



National Regulatory  
Research Institute

**Gas Utility Excellence:  
Ten Recommendations for Regulators**

**Ken Costello  
Principal, NRRI**

**January 2011  
11-02**

## Online Access

This paper can be accessed online at  
[http://www.nrri.org/pubs/gas/NRRI\\_Gas\\_Utility\\_Excellence\\_jan11-2.pdf](http://www.nrri.org/pubs/gas/NRRI_Gas_Utility_Excellence_jan11-2.pdf).

# **Gas Utility Excellence: Ten Recommendations for Regulators**

The chief objective of public utility regulation is to induce high-quality utility performance, whether it is customer service, physical operation of the utility system, service reliability, cost controls, or the cost-effective adoption of new technologies. A well-performing utility offers customers reasonable rates, high service reliability, and responsive customer service. Regulators should expect no less from their utilities.

Performance depends on two broad factors: (1) utility-management behavior and (2) market and business conditions, plus other factors beyond a utility's control. Regulatory rules, policies, and practices directly and indirectly affect the first factor. For gas utilities, relevant regulatory actions include: (1) criteria for cost recovery of purchased gas and new capital projects, (2) the scope and nature of prudence reviews, (3) a regulator's commitment to a utility's gas supply or hedging plan, (4) guidance and expectations for utility planning and other actions, (5) rules for affiliate transactions and relationships, (6) incentives for gas procurement and hedging, and (7) incentives for utility energy efficiency programs and sales promotion.

Following is a list of ten actions that state regulators, in my opinion, should take to ensure excellent performance by gas utilities. I have developed this list based on my 30-year career observing and advising regulators. Table 1 (see p. 7) connects these regulatory actions with the ways they will improve utility performance.

## **1. Measure and evaluate utility performance**

Do a utility's actual costs reflect competent utility management, or do they include wasteful costs the utility could have avoided? Regulators are at a disadvantage relative to utilities in interpreting a utility's performance.<sup>1</sup> And under existing treatment, it is rational for a utility to exert less-than-maximum managerial effort to reduce costs. An antidote to information asymmetry is performance measures.

To achieve excellent utility performance, regulators should, therefore, measure and evaluate utility actions in different functional areas, then inject the evaluation's results into regulatory decisions. Measurement will likely lead to better regulatory incentives and improved utility performance. It can help detect subpar utility management that could trigger a more detailed investigation, cost disallowances, or a revisit of regulatory practices. Performance measurement can also help regulators determine whether utilities are complying with stated

---

<sup>1</sup> See Ken Costello, *How Performance Measures Can Improve Regulation*, NRRI Paper 10-09 (June 2010), at [Performance](#); and Evgenia Shumilkina, *Where Does Your Utility Stand? A Regulator's Guide to Defining and Measuring Performance*, NRRI Paper 10-12 (August 2010), at [Performance Guide](#).

objectives or targets. If deemed desirable, regulators can also reward utilities for superior performance that benefits customers through lower rates or higher quality of service.

## **2. Assess utility gas supply plans and procurement practices**

Given the billions of dollars at stake, regulators should guide gas utilities' supply planning and procurement practices.<sup>2</sup> The activities determine future retail gas costs, prices, and supply reliability. It is a complex, multi-task activity demanding (1) early and active regulatory involvement in assessing gas supply plans and related corporate strategies, and (b) after-the-fact evaluation of a utility's compliance with the plan.

An active regulator in the early stages helps to steer a utility's planning and procurement activities to conform to regulatory principles and expectations. Some view such regulatory actions as intrusive; they are in fact reflective of good regulation that creates clear expectations and holds utilities accountable for their actions. Assuming that performance meets the standards, this type of regulatory involvement actually enhances a utility's long-term financial interests by creating a clear path to revenues that compensate and reward investment.

## **3. Apply a multi-objective approach to selecting ratemaking methods**

When setting rates, regulators must weigh multiple objectives.<sup>3</sup> A regulator seeking to promote economic development might prefer price discounts for large industrial firms—a goal conflicting with “equity” objectives and producing price discrimination. A second example is regulators relying on cost trackers to allow rapid recovery of specified expense items. A tracker helps to stabilize a utility's earnings and reduce the rate case frequency. On the downside, a tracker could dilute a utility's incentive to control the cost at issue. Another concern is that a tracker would shift cost-increase risks to customers.

These concerns and objectives require tradeoffs, made explicitly and with consciousness of the varying weights applied to the objectives. Making these tradeoffs requires that regulators: (a) have access to objective information on the effects of different ratemaking methods and (b) exercise good judgment in determining which ratemaking methods best balance the different regulatory objectives.

---

<sup>2</sup> See Ken Costello, *Gas Supply Planning and Procurement: A Comprehensive Regulatory Approach*, NRRI Paper 08-07 (June 2008), at [Gas Planning](#).

