National Regulatory
Research Institute

Research Projects Completed and Under Discussion
February 2010

To the State Commission Regulatory Community:

NRRI's expert research staff has prepared this list of projects completed since November 2009 and potential research projects for the current fiscal year. We have organized the list according to industry sector: electricity, gas, water, and telecommunications. Your thoughts on priorities and omissions will help guide our use of your duespayer contributions. Please send us your thoughts.

Furthermore, NRRI invites any Commission staff and Commissioners to propose to take on any of these projects, or others, on a volunteer basis. Giving and receiving, building mutual support, is central to our joint mission of effective regulation.

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National Regulatory Research Institute

Publications and Products Released and In Progress November 2009 – February 2010

Electricity—Gas—Telecommunications—Water—Multi-Utility

All documents and selected presentation recordings are available at www.nrri.org

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Projects Released November 2008-November 2009

Electricity

Papers

How to Induce Customers to Use Energy Efficiently: Rate Design Options and Methods
Adam Pollock and Evgenia Shumilkina, Report 10-03, January 2010

What rates can induce customers to efficiently consume electricity by reducing peak or overall consumption? This report describes options, associated design decisions, and their implications and secondary consequences. It examines inclining block rates, seasonal rates, time-of-use rates, critical peak pricing, and real-time pricing. The report also guides regulators step-by-step through the process of crafting seasonal and time-of-use rates, which will enable commissions to design rates or scrutinize utility rate proposals. The report can be accessed online at http://www.nrri.org/pubs/electricity/NRRI_inducing_energy_efficiency_jan10-03.pdf.

Renewable Energy Prices in State-Level Feed-In Tariffs: Federal Law Constraints and Possible Solutions
Scott Hempling, Carolyn Elefant, Karlynn Cory, and Kevin Porter
NRRI/NREL Report, January 2010

State legislatures and state utility commissions seeking to attract renewable energy projects are considering arrangements called "feed-in tariffs." These tariffs would obligate retail utilities to purchase electricity from renewable producers under standard arrangements specifying prices, terms, and conditions. This standardization simplifies the purchase process, provides revenue certainty to generators, and reduces the cost of financing generating projects.

States' decisionmakers have encountered arguments that state-level feed-in tariffs are preempted by federal law. These arguments arise because the transaction resulting from a feed-in tariff is a wholesale sale of electricity, from renewable seller to retail utility. A wholesale sale of electricity triggers one of two federal statutes—the Public Utility Regulatory Policies Act of 1978 (PURPA) or the Federal Power Act of 1935 (FPA). Each of these statutes does in fact limit the discretion of state-level tariff designers.

State utility commissions, in conjunction with the National Association of Regulatory Utility Commissioners (NARUC), asked the National Renewable Energy Laboratory (NREL) to explore how states can lawfully implement feed-in tariffs. In response to that request, NREL hired the National Regulatory Research Institute (NRRI) to be the lead author of this report and to provide the needed legal expertise. NREL participated as a coauthor to clarify the current renewable energy policy and markets.

This report seeks to reduce the legal uncertainties for states contemplating feed-in tariffs by explaining the constraints imposed by federal statutes. It describes the federal constraints, identifies certain transaction categories that are free of those constraints, and offers ways for state and federal policymakers to interpret or modify existing law to remove or reduce these constraints. This report explains options for how these federal statutes could be revised.

This report is solely a legal analysis that responds to NARUC's and NREL's requests. It is not an endorsement of state-level feed-in tariffs or of any of the alternative paths or statutory amendments described here. The report can be found online at http://nrri.org/pubs/electricity/NRRI-NREL_renew_energy_prices_jan10.pdf.

