

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Joseph T. Kelliher, Chairman;  
Nora Mead Brownell, and Suedeen G. Kelly.

Natural Gas Supply Association

Docket No. RM06-17-000

ORDER DENYING PETITION FOR RULEMAKING

(Issued June 15, 2006)

**Introduction**

1. On May 16, 2005, the Natural Gas Supply Association (NGSA) filed a petition for rulemaking seeking a Commission notice of proposed rulemaking (NOPR) to establish natural gas quality and interchangeability standards. NGSA's petition followed on the process begun over a year before by the Natural Gas Council (NGC)<sup>1</sup> to address these issues in a comprehensive manner. NGC's efforts were augmented by representatives of other industry segments, and over the year leading up to NGSA's petition, this group

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<sup>1</sup> The Natural Gas Council is an organization made up of the representatives of the trade associations of the different sectors of the natural gas industry, such as the producers, pipelines, and local distribution companies.

(the NGC+ group) developed consensus documents<sup>2</sup> addressing natural gas quality and interchangeability.<sup>3</sup>

2. The NGC+ filed its reports with the Commission on February 28, 2006. The Commission solicited comments on the consensus documents and convened a May 17, 2005 technical conference to provide an opportunity for interested persons to provide comment on the NGC+ consensus documents. The day before the May 17, 2005 technical conference, NGSA filed its petition for rulemaking.

3. In view of the relationship between the NGC+ consensus documents' interim proposals for natural gas and interchangeability standards and the rulemaking proposal in the NGSA petition, the Commission provided for an additional round of comment. In addition to soliciting comment on the substance of the NGSA petition and the NGC+ interim guidelines, the Commission specifically sought comment on whether the Commission should take action to address natural gas quality and interchangeability issues through a notice and comment rulemaking proceeding or by a generic statement of policy. Appendix A to this order is a summary of the comments received in response to

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<sup>2</sup> The NGC+ developed two consensus documents: Natural Gas Interchangeability and Non-Combustion End Use (the Interchangeability Report) and Liquid Hydrocarbon Drop Out in Natural Gas Infrastructure (the HDP Report).

<sup>3</sup> As used in the Interchangeability Report, "interchangeability" is the ability to substitute one gaseous fuel for another in a combustion application without materially changing operational safety, efficiency, performance or materially increasing air pollutant emissions.

the Commission's request for comments. The Policy Statement that is being issued contemporaneously in Docket No. PL04-3-000 provides a fuller technical and procedural background on the Commission's deliberations on gas quality and interchangeability standards.

### **The NGSA Proposal**

4. NGSA's petition requests that the Commission: establish a minimum "safe harbor"<sup>4</sup> national CHDP limit of 15 degrees Fahrenheit;<sup>5</sup> require pipelines to adopt interchangeability standards of a 1,400 Wobbe Index number, with a 4 percent inert gas limit;<sup>6</sup> and, require pipelines to implement tariff language implementing a non-discriminatory safe harbor mechanism establishing the use of aggregation, blending and

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<sup>4</sup> A "safe harbor" standard is one that remains fixed and ensures a producer that its gas will be accepted for transportation by the pipeline absent extraordinary circumstances.

<sup>5</sup> As it is transported and distributed, unprocessed natural gas may experience changes in temperature and pressure, which cause heavy hydrocarbons in the gas stream to assume a liquid form. When this happens, pipelines and other downstream equipment may experience inefficient operations and unsafe conditions. This problem is known as hydrocarbon liquid dropout, and the potential for this problem to occur can be measured in terms of cricondenthem hydrocarbon dewpoint (CHDP). Because CHDP varies with temperature and pressure, CHDP can vary daily, presenting producers with significant commercial uncertainty.

<sup>6</sup> Several indices have been developed to characterize the interchangeability of different natural gases. The Wobbe Index is one widely accepted measure of interchangeability.

pairing.<sup>7</sup> NGSAs CHDP proposal would apply at pipeline delivery points, rather than at receipt points where gas is first introduced into the pipeline grid. NGSAs also proposes a complaint process for dealing with complaints about gas quality and interchangeability under which complainants must demonstrate four criteria: a problem on the complainant's system has occurred and the problem was caused by the CHDP or interchangeability provisions of the pipeline's tariff; the geographical scope or boundary of the problem; the technically feasible options that would allow the pipeline to mitigate or remediate the CHDP/interchangeability-related problem; and the costs associated with such mitigation. In its petition for rulemaking, NGSAs proposed regulatory text to implement its proposal.

5. Commenters addressing the NGSAs petition and the Commission's question concerning regulatory process provided little support for the NGSAs petition. Although the proposal drew support from the IPAA and the PGC, commenters from each of the industry sectors opposed NGSAs proposal, for many diverse reasons. However, there were a few common themes among the comments opposing the NGSAs petition. For example, some commenters oppose nationwide prescriptive standards, while others seek Commission action to adopt nationwide specifications through a NOPR, but without any common agreement as to what those prescriptive standards should be.

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<sup>7</sup> The NGSAs petition defines "pairing" as "the contractual 'pairing' of natural gas volumes of differing qualities for the purpose of blending to achieve a desired quality." NGSAs petition at n.2.

