



**Federal Energy Regulatory Commission**  
**April 19, 2007**  
**Open Commission Meeting**  
**Statement of**  
**Commissioner Jon Wellinghoff**

**Item C-1: Rockies Express Pipeline LLC *et al.* (CP06-354-000 *et al.*)**

*Pipeline Design and Energy Efficiency*

- The primary goal of pipeline design should be the efficient, least cost transportation of natural gas. Examples of efficiencies in design, materials, and maintenance include, among others:
  - a) Optimizing the trade-off between pipeline diameter and compression;
  - b) Optimizing pipeline routing and configuration for efficiency;
  - c) Selecting the compressors and designing the compressor stations to minimize fuel consumption;
  - d) Using internal pipe coatings to minimize surface friction;
  - e) Using waste heat from combustion turbines or reciprocating engines that drive station compressors
    - To generate electricity for use at compressor stations, or generate electricity for sale
    - To operate a secondary steam or Rankin cycle turbine to partially drive the compressor
    - To produce absorption cooling to either reduce combustion turbine inlet temperatures to improve turbine efficiency or to provide a cooler and denser gas that is more efficient to transport
  - f) Exploring pressure let down energy extraction with back pressure turbines; and
  - g) Line pigging.
- In addition, pipelines should be encouraged to consider life-cycle costs, such as a design that allows for easy expandability, in their initial design of a project.

*Rockies Express Data Requests and Responses*

- In September, we issued a preliminary determination on non-environmental issues raised by Rockies Express's proposed project.
- Shortly after issuing that order, we sent data requests that asked Rockies Express to discuss the measures it has considered to maximize efficient energy use in its operations, including opportunities for waste heat recovery.
- As to the general energy efficiency question, Rockies Express responded that it conducted a study in the early stages of project development and determined that it would utilize internal coating to optimize fuel consumption and reduce capital associated with the installed horsepower. Rockies Express further committed to maintaining energy efficiency in fuel consumption on a going-forward basis. To that end, Rockies Express stated that it plans to dispatch and utilize combinations of its compressor units to maximize efficiency and minimize fuel consumption.
- Rockies Express also indicated that during the construction planning stages, it had considered the feasibility of waste heat recovery. Given the in-service timeline required and the short time frame between identifying the size, location, and output of the proposed compressors and the filing of its

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application, Rockies Express concluded that implementation of a waste heat capture process was not feasible as part of its initial construction. However, Rockies Express pledged that it would continue to explore using waste heat recovery technologies on its system on a retro-fit basis.

- In today's order, we direct Rockies Express to keep us informed about the results of its efforts in these areas by filing a series of annual reports.

*Next Steps*

- I commend Rockies Express for its efforts to date. I am interested in seeing the results of its continuing efforts.
- I am also interested in exploring with the other Commissioners, our staff, and members of the gas pipeline industry uniform processes and procedures to incorporate energy efficiency considerations early in the certificate process to thus take full advantage of the opportunities for efficiency gains without disrupting the certificate timeline. I want to emphasize that the certificate process works very well and energy efficiency efforts should complement that process in a fully integrated manner.
- I am concerned that we are either losing opportunities or increasing costs when pipelines address these issues on a retrofit, ad hoc basis.
- For example, in another order that we are approving today (C-4), we address a second Questar proposal to restage or reconfigure compressor stations. In 2004, we authorized Questar's reconfiguration of a compressor station to place three compressor units in-series rather than in-parallel in order to bolster system pressures. Today, we authorize the replacement of the existing impellers (the angles of the blades in the engines) with a different set to increase the horsepower. It appears Questar has taken the right steps. I am interested in whether these steps could have been taken when the compressor station was first expanded in 2001.
- It is worth considering whether such efficiency measures could and should be considered at an earlier stage and reviewed in a comprehensive and systematic manner. I look forward to exploring this issue further with my colleagues, and I would welcome thoughts on how best to address this issue in a more generic manner so that pipeline efficiency can be optimized in every project that this Commission approves.