

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Joseph T. Kelliher, Chairman;
Sudeen G. Kelly, Marc Spitzer,
Philip D. Moeller, and Jon Wellinghoff.

Natural Gas Pipeline Company of America

Docket Nos. RP01-503-004
RP01-503-002
RP01-503-003

ORDER ON REHEARING AND INITIAL DECISION

(Issued September 21, 2006)

1. This proceeding arises from an August 6, 2001, filing by Natural Gas Pipeline Company of America (Natural) to modify section 26.1(h) of its General Terms and Conditions (GT&C). Specifically, Natural proposed, from time to time, to post on its Internet website an upper Btu limit and/or a limit on the cricondentherm hydrocarbon dewpoint (CHDP) of gas receipts on specified segments or locations. This order addresses requests for clarification or rehearing of the Commission's September 23, 2003, Order,¹ resolving a number of issues concerning Natural's proposal, and establishing a hearing on the issue of appropriate level of a permanent CHDP safe harbor on Natural's system.² This order also addresses exceptions to the Initial Decision issued by the administrative law judge (ALJ) on December 20, 2005 (ID),³ following the hearing.

2. In the ID, the Presiding ALJ determined that Natural's proposed CHDP safe harbor of 15°F is just and reasonable under section 4 of the Natural Gas Act (NGA), and not otherwise unlawful. The parties filed briefs on and opposing exceptions. As discussed below, the Commission affirms the ID. In the September, 23, 2003, Order, the Commission determined, among other things, that the CHDP safe harbor cannot be

¹ *Natural Gas Pipeline Company of America*, 104 FERC ¶ 61,322 (2003).

² The September 23, 2003, Order stated that the purpose of the permanent safe harbor is "to provide shippers a guarantee that gas satisfying that provision will be accepted, regardless of changing conditions on the system. *Id.* at P 38.

³ *Natural*, 113 FERC ¶ 63,036 (2005).

overridden by a separate Btu limitation or changing conditions in Natural's market area. The parties filed Requests for Clarification, Reconsideration or Rehearing and Answers. As discussed below, the Commission affirms the September 23, 2003, Order.

I. Background

3. Natural gas is composed of a number of hydrocarbon compounds, of varying molecular weight. As it is transported and distributed, unprocessed natural gas may experience changes in temperature and pressure which cause the heavy hydrocarbons to condense into 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 the HDP of the gas stream in question. The HDP defines whether the natural gas stream in a pipeline consists of a single gas phase or two phases, gas and liquid.

4. HDP varies depending upon the temperature, pressure, and composition of a gas stream. Increases in temperature and pressure have opposing effects on the likelihood that the heavier hydrocarbons will condense into liquids. The higher the temperature, the less likely the heavier hydrocarbons will condense into liquids. However, the higher the pressure on the gas stream, the more likely the heavier hydrocarbons will condense into liquids. When pressure is very low, the entire gas stream will remain in a gaseous state. As the pressure increases toward more normal pipeline operating pressures, higher temperatures are necessary for the heavier hydrocarbons to remain in a gaseous state. However, once the pressure reaches a certain point, the gas phase starts to change, as the heavier hydrocarbons become liquid.

5. This means that, when the temperature sufficient to maintain the gaseous phase of a particular gas stream is plotted on a graph as a function of increasing pressure levels, a balloon-shaped curve is formed. As pressure rises from zero, the temperature necessary to maintain the gaseous state rises. However, once the pressure goes above a certain level, the temperature necessary to maintain the gaseous state starts to fall. The highest temperature on this curve is known as the CHDP of the gas stream in question. The CHDP of a particular gas stream varies depending upon the composition of the gas stream. A gas stream with a high proportion of heavier hydrocarbons will have a higher CHDP than a gas stream with a lower proportion of heavier hydrocarbons. Since processing gas removes the heavier hydrocarbons, the CHDP of a processed gas stream will generally be lower than the CHDP of an unprocessed gas stream.

6. When gas prices increase relative to gas liquids prices (referred to as upside-down economics) as they have in recent years, gas processors and owners of processing rights

may decide not to process the gas stream because the value of the hydrocarbons in a gaseous phase exceeds the market price of extracted liquid hydrocarbons.

A. Procedural History

7. Before this proceeding, section 26.1 of Natural's GT&C provided that gas delivered to Natural must be of pipeline quality and must conform to various specifications listed in sections 26.1(a) through (k). Section 26.1(f) provided that gas tendered to Natural "shall not contain any hydrocarbons which might condense to free liquids in the pipeline under normal pipeline conditions." Section 26.1(h) provided that the gas shall contain a daily, monthly, and yearly average heat content of not less than 950 Btus per cubic foot (Btu/cf). However, Natural's tariff did not contain a maximum Btu limit or HDP level.