6. For example, IPAMS and Appalachian Producers, representing small producers, oppose nationwide standards. INGAA, representing interstate pipelines, opposes any rule, arguing that there is no need for any generic policy, or at most that a policy statement would suffice. INGAA supports a presumptive 15 degree CHDP safe harbor, but it would apply this standard to pipeline receipt points rather than at delivery points. AGA and APGA, representing local distribution companies (LDCs), are concerned with the substantial differences they see between NGSA's proposal and the interim recommendations of the NGC+ reports, a concern shared by many of the other commenters. Both AGA and APGA oppose a uniform nationwide 15 degree F CHDP safe harbor. With respect to a CHDP level, there was no consensus on what an appropriate level should be, and comments ran the gamut from opposing any CHDP level to comments seeking a level much lower than NGSA's proposed 15 degree F CHDP safe harbor.<sup>8</sup>

7. Similarly on interchangeability, there was no consensus on an appropriate Wobbe Index standard, but many commenters complained that the NGSA Wobbe proposal was

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<sup>8</sup> See, e.g., Aux Sable comments at 6 (would not allow a CHDP lower than 15 degrees F); Gulf South Pipeline at 5-8 (hydrocarbon drop out is not an issue on this pipeline system and thus no CHDP level is necessary); KeySpan at 2-3 (NGSA's proposed CHDP safe harbor would cause liquid drop out in its service territory); MichCon at 5 (consistent with KeySpan, saying that the NGSA proposed safe harbor would be "overly lenient"); NiSource at 5-6 (proposed safe harbor should be flexible enough to allow for lower limits if drop out occurs); SCANA Companies at 18-21 (no nationwide CHDP is appropriate); and Wisconsin Distributors Group June 9 comments at 5 ("For example, much of Wisconsin historically received high quality Canadian gas with a CHDP of 30 degrees below zero").

deficient because it did not use local historic average gas quality or test gas as a basis for establishing the Wobbe Index level. For example, GAMA, representing appliance manufacturers, opposes NGSAs proposal because it does not ensure that historical or local gas supplies will be taken into account in setting national standards for interchangeability.<sup>9</sup> In addition, a number of commenters expressed concern that the NGSAs proposal eliminated an important feature of the report's interim guidelines: the range of plus and minus four percent of the Wobbe number.<sup>10</sup> For example, EEI and EPSA, representing gas-fired electric generator interests, express particular concern about the impact of NGSAs proposed interchangeability Wobbe level on the new generation of gas-fired turbines. However, they support a NOPR rather than a policy statement.<sup>11</sup>

### **Discussion**

8. The Commission has evaluated the substantial comments received in this docket, including comments on the technical conferences, the reports and the NGSAs Petition. On balance, the Commission finds that adoption of a prescriptive rule is not appropriate at

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<sup>9</sup> GAMA at 1 (lack of criteria specific to local gas supply "is a critical flaw.")

<sup>10</sup> See, e.g., EEI at 10 ("Including a tolerance band that limits the change in natural gas composition is a necessary criteria (sic) for protecting combustion turbines."); Florida Power and Light Appendix at 2 ("NGSAs suggested 1,400 maximum Wobbe Index limit has not been proven safe for the generation market, especially in the absence of a Wobbe Index variation range limit based on local historical average gas, and could result in reliability problems or a generator's failure to meet environmental compliance requirements."); and Siemens Westinghouse at 2 (citing the difficulties posed by Wobbe Index level variations beyond a range of plus and minus four percent of the Wobbe Index number).

<sup>11</sup> EPSA at 1 and EEI at 2-4.

this time. Rather, the Commission has decided that the best approach at the present time is to proceed case-by-case, with the Commission's action in dealing with gas quality and interchangeability issues informed by a statement of policy on these issues. In an order issuing contemporaneously, the Commission is issuing a Policy Statement on the Adequacy of Provisions Governing Natural Gas Quality and interchangeability in Interstate Natural Gas Pipeline Tariffs, in Docket No. PL04-3-000. The Commission believes that every natural gas company subject to the Commission's jurisdiction should include in its tariffs, specific terms and conditions of service that address gas quality and interchangeability issues. In essence, pipelines should adopt gas quality and interchangeability standards in their tariffs that are modeled on the NGC+ interim guidelines or explain how their tariff provisions differ.

9. For these reasons, the Commission will deny NGSA's petition to initiate a rulemaking on gas quality and interchangeability, finding that generic prescriptive national standards are not appropriate at this time. The Commission bases this determination on three factors.

10. First, gas quality and interchangeability issues appear to arise under discrete circumstances, and there appears to be no evidence in the record of these proceedings that all pipelines are experiencing a problem with liquid hydrocarbon drop out.<sup>12</sup> Instead, gas quality and interchangeability concerns, when they do arise, tend to occur on specific

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<sup>12</sup> See, e.g., comments of INGAA at 2, 5, and El Paso comments at 5.

pipelines, at specific geographic locations and under discrete circumstances.

