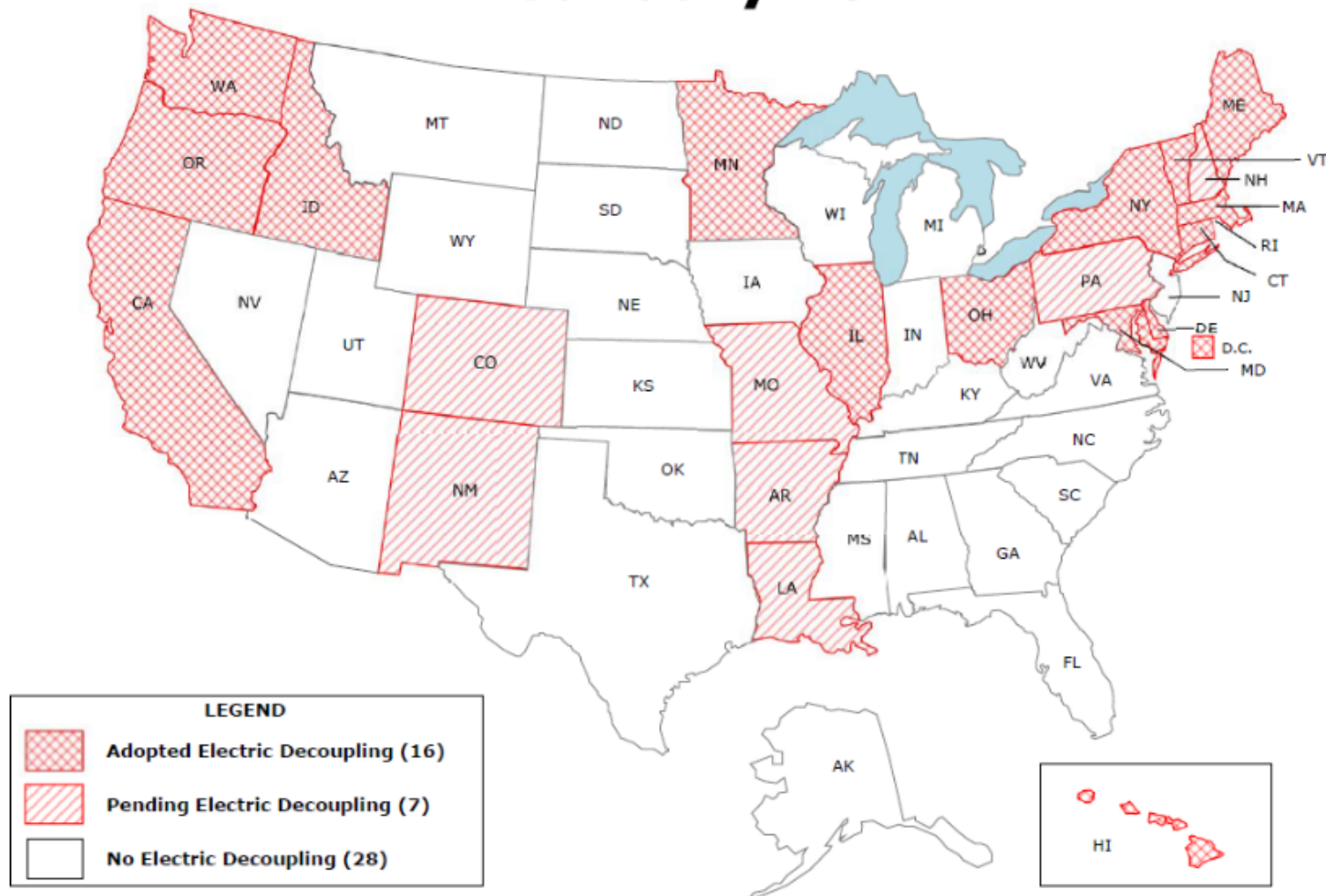
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Experience to Date