Presentations

Understanding FERC Transmission Incentives: What to Know *Before* You Apply or Intervene
Adam Pollock, Thomas B. Getz, Scott H. Strauss, Larry Chaset, Scott Hempling
Teleseminar, January 21, 2010

This seminar covered FERC's Order 679, which provides transmission owners with potential incentives designed to encourage transmission investments. These incentives represent

an opportunity for utilities but threaten to raise costs for consumers. Attendees learned how to determine application results and intervene effectively to minimize consumer cost increases. As well, the teleseminar offered a guide to FERC's nexus test; explained FERC's setup of ROE incentive levels and the problems inherent in the process; offered the latest details on requested and granted return-on-equity incentives; covered FERC case law on advanced technologies, RTO participation, transco formation, CWIP in rate base, and hypothetical capital structure incentive requests; and discussed how to make the results of ROE incentives more reasonable and predictable. An audio recording of the teleseminar can be purchased online at NRRI's website, http://www.nrri.org.

How to Persuade Customers to Use Energy More Efficiently: The Pros and Cons of Potential Rate Design Options
Adam Pollock, Evgenia Shumilkina, William B. Marcus, Richard E. Morgan
Teleseminar, February 11, 2010

This presentation discussed efficiency-inducing rates (EIRs) and their design. Attendees learned about the differences between inclining block, seasonal, time-of-use, critical peak pricing, and real-time rates; how rate designs can encourage or discourage distributed renewable energy generation; how to decide between critical peak pricing and peak-time rebates; how cluster analyses can help determine optimal seasons or times of day for peak rates; and how to estimate customer response to proposed rate changes.

Potential Projects[1]

AMI Transition

Ratemaking and financing approaches for stranded costs of undepreciated meters when a utility installs advanced metering infrastructure.

Carbon Pricing and Retail Electric Rates

Assessment of how a carbon tax or premium affects retail rates, especially in markets with single market clearing prices.

The Future of Wires Companies

Examine the potential effects on the transmission and distribution utilities and their customers associated with growth in distributed generation, remotely sited intermittent power, and electric vehicles.

[1] Please send your thoughts on research priorities to apollock@nrri.org, dboonin@nrri.org, and shempling@nrri.org.

Electric Rate Design for the 21st Century

Review rate design options associated with energy efficiency, demand response, and carbon pricing and with changes in wholesale market structures, and metering and communication technologies.

Intergenerational Cost Allocation

Address policies that shift cost responsibilities from one generation to the next, such as declining rate base, original cost rate base, CWIP in rate base, tax normalization, and net negative salvage.

Future of Nuclear Generation

A discussion of regulators' roles.

Natural Gas

Papers

How to Determine the Effectiveness of Energy Assistance, and Why It's Important
Ken Costello, Report 09-17, December 2009

The paper identifies criteria for assessing the effectiveness of programs and other actions, funded by energy utilities and their customers, to facilitate the payment of utility bills by eligible low-income households. It discusses features of energy assistance (EA) actions that are likely to make them either successful or unsuccessful. The paper also points out, in a generic way, the weaknesses and strengths of different EA actions. Commissions can refer to these features when judging specific actions taken or proposed in their states. The report can be found online at http://www.nrri.org/pubs/gas/NRRI_energy_assistance_dec09-17.pdf.

Presentations

How to Determine the Effectiveness of Energy Assistance, and Why It's Important
Ken Costello
Presentation to the NARUC Committee on Consumer Affairs, February 15, 2010

This presentation discusses the above paper, available online at http://www.nrri.org/pubs/gas/NRRI_energy_assistance_dec09-17.pdf.

Potential Projects[2]

Long-Term Contracting

Reasons for trend in short-term contracting, evidence of any regulatory effects on contracting, the effect of contracting on infrastructure development, benefits and costs of long-term contracting, alternative regulatory policies.

Purchased Gas Adjustment Mechanisms

Current problems with some mechanisms, design issues, different options for redesigning mechanisms.

Liquefied Natural Gas (LNG)

Its role in the U.S. gas market, world LNG market conditions, risks of reliance on LNG, effect on domestic price, needed infrastructure development.

Customer Choice Programs

Rationale, evidence of effects on residential consumers, problems that have arisen, overall assessment of programs.

Natural Gas Issues before FERC

A summary of major pending and closed dockets and the effect of those dockets on retail gas markets.