8. During the winter of 2000-2001, gas prices increased to a level where the liquefiable hydrocarbons had a greater value to shippers as constituents of the gas stream than as extracted liquids. Therefore, many shippers ceased their usual practice of extracting the liquefiable hydrocarbons before tendering the gas to Natural. In addition, two non-affiliated gas processing plants which normally tendered processed residue gas to Natural for transportation on its Louisiana line shut down. As a result, Natural faced two problems. The first was potential liquid dropout on its own system. Natural states that it controls liquid drop out on its own system by monitoring and controlling the HDP of its gas stream. It seeks to ensure that the gas stream entering its market area at Joliet, Illinois has an HDP of no more than 25°F. However, even operating its own processing plant at Searcy, Arkansas at its full capacity through the winter of 2000-2001, Natural had difficulty keeping the HDP of its market area gas stream from exceeding the desired level.⁴

9. Second, the unprocessed gas Natural received on its Louisiana line had a Btu content well above 1,050 Btu/scf, and Natural was unable to blend that gas with sufficient lower Btu content gas to reduce the overall Btu content of the gas flowing on the Louisiana line down to 1,050 Btu/scf. Four downstream pipelines receiving gas off Natural's Louisiana Line, Columbia Gulf Transmission Company, Trunkline Gas Company, Tennessee Gas Pipeline Company and Texas Gas Transmission Corporation, reacted by imposing a 1,050 Btu/scf limit on the gas they would accept from Natural. Sabine Pipe Line Company, another downstream pipeline, posted a 1,065 Btu/scf limit on

⁴ In this instance, the temperature of 25°F refers to the cricondentherm of the HDP curve.

receipts from Natural. As a result, Natural had to refuse to accept some gas with a Btu content above 1,050 Btu/scf in order to be able to continue to make deliveries from the Louisiana line to those pipelines.

10. As a result of these problems, on August 6, 2001, Natural filed revised tariff sheets to modify section 26.1(h) of its GT&C. Specifically, Natural proposed, from time to time, as operationally necessary, to post on its Internet website “an upper Btu limit and/or a limit on the [HDP] for gas receipts on specified segments or other specified locations on its system.” The revised tariff language provided that Natural could post such limits for two purposes: (1) “to prevent hydrocarbon fallout, consistent with section 26.1,” or (2) “to assure that gas will be accepted for delivery into interconnects with interstate pipelines, intrastate pipelines, end-uses or directly connected local distribution companies.” Natural proposed to provide “as much prior notice as reasonably practicable” and to attempt to provide at least two days prior notice. Finally, Natural’s proposed tariff language stated that, if its posting included an HDP limit, it would provide current information concerning the HDP at any point of receipt into Natural’s system affected by the posting to interested parties who requested the information.

11. The Commission accepted Natural's revised tariff sheets, effective September 6, 2001.⁵ In March 2002, the Commission’s staff conducted a technical conference on Natural’s proposal.⁶ On February 27, 2003, the Commission issued an order after technical conference.⁷ The Commission approved Natural’s proposal, subject to Natural making several changes in its proposal. The Commission found that Natural’s proposal to post varying maximum HDP and/or Btu limits was reasonable, since on Natural’s system the tendency of liquefiable hydrocarbons to drop out varies from day to day, from one segment of the system to another depending on the mix of lean gas vs. rich gas tendered over each segment, and with Natural’s ability to deal with changes in the gas by making operational changes to its system. As a result, Natural needs some flexibility to deal with the threat of liquid dropout. The Commission also found that such flexibility benefits shippers by allowing Natural to accept more gas than it otherwise could if Natural had a single fixed standard that applied to all shippers.

⁵ *Natural*, 96 FERC ¶ 61,253 (2002).

⁶ *See Natural*, 98 FERC ¶ 61,099 (2002), establishing the technical conference.

⁷ *Natural*, 102 FERC ¶ 61,234 (2003).