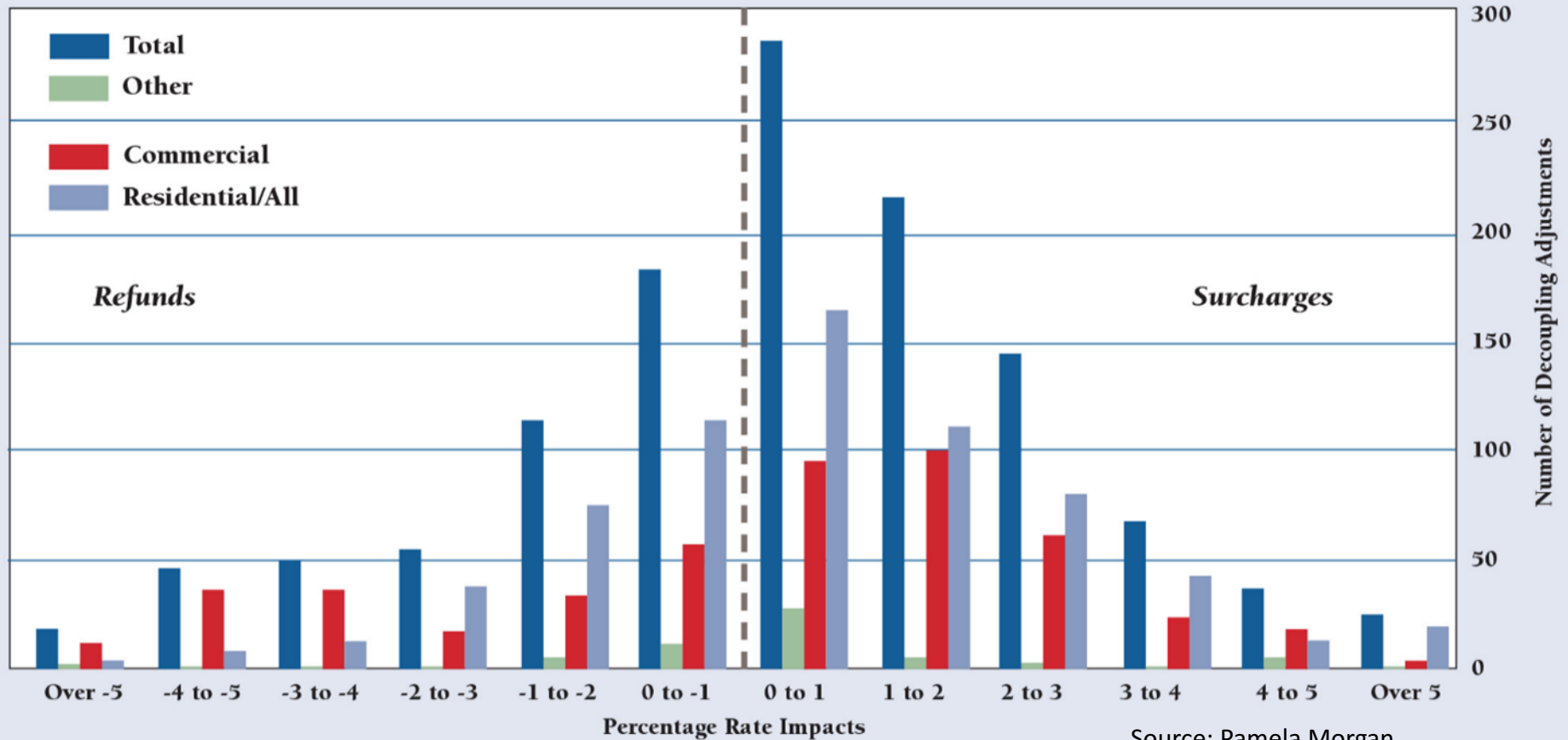


Electric Decoupling in the U.S.

January 2017



Decoupling Rate Adjustments Have Generally Been Small



About RAP

The Regulatory Assistance Project (RAP)[®] is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org



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Alternatives and Complements To Decoupling

Alternatives

- Lost Margin Recovery
- Weather-only Normalization
- Shared Savings Incentive / Penalty Mechanisms
- Fixed/Variable Rate Design

Alternatives / Complements

- Rate of Return Incentive
- Third-Party Administration of EE Programs

Decoupling Downsides

- Rates change more frequently (generally by less than power costs) and outside of a general rate case
- Great success with EE and DG will increase rates, even as total costs may ↓↓
 - Note that EE participants tend to save far more than rates tend to rise
- PUC, others unfamiliar with decoupling
- Delays rate cases, which can be illuminating

Some Consumer Protections for Decoupling

- Minimum EE Performance
- Symmetry of design
- Requirement of periodic rate cases to adjust rates
- Cap on rate increase amount permissible in any given year
- Reductions in equity capitalization ratio to reflect reduced earnings volatility