Additionally, the significant data gaps identified in the reports and discussed by many of the commenters support the view that there simply is not a sufficient factual basis or scientific knowledge upon which to base nationwide prescriptive standards for gas quality and interchangeability at this time. As a result, gas quality and interchangeability issues do not appear amenable to broad generic prescriptive approaches, such as NGSA proposes.<sup>13</sup> Rather, a case-by-case approach would allow differences among pipelines and geographic areas to be taken into account.

11. Second, NGSA has not supported its specific proposed nationwide standards. For example, many of the commenters have pointed out significant differences between NGSA's proposal and the NGC+ reports' interim recommendations.<sup>14</sup> Among the most important of the commenters' concerns, in the Commission's view, is the difference between NGSA's proposed interchangeability specifications and those agreed to in the consensus NGC+ interim guidelines, as illustrated by NGSA's proposed 1,400 maximum

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<sup>13</sup> See, e.g., comments of IPAMS at 1 ("A single and inflexible National Gas Quality Standard imposed on the interstate pipelines in the Western U.S. would be an attempt to provide a solution to a non-existent problem, at least one that is not evident in this part of the country"). See also Southeastern End Users Group at 9 ("The simplicity of a one-size-fits-all approach to adopting interchangeability specifications may seem attractive to the Commission, but the appeal is superficial and cannot hide the diversity and complexity of the circumstances that must be considered in arriving at optimum specifications on different pipeline systems").

<sup>14</sup> See, e.g., AGA at 2-7; APGA at 6-12; Appalachian Producers at 1; Consolidated Edison/Orange & Rockland at 3, n.9; EEI at 12-15; FP&L at 1-3, 5-6; GAMA at 2-3; INGAA at 23-26; KeySpan at 1-4; PG&E at 4-8; SCANA at 3; and WDG at 2-5.



Wobbe Index limit, without the plus or minus 4 percent variation range in the NGC+ reports' interim recommendations. Generic application of NGSAs' proposed interchangeability specification would appear to require potentially significant and industry-wide changes from the historic gas quality experienced in different regions.<sup>15</sup> However, NGSAs have provided no basis for imposing its proposed interchangeability limit nationwide. Thus, the Commission is not persuaded that NGSAs' proposal, in the face of substantial opposition from members of each of the industry's sectors, represents a reasonable basis for nationwide standards.

12. Third, NGSAs' proposed rule would require interstate pipelines to make a limited section 4 filing to implement mandatory nationwide gas quality and interchangeability specifications.<sup>16</sup> Even if the Commission agreed with the NGSAs' proposed end result, a section 5 determination would be required to achieve it. The Commission is not persuaded that such action is necessary or appropriate at this time. For these reasons, the Commission will deny NGSAs' petition for rulemaking and will proceed to establish a general policy on natural gas quality and interchangeability through a policy statement.

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<sup>15</sup> Contrast NGSAs' proposed 1,400 Wobbe Index, with the range of Wobbe Index experienced in different states in 2002-2003. Figure A.12 of the NGC+ interchangeability paper (Appendix A) shows that pipeline gas delivered to 5 of 34 states was at a Wobbe Index at or above 1,350, and four states experienced Wobbe Index numbers below 1,300.

<sup>16</sup> See, NGSAs' petition, Appendix A, proposed regulations at (A)(4) and (B)(2).

The Commission orders:

The Commission denies the Petition for Rulemaking filed by NGSA, as discussed in the body of the order.

By the Commission.

( S E A L )

Magalie R. Salas,  
Secretary.

## APPENDIX A

**Summary of Comments****A. Natural Gas Producers**

1. NGSA urges the Commission to move quickly to initiate a rulemaking to adopt its proposals. NGSA also would establish a presumption of interchangeability (with historical gas supplies) for all gas that meets the interchangeability specifications in the NGSA rulemaking proposal. In addition, NGSA does not support efforts by local distribution companies (LDCs) to require pipelines to include merchantability clauses<sup>17</sup> in their tariffs.

2. Among independent producers, the Independent Petroleum Association of America (IPAA) supports the NGSA proposal for a NOPR, including the CHDP safe harbor and the interchangeability levels. In addition, IPAA advocates a de minimis exemption for production from small wells, where such exceptions will not affect pipeline operations. Devon Energy, a small producer and processor, supports the NGSA petition and supports the de minimis exemption for small volumes, so long as the quality of delivered gas remains within the tariff limits.<sup>18</sup>

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<sup>17</sup> Several LDC commenters, including the American Gas Association (AGA), urge the Commission to require pipelines to include merchantability provisions in their tariffs. The issue of merchantability is discussed in the context of LDC comments beginning at P 37.

<sup>18</sup> Devon at 4.

