

Energy Information Administration, Wyoming is now the third largest natural gas producing state. Over ninety percent of the natural gas produced in Wyoming is exported from Wyoming for the benefit of consumers elsewhere in the United States. Consequently, the State of Wyoming has a substantial economic interest in disposition of the natural gas produced in and exported from Wyoming

The WPA is charged by the State of Wyoming with facilitating the development of pipeline infrastructure inside and outside the State of Wyoming to enhance natural gas development within Wyoming and to develop and maintain access to markets for the abundant natural gas resources of the state. In support of that mission, the WPA in conjunction with officials from the Office of the Governor of Wyoming recently participated in the five-day Research in Market Oversight (“RIMO”) program conducted by the FERC’s Office of Enforcement.

III. BACKGROUND

On May 1, 2007, Northern Natural Gas Co. (“Northern”) filed revised tariff sheets in the captioned docket pursuant to which Northern proposes a wholesale revision to several of Northern’s existing gas quality specifications, *e.g.*, CO₂, O₂ and Btu Content, along with addition of new quality specifications on an entirely new set of gas characteristics, *e.g.*, Wobbe Index, Cricondenthem Hydrocarbon Dew Point (“CHDP”) and Total Inerts. Among the changes in existing gas quality specifications proposed by Northern is a reduction in Northern’s CO₂ limit from 2% to 1% during the April 1-October 31 time period. *See* Table 1 to Northern’s Application.

Northern previously proposed a similar reduction in its maximum CO₂ specification in Docket RP04-155-000. On July 29, 2004, the Commission issued an Order rejecting Northern’s proposed reduction in its maximum CO₂ standard to 1%. *Northern Natural Gas Co.*, 108 FERC

¶ 61,083 (2004) (“*Northern*”). The standards set forth in that Order provide the legal and regulatory policy framework against which Northern’s proposal in this docket must be judged.

IV. MOTION TO INTERVENE

Pursuant to Rule 214, 18 C.F.R. § 385.214 (2006), the WPA moves to intervene in this proceeding. In the pursuit of its obligation to develop and maintain access markets for the abundant natural gas resources in the State of Wyoming, the WPA monitors proposed actions that may impede the access of Wyoming produced gas to markets. Currently four interstate pipelines directly or indirectly deliver natural gas produced in Wyoming to the Northern system.¹ In addition, the Rockies Express Pipeline Company expansion recently approved by the Commission in Docket CP06-354-000, *et al.*, will provide an additional connection between gas produced in Wyoming and the Northern system. As the representative of the third largest gas producing state, a potential transporter of natural gas to the Northern system and as a potential seller of natural gas to others who transport or consume gas on the Northern system, the WPA is directly affected by the proposed changes in the gas quality specifications in Northern’s tariff. The WPA therefore has a direct interest in the outcome of this proceeding that no other party can represent. WPA’s participation is in the public interest.

V. PROTEST

Pursuant to Rule 211, 18 C.F.R. § 385.211 (2006), the WPA protests Northern’s proposed tariff changes as unjust and unreasonable under the Natural Gas Act. Although the WPA opposes and protests generally the changes in gas quality specifications proposed by Northern, the WPA’s comments will focus in particular on the proposed seasonal reduction in Northern’s maximum CO₂ standard. As in 2004, Northern has again failed to support its proposals, particularly the reduction in Northern’s maximum CO₂ standard, and, as in 2004,

¹ Kinder Morgan Interstate Gas Transmission, Trailblazer Pipeline Company, Colorado Interstate Gas Company, Cheyenne Plains Gas Pipeline Company

Northern's proposed revisions to its gas quality specifications, including the reduction in its maximum CO₂ specification, must be rejected.

In Docket No. RP04-155-000, Northern initially proposed a system-wide reduction of Northern's maximum CO₂ specification from 2% to 1%. Following a Technical Conference, at which the purported basis for Northern's proposed system-wide reduction in its maximum CO₂ was shown to be utterly without merit, Northern withdrew its proposed system-wide reduction in favor of a reduction limited to seventeen (17) Northern receipt points upstream from Northern's major natural gas storage fields. At that time, Northern also conceded that its corrosion concerns were related almost exclusively to corrosion within its storage fields and, more particularly, to down hole corrosion in Northern's storage injection and withdrawal wells.

The Commission rejected Northern's revised proposal:

8. Northern has failed to present sufficient evidence in its pleadings in this proceeding to show that its proposal is just and reasonable. Therefore, the Commission rejects Northern's proposal to restrict carbon dioxide and oxygen tolerance levels for gas entering its system . . .