12. To balance the flexibility provided Natural against the shippers' need for certainty as to the standards their gas must meet, the Commission required Natural to revise its proposal as follows: First, Natural would attempt to post notice of any maximum HDP or Btu limit at least ten days before the beginning of the month in which the limit would be effective, and post an explanation whenever it could not provide such notice. Second, Natural would continuously post on its Internet website Btu and/or HDP values, based on operational and engineering considerations, and accept any gas which conformed to those values. Natural would not effectuate any subsequent change to these variable Btu/HDP limits until at least 30 days after posting the initial value(s). Third, Natural would post on its website, within 24 hours after making the calculation, every receipt point HDP value it calculates along with the methodology used to derive the values, and every blended HDP and Btu value Natural calculates for a line segment of its system. Finally, the Commission required Natural to establish "a safe harbor dewpoint, *i.e.*, a minimum system wide dewpoint for the gas tendered to Natural that guarantees that any gas with a dewpoint that does not exceed the safe harbor dewpoint will be allowed to flow on Natural's system, regardless of changing conditions in Natural's own market areas, and/or what Btu and/or dewpoint limits are in place on the deliveries Natural makes to interconnecting downstream pipelines."⁸

13. On March 28, 2003, Natural filed tariff sheets revising section 26.1(h) of its GT&C to comply with the Commission's February 27, 2003, Order. Natural's compliance filing included the various tariff provisions described above, and proposed a permanent HDP safe harbor of 15°F.

14. On September 23, 2003, the Commission issued an order granting in part and denying in part Indicated Shippers' request for rehearing and clarification of the February 27, 2003, Order, accepting Natural's compliance filing, subject to conditions, and establishing a hearing.⁹ In response to Indicated Shippers' request for rehearing, the Commission clarified that, if gas complies with the permanent HDP safe harbor, it may not be rejected for Btu content or changes in the requirements of downstream pipelines. The Commission explained that the "purpose of the permanent safe harbor dewpoint is to provide an outer limit to the flexibility we have permitted Natural to vary its gas quality standards to ensure that no liquids fallout in the gas stream."¹⁰ The order accordingly required Natural to clarify its tariff to state that Natural could not override the HDP safe

⁸ *Natural*, 102 FERC ¶ 61,234 at P 43.

⁹ *Natural*, 104 FERC ¶ 61,322.

¹⁰ *Id.* at P 24.

harbor because of a separate Btu limitation or changing conditions in Natural's market area. However, the September 23, 2003, Order rejected the Indicated Shippers' contention that the Commission should not permit Natural to post varying maximum Btu limits to satisfy the gas quality standards of downstream pipelines. The Commission explained that "Natural cannot control what Btu and/or dewpoint limits a downstream pipeline sets on its receipts from Natural, but Natural must meet those restrictions in order to deliver gas nominated at those points."¹¹ Finally, the order set the issue of the appropriate level of the HDP safe harbor for hearing, finding the existing record to be inadequate to resolve the protests of Indicated Shippers and others that the permanent HDP safe harbor should be 25°F, rather than 15°F.

15. Natural and Nicor Gas, filed timely requests for clarification, reconsideration or rehearing of the September 23, 2003, Order. Peoples Gas Light and Coke Company and North Shore Gas Company (jointly Peoples) filed a timely request for clarification or in the alternative, rehearing of the September 23, 2003, Order. Process Gas Consumers Group, American Iron and Steel Institute, and International Paper Company (jointly Industrials), Indicated Shippers, and Northern Indiana Public Service Company (NIPSCO) filed requests for rehearing of the September 23, 2003, Order. Alliance Pipeline L.P. (Alliance) filed an answer to request for clarification and rehearing of the September 23, 2003, Order. Natural filed an answer opposing Alliance's answer.

16. On December 20, 2005, the ALJ issued an ID, finding that Natural's 15°F HDP safe harbor is just and reasonable.¹² A number of parties have excepted to the ID.

B. Gas Quality Policy Statement

17. Shortly after the requests for rehearing of the September 23, 2003, Order were filed, the Commission commenced an industry-wide consideration of gas interchangeability on January 15, 2004, in Docket No. PL04-3-000.¹³ On February 18,

¹¹ *Id.* at P 48.

¹² Natural submitted an offer of settlement on November 14, 2003. Natural filed a notice withdrawing the offer of settlement on February 16, 2005, which the ALJ confirmed in an order issued March 7, 2005. Natural has not made a filing to comply with the conditions in the September 23, 2003, Order.

¹³ That proceeding was initially concerned only with gas interchangeability, but was later broadened in scope to include the gas quality issue of hydrocarbon liquids dropout.

