

**Gas/Electric Partnership Convergence:
Gas Compression from Production Thru Transmission**

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Gas Pipeline Efficiency & Waste Heat Reduction

FERC View of Efficiency

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Introduction

Why are the topics of efficiency and waste heat reduction important?

So far, this conference has addressed broad industry trends, clean air regulation, compressor supply chain issues, new products, and the topic of improving or replacing old compressors.

This knowledge will help those of you who are involved in compressor operations to make better design decisions and operate more efficiently. In a world increasingly dominated by economic issues, global competition, and greenhouse gases, efficiency is essential.

Consider the experience over recent decades of the U.S. automobile manufacturers. More efficient automobiles built by the Japanese came to dominate the U.S. car market.

As we look ahead, natural gas will play a significant role in our Nation's economy for the rest of this century. Natural gas can be a bridge fuel to a low-carbon future and a low cost energy source supporting a robust economy. But this vision of the future cannot be taken for granted. A more efficient gas industry stands a better chance of making a positive contribution and being seen as a part of the solution. But without significant continuing efforts by everyone in this room today, the gas industry's accomplishments can be overshadowed by rising prices

¹ These remarks represent the personal opinions and views of a member of the Commission staff, not the opinions or views of the Federal Energy Regulatory Commission, or of individual Commissioners.

A Business Case for Investing in Efficiency

The contours of future government programs are uncertain. New laws to regulate greenhouse gases or promote renewable and non-traditional resources may be enacted. Their effect on the natural gas industry remains an open issue. Still, there is a strong business case for improving efficiency and exploiting waste heat opportunities now.

First, efficiency improvements can reduce operating costs for both pipelines and customers.

Second, more efficient pipelines may have a competitive edge relative to less efficient pipelines.

Third, more efficient pipelines will have a head start in facing the challenges of future greenhouse gas regulation.

Each of these opportunities is ultimately grounded in cashflow. Expenses are reduced. Value to customers is increased. Gas supplies are increased. A more efficient gas pipeline will likely retain or even increase throughput, yielding more revenue-generating potential from fixed investment.

The “cost” to the industry of gas consumed for fuel, lost and unaccounted for, is significant. Valued at market 2007 fuel and losses would be worth more than \$24 billion. If that entire amount of pipeline fuel and losses were conserved, it would represent 10 million cubic feet per day of new supply. Although these are relatively small amounts when compared to the 21 trillion cubic feet of natural gas delivered to consumers, they represent relatively large potential savings. But these savings can only be realized through serious efforts to make each pipeline more efficient.

As the gas industry becomes more efficient, it is also better positioned to market itself to a carbon-wary nation as part of the solution to the bigger global problems associated with climate change.

While I normally focus exclusively on interstate natural gas pipelines in my day job at the Commission, I believe that competition will continue to provide significant benefits to the most efficient competitors. Since natural gas wellhead decontrol, the production business is more competitive than ever. Efficient operations and economic investment in waste heat recovery may provide an edge to those savvy producers who can stay a step ahead of the pack.

FERC's Regulatory Roles and Their Effect on Efficiency

Now, let's take a brief look at FERC's role in pipeline regulation.

By law, FERC has three principle roles in regulating the natural gas industry. Two of these are relevant to today's discussion: (1) administering the process of siting and permitting interstate natural gas pipelines; and (2) ensuring just and reasonable rates.

FERC's "certificate" process governs the siting and permitting of new interstate pipeline facilities. An important part of that process is insuring that pipelines are designed to efficiently deliver planned services with minimal environmental impact. FERC Chairman Jon Wellinghoff has directed Commission staff to request information from pipelines on efficiencies of design, materials, equipment and maintenance and whether waste heat recovery was considered in the design of any large new pipeline project proposal.

INGAA, the pipeline trade association, published a study in February 2008 which examined the potential for waste heat recovery projects. They identified six waste heat power generation projects operating on large gas pipelines and another 10 projects under development. In a November 2009 update to that study, 15 projects were in operation and 10 projects were under development. According to INGAA, as many as 100 compressor stations meet the basic criteria for economic development of waste heat to generation projects using current technology.

Under FERC's strategic plan, the Commission has established a long-term goal of examining 100 percent of jurisdictional natural gas companies for feasibility of installing waste heat recovery systems by fiscal year 2014. Commission staff has been tasked to examine 20 percent of the jurisdictional natural gas companies each year, to achieve the Commission's long term goal of completing feasibility studies by 2014. INGAA pipelines' voluntary commitment to post information about compressor stations which appear to offer sufficient conditions to support waste heat recovery, will assist the Commission in starting its review.

These policies shine a spotlight on waste heat recovery potential. Let's face facts. Pipelines are in the gas transportation business, not power generation. Combining the two asks pipelines to move outside of their natural comfort zone. However, some pipelines are starting to tap into this potential, and others are beginning to take a closer look. For the most part, third-party entrepreneurs have been the prime movers of this effort.

Let me turn now to the second FERC role, that of ensuring just and reasonable rates.

Pipeline rates are set by FERC to provide a reasonable return on and of the pipeline stockholders' investment. Rate base and cost-of-service are established under long-standing accounting and ratemaking principles.

Once rates are set, pipelines may earn more or less than the regulated return, depending on weather, the economy, and the pipeline management's ingenuity in running their business. Under today's regulatory policy, pipelines are not required to file a rate case at any particular time, unless it has agreed to do so in a settlement entered into with its customers and other stakeholders.

As a result, pipelines have strong incentives between rate cases to pursue efficiencies. This is especially true when incremental net profits flow only to the stockholders.

However, pipelines also fear that in the long-term, any efficiency gains from efficiency investments will largely be passed through to the ratepayers when rates are recalculated in future rate cases. Some have argued that this longer-term view casts a shadow, which reduces a pipeline's incentive to invest in efficiency.

Many pipelines also have automatic tracker rates for fuel and lost and unaccounted for gas retained from shippers. Each pipeline requires a shipper to furnish in-kind fuel and lost gas. As a pipeline under or over-recovers in kind fuel, it maintains accounts of these deviations and periodically files to adjust the in kind retention percentages. These periodic adjustments essentially follow actual fuel consumption and lost and unaccounted for experienced on the pipeline from month-to-month. As a result, efficiency gains from reduced fuel consumption flow to ratepayers with the next periodic filing.

FERC's role is to find the right balance between stockholders and ratepayers. We strive to provide sufficient incentives for pipelines to operate efficiently, while protecting ratepayers from excessive rates, or the burden of subsidizing a pipeline's non-utility profit-making endeavors.

Conclusion

I believe that FERC's current policies can be applied in a way that provides a just and reasonable balance in establishing rates that provides incentives for efficiency, and continues to protect ratepayers. But, this balance is not easy to achieve, and most often, is rendered in case-by-case adjudication.

To recap: efficiency is important; a strong business case supports continuing efforts to increase efficiency in pipeline operations, including waste heat recovery;

and FERC regulation of pipelines can balance the need to provide incentives for efficiency investment and ratepayer protection.

Thank you for your attention. This concludes my presentation. I will be happy to answer questions.

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And please feel free to contact me in the future with your questions, comments and opinions.

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