

Gas Supply Planning and Procurement: Comprehensive Regulatory Oversight

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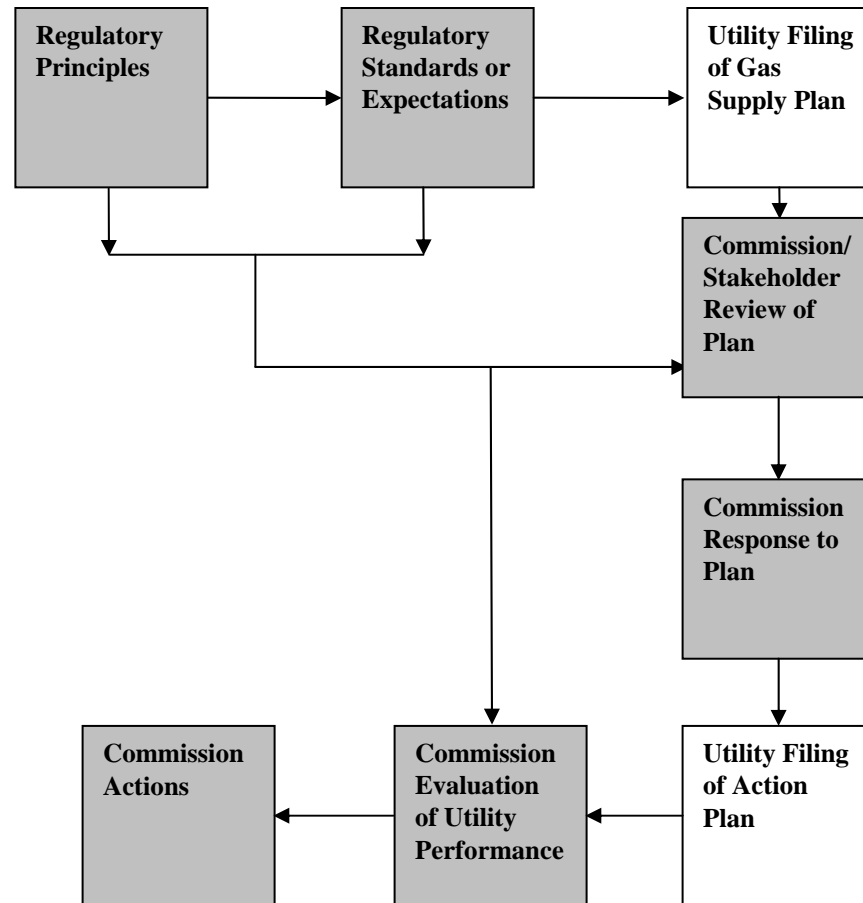
Topics for Discussion

- Generic functions of comprehensive regulatory oversight (“CRO”)
- The rationale for CRO
- The importance of gas supply planning and its major elements
- Regulatory challenges in overseeing gas supply planning and utility performance
- A six-step CRO of gas supply planning and utility performance
- Major issues and areas of contention
- Other topics

Generic Functions of CRO

- Establish underlying principles for utility actions
- Establish expectations or standards for utility actions
- Evaluate a utility's planning strategy
- Respond to the utility's planning strategy
- Evaluate utility performance or execution of a planning strategy
- Act on the evaluation of utility performance

The Six Steps for CRO



The Rationale for CRO

- Gas supply planning and procurement are important utility activities
- They also are complex activities demanding regulatory involvement at various stages
- Early dialogue and communications among stakeholders reduce later problems and provide critical input by different parties on a plan
- CRO, by attempting to avoid poor decisions and minimize bad outcomes, achieves regulatory accountability and responsiveness to the public interest

The Rationale for CRO -- *continued*

- CRO assists a commission in achieving the goals of “just and reasonable” rates and reliable utility service
- CRO recognizes divergence of utility interests from the public interest – you cannot trust the utility on all matters and in all situations; why regulate if you can?
- Utilities have requested pre-approval of contracts and investments, requiring commission evaluation early on
- CRO recognizes the importance of a commission to periodically evaluate its own policies and practices (i.e., to do a introspective review)