2004, the Commission held a public conference in Docket No. PL04-3-000 which included discussion of both gas quality and interchangeability issues. Following the conference the natural gas industry, under the auspices of the Natural Gas Council (NGC),¹⁴ initiated a collaborative effort to seek consensus on industry-wide standards for gas quality and interchangeability. On February 28, 2005, the NGC filed with the Commission two technical papers entitled: *Liquid Hydrocarbon Drop Out in Natural Gas Infrastructure* (HDP White Paper) and *Natural Gas Interchangeability and Non-Combustion End Use* (Interchangeability White Paper).¹⁵

18. The HDP White Paper addressed the issue of controlling hydrocarbon drop out in natural gas pipeline and distribution facilities, and other gas industry infrastructure downstream of producing areas. Its interim recommendation on gas quality identified two valid methods that pipelines might use to control hydrocarbon liquid dropout, the CHDP and C6+ GPM methodologies.¹⁶ The Interchangeability White Paper defined gas interchangeability as:

¹⁴ The NGC is an organization made up of the following trade associations of the different sectors of the natural gas industry: the Independent Petroleum Association of America (IPAA), representing independent natural gas producers; the Natural Gas Supply Association (NGSA), representing producers and marketers of natural gas; the Interstate Natural Gas Association of America (INGAA), representing interstate pipelines; and the American Gas Association (AGA) representing natural gas utilities/local distribution companies (LDCs).

¹⁵ In addition to representatives from the NGC, the NGC Plus (NGC+) group, which wrote the paper, included representatives of all affected industry sectors, including appliance and turbine manufacturers, electric utilities, gas process consumers, LNG developers, municipal utilities and gas processors.

¹⁶ The phrase “C6+ GPM” stands for hexanes and hydrocarbons with more than six carbon atoms, as measured in gallons per thousand cubic feet of natural gas. Measuring and controlling for the amount of these heavier hydrocarbons in the natural gas stream is an alternative to the CHDP method.

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.¹⁷

That report recommended interim interchangeability guidelines based on a range of plus and minus four percent of the Wobbe number¹⁸ based on either local historical average gas or an established “adjustment or target” gas for the service territory at issue. This basic guideline was subject to additional parameters limiting: the maximum Wobbe number to 1,400; the maximum heating value to 1,110 Btu/scf; maximum butanes+ to 1.5 mole percent; and maximum total inert gases to four mole percent. These interim guidelines also included a specific exception for service territories with demonstrated experience with gas supplies exceeding any of the “additional parameters.”

19. The Commission solicited written comments on the NGC+ Reports and subsequently convened a technical conference on May 17, 2005, to allow for further public comment on and discussion of the issues raised by the Reports. In addition, the Commission solicited comments on the NGSA’s May 16, 2005, petition for rulemaking.

20. On June 15, 2006, the Commission issued its Policy Statement on Provisions Governing Natural Gas Quality and Interchangeability in Interstate Pipeline Company Tariffs (*Policy Statement*).¹⁹ The Commission’s policy embodies five principles: (1) only natural gas quality and interchangeability specifications contained in a Commission-approved gas tariff can be enforced; (2) pipeline tariff provisions on gas quality and interchangeability need to be flexible to allow pipelines to balance safety and reliability concerns with the importance of maximizing supply, as well as recognizing the evolving nature of the science underlying gas quality and interchangeability specifications; (3) pipelines, their customers, and other interested parties²⁰ should develop gas quality and interchangeability specifications based on technical requirements; (4) in negotiating technically based solutions, pipelines and their customers

¹⁷ Interchangeability White Paper, (February 28, 2005; refiled March 3, 2005, and resubmitted with appendices June 30, 2005), at 2, *available at* <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10644164>.

¹⁸ The Wobbe index is a widely accepted measure of gas interchangeability, based on energy input and specific gravity.

¹⁹ 115 FERC ¶ 61,325 (2006).

²⁰ *See ANR Pipeline Co.*, 116 FERC ¶ 61,002 at P 110 (2006).

are strongly encouraged to use the NGC+ interim guidelines filed with the Commission on February 28, 2005,²¹ as a common reference point for resolving gas quality and interchangeability issues; and, (5) to the extent the parties cannot resolve disputes over gas quality and interchangeability, those disputes can be brought before the Commission to be resolved on a case-by-case basis, on a record of fact and technical review.

II. Requests for Clarification, Reconsideration or Rehearing

21. The requests for clarification or rehearing of the September 23, 2003, Order all focus on the relationship between the permanent CHDP safe harbor and any separate maximum Btu limitation Natural might post. Natural, Industrials, Nicor Gas, NIPSCO, and Peoples contend that the September 23, 2003, Order erred in stating that, if gas complies with the CHDP safe harbor, then Natural must accept the gas, even if it has a high Btu content that would violate a maximum Btu limit posted pursuant to the section 26.1(h) provision permitting Natural to post varying maximum Btu limits. Generally, they argue that, even if gas has a low CHDP and thus creates no risk of liquid drop out on Natural's system, gas with a high Btu content can cause operational and safety hazards for downstream users. For example, Natural states that end-users calibrate their facilities to operate within a certain Btu range and will not operate efficiently outside that range. In addition, electric generation and other end-use facilities may also have difficulty meeting environmental emission standards if the Btu content of the gas stream varies significantly. Industrials, Nicor Gas, NIPSCO, and Peoples make similar arguments. Natural also asserts that, if the Commission requires it to accept high Btu gas, it is possible that downstream entities, including pipelines with maximum Btu limits, would stop accepting gas deliveries and force Natural to shut-in gas supply.