3. The Independent Petroleum Association of Mountain States (IPAMS), an association of small producers in the Rocky Mountains, opposes any rigid national standard for gas quality, citing the different needs of customers in Salt Lake City and Denver, where its members' gas is delivered. IPAMS also supports a small producer de minimis exemption. However, it does not address the NGSAs proposal directly. The Appalachian Producers oppose the NGSAs proposal and assert that the presumption of interchangeability, for example, "could easily be transformed into a requirement that natural gas must meet those standards . . . changing the presumptive specifications into prescriptive ones."<sup>19</sup>

4. Finally, the Producer Coalition<sup>20</sup> supports adoption of natural gas quality and interchangeability standards through a formal rulemaking proceeding rather than through a policy statement. The Producer Coalition asserts that much of the controversy in setting gas quality standards "would be eliminated if the Commission, by rule or policy statement, would (i) establish a uniform method for determining CHDP limits for interstate pipelines; and (ii) determine who pays – producers or downstream customers –

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<sup>19</sup> Appalachian Producers comments at 2.

<sup>20</sup> The Producer Coalition is an ad hoc group of natural gas producers consisting of Devon, Dominion E&P, Forest Oil, Houston Exploration, Kerr-McGee, Newfield Exploration, Spinnaker Exploration and TOTAL E&P.

for conditioning or handling gas to accommodate the downstream temperature and pressure cuts between the interstate pipeline grid and the gas burner tip.”<sup>21</sup>

**B. LNG Operators**

5. Four LNG facility operator/developer companies filed comments on the NGSA proposal. Both Shell and Sempra urge the Commission to move quickly to adopt standards in order to maintain momentum from the NGC+ efforts. Shell favors a Commission policy statement, while Sempra supports action via a NOPR, along the lines advocated by NGSA. Both support the interchangeability interim guidelines in the Report instead of the NGSA proposal, because NGSA does not adopt the  $\pm 4\%$  range in the Report or the 1,110 Btu limit. In addition, Sempra opposes a mandate for pipeline blending, aggregation and other operational techniques for dealing with non-standard gas. Both favor requiring pipelines to adopt gas quality and interchangeability standards in their tariffs. Suez Energy North America (Suez) supports a rulemaking based on the proposals in the Reports, and it asserts that the Commission should “craft rules that will encourage some degree of standardization while also leaving distinct pipeline service territory issues for determination on each pipeline system.”<sup>22</sup>

6. The issue of federal – state cooperation in standard-setting is the focus of comments by BHP Billiton LNG International (BHP Billiton), an Australian energy

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<sup>21</sup> Producer Coalition at 6.

<sup>22</sup> Suez at 5.

company that plans to build a floating storage and regasification unit for LNG imports offshore California to bring gas into California. BHP Billiton opposes a proposal pending before the California Public Utilities Commission (CPUC)<sup>23</sup> in the CPUC's ongoing proceeding examining gas quality issues. In that proceeding, a California utility has proposed that LNG suppliers be subject not only to the quality specifications in utility tariffs but also to the quality specifications of any other federal, state or local agency having "subject matter" jurisdiction over natural gas quality. BHP states that gas quality and interchangeability "should not be subject to the whim or caprice of governmental agencies that do not have direct regulatory authority over utilities."<sup>24</sup>

### C. Gas Processors

7. The Selected Processors<sup>25</sup> support a NOPR that considers three issues: uniform CHDP standards across interconnecting pipelines; CHDP specifications in pipeline tariffs; and fair and non-discriminatory application of the CHDP standards for all gas supplies. The Selected Processors would exempt interstate pipelines that do not directly serve an end-use market from the CHDP standards. It believes that the NGSA proposal is "vague," and may not resolve the need for uniform CHDP standards across interconnecting pipelines, long-term certainty through clear CHDP standards in pipeline

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<sup>23</sup> CPUC Docket No. 04-01-025.

<sup>24</sup> BHP Billiton at 4.

<sup>25</sup> The Selected Processors consist of Enterprise, Williams Midstream, Dynegy Midstream and Duke Energy Field Services.

tariffs and the fair and non-discriminatory application of gas quality standards for all gas supplies.<sup>26</sup> The Selected Processors advocate a formal rulemaking proceeding and mandatory measures for pipeline blending or pairing of non-compliant gas. They are concerned that discretionary blending and pairing by pipelines pose the potential for discrimination.

8. Aux Sable Liquid Products (Aux Sable), which operates a gas processing plant at the terminus of the Alliance Pipeline near Chicago, Illinois, supports the adoption of gas quality and interchangeability standards through a rulemaking proceeding, but it disagrees with the detailed regulatory text contained in the NGSAs proposal.

Nevertheless, Aux Sable supports the Report recommendations, including a CHDP safe harbor,<sup>27</sup> and the establishment of the Wobbe Index as the basic means of determining interchangeability.

9. In an October 27, 2005 letter to the Chairman, the Gas Processors Association (GPA) encourages swift resolution of the issues involved in setting gas quality specifications to ease uncertainty in the industry with respect to the outcome of these proceedings. Citing the loss of infrastructure that occurred in the Gulf following last year's hurricanes, GPA states that regulatory uncertainty adversely affects decisions on

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<sup>26</sup> Selected Processors at 1.