The Importance of Gas Supply Planning

- Planning is the foundation for utility actions and performance
- Good performance requires good planning
- Poor planning reflects poor decision-making that ultimately leads to poor utility performance
- Gas procurement and pipeline transportation can make up about 75-80 percent of the costs for a utility
- Planning focuses on the ability of a utility to acquire adequate gas supplies and transportation to meet future demand
- Since FERC Order 636, gas utilities have taken a more active role in gas procurement and related activities where a utility has to make important decisions

Different Elements of a Gas Supply Plan

- Objectives
- Projected prices
- Available gas supplies and delivery capacity
- Demand projections
- Kinds of commercial transactions (spot market purchases, contracting)
- Hedging strategy
- Portfolio policy for price and supply diversity
- Reliability criteria
- Affiliate and outsourcing transactions
- Treatment of uncertainty

Challenges in Oversight of Gas Supply Planning

- One management expert perceptibly views planning as: *A simplified road map of complex terrain based on provisional knowledge that is subject to revision in light of new information*
- From a narrow technical perspective, gas supply planning is an optimization problem where the utility
 - Attempts to maximize an “aggregate objective function” composed of different sub-objectives and their relative importance (The analogy of buying a car)
 - Operates in an environment of uncertainty over future demand, prices for gas supplies, transportation-capacity availability, and so forth
 - Faces operational, contractual and market constraints

Challenges in Oversight of Gas Supply Planning -- *continued*

- Regulatory review requires an assessment of the inputs and assumptions placed into models and other analytical tools, and their effects on a utility and its customers
- This assessment requires
 - Knowledgeable, experienced and skilled commission staff
 - Tools and methods that extend beyond optimization modeling; for example, outside-of-modeling analyses and judgment

Sources and Consequences of Possible Problems

Problem	Source	Consequence
<ul style="list-style-type: none"> Excessive price for purchased gas 	<ul style="list-style-type: none"> Weak incentives for minimizing costs 	<ul style="list-style-type: none"> Higher-than-necessary prices to customers
<ul style="list-style-type: none"> Too little hedging 	<ul style="list-style-type: none"> Risk objectives of utility deviating from customers'; deficient utility staff resources 	<ul style="list-style-type: none"> Higher-than-necessary price volatility for gas purchases
<ul style="list-style-type: none"> Inadequate knowledge of the gas market 	<ul style="list-style-type: none"> Deficient utility staff resources; weak incentives for pursuing lower-cost gas purchases 	<ul style="list-style-type: none"> Higher-than-necessary prices to customers; inability to exploit market opportunities, reliability of supply negatively affected
<ul style="list-style-type: none"> Poor forecasting methods for projecting future demand and future resource needs 	<ul style="list-style-type: none"> Lax management, deficient in-house expertise 	<ul style="list-style-type: none"> Inadequate level and mix of gas supplies, raising prices to customers and jeopardizing the adequacy of gas supplies
<ul style="list-style-type: none"> Abuse of affiliate transactions 	<ul style="list-style-type: none"> Inadequate or lack of standards-of-conduct, inter-affiliate pricing, competitive bidding (for gas supplies) rules 	<ul style="list-style-type: none"> Higher-than-necessary prices to customers, reduced competition for gas supplies
<ul style="list-style-type: none"> Poor decision-making process 	<ul style="list-style-type: none"> Lack of adequate background knowledge and experience in making decisions under conditions of uncertainty; lack of appropriate analytical tools and/or the knowledge necessary to use tools properly; lax management, wrong objectives and/or weights assigned to each 	<ul style="list-style-type: none"> Sub-optimal gas operations and higher prices to customers

The Role of a Commission in Gas Supply Planning under CRO

- Communicate to the utility what it expects before the filing of a plan (via commission principles and standards)
- Analyze a utility's plan in relation to the principles and standards established
- Recommend (or mandate) changes to a filed plan
- Provide input to selected areas of a plan
- Decide on its commitment to a plan for future cost recovery and other regulatory actions