22. Indicated Shippers, on the other hand, seek clarification or rehearing that the Commission's statement later in the September 23, 2003, Order²² that Natural must meet a downstream pipeline's quality standards does not diminish the Commission's earlier finding that Natural may not reject gas complying with Natural's CHDP safe harbor for Btu content or changes in the requirements of downstream pipelines, LDCs or end users. Indicated Shippers claim that the intent of establishing a CHDP safe harbor is to guarantee shippers that, if their gas meets the CHDP safe harbor provision, Natural would accept the gas regardless of the Btu content or changed conditions in Natural's market area. Indicated Shippers submit that in many cases the Commission has not accepted the quality standards applied by downstream pipelines. Indicated Shippers state that, rather

²¹ HDP White Paper and Interchangeability White Paper.

²² *Natural*, 104 FERC ¶ 61,322 at P 48.

than filing revised tariff language to change gas quality specifications, pipelines have posted operational flow orders (OFOs) limiting the allowable Btu into their systems. Therefore, Indicated Shippers claim that downstream pipelines are arbitrarily imposing varying quality limits and that the Commission should not permit Natural to adopt downstream pipelines' unsubstantiated quality standards.

23. Indicated Shippers contend that, if the Commission allows Btu restrictions to override the CHDP safe harbor, the Commission should set a safe harbor Btu level for hearing in this proceeding. Indicated Shippers state that otherwise, the Commission would in effect allow Natural to set a Btu level that it has not examined, to override the CHDP safe harbor which would render the safe harbor meaningless.

24. Indicated Shippers also contend that the Commission erred in holding that Natural may take into account the specifications of downstream pipelines in determining the posted variable Btu and dewpoint limits, since they are not a legitimate factor. Indicated Shippers state that the Commission was concerned that downstream pipelines would shut-in Natural's gas supply sources. Indicated Shippers state, however, that the Commission's finding would have the entire interstate pipeline grid operating at the lowest common denominator in gas quality standards. Furthermore, Indicated Shippers argue that downstream pipelines' Btu standards will not shut-in gas on Natural system. Indicated Shippers state that if gas on Natural's system is not accepted by a downstream pipeline because the gas does not meet its Btu standards, the gas will simply flow into one of Natural's other markets.

25. Indicated Shippers further argue that, if Natural can consider the specifications of downstream pipelines, shippers delivering gas to downstream pipelines should bear the cost burden.

26. Indicated Shippers further argue that, if the Commission allows Natural to consider the specifications of downstream pipelines when establishing the variable limits, the Commission should require Natural to provide a cost-benefit analysis that compares the costs that shippers will incur to satisfy the limits and the level of throughput and the associated revenue that Natural would earn.

27. Finally, NIPSCO argues that the Commission should have approved Natural's proposed 15°F CHDP safe harbor proposal, without establishing a hearing to consider the appropriate level of the CHDP safe harbor.

A. Commission Determination

28. The major issue raised on rehearing of the Commission's September 23, 2003, Order is whether Natural's CHDP safe harbor may be overridden by a separate posted

maximum Btu limitation. Natural has sought authority to post varying “upper Btu and /or dewpoint” limits for two purposes: (1) to control liquid drop out on its system and (2) to assure that downstream entities will accept deliveries of its gas. Throughout this proceeding, Natural has stated that it controls liquid drop out on its own system solely through CHDP limits. Therefore, the only justification for Natural to post an upper Btu limit would be to assure delivery of the gas at its interconnects with downstream entities, including other interstate pipelines.

29. Natural and the downstream entities seeking rehearing offer two reasons why downstream entities may nevertheless reject gas that satisfies a CHDP safe harbor because of high Btu content. First, an interconnecting downstream pipeline may post a maximum Btu limit as a means of controlling liquid dropout on its system instead of employing a CHDP safe harbor standard. Second, downstream entities may refuse high Btu gas on the ground that such gas may cause problems for end-users when used in gas fired appliances and other equipment. For the reasons discussed below, the Commission believes that developments in the three years since the filing of the instant rehearing requests may have altered Natural’s need for the authority to post a varying upper Btu limit. Accordingly, this order establishes procedures to further examine the issue of an upper Btu limit.