Telecommunications

Papers

A New Era in ILEC Transfers: Safeguarding Wireline Telecom Service
Helen E. Golding, Economics and Technology, Inc., November 2009, Report 09-15

Most commissions must give prior consent to any transfer of control of incumbent local exchange carrier assets and the associated operating authority and service obligations. Technological changes in the telecommunications industry have not obviated the need for a stable and efficient ILEC that operates in a manner consistent with the public interest. In several recent and pending transactions, the nation's second-largest ILEC has sought approval

[2] Please send your thoughts on research priorities to kcostello@nrri.org and shempling@nrri.org.

to transfer its local exchange business in eighteen states to several buyers that have very different financial, managerial, and operational profiles from the incumbent. Whether the substitution will advance or harm the public interest depends on the particular facts of each transfer. This paper explores the substantive and procedural challenges for state commissions as they navigate these complex investigations. The report can be found online at http://nrri.org/pubs/telecommunications/ILEC_transfers_nov09-15.pdf.

State High Cost Funds: Purposes, Design, and Evaluation
Peter Bluhm, Phyllis Bernt, PhD, and Jing Liu, Report 10-04, January 2010

Universal service remains a concern of state legislatures and commissions as policy makers seek to maintain ubiquitous and affordable basic telephone service. One strategy is to establish a high cost fund to provide support for carriers serving high cost areas. This report, authored by Peter Bluhm, Phyllis Bernt, PhD, and Jing Liu, focuses on these state funds, analyzing the steps involved in establishing and maintaining them. The report, which is intended for state commissions and state legislatures that are considering adopting a fund, explains why these funds typically have been created and discusses how those varying purposes are reflected in support mechanisms. The report is also intended for states that already have such funds but are considering changes to improve their function or effect. The report can be found online at http://www.nrri.org/pubs/telecommunications/NRRI_state_high_cost_funds_jan10-04.pdf.

Presentations

Making the High Cost Fund Decision: How to Assess Your State's Needs – What to Consider before Establishing a New Fund or Improving the One You Already Have
Teleseminar, January 27, 2010
Peter Bluhm, John D. Burke, Lorraine Kenyon

For almost two decades, high cost funds have been helping state commissions provide consumers with ubiquitous telephone service at affordable rates. More than 20 states have created these high cost funds, primarily supported by surcharges on intrastate telecommunications services. Several recent competitive and regulatory developments have put conventional telephone companies at risk, making it increasingly difficult for local exchange providers and calling into question the survival of landline voice service in high-cost areas. The result has been an increased interest in state high cost funds.

Attendees of this teleseminar learned how to evaluate their state's need for a high cost funding program using key considerations such as environmental factors, trends in incumbent revenues, and cost differences within the state; the drawbacks of a high cost funding program; the meaning of "implicit subsidy" and why it's relevant to universal service; how to determine which carriers are eligible for funds; how to decide which of the four methods for distributing funds—hold-harmless, cost-based, bill credits, and auctions—is right for their state; how to develop the best system for collecting funds; how to administer and evaluate a high cost funding program; and how to design a high cost program. An audio recording of this teleseminar can be purchased on NRRI's website, http://www.nrri.org.

Potential Projects[3]

Dealing with Duopoly

When there's monopoly, we regulate; when there's competition, we deregulate. Today, in many areas, the incumbent LEC and the incumbent cable company have divided the residential market, particularly for customers who purchase multi-service bundles. What are the regulatory options for dealing with duopoly (rates, service options, quality of service)?

Access to Bottleneck Facilities

Competition in any product market or geographic market requires access to any and all "bottleneck facilities," on terms equal to those available to the bottleneck's owner. What are the bottleneck facilities, how are they changing, and is access policy sufficient to ensure effective competitive opportunity?

Sell-off of Rural Exchanges by Large ILECs

Large ILECs have recently accelerated their attempts to divest themselves of more sparsely populated regions (including but not limited to high cost and rural exchanges). What are the potential pitfalls when the ownership of the exchanges changes hands? What can be done to help ensure that the successor company is qualified to provide consumers with high-quality, affordable telecommunications services and that it will continue to modernize its network capabilities?