<sup>27</sup> While Aux Sable states that it supports the "minimum safe harbor" CDHP method of controlling liquid drop out, the Report itself does not include a "safe harbor" recommendation.

new investment to rebuild damaged infrastructure. “The gas processing industry desperately needs to know that fair, consistent application of gas quality specifications will be applied for the long-term.”<sup>28</sup>

#### **D. Interstate Pipelines**

10. The Interstate Natural Gas Association of America (INGAA) opposes NGSAA’s NOPR proposal, stating that gas quality and interchangeability issues are not a nationwide problem. Rather, problems with gas quality and interchangeability can be addressed on a pipeline-specific basis as problems arise.<sup>29</sup> However, if the Commission is going to address these issues in a generic proceeding, INGAA believes it should do so through a policy statement. It supports a presumptive 15 degree CHDP safe harbor but wants pipelines to have the flexibility to accept gas at receipt points at different CHDP levels (higher or lower than the NGSAA proposal). INGAA would apply the CHDP

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<sup>28</sup> Letter from Mark F. Sutton, Executive Director of GPA to Chairman Kelliher and officials at the Energy Information Administration and the Minerals Management Service, at 2 (October 27, 2005).

<sup>29</sup> In this regard, the Commission notes the “Joint Statement of the American Gas Association and the Interstate Natural Gas Association of America,” filed on June 2, 2006, which outlines their agreement on developing gas quality and interchangeability specifications on a pipeline-by-pipeline basis, where needed, within the next year. APGA filed a response on June 8, 2006, generally agreeing with the process but opining that the parties should be able to complete their negotiations within six months. Subsequent comments on the joint statement were filed by NGSAA (on June 12) urging the Commission to establish a policy for developing natural gas quality and interchangeability standards, and by Washington Gas Light (June 13), who urged the Commission to recognize the infrastructure impacts of changes in supply compositions in addressing interchangeability issues.



standards at pipeline receipt points rather than at delivery points. The 1,400 Wobbe Index level standard proposed by NGSA is missing critical technical parameters (heating value, use of historical average gas supply, and the plus or minus 4% Wobbe Index range). INGAA would evaluate the need for a de minimis exemption for small producers on a pipeline-by-pipeline basis. Finally, INGAA opposes a requirement for merchantability provisions, saying that these could be used to “trump” pipeline gas quality and interchangeability tariff provisions.

11. Several pipeline companies filed individual comments on the Reports and the NGSA proposal. Pipeline commenters oppose merchantability requirements, and, to the extent any procedural tool is favored, the pipeline commenters oppose a generic rulemaking along the lines proposed by NGSA. Instead, most support the development of a policy statement governing gas quality and interchangeability issues. Duke Energy Gas Transmission takes another view, arguing that these issues should be handled on a complaint-driven basis and not through generic national standards. On providing an exemption for small producers advocated by some producers, ANR, Southern Natural and El Paso all assert that they have such exceptions in their gas quality tariff provisions.

12. Other pipelines point to specific constraints or supply issues on their systems that would make a generic approach particularly difficult. For example, Gulf South Pipeline states that, due to its reticulated nature, gas cannot be pathed on its system, nor can gas

molecules be traced. This would make it very difficult for Gulf South to apply a single CHDP minimum standard to its entire system.<sup>30</sup>

13. Questar and Williston Basin both cite their ability to transport high HDP gas or coal bed methane as being essential to meeting the requirements of downstream markets. In Questar's case, some of the gas it treats is delivered to its affiliated LDC. Questar has made significant investment in liquid handling facilities and processing plants in order to provide transportation service for gas coming from growing supply sources in the Green River, Uinta and Piceance basins. Although the question of who should pay for these facilities is the subject of an ongoing dispute with the Utah Division of Public Utilities, Questar asserts that its ability to transport high HDP gas on its system would be adversely affected by the CHDP safe harbor proposed in the NGSA petition.<sup>31</sup> Similarly, Williston Basin states that the gas it has transported on its system historically exceeds the levels in both the Reports and the NGSA petition. In addition, Williston Basin states that applying an inflexible gas quality standard at delivery points would impose a tremendous hardship on the pipeline, which has 53 receipt points but over 3,100 delivery points.<sup>32</sup>

#### **E. LDCs**

14. AGA and the American Public Gas Association (APGA), the major LDC trade associations, oppose the NGSA petition. AGA's original position on the NGSA petition

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<sup>30</sup> Gulf South at 11-12.

<sup>31</sup> Questar at 3-4.

<sup>32</sup> Williston Basin at 4.

supported a NOPR mandating pipeline tariff provisions on gas quality and interchangeability. AGA pointed to many flaws in the NGSA proposal, most of which stem from the differences between the NGSA proposal and the Reports' proposed interim guidelines. AGA believes that the Commission should allow pipelines to require gas to be processed, and it believes the CHDP should be set at the receipt points on the pipeline system instead of at delivery points as proposed by NGSA.

15. AGA proposed an alternative to the NGSA rulemaking proposal, outlining its own rulemaking procedure: pipelines would amend their tariffs to adopt a CHDP level or safe harbor CHDP developed through a pipeline-by-pipeline consensus process initiated by the Commission's NOPR and modeled on the collaborative process that led to the development of the Report. AGA would rely on the Interchangeability Report's interim guidelines implemented in a Commission-mandated consensus process in setting interchangeability standards.<sup>33</sup> Since filing its comments on the NGSA proposal, AGA has collaborated with INGAA to develop an agreement on how industry stakeholders could negotiate gas quality and interchangeability specifications on a pipeline-by-pipeline basis, where needed, within the next year. This proposal, styled as a "joint statement" was filed on June 2, 2006.<sup>34</sup>

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<sup>33</sup> AGA at 32-36.