30. First, with regard to downstream pipelines using an upper Btu limit to control liquid dropout on their systems, in February 2005 the NGC+ issued its HDP White Paper, recommending that pipelines use the CHDP or the C6+ GPM methodologies to control liquid dropout, rather than an upper Btu limit. The Commission’s *Policy Statement* also encourages the use of the CHDP or C6+ GPM methodologies. In addition, in November 2004, Indicated Shippers filed complaints against two of the downstream interstate pipelines that interconnect with Natural’s Louisiana line, Columbia Gulf Transmission Company (Columbia Gulf) and Tennessee Gas Pipeline Company (Tennessee), both of which had posted 1,050 Btu/scf upper limits to control liquid dropout on their systems. On January 26, 2004, the Commission held that both pipelines’ authorizing tariff provisions gave the pipelines too much discretion to vary their gas quality provisions, and accordingly the Commission acted under NGA section 5 to require those pipelines to file revised tariff provisions regarding the posting of upper Btu limits.²³ Both pipelines filed proposals to use HDP or CHDP maximum limits, instead of Btu limits, consistent with the HDP White Paper. On August 1, 2006, after the *Policy Statement* was issued, the Commission ordered those two pipelines to update their filings to address the concerns in

²³ *Indicated Shippers v. Columbia Gulf Transmission Company and Indicated Shippers v. Tennessee Gas Pipeline Company*, 106 FERC ¶ 61,040 (2004).

the *Policy Statement*.²⁴ It thus appears that the downstream pipelines that interconnect with Natural may no longer refuse to accept high Btu gas for the purpose of controlling liquid drop out on their systems, thus eliminating Natural's alleged need to post such limits to ensure acceptance of its gas at those interconnects.

31. The second reason Natural gives as to why it needs the authority to post varying upper Btu limits is that downstream entities may refuse high Btu gas on the ground that such gas may cause problems for end-users when it is used in gas fired appliances and other equipment. This justification for an upper Btu limit raises a gas interchangeability issue, as opposed to a gas quality issue. As discussed in the *Policy Statement*,²⁵ gas quality focuses on controlling liquid drop out during the transportation of gas, while interchangeability is defined as the ability to substitute one gaseous fuel for another in an end-use combustion application without materially changing operational safety, efficiency, or performance. While not setting specific levels for hydrocarbon drop out or interchangeability parameters, the *Policy Statement* encourages pipelines wishing to add provisions to their tariffs concerning gas interchangeability to use the NGC + Interchangeability Task Group guidelines. Those guidelines are based on a range of plus or minus four percent of the historical Wobbe number for the area in question as well as a 1110 Btu/scf maximum Btu value and certain other parameters. To the extent a pipeline wishes to propose a different method, it must explain how the proposed method differs from the interim guidelines. Because the parties filed the instant rehearing requests before the Commission even commenced the industry-wide proceeding, the pleadings before us do not address all the requirements and concerns of the *Policy Statement* on the issue of interchangeability.

32. In these circumstances, the Commission will require Natural to make a new filing either changing its proposal concerning an upper Btu limit consistent with the *Policy Statement* or explaining how its current proposal is consistent with the *Policy Statement*. To the extent Natural continues to desire the authority to post a varying upper Btu limit in addition to its authority to post a varying upper CHDP limit, it must explain why it needs that authority in current circumstances. If it continues to claim it needs such authority to satisfy upper Btu limits imposed by downstream pipelines for the purpose of controlling liquid drop out on their systems, it must identify the downstream pipelines in question

²⁴ *Indicated Shippers v. Columbia Gulf Transmission Company*, 116 FERC ¶ 61,112 (2006); *Indicated Shippers v. Tennessee Gas Pipeline Company*, 116 FERC ¶ 61,113 (2006).

²⁵ 115 FERC ¶ 61,325 at P 37 (2006).

and the subject posted upper Btu limits.²⁶ If Natural asserts it needs such authority for reasons of gas interchangeability, it must, consistent with the *Policy Statement*, (1) explain any difference between its proposed interchangeability specification and the interim guidelines recommended by the NGC+ Interchangeability White Paper and (2) include a comparison, in equivalent terms, of any proposed interchangeability specifications and those of each interconnecting pipeline.²⁷ We will also require Natural to provide information concerning its experience with the relevant tariff provisions, including to what extent it needed to post upper Btu limits in addition to a CHDP limit and the amount of gas meeting Natural's proposed CHDP safe harbor which Natural rejected because of high Btu content. Because, as discussed below, the September 23, 2003, Order and this order resolve all issues concerning Natural's proposed CHDP limits for purposes of controlling liquid dropout on its system, the Commission herein limits Natural's compliance obligation solely to the issues of an upper Btu limit and gas interchangeability.