Trends in Local Exchange Rates

Legislatures in many states have reduced the state commissions' roles in setting local exchange rates. Often, legislation imposes rate increase limits for a fixed term.

Evaluating Experience with Alternative Regulation

Since the mid-1990s, most states have replaced traditional rate-of-return regulation with an "alternative" form of regulation.

What's happening to rates in these states? Are rates increasing in these states more rapidly than in other states? Is there an effect on household penetration of telephone?

While the most common alt reg is some form of price cap plan, the existing plans also include significant elements of "social contract" and outright deregulation. No plan is perfect, and competitive conditions and regulatory objectives vary from state to state; thus, it probably not worthwhile to speculate as to the "model" plan. However, periodic reviews are necessary for a state commission to know whether the regulatory regime for telecommunications in its state

[3] Please send your thoughts on research priorities to scott.j.rubin@gmail.com and shempling@nrri.org.

is working as intended and serving consumers' interests (e.g., compare actual conditions with the conditions assumed to exist when the plan was adopted, to evaluate whether the plan is producing rates for telecommunications services that are just and reasonable; whether quality of service is being maintained or improved, rather than deteriorating).

Accounting and Financial Information Reporting in Today's Regulatory Environment

As price regulation and deregulation have supplanted rate of return regulation, incumbent LECs have increasingly argued that there is no need for cost accounting information. The RBOCs have convinced the FCC to eliminate the application of its cost allocation rules as they apply to those carriers—leaving a messy situation behind for states that relied upon the FCC's separation rules as a basis for the intrastate costs. What purposes are still served by having this cost allocation information, and how can states ensure that they are getting the information they need in order to regulate effectively? In the event that "traditional" separated regulatory accounting data is either unavailable or viewed as unnecessary, what other tools or methods might work in their place?

Who Should Get Paid for What?

Intercarrier compensation, universal service and other intra-industry cross payments require more coordination, common themes and accountability to ensure that dollars go to the most deserving, most effective services and providers. In making these decisions, how relevant today are a particular business segment's rate of return? How relevant is the intrastate/interstate distinction?

Interconnecting Digital Networks

ILECs may be requiring interconnection to occur solely in traditional time division multiplexing (TDM) formats. This insistence can create unnecessary costs for providers that use more modern formats, like Ethernet. The paper would examine what formats ILECs are accepting for interconnection, whether that is creating additional costs, and for whom, and how state regulators might, within their legal authority, address the issue.

Interconnecting Rural Networks

Not all rural ILECs are connected directly to the national toll network or to mobile service companies that serve their states. Instead, the rural ILECs often rely on larger ILECs or other networks to transport their outgoing and incoming traffic. Sometimes the rural ILECs pay for this service, but not always. The project would consider each of the various permutations of incoming and outgoing calls from rural carriers, including those aimed for national toll networks and CMRS (wireless) networks. The project would also review and digest state interconnection decisions and make recommendations about best practices, if any are apparent.

Numbering Administration

How much can and should state commissions do to conserve telephone numbering resources? How can states best handle situations involving area code exhaust? What kinds of routine activities can best avoid number exhaust? What kinds of staff training are useful?

Enhanced 911 Emergency Services for Customers Who Have "Cut the Cord"

State commissions took the lead in establishing today's E911 systems, which give emergency responders precise location information when a 911 call is placed from a home phone over a traditional wireline service. For an increasing number of customers who rely exclusively on wireless phones, this automatic location information is not conveyed to the public service access point (PSAP). What can state PUCs do to increase public awareness and public safety for customers who have "cut the cord"?

Broadband

How should we define "broadband"? What are useful definitions of "unserved" and "underserved" areas? What are appropriate metrics and standards for conducting cost-benefit analyses of broadband access, and of measuring progress toward the intended level of access? What is the appropriate state commission role? What are the pros and cons of making broadband service part of carrier of last resort responsibilities under state law, or universal service fund participation under federal law?

State Regulatory Authority: What's Left and What Should We Do with It?