<sup>3</sup> See Ken Costello, *Decision-Making Strategies for Assessing Ratemaking Methods: The Case of Natural Gas*, NRRI Paper 07-10 (September 2007), at [Ratemaking](#); and James C. Bonbright, *Principles of Public Utility Rates* (New York: Columbia University Press, 1961).

#### **4. Develop regulatory incentives that motivate gas utilities to act for the public interest**

Utilities strive to maximize their own financial interests and manage risks consistent with its risk tolerance. This goal does not always align with the customers' interests.

Under conventional regulatory approaches, a utility has more motivation to avoid a cost disallowance from grossly subpar performance than to perform exceptionally well. A key example are cost trackers allowing for a monthly pass-through of cost changes with little likelihood of effective prudence review, especially if there are no clear performance standards.<sup>4</sup> Utilities, for example, might be lax in finding the best deals for gas supplies or in managing their storage facilities most efficiently.<sup>5</sup>

Properly structured incentives—which regulators have found challenging to design<sup>6</sup>—steer a utility's actions toward serving customers and the general public. As one example, good incentives would motivate a utility to manage price risk compatible with customers' preference for stable prices and at least cost.

#### **5. Evaluate utility hedging strategies**

Hedging is an economic activity in which the utility enters the market with the specific intent of protecting an existing or anticipated physical market exposure from adverse price fluctuations. It is an integral part of open natural-gas markets. Gas prices generally exhibit high volatility and low predictability. Customers can suffer non-trivial economic welfare losses when natural gas prices rise to unusually high levels. Hedging means customers pay to avoid these losses.

Hedges come in both physical and financial forms: Utilities can use storage or bilateral physical contracts with fixed prices as hedges; they can also purchase financial hedges, such as futures contracts, options, and swaps.

---

<sup>4</sup> See Ken Costello, *How Regulators Should View Cost Trackers?* NRRI Paper 09-13 (September 2009), at [Cost Trackers](#).

<sup>5</sup> See Ken Costello, *Gas Supply Planning and Procurement: A Comprehensive Regulatory Approach*.

<sup>6</sup> See Ken Costello and James F. Wilson, "A Hard Look at Incentive Mechanisms for Natural Gas Procurement," NRRI Paper 06-15, November 2006, at [Incentives](#); and Paul L. Joskow and Richard Schmalensee, "Incentive Regulation for Electric Utilities," *Yale Journal on Regulation*, Vol. 4 no. 1 (Fall 1986): 1-49.

The basic questions facing regulators are how utilities can manage the risks of price spikes (a) consistent with the value placed by customers on more stable prices (i.e., customers' willingness to pay to have less volatile prices) and (b) in a least-cost manner (e.g., the lowest cost in achieving a desirable level of price stability).<sup>7</sup>

Hedging has drawn criticism, because of its cost and because some observers now predict a future of non-volatile gas prices. Yet it can have value. Each state commission should have clear knowledge of its utility's hedging strategies (both the plan and its execution) and metrics by which to judge their value.

## **6. Know the wholesale gas market**

The lion's share of retail customers' gas bills is the wholesale cost of gas. Although state regulators do not have authority over wholesale prices, they do have authority over their local utilities' decisionmaking in those markets. To assess the quality of their utilities' decisionmaking, regulators should continuously study wholesale market factors: future prices, demand, supply, and development. If the consensus is that gas prices will rise dramatically over the next five years, regulators might want today to initiate policies and take other actions (e.g., initiate or expand energy-assistance programs) in anticipation of this development.

Major natural-gas price uncertainties over the next twenty years include (1) the completion of the Alaskan gas pipeline, (2) gas production in offshore areas historically closed for exploration and drilling, (3) the development of shale gas, and (4) the integration of the U.S. gas market with the world market through LNG imports and exports. Regulators face a tough challenge in making decisions based on natural gas price forecasts, especially of a long-term nature. Being well-informed on future gas market developments should help regulators make better decisions, which should improve utility performance.

## **7. Develop regulatory rules to prevent self-dealing abuses between a utility and its affiliate**

When a gas utility forms a gas supply affiliate, two customer risks arise. First, the supply affiliate can siphon resources from the gas utility, thereby harming the utility's consumers. Siphoning can take at least three forms: inflating the sales price of gas, leaning on the utility's financing (e.g., causing the utility to borrow money to finance the affiliate's risks), and using gas utility resources, such as staff, computers, and headquarters, without fairly compensating the utility. Second, the utility can give preferential treatment to an affiliate, thereby reducing the entry of other suppliers.

---

<sup>7</sup> See Kenneth W. Costello and John Cita, *Use of Hedging by Local Gas Distribution Companies: Basic Considerations and Regulatory Issues*, NRRI 01-08 (May 2001), at [Hedging](#); and Mike Gettings, "A Prescription for Regulatory Agreements Regarding Energy Commodity Price Risk Mitigation," July 18, 2008, at [Gettings](#).

An affiliate relationship thus raises a fundamental question: Does this association produce real cost efficiencies, or is it just a device by which to make captive customers bear the risks while shareholders receive the rewards?