33. In addition, the *Policy Statement* encourages pipelines, customers, and other interested parties to resolve gas quality and interchangeability issues on their own.²⁸ To this end, the Commission will not require Natural to submit the above compliance filing until sixty days after the date this order issues. This will provide an opportunity for Natural to discuss with interested parties technical, engineering and scientific considerations of its proposal and resolve as many issues as possible before the filing of its revised proposal. Parties may file comments on Natural's revised proposal concerning an upper Btu limit and interchangeability twenty days thereafter. In addition, the

²⁶ In our recent order in *ANR Pipeline Company*, 116 FERC ¶ 61,002 at P 56-62 (2006), we clarified that, to the extent the September 23, 2003, Order may be read as establishing a policy that upstream pipelines must establish gas quality standards that enable them to satisfy whatever gas quality standards any downstream entity may establish for its system, the Commission no longer believes such a policy is appropriate. While the upstream pipeline must consider its ability to make deliveries at downstream interconnects, allowing a single downstream entity, with special needs, to dictate the gas quality standards that all gas entering the upstream pipeline system must meet could have serious adverse consequences. Natural should take this clarification into account in making any revised proposal.

²⁷ 115 FERC ¶ 61,325 at P 37 (2006).

²⁸ 115 FERC ¶ 61,325 at P 31 (2006); *ANR Pipeline Co.*, 116 FERC ¶ 61,002 at P 110 (2006).

Commission directs staff to convene a technical conference, after the revised pleadings have been filed, to address technical, engineering, and operational issues raised by Natural's revised proposal.

34. We reject NIPSCO's argument on rehearing that the Commission should approve Natural's proposed CHDP safe harbor without a hearing for two reasons: First, the ALJ already held the hearing. Second, the Commission affirms the ALJ's determination that Natural's proposed 15°F safe harbor is just and reasonable and NIPSCO supports this CHDP safe harbor limit.

III. Discussion of the Initial Decision

A. Issues Set For Hearing

1. The ID

35. The ALJ held that the only issue the Commission set for hearing is the level of the permanent CHDP safe harbor.²⁹ The ALJ stated that other issues, such as a question of a Btu standard, or issues of interchangeability, are beyond the scope of these proceedings. Accordingly, the ALJ did not consider evidence submitted by Indicated Shippers on issues other than the level of the CHDP safe harbor.

2. Parties' Positions

36. Indicated Shippers believe the ALJ erred in this ruling, arguing that while the level of the CHDP safe harbor level is an important issue in the hearing, the Commission did not limit the hearing to that sole issue. Indicated Shippers argue that, instead, the Commission found that the existing record did not provide an adequate basis to resolve the material issues of fact raised by the parties and set for hearing the lawfulness of Natural's proposed tariff revisions related to the appropriate level of the CHDP safe harbor. It claims that the Commission intended to include in the hearing, Natural's tariff provisions governing its posting, from time to time, of varying upper CHDP and Btu limits.³⁰

37. Thus, Indicated Shippers assert that the ALJ erred in failing to consider its various proposals to modify Natural's procedures for determining and posting, from time to time, different maximum CHDP limits on different segments. For example, Indicated Shippers

²⁹ *Natural*, 104 FERC ¶ 61,322 at P 38, 62, and 62(A).

³⁰ *Id.* at 62,216.

presented in its Exhibit IS-10 a proposal to require Natural to divide its system into eight zones, with 27 Aggregation/Monitoring Points. Indicated Shippers stated that Natural should use the Aggregation/Monitoring Points for monitoring CHDP levels and for posting varying CHDP limits. Indicated Shippers submit that Natural's CHDP tariff procedures should state that a shipper with gas supplies that do not meet Natural's posted CHDP limit is allowed to pair its gas with low CHDP gas from another shipper(s) or itself in the same zone, when operationally feasible. Indicated Shippers object that Natural's CHDP pairing tariff provisions are inadequate, unreasonable and discriminatory and request that the Commission require Natural to adopt Indicated Shippers' proposed CHDP pairing tariff provision. They also state the Commission should allow Natural's shippers to enter into contracts under which one shipper would contract to process the gas of another shipper so the gas would meet the CHDP limits. To effectuate pairing, Indicated Shippers urge the Commission to direct Natural to post the CHDP levels of any shipper requesting the posting of the CHDP level of its gas.³¹ Indicated Shippers also proposed various other detailed procedures to determine and implement a varying CHDP limit.³²

38. Indicated Shippers also object that the ALJ did not consider its objections to Natural's proposed CHDP tariff language that references Btu limits.