While much has been made of recent federal preemption, particularly with respect to non-traditional telecommunications services and platforms, much authority still remains with state commissions. For a state commission to use its telecommunications staff resources efficiently, it is important to identify what entities, activities and services are unambiguously subject to state jurisdiction and to determine effective ways of promoting the interests of the state's consumers on matters where it exercises joint authority with federal agencies or has the opportunity to play an advisory role.

The Federal-State Relationship

Should we take another look at who regulates what, and why? Is the proper allocation along the lines of functional capabilities, or is there some other method?

Should We Do TA 2010?

As long ago as 2004, the debate began in earnest as to whether another basic and fundamental review of the framework is appropriate. What about the distinction between information services and "telecommunications?" Is it appropriate to review some of the barriers among various industry segments? To acknowledge even that there is "bleedthrough" between traditional [broadcast] media and traditional [tele]communications, and to become more pronounced over time?

Water

Papers

How Should We Regulate Small Water Utilities?
Scott J. Rubin, J.D., Report 09-16, November 2009

The challenges of regulating small water utilities are understood, but the ability to identify and implement solutions remains elusive. This paper suggests six steps that economic regulators can follow to help address the challenges of regulating small water utilities. These steps will not "solve" the problem, but they will put regulators on the path toward understanding the needs, prioritizing action, and evaluating progress. This paper is the first of several "works in progress" that will be published in the coming months to launch new topics in the Water Community. It can be accessed online in the "Water – Small Water Utilities" community at http://communities.nrri.org.

Potential Projects[4]

Water Rate Design

Conservation rate design, statewide (single-tariff) pricing, customer class rates, water budgets (customer-specific rates), customer (meter) charge, minimum bill / minimum usage allowance, wholesale rates.

Serving Low-Income Water Customers

Conservation programs, ratemaking and billing approaches, working with community-based organizations, coordination with energy utilities.

[4] Please send your thoughts on research priorities to scott.j.rubin@gmail.com and shempling@nrri.org.

Regionalization and Consolidation

Types of regionalization and consolidation, benefits and detriments to regionalization and consolidation, role for PUC/PSC, public/private partnerships.

Energy Market Impacts on Water Utilities

Energy cost impacts on water utilities, water utility energy conservation, water utility alternative energy (wind, solar, hydro) generation.

Special Tariff Topics for Water Utilities

Tapping fees, system development charges, line extension tariffs, late payment charges.

Drought/Emergency Response

Drought/emergency pricing, drought/emergency conservation measures, working with water resource agencies.

Drinking Water Quality Regulation

Understanding the process, what's on the books being phased in, what's in the process of development, role for economic regulators.

Multi-Utility

Papers

Are Utility Workforces Prepared for New Demands? Recommendations for State Commission Inquiries
Scott H. Strauss, Esq., Jeffrey Schwarz, Esq., and Elaine Lippman, Esq.
Report 10-01, January 2010

The energy industry faces an impending workforce shortage. The shortage reflects an unprecedented number of retirements expected to occur in the next decade, coupled with increasing energy demand and changes in the skill sets needed to support shifts toward "greener" energy technologies. Both the Department of Labor and the North American Electric Reliability Corporation have expressed concerns that the anticipated workforce shortfall threatens the reliability, efficiency, and security of utility services.

This so-called "graying of the workforce" suggests that state commissions should allocate resources to investigate the current and future staffing of the utilities they regulate, and should be prepared to encourage solutions where appropriate and mandate them where necessary.

The paper reviews the various forms of statutory authority that state commissions have to address workforce graying and other staffing issues. The paper then addresses options for structuring an investigation (focusing on the use of broader, "global" proceedings, rather than utility-specific ones); suggestions for compiling data on workforce issues, including sample data requests; examples from around the country of the types of activities that energy utilities and others are taking to address staffing concerns; and issues that commissions may confront in fashioning solutions, including concerns about impinging upon "management prerogatives." The report can be found online at http://www.nrri.org/pubs/multiutility/NRRI_graying_jan10-01.pdf.