Northern, 108 FERC ¶ 61,083 at P 8.

The grounds for the Commission's rejection of Northern's previous proposal provide a guide for resolution of Northern's similar proposal in this docket. Thus, in *Northern*, the

Commission explained:

25. . . . Northern must provide sufficient evidence supporting its case-in-chief to demonstrate that its proposal reasonably balances Northern's legitimate need to control corrosion on its system with the goal of ensuring consumers adequate gas supplies at reasonable prices. . . . Northern has inadequately: (1) delineated the extent and causes of corrosion in its storage fields; (2) shown that its proposed tolerance levels for carbon dioxide and oxygen would resolve any corrosion problems; and (3) shown that there are not lower cost ways to address any existing corrosion which would have less adverse impact on the development of new supplies.

* * * *

29. . . . Northern has failed to demonstrate that high carbon dioxide and oxygen levels are causing the existing corrosion in its storage wells. . . . Northern has not provide any laboratory analysis or other study that would identify and confirm the actual cause of the corrosion it is experiencing on its pipelines and storage casings. Without conducting a laboratory analysis of a reasonable sampling of actual corroded parts, there is no way for the Commission to determine the actual agent or agents that are causing corrosion on the facilities of the Northern system.

30. . . . Northern has failed to justify that its proposed tolerance levels for carbon dioxide and oxygen would resolve the particular corrosion problems it is experiencing. . . . Northern has not demonstrated that carbon dioxide and oxygen are the primary causes of corrosion on Northern's system. Until such a showing is made, there is not a sufficient basis to conclude that tightening tariff specifications for carbon dioxide and oxygen in the manner proposed by Northern will provide a sufficient benefit to Northern's system to justify the potential costs of accepting Northern's proposal. . . . Northern has not shown that existing corrosion rates are unreasonably high and not a result of old age.

* * * *

32. . . . The issue of corrosion is too important to address without first considering other options. Even if Northern is correct that the primary cause of corrosion is carbon dioxide found in the producers' gas, there may be far more cost effective ways of addressing corrosion than requiring producers to install gas treatment plants to reduce the oxygen and carbon dioxide levels in their gas. It would be economically wasteful to require that enormous sums be spent on gas treatment facilities when more modest solutions such as installing tubing liners would suffice.

Northern, 108 FERC ¶ 61,083 at PP 25, 29-30 and 32.

As in Docket RP04-155-000 in 2004, Northern has again failed to support its proposals, particularly the reduction in Northern's maximum CO₂. And, as in 2004, Northern's proposed revisions to its gas quality specifications, particularly the reduction in its maximum CO₂ specification, must be rejected.

First, Northern has not adequately delineated the extent and causes of corrosion in its storage fields. Northern has failed to demonstrate that high CO₂ levels are or will be the cause of

the corrosion about which Northern is concerned. While Northern has presented evidence of corrosion problems at its Cunningham storage field, Northern has not provided sufficient scientific analysis determining the cause of this corrosion. In *Northern*, the Commission observed that “without conducting a laboratory analysis of a **reasonable sampling** of actual corroded parts, there is no way for the commission to determine the actual agent or agents that are causing corrosion on the facilities of the Northern system.” *Northern*, 108 FERC ¶ 61,083 at P 29 (emphasis added). Despite this observation in *Northern*, Northern has conducted only one laboratory analysis on a single pipeline. This is hardly laboratory analysis of “a reasonable sampling.” *Northern*, 108 FERC ¶ 61,083 at P 29. Additionally, Northern produces evidence from its corrosion monitoring program indicating carbonic acid pitting on corrosion coupons from only two pipelines. Examination of corrosion on these two pipelines plus the one pipeline that was the subject of laboratory analysis is hardly a reasonable sampling and does not prove that the corrosion is principally linked to CO₂ levels.

Second, Northern has not demonstrated that its proposed seasonal tolerance level for CO₂ would resolve any corrosion problems. Northern has not demonstrated that CO₂ is the primary cause of corrosion on Northern’s system. In fact at the Technical Conference held in Docket No. RP04-155, Northern’s own data for the Redfield and Lyons facilities proved that down hole sulfate-reducing bacteria is the cause of the well bore corrosion. At this time, Northern has not presented any evidence showing that down hole sulfate reducing bacteria is no longer the cause of corrosion. As the Commission stated, until Northern shows that carbon dioxide and oxygen are the principal causes of corrosion, “there is not a sufficient basis to conclude that tightening tariff specifications for carbon dioxide and oxygen in the manner proposed by Northern will provide a sufficient benefit to Northern’s system to justify the potential costs of accepting Northern’s proposal. *Northern*, 108 FERC ¶ 61,083 at P 30. Northern itself admits the

“proposed limit of 1% carbon dioxide is higher than Northern considers ideal.” *See* Northern Application at p. 11. Furthermore, Northern’s proposed limit is based on the premise that carbon dioxide partial pressure levels should be limited to 10 psi. Northern’s evidence for the 10 psi level comes from an “experimental investigation.” *See* Northern Application at p. 7. One experimental investigation does not provide sufficient scientific basis to prove the suggested 1% limit will result in a sufficient benefit to justify the potential costs of accepting Northern’s proposal.