39. Natural, Alliance, Aux Sable Liquid Products, L.P. (Aux Sable), and Peoples oppose Indicated Shippers' exception. They all argue that the Commission established the hearing in this proceeding only to "establish the permanent safe harbor at a level that will accommodate all conditions on Natural's system."³³ Therefore, they argue that the ALJ appropriately limited the scope of the ID to that issue.

³¹ On March 29, 2006, Indicated Shippers filed a Supplemental Brief in response to Natural's Brief Opposing Exceptions. On April 11, 2006, Natural filed an answer to Indicated Shippers' Supplemental Brief. Rule 711(a)(3) states that no briefs in addition to briefs on or opposing exceptions are permitted, unless specifically ordered by the Commission. 18 C.F.R. 385 § 711(a)(3) (2006). Indicated Shippers' Supplemental Brief and Natural's answer do not assist the Commission in understanding the issues raised or provide a more complete record. Accordingly, the Commission rejects them.

³² *Citing* Ex. IS-1 at 36, L13-L16.

³³ *Citing Natural*, 104 FERC ¶ 61,322 at P 38 and P 62, and at ordering para. (A0 (2003)).

3. Commission Determination

40. The Commission affirms the ALJ's determination that the only issue it set for hearing is the appropriate level of the CHDP safe harbor figure. Paragraph 38 of the September 23, 2003, Order stated, "The current record remains inadequate for the Commission to resolve the various factual issues raised by the parties *regarding the appropriate permanent safe harbor dewpoint figure* . . . In order to provide the parties an opportunity to develop the necessary record, we shall set *this issue* for hearing."³⁴ And in the order's conclusion, the Commission again stated, "The Commission will set *the issue of the appropriate permanent safe harbor dewpoint figure* for an evidentiary hearing before an administrative law judge."³⁵ This language unambiguously limits the hearing to the issue of the level of the permanent safe harbor. Therefore, the other issues Indicated Shippers sought to raise at the hearing, including Natural's procedures for determining and posting varying CHDP limits and the question of a Btu standard, were beyond the scope of the hearing.

41. We disagree with Indicated Shippers that the issue of the level of the CHDP safe harbor encompasses Natural's proposed tariff provisions governing the posting of varying CHDP limits. Setting the variable CHDP limits is distinct and separate from the CHDP safe harbor. The CHDP safe harbor is a single figure to be set forth in Natural's tariff and applies to Natural's entire system, not just a single segment or certain points. The CHDP safe harbor will not fluctuate based on changing operational conditions. In contrast, operational CHDP limits are set based on the changing operational conditions on various segments or at certain points on Natural's system and may fluctuate.

42. In fact, before establishing the hearing on the level of the CHDP safe harbor, the Commission already gave all the parties, including Indicated Shippers, a full opportunity to litigate their objections to Natural's proposal for posting, from time to time, varying maximum CHDP limits, including the procedures Natural would use for such postings and the relevant information that Natural must provide its shippers concerning its CHDP calculations. The Commission staff conducted a technical conference on those issues, and the Commission issued an order on February 27, 2003, considering the parties' comments following the technical conference, and an order on September 23, 2003, considering the parties' requests for rehearing of the February 27, 2003, Order and Natural's compliance filing. The February 27, 2003, and September 23, 2003, Orders resolved on the merits all issues concerning Natural's procedures for determining and

³⁴ *Natural*, 104 FERC ¶ 61,322 at P 38 (emphasis supplied).

³⁵ *Id.* at P 62 (emphasis supplied).

posting the variable maximum CHDP limits. If Indicated Shippers were not satisfied with the Commission's resolution of those issues in the September 23, 2003, Order, or believed the Commission should have set additional issues for hearing beyond the level of the permanent CHDP safe harbor, Indicated Shippers should have raised those matters in its request for rehearing of the September 23, 2003, Order. But it did not. Instead, as discussed in the previous section of this order, Indicated Shippers limited its rehearing request to the issue of Natural's proposal to establish upper Btu limits, as opposed to the establishment of upper CHDP limits.

43. In these circumstances, the Commission sees no reason to revisit any issues concerning Natural's posting of variable CHDP limits, which it already finally decided in this proceeding and are not subject to any pending request for rehearing. By contrast, since Indicated Shippers did seek rehearing of the September 23, 2003, Order on the issue of Natural's Btu limits, the Commission will further consider that issue, but only pursuant to the procedures established in the preceding section of this order.

B. Appropriate CHDP Safe Harbor Level

44. We now turn to the issue the Commission did set for hearing, the appropriate level of the permanent safe harbor dewpoint to be included in Natural's tariff. In the September, 23