<sup>34</sup> The responses of APGA, NGSA and Washington Gas Light are summarized *supra*, n.29.

16. Both AGA and APGA support requiring pipelines to include a merchantability provision in their tariffs to protect pipeline customers from the effects of gas that is not in compliance with tariff standards gas. This will provide pipelines flexibility to accept gas that is not in compliance with the tariff but through blending or other means is “merchantable” when delivered to LDCs and other end-use customers. KeySpan also strongly endorses a requirement that pipeline tariffs include a merchantability provision.

17. A significant number of LDCs filed comments on the Reports, the May 17 technical conference and the NGSAs proposal, which most LDC commenters explicitly oppose. Their comments are largely encompassed in the comments of AGA and APGA, and most LDC commenters explicitly endorsed the trade association comments. Constellation, for example, endorsed the comments of AGA and EEI. Standards based on historical gas quality and mandatory merchantability requirements in pipeline tariffs are supported by most LDCs. Most favor a rulemaking procedure, although NiSource favors a policy statement for gas quality and interchangeability standards.

18. National Fuel Gas Distribution Corporation, which has a pipeline affiliate that receives substantial quantities of Appalachian production, expresses concern about the proposal for exempting de minimis production from gas quality standards. National Fuel points out that the location along the pipeline and availability of blending are also important considerations when determining whether de minimis production volumes should be exempt from gas quality standards. “Processing requirements should be

imposed on de minimis producers as necessary, on a pipeline-by-pipeline, market-by-market basis to maintain the historical content of gas introduced into commerce and minimize liquid dropout.”<sup>35</sup>

19. SCANA opposes the NGSA petition and proposes another process for developing gas quality and interchangeability standards. Additional research would focus on developing a nationwide baseline gas quality specification, and the industry should have a 10 to 15 year transition period to accommodate a new nationwide baseline gas standard. Additional focus should also be given on providing guidance to equipment manufacturers for complying with the new nationwide baseline gas standard. SCANA asserts that pipeline tariffs should be required to contain merchantability provisions, which would supersede any CHDP level in the tariff. CHDP levels would be set on a pipeline-by-pipeline basis.

20. The Wisconsin Distributors Group<sup>36</sup> states that the NGSA’s proposed 15 degree CHDP safe harbor minimum might not work in the service territories of their members. The NGSA proposal is based on average ambient ground temperatures, and in Wisconsin, a 15 degree safe harbor might not be low enough to prevent liquid drop out. In its

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<sup>35</sup> National Fuel at 3.

<sup>36</sup> The Wisconsin Distributors Group (WDG) is an ad hoc group of LDCs serving natural gas customers in Wisconsin. For purposes of this proceeding, the Wisconsin Distributors Group comprises the following: Alliant Energy – Wisconsin Power & Light Company, City Gas Company, Madison Gas & Electric Company, Wisconsin Gas LLC and Wisconsin Electric Power Company (collectively doing business as We Energies) and Wisconsin Public Service Corporation.

comments on the Reports, the Wisconsin Distributors Group points out that much of Wisconsin is served by Canadian gas, which has a CHDP of minus 30 degrees. However, recognizing the interconnectedness of the interstate pipeline grid, more gas now is coming into Wisconsin from sources other than Canada. The onus should be on each pipeline, and its tariff should prescribe the CHDP and other gas quality criteria. Each pipeline should ensure uniformity across its system, and each tariff should include a merchantability provision.

21. The importance of interchangeability issues in the context of LNG project development was raised by several LDC commenters. AGA asserts that the Commission should require that LNG terminal developers be responsible for ensuring that their product meets standards for interchangeability and that this responsibility should be incorporated as part of the NGA section 3 or section 7 certificate processes for the review of individual applications. APGA states that the Commission should require pipelines that utilize LNG in their supply mix to develop tariff provisions for monitoring and compensating for the costs incurred by communities that are near the injection of vaporized LNG into the pipeline system. However, a couple of individual LDCs raised issues on LNG and interchangeability that were not mentioned by the trade groups. For example, Constellation states that it should not have to bear the cost of any modifications

to its LNG peak shaving facility that are necessary to accommodate elevated ethane content from LNG imported into Dominion's Cove Point LNG facility.<sup>37</sup>

22. KeySpan proposes that the Commission require a new Gas Supply Resource Report be included in each NGA section 3 and section 7 application,<sup>38</sup> a proposal endorsed by SCANA and SCANA's pipeline affiliates. This resource report would identify all gas composition changes associated with the introduction of new gas supplies from the proposed facilities and all adverse impacts on end-users associated with the change in gas quality. In addition, the report would consider whether specific mitigation measures would be required to address potential adverse impacts from the new gas stream on such facilities as LNG peak shaving facilities and dry-low-emissions (DLE) natural gas turbines.

