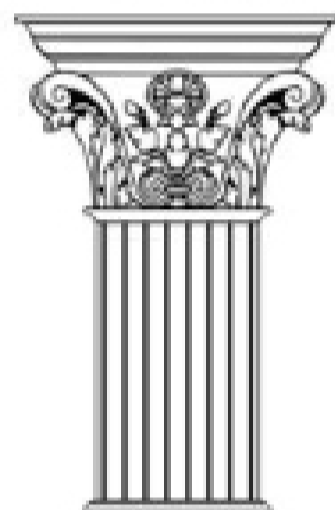

NATURAL GAS AND ENERGY PRICE VOLATILITY

PREPARED FOR THE
OAK RIDGE NATIONAL LABORATORY

BY THE

American Gas



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4. Strategies for Managing Price Volatility

4.1 Background

Over the last five years, energy price volatility has become the most significant issue facing the natural gas industry and energy companies. Natural gas, electricity, crude oil and oil product markets have all exhibited price volatility for some portion of the period. Price volatility has contributed to a climate of uncertainty for energy companies and investors and a climate of distrust among consumers, regulators, and legislators.

Energy price volatility creates uncertainty and concern in the minds of consumers and producers, who may delay decisions to purchase appliances and equipment or make investments in new supply. Such delay may result in lost market opportunities and inefficient long-run resource allocation. In addition, volatility may create pressures for regulatory intervention that can bias the market and penalize regulated entities and market participants by generating wide and unpredictable revenue swings. Finally, volatility can hurt the image of energy providers with the customers and policymakers and create doubt about the industry's integrity and competency to reliably provide a vital economic product.

As discussed in Chapter One of this report the impacts of energy price volatility fall into one of two categories:

- 1) Investment/planning price volatility. Planning price volatility refers to long-term uncertainty in energy price levels that influence investment planning.
- 2) Short-term price volatility. Short-term price volatility reflects the amount of short-term (day-to-day or month-to-month) price volatility that influences short-term energy purchasing and hedging strategies.

The focus of this report is the development of strategies principally designed to address investment/planning volatility in natural gas prices. In most instances, it is the unanticipated changes from one winter to the next or over the next few years that create the negative consequences for market development for distributed generation and present the greatest risk to gas consumers and market participants.

The impact of trading price volatility is generally limited to those entities that trade large dollar value positions in the short-term market. Trading losses were an important factor in the recent decline in the financial health of many large energy companies and therefore create critical challenges for the natural gas industry. However, the strategies used to address trading volatility are less applicable to most market participants and will not be addressed in great detail.

The objective of this chapter of the report is to consider strategies, policies, and approaches that can be used to reduce the destructive effects of price volatility. The chapter is divided in two sections. Section 2 presents a discussion of basic techniques that service providers or consumers can use to manage price volatility. The section also presents a discussion of the elements of risk associated with price volatility and the interdependencies of these elements. The section concludes with a discussion of some generic barriers to implementing the techniques with a focus on the relationships between utility regulation and price volatility management.

Section 3 presents 15 specific strategies for addressing price volatility. The strategies considered fall into two broad categories.

- 1) **Volatility Management Strategies:** Strategies, policies, and approaches that can be used to manage price volatility. These techniques are designed to reduce the negative impacts in a volatile energy price environment. In general, these are strategies that can be adopted by an individual market participant. The strategies are differentiated as consumer-initiated strategies and vendor-initiated strategies.
- 2) **Volatility Reduction Strategies:** Strategies, policies, and approaches that may reduce energy price volatility. These approaches could potentially reduce price volatility by increasing the elasticity of supply and/or demand (i.e., increase the magnitude of the market response to changes in energy prices) in the broader market. In general, these strategies would require a fundamental change in the structure of the market and would need to be adopted broadly by market participants to be effective.

The format for the exposition is as follows. A description of the strategy is presented along with a statement of the specific objective of the strategy. The “Pros” and “Cons” of each strategy are identified. Finally, barriers to implementing the strategy are discussed.

The strategies developed here address natural gas price volatility, with an emphasis on their applicability to the emerging distributed generation market. Nevertheless, in a number of instances, the strategy can be readily adapted to addressing volatility in other energy markets, such as electricity or oil. One must recognize, however, that regulation – particularly utility regulation – can significantly complicate the implementation of some of the strategies. These issues will be explicitly discussed.