How Planning Relates to Actual Utility Performance

- Actual performance depends on both past utility planning and plan execution
- Things inevitably change to thwart even the best-laid plan or its execution (e.g., I want to send my kids to private colleges and pay for it without taking out any loans; but then I lost my job)
- New information can warrant a utility to change (1) its plan or (2) the execution of an existing plan
- Utilities should execute a plan as circumstances change by applying new information, making mid-course corrections and getting the time right (adaptive response)
- Problem with rote execution where a utility executes a long-term plan irrespective of new information and events (i.e., the utility “places its bets and takes its chances”)

A Six-Step CRO

- **Step 1 establishes principles for gas supply planning and gas procurement** (statement of broad policy and first principles)
- **Step 2 establishes planning and performance standards** (specification of expected utility actions consistent with the principles)
- **Step 3 is the commission's review and evaluation of a filed gas supply plan** (basis for commission input into the planning process)
- **Step 4 is the commission's decision on a filed gas supply plan** (determination of how commission will respond to later decisions on cost recovery and other matters)
- **Step 5 is the commission's evaluation of actual performance by a utility** (comparison of actual performance with expected performance, detection of subpar performance, focus on plan execution)
- **Step 6 is commission actions following performance evaluation** (commission review of its own policies/practices, enforcement function)

Features of the Six Steps

- Commission communicates to the utility (1) what it expects and (2) its evaluation of a filed gas supply plan, applying pre-determined principles and standards as benchmarks
- Utility and other stakeholders can focus their testimony and arguments on the extent to which a utility's plan or actions coincide with the commission's principles/standards (reduces waste of resources and money in regulatory proceedings)

Features of the Six Steps -- *continued*

- A commission takes on a pro-active position for example, by setting principles/expectations, and evaluating utility performance and its own policies/practices
- A commission separates planning from execution decisions by a utility in evaluating utility performance retrospectively
- Cost recovery depends upon the prudence of utility decisions, not outcomes per se (utility performance reflects past planning and execution decisions)

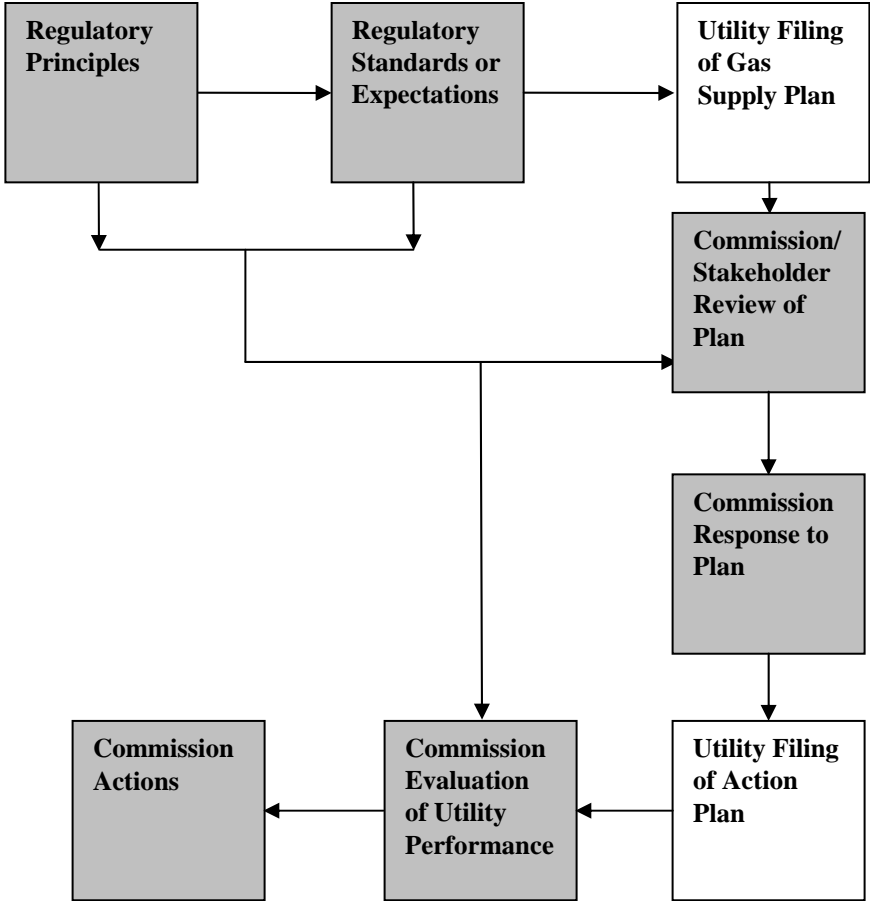
Features of the Six Steps -- *continued*