Northern states that the large costs associated with corrosion could be reduced or eliminated if carbon dioxide levels were maintained at the historic levels of 2002. *See* Northern Application at p. 9. However, Northern never quantifies the historic levels; thus, it is impossible to discern whether the historic levels can be achieved by the proposed 1% limit. Furthermore, Northern does not provide any analysis as to how or why the historic levels of 2002 would reduce or eliminate corrosion costs. Northern has simply failed to produce the evidence the Commission has demanded as necessary to justify accepting Northern’s proposal.

Third, Northern has not shown that lower cost means of addressing corrosion concerns, which would have less adverse impact on the development of new supplies, do not exist. This third point is especially significant. While Northern has provided some anecdotal evidence that pigging and other water removal techniques employed by Northern are unable to remove sufficient water to prevent corrosion, Northern’s filing is utterly devoid of evidence that Northern’s storage-field corrosion concerns cannot be addressed by cost-effective means such as installing production tubing strings in its unprotected storage wells and replacing or repairing older production tubing as it reaches the end of its useful life.

Equally significant is Northern’s complete failure to evaluate the cost of treating the comparatively small volumes of gas that would be injected into Northern’s storage fields during

the April-October injection season as compared to the far greater costs producers and other shippers would incur if required to treat the far larger volumes of gas entering upstream pipelines with year-round 2% CO₂ standards. As the Commission previously observed, “Even if Northern is correct that the primary cause of corrosion is carbon dioxide found in the producers’ gas, there may be far more cost effective ways of addressing corrosion than requiring producers to install gas treatment plants to reduce the oxygen and carbon dioxide levels in their gas.” *Northern*, 108 FERC ¶ 61,083 at P 32. It would indeed be “economically wasteful” to require that enormous sums be spent on gas treatment facilities on upstream pipeline receipt points and natural gas supply facilities far removed from Northern’s system when “more modest solutions.” In this case that means installing tubing liners to prevent down hole corrosion in Northern’s storage fields and/or operating an economically sized amine facility immediately upstream from Northern’s storage fields to protect the lines in the storage field after water-saturated gas is withdrawn from storage. *Id.*

In *Northern*, the Commission also expressed broader policy concerns that are likewise applicable to Northern’s proposals in this docket. Specifically, the Commission recognized its statutory obligation to ensure consumers access to adequate supplies of natural gas at reasonable prices. *Northern*, 108 FERC ¶ 61,083 at P 24. Consistent with that obligation, the Commission concluded that it “must ensure that proposals that are intended to address system integrity do not unnecessarily discourage new sources of supply or impose unreasonable costs on shippers and consumers.” *Id.* In this regard, the Commission specifically recognized that “Rocky Mountain gas, despite its higher carbon dioxide content, is a vital source for mid-American markets.” *Id.* Northern’s proposal could jeopardize Northern’s customers’ ability to access these supplies. Thus, the Commission recognized that “acceptance of Northern’s proposal could have a balkanizing effect on the mid-continental gas market” because Northern’s proposed 1% CO₂

standard is inconsistent with that of the majority of interstate pipelines, including those interconnected with Northern. *Northern*, 108 FERC ¶ 61,083 at P 34. As was the case with Northern’s previously rejected proposal, Northern’s current proposal raises the possibility that interconnecting upstream pipelines would be forced to adopt an equally stringent CO₂ standard – a standard that is more restrictive than the industry standard – in order to assure their ability to redeliver gas into the Northern system.² *Id.* Such a result would conflict with and impair attainment of the Commission’s policy of fostering a national energy market, and would further hinder development of Rocky Mountain gas supplies. As the Commission concluded in 2004, and it remains true today, such a result would be “contrary to the public interest.” *Id.*

The WPA recognize that the establishment of new gas quality standards is very much a balancing test. But, “in light of the potential costs of its proposal, Northern needs to provide more concrete information than it has to date.” *Northern*, 108 FERC ¶ 61,083 at P 28. As in Docket No. RP04-155-000, Northern has not “adequately considered alternatives to its proposal that might better balance the need to control corrosion with the goal of providing access to adequate gas supplies at reasonable prices.” *Northern*, 108 FERC ¶ 61,083 at P 31.