Regulators should establish affiliate or standards-of-conduct rules to prevent abuses that stand to harm utility customers and competition. The intent of these rules is to prevent a utility from exploiting its monopoly status to the detriment of customers.

## **8. Maximize the value of energy-efficiency initiatives**

Past utility energy-efficiency initiatives had several problems. These problems have included “free riders” participation, nonalignment of program objective with a specific market or “behavioral” problem, low utility motivation for success, and inadequate utility financial inducements for consumer participation.

In assessing energy-efficiency programs, regulators should insist on attaining the highest possible benefits for the dollars expended. Many regulators apply the cost-effectiveness test in evaluating utility energy-efficiency initiatives. Under the Total Resource Cost (TRC) test, for instance, the utility compares the cost savings from producing, transporting, and distributing less natural gas with the sum of the utility and customer costs incurred for achieving energy efficiency.

Even if a utility’s energy-efficiency initiatives pass the TRC test and are therefore economically tenable, however, they could still fail to maximize economic benefits. Assume, for example, that a utility is spending \$20 million on energy efficiency, which when allocated most effectively can produce benefits of \$30 million. The regulator has an obligation to make sure that the benefits are \$30 million (or as close as possible to this level) rather than \$25 million, even though the benefits would still exceed the costs. A well-structured and executed good integrated resource plan (IRP) can help to achieve this goal. (IRP is a process for comparing demand-side options such as energy-efficiency programs on an equal basis with supply-side alternatives.<sup>8</sup>)

## **9. Evaluate customer-choice programs**

Since 1995, twenty-one states and the District of Columbia have allowed residential and commercial customers to choose their gas-commodity supplier. (Industry observers commonly refer to these initiatives as “customer choice” programs.)<sup>9</sup>

---

<sup>8</sup> An example of a comprehensive gas IRP is Avista Utilities, *Natural Gas Integrated Resource Plan* (December 31, 2009), at [Avista IRP](#).

<sup>9</sup> For an overview of the status of small-customer choice programs, see [EIA Customer Choice](#).

Some states are now questioning whether choice for residential customers has produced the expected benefits, or even positive benefits. Uninformed and misinformed customers might have made wrong decisions by choosing a third-party marketer rather than staying with their local utility for their full gas service.

In quantifying the effects of customer choice, regulators will need to collect and interpret the historical data with sound quantitative techniques. The analysis will require an understanding of markets and what features distinguish markets that perform to the benefit of consumers from markets that do not. Regulators can use the evidence to decide whether to continue with “customer choice,” terminate it, or modify it to increase benefits.

**10. Establish performance standards in important areas of utility operation for which utilities have poor incentives to perform exceptionally well**

Regulators and utilities have twin obligations: regulators to set just and reasonable rates; utilities to perform with excellence. To ensure compliance with the utility’s obligation, regulators should consider performance standards when the utility lacks strong incentives to perform exceptionally well in specific functional areas that affect customer welfare.

Regulators can establish performance standards for reliability, customer service, and other functional areas in which outcomes hinge on the actions of utility management. Standards address the concern that a utility might be indifferent to its performance. One possible regulatory action is to establish reliability/customer service standards and review periodically whether the utility has complied with those standards. Regulators might contemplate rewarding and penalizing utilities for exceptionally good and subpar performance, respectively.<sup>10</sup>

---

<sup>10</sup> For a review of different regulatory options, see Pacific Economics Group, *Service Quality Regulation for Detroit Edison: A Critical Assessment*, March 2007.



**Table 1: Ten Regulatory Actions for Excellent Utility Performance**

<b>Regulatory Action</b>	<b>Performance Effect</b>
<ul style="list-style-type: none"> <li>▪ <b>Measure and evaluate utility performance</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Provides utilities with stronger incentives (disincentives) for excellent (subpar) performance</li> <li>▪ Detects subpar utility performance</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Assess utility gas supply plans and procurement practices</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Mitigates poor utility and regulatory decisions</li> <li>▪ Detects subpar utility performance</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Apply a multi-objective approach to selecting ratemaking methods</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Balances, in a systematic way, different regulatory objectives commensurate with the public interest</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Develop regulatory incentives that motivate gas utilities to act for the public interest</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Aligns utility interests with the public interest for specific utility actions</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Evaluate utility hedging strategies</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Detects poor hedging strategies, both before and after the fact</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Know the wholesale gas market</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Makes regulators better informed in making decisions involving utility planning and operational activities</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Develop regulatory rules to prevent self-dealing abuses between a utility and its affiliate</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Mitigates anticompetitive behavior, cost-shifting, and cross-subsidization</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Maximize the value of energy-efficiency initiatives</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Produces greater benefits per dollar expended</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Evaluate customer choice programs</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Modifies or terminates programs with marginal or negative benefits</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Establish performance standards</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Assures minimally acceptable utility performance in a specified area</li> </ul>