- A commission detects and remedies problems by monitoring utility performance (a commission needs to know how the utility is performing before evaluating performance and making a decision)
- A commission partially commits to a utility's plan (What does this mean?)
- Narrows the scope and complexity of prudence reviews (avoids having to evaluate utility decisions made years ago)

Features of the Six Steps -- *continued*

- Recognizes the benefits of adapting execution of an existing plan to new events and information (plans are works in progress that is open to revision in light of new information)
- A commission in conjunction with the utility and other stakeholders decides upfront on planning matters that the utility should not solely make (e.g., hedging, reliability criterion, risk management in general, objectives and the weighting of those objectives, others for which utility interests may deviate from the public interest)

Relationships of the Six Steps



Major Issues and Areas of Contention

- Need for commission principles/standards
- Required commission staff expertise
- Commission commitment to a utility's plan or strategy
- Execution of a plan in light of new information
- Commission evaluation of actual utility performance
- Scope and nature of commission retrospective reviews
- Commission evaluation of its own policies/practices that affect utility behavior in planning and execution
- Legal constraints to implementing CRO
- Net benefit of CRO relative to present approaches used by commissions

Negative Reactions to CRO

- “Pie in the sky” – not feasible, especially for small commissions
 - Too demanding and difficult for commissions
 - Too costly for parties and the commission
- Too intrusive on utility decision-making
- May go beyond a commission’s legal authority
- Not needed – present approaches work well

Required Commission Staff Expertise

Review of	Required staff expertise
<ul style="list-style-type: none"> Demand projections 	<ul style="list-style-type: none"> Econometric and statistics techniques; customer behavior (e.g., response to price, economic conditions, utility energy efficiency activities)
<ul style="list-style-type: none"> Price hedging strategy 	<ul style="list-style-type: none"> Basics of risk management, including knowledge of financial derivatives (e.g., futures contracts, options, swaps, collars)
<ul style="list-style-type: none"> Bundling of gas supply and transportation alternatives by a utility 	<ul style="list-style-type: none"> Optimization tools such as linear programming; portfolio theory
<ul style="list-style-type: none"> Gas supply price projections 	<ul style="list-style-type: none"> Wholesale gas markets, including supply and demand conditions
<ul style="list-style-type: none"> Gas distribution physical constraints (city gate capacity, balancing requirements, on-system storage capacity) 	<ul style="list-style-type: none"> Gas utility operations
<ul style="list-style-type: none"> Utility's decision-making process 	<ul style="list-style-type: none"> Decision analysis under uncertainty and conflicting objectives
<ul style="list-style-type: none"> Utility's motivation for different activities 	<ul style="list-style-type: none"> Knowledge of the effects of regulatory incentives, policies and rules on utility behavior

Present Regulatory Approaches

- In most instances, no performance-based regulatory incentives for gas procurement
- Filing of utility long-term gas supply plan for commission review and response
- Filing of short-term gas supply for upcoming winter or year
- PGA reconciliation hearings addressing the recovery of past purchased gas costs
- Management audits (retrospective, prospective)

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