On at least three occasions in its prior Order rejecting Northern’s proposed 1% CO₂ standard, *Northern*, 108 FERC ¶ 61,083 at P 24, 33 and 34, the Commission specifically set forth its concern that the 1% CO₂ standard proposed by Northern at that time could “impede the flow of Rocky Mountain gas to the market,” *id.* at P 33, a result the Commission described as “contrary to the public interest.” *Id.* at P 34. With this fact in mind, Northern’s proposal to apply the reduced CO₂ standard to receipt points downstream from its Cunningham and Lyons storage fields is particularly problematic. Specifically, Trailblazer currently delivers gas into

² The validity of this concern is underscored by Northern’s own reliance on the Commission’s recent approval of a 1.25% CO₂ standard for another pipeline, *Columbia Gas Transmission*, 118 FERC ¶ 61,221 (2007), even though the *Columbia* decision rested on factual grounds unique to Columbia and far different from those of Northern’s system.

Northern at an interconnect in Gage, Nebraska, and Rockies Express Pipeline currently under construction has a major delivery point certificated by the Commission for deliveries into Northern in Gage, Nebraska. Both pipelines are major transporters of Rocky Mountain gas supplies to mid-continent markets. While these receipt points are admittedly upstream from Northern's Redfield storage field in Iowa, the balancing test enunciated by the Commission in *Northern* demands that Northern evaluate the cost-effectiveness of different remedies for segments of its system downstream from its Kansas storage fields, but upstream from the Redfield storage field. The same balancing test seriously calls into question application of a reduced CO₂ standard for receipt points downstream from Redfield, including Northern's interconnects in Hancock County, Iowa, with Northern Border.

There is simply no storage-field-based justification for imposing a reduced CO₂ standard to receipt points downstream from all Northern's storage fields. The fact that Northern's proposed reduced CO₂ specification would apply to the Northern receipt points from Northern Border, downstream from all Northern's storage fields allegedly affected by CO₂ corrosion due to the presence of uncontrolled water in Northern's storage wells, demonstrates the ill-conceived character of Northern's proposal.

The fact that Northern has not proposed a geographic limit to its proposal to reduce its maximum CO₂ standard belies Northern's true motive: a motive that is also evidenced by Northern's emphasis on the allegedly increasing cost of controlling corrosion in Northern's storage fields.

It is abundantly clear that Northern proposes to impose a new CO₂ specification, lower than the 2% industry standard recognized by the Commission, in order to save Northern money in connection with the operation of Northern's peak-shaving LNG storage facilities at Garner and Wrenshall. *See* Northern Application at 10. In addition, Northern desires to shift the cost-

burden of managing Northern's storage fields from itself to producer-suppliers or shippers on the Northern System and upstream pipelines. Northern desires to do so because it is unwilling to file a Section 4 rate case to recover its allegedly increased costs, preferring instead to charge its existing rates while shifting a substantial cost burden, included in the cost-of-service on which those rates were based, to third parties. The Commission should not allow itself to become complicit in Northern's scheme.

With respect to the changes proposed by Northern to its other gas quality specifications, the WPA believes the analytical framework set out in *Northern* is equally applicable. Under that analysis, Northern's other proposed revisions to its gas quality specifications must also be rejected as unsupported, unjust and unreasonable.

VI. REQUEST FOR HEARING OR TECHNICAL CONFERENCE

In view of the substantial questions raised by Northern's proposals, including whether Northern has satisfied the standards the Commission set forth in *Northern* for evaluation of any future proposals by Northern to modify its gas quality specifications, the WPA requests a hearing at which the WPA may conduct discovery, cross-examine Northern's witnesses and present testimony and evidence in opposition to Northern's proposals. In the alternative, the WPA request the Commission to convene a Technical Conference at which the evidence underlying Northern's proposals may be examined.

VII. CONCLUSION

The WPA respectfully requests the Commission to grant the WPA's Motion to Intervene and designate the WPA as a party to this proceeding with all the rights attendant thereto. The WPA requests the Commission to convene a formal hearing, or in the alternative, a Technical Conference, at which the justness and reasonableness of Northern's proposals may be explored. Finally, the WPA requests the Commission to reject Northern's proposed revisions to its gas

quality specifications, particularly the proposed reduction in Northern's maximum CO₂ standard, as unsubstantiated and unjust and unreasonable.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in these proceedings.

Dated at Washington, D.C., this 14th day of May 2007.

Nancilee Holland

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