Serving the "Public Interest" – Traditional versus Expansive Utility Regulation
Eric Filipink, Harrison Institute for Public Law, Georgetown University Law Center
Report 10-02, January 2010

Statutes command utility regulators to protect the "public interest." Over the years, the public interest has expanded from its original focus on rates and standards of service to include environmental protection, community aesthetics, and economic development. Utilities often challenge this expanding scope of regulation in court, but courts rarely define the public interest. Rather, they analyze three elements of delegated authority: (1) regulatory goals, (2) regulators' roles, and (3) decision-making criteria. When legislatures are silent on any of the three elements, they draw regulators into a policy-making role to fill the gap, which increases the risk of litigation. NRRI commissioned this paper to provide guidance to legislators and regulators on how they can strengthen accountability and reduce litigation. The paper suggests that they: (1) clarify and align the goals, roles, and criteria that regulators need to make decisions; (2) explain trade-offs and provide the rational tests for regulators to balance multiple and often conflicting goals and criteria; and (3) deploy agency roles to strengthen expertise and cope with limited resources. This report can be found online at http://www.nrri.org/pubs/multiutility/NRRI_filipink_public_interest_jan10-02.pdf.

Statistical Methods of Measuring Utility Performance: Indexing, Econometrics, and Data Envelopment Analysis
Evgenia Shumilkina, pending, February 2010

This paper discusses how regulators can use statistical methods to measure utility performance. The paper focuses on the three most widely used methods: indexing, econometrics, and data envelopment analysis. For each of the methods the paper provides background information; explains the implementation steps; discusses the advantages, disadvantages, and necessary data; and offers examples of their application in regulatory practice.

Presentations

How "Public-Interest" Utility Regulation is Changing the Decisionmaking Elements of Authority
Eric Filipink, Robert Stumberg, and Commissioner Betty Ann Kane
Teleseminar, February 25, 2010

This presentation will discuss how the public interest is changing the dynamic between regulators and utilities and what the long-term impact will be on utility regulation. Attendees will learn how to predict the likelihood of litigation that challenges regulatory authority; understand litigation trends when public interest goals and regulators' roles are either traditional or expansive; and analyze gaps in delegated authority on three levels: public interest goals, regulatory roles, and decisionmaking criteria. As well, they will learn what latitude the courts have to intervene when statutes are silent on how to balance complex or competing criteria for making decisions; how to use insight into delegation gaps to predict and respond to the legal arguments that utilities are likely to make in court, write commission rules that minimize the risk of litigation, and identify opportunities to work with the legislature to clarify accountability and minimize the risk of litigation; and how to better cope with the burden of work that accompanies an ever-expanding scope of the public interest.

Potential Projects[5]

Relationship between Return on Equity and Capital Expenditures

Explore how the authorized ROE may depend on the utility's capital expenditure program.

Fixed Costs and Fixed Charges

An examination of the relative amounts of an electric, gas, and water utility's fixed costs and fixed costs recovered through fixed charges. Discuss rate design policy and financial implications.

Regulators' Responsibility for the Integrity of Pension Funds

Discussion of status of utility pension funds; regulators' responsibility to ensure financial integrity.

Commission's Resource Needs

Assessment of the internal and external resources needed by commissions to address their responsibilities effectively and make quality public-interest-oriented decisions.

[5] Please send your thoughts on research priorities to apollock@nrri.org, dboonin@nrri.org, and shempling@nrri.org.

Improvement to Commission's Legislative Authority

What authority should a state commission have to achieve its public-interest goals? Issues include plant pre-approval, decisions that bind future commission decisions, management audits, and assessing the utilities for special projects.

Executive Director's Monthly Essays

Interconnection Animus: The Readers React
November 2009

Pharmacies and Regulatory Conferences: Do They Have Anything in Common? Can Socrates Help?
December 2009

Five Minds for the Future: Can They Help Us Achieve Regulation's High Purposes? Introduction and Part I (The Disciplined Mind)
January 2010

Five Minds for the Future, Part II: The Synthesizing Regulator
February 2010