**F. Industrial Gas Users**

23. Among industrial gas users, Process Gas Consumers (PGC), Dow Chemical and the Fertilizer Institute filed comments. PGC and Dow Chemical approached the NGSA petition from completely different perspectives. PGC endorses virtually every aspect of the proposal. It would condition its support of the 15 degree CHDP on the Commission not "grandfathering" existing pipeline CHDP standards without additional opportunity for comment, and it would subject "grandfathered" pipelines to the same complaint

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<sup>37</sup> Constellation at 3.

<sup>38</sup> KeySpan April 1 comments at 10-13.

process NGSA proposes for all other pipeline tariff standards. It also advocates a 15 to 18 month “reopener” to evaluate how the standards have worked. PGC avers that its members “are prepared to shoulder the burden” of system modifications to accommodate a 1,400 Wobbe Index level “to increase gas supplies.”<sup>39</sup>

24. By contrast, Dow Chemical urges the Commission to be cautious in moving forward on the NGSA proposal. It points to the severe economic consequences for petrochemical plants when producers bypass processing their gas in order to “preserve their entrained liquefiabiles for sale to downstream gas markets,” thereby depriving petrochemical plants of critical feedstocks, such as ethane and propane.<sup>40</sup> The Fertilizer Institute takes no position on the NGSA proposal but states that the determination as to where on the pipeline system gas quality standards are imposed, whether at pipeline delivery points, as advocated by NGSA or at pipeline receipt points, as advocated by INGAA, will have significant consequences for members of the Fertilizer Institute. Many members of the Fertilizer Institute are directly connected to interstate pipelines upstream of LDC city gates. If gas quality standards are imposed on gas at the LDC city gate, these customers would not be protected.

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<sup>39</sup> PGC at 7.

<sup>40</sup> Dow at 3.



**G. Electric Utilities, Generators and Power Marketers**

25. The Edison Electric Institute (EEI) and the Electric Power Supply Association (EPSA) filed extensive comments in support of a NOPR process. However, both express fundamental disagreement with NGSAs petition and proposals for CHDP and interchangeability standards. Both disagree with the 15 degree CHDP minimum and the 1,400 Wobbe Index level for reasons expressed by other commenters. EPSA observes that NGSAs proposed complaint process is tilted against those filing complaints and states that the Commission already has in place regulations for filing complaints under section 5 of the NGA.

26. EEI supports the establishment of natural gas quality and interchangeability standards through a Commission rulemaking, but it asserts that the NGSAs CHDP and Wobbe levels are “not workable.”<sup>41</sup> Although EEI agrees with NGSAs that a NOPR is the preferable procedural framework for setting standards, it believes that natural gas composition requirements must be based on historical deliveries, and that gas composition requirements must be set regionally or on a pipeline-by-pipeline basis and not nationally, as proposed by NGSAs. EEIs comments also included a lengthy study by Combustion Science & Engineering, “Effect of Fuel Composition on Gas Turbine Operability and Emissions.” Among its conclusions is that turbine operators have reported numerous operational difficulties attributed to changes in gas composition.

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<sup>41</sup> EEI at 3.

Because there is an inherent trade-off between NO<sub>x</sub> and combustion dynamics for the latest generation of gas turbines, when changes in gas composition lead to increases in NO<sub>x</sub> emissions, turbine operators will have to make operational changes to remain in compliance with air permits.

27. The Southeastern End Users Group, an ad hoc group of LDCs and users of gas turbines in Florida and Georgia,<sup>42</sup> opposes the NGSAs petition and endorses AGA's proposed process for developing gas quality and interchangeability standards. Of particular concern is the impact of gas quality and interchangeability parameters on operators of DLE natural gas turbines. The Southeastern End Users Group is concerned about whether DLEs can accept wide variations in gas quality and yet remain in compliance with emissions requirements without having to add expensive automatic tuning and heating controls. The Southeastern End Users Group also expresses concern about "legacy" gas equipment and asserts that any gas quality and interchangeability standards ultimately adopted must ensure that "legacy" equipment will not be adversely

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<sup>42</sup> The members of the Southeastern End Users Group include: Florida Cities – City of Tallahassee, Florida Gas Utility, Gainesville Regional Utilities, JEA, Lakeland Electric, and Orlando Utilities Commission, Florida City Gas, Florida Municipal Natural Gas Association – Cities of Chattahoochee, DeFuniak Springs, Leesburg, Madison, Perry and Sunrise, City of Clearwater Gas System, Crescent City Natural Gas, Geneva County Gas District, Lake Apopka Natural Gas District, Okaloosa Gas District, Palatka Gas Authority, Southeast Alabama Gas District, Florida Power & Light Company, Florida Public Utilities Company, Progress Energy, Peoples Gas System, a Division of Tampa Electric Company, Seminole Electric Cooperative, Inc., Southern Cities – Georgia Cities of Cartersville, Cordele, Cuthbert, Dublin, Hawkinsville, LaGrange and Tallapoosa and the Florida City of Tallahassee, Tampa Electric Company.

affected. They request that any generic policy adopted by the Commission not replace case-specific decisions, such as the ongoing AES proceeding (Docket No. RP04-249-000 et al.)<sup>43</sup>

28. Calpine and Florida Power & Light oppose the NGSA petition. Progress Energy opposes implementation of the interim guidelines in the Reports and expresses concern that the fuel constituent values in the interim guidelines on interchangeability could have an adverse effect on DLE turbines. Progress Energy also believes that EPA should be brought into the process of developing gas quality and interchangeability standards.

#### **H. Gas Equipment Manufacturers**

29. The Gas Appliance Association of America (GAMA) and Siemens Westinghouse represent consumer appliance manufacturers and turbine manufacturers, respectively. Neither supports the specific Wobbe levels advocated by NGSA, supporting instead the interim measure recommended in the report. GAMA points out that the report cited a 1992 GRI study that showed an average Wobbe Index of 1,345, and it urges the Commission to adopt the Report's interchangeability guidelines and its  $\pm 4\%$  Wobbe Index range, instead of NGSA's. GAMA also points out that the lack of a heating value standard in the NGSA proposal is another critical flaw. Other than to oppose NGSA's petition, GAMA takes no position on what procedural vehicle the Commission should employ.

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<sup>43</sup> Southeastern End Users Group at 8.

30. Siemens Westinghouse requests that several of the interchangeability criteria set forth in the Report interim guidelines be modified: (1) Siemens Westinghouse would set a limit of 2.5 percent for propanes and one percent for butanes+ (compared with the interim guideline of 1.5 percent for butanes+); (2) it requests that an additional limit be set on the rate of change in the Wobbe Index of gas delivered to no more than two percent per minute; (3) Siemens Westinghouse suggests that tariff provisions take into account changes in gas quality that affect air quality; and, (4) it asks the Commission to consider a mechanism to provide for cost recovery related to equipment failure caused by gas quality or interchangeability issues. Finally, Siemens Westinghouse states that the levels in NGSAs proposal may be “too narrow” for certain end users, such as fuel cell applications or natural gas vehicles.<sup>44</sup>

31. GE states that the heavy-duty turbines it manufactures have a gas fuel specification that defines the allowable ranges for fuel physical properties, constituents, and contaminants, but this specification “was not written with the intent of addressing continuous fuel variability within the allowable ranges.”<sup>45</sup> GE states that fuel variations of more than 5 percent from the Wobbe Index level established for the particular gas turbine may result in the need to re-tune the combustion system. Because significant or frequent variability may require constant monitoring with manual intervention (i.e.,

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<sup>44</sup> Siemens Westinghouse at 3.

<sup>45</sup> GE comments (May 12, 2005) at 1.

re-tuning), GE is working on turbine upgrade packages that allow turbines to operate with automatic combustion tuning for acoustic dynamics and emissions. This effort has been spurred in part by GE's support for LNG and the desire to develop retrofit equipment that will allow continuous operation by gas turbines over a range of Wobbe Index levels "consistent with GE expected ranges for [natural gas] and LNG for the North American Market."<sup>46</sup>

### **I. Governmental Entities**

32. The Utah Department of Public Utilities (UDPU) and the South Coast Air Quality Management District (SCAQMD) filed comments on the Reports. UDPU's focus is on the quality of gas being transported by Questar Pipeline, the measures and facilities employed by Questar to render the high HDP gas suitable for downstream customers (including its affiliated LDC), and who should pay these costs. It complains that Questar's tariff requirements are set so broadly as to accommodate transporting as much gas as possible. UDPU's solution is for pipeline tariffs to specify quality standards for gas that is delivered onto the system and to require the pipeline to ensure "a constant quality" that meets the needs of the end users. UDPU would require the pipeline to control the quality of gas entering its system.

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<sup>46</sup> Id. at 2.

33. SCAQMD characterizes the Report on interchangeability as “a good start” to understanding the issues, and it agrees that there are significant data gaps that must be investigated. In this vein, SCAQMD recommends expedited research in these areas:

- a. Emission studies of the impacts of high Btu gas on combustion equipment, particularly larger combustion and power generation sources
- b. Effects of inert gas addition on large and small equipment
- c. Regional air quality impact analysis of LNG imports
- d. Cost analysis of different mitigation measures

SCAQMD states that the natural gas quality standards that apply in its area are inadequate. They allow a heating value of up to 1,150 Btu/scf and indirectly a Wobbe Index of approximately 1,433. In addition, SCAQMD is concerned about the air quality impacts of high Btu LNG.<sup>47</sup>

**J. Pipeline/LNG Industry Service Providers**

34. EMS Pipeline Services provides a broad array of pipeline operations and maintenance services, including field measurement, pipeline integrity testing, asset management, communications, and web-based data management. EMS is the only provider of pipeline services that filed comments, which generally support the Reports’

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<sup>47</sup> SCAQMD at 3-4.

approaches on both gas quality and interchangeability. EMS asserts that the Commission should encourage the industry to develop better and more comprehensive ways of measuring gas quality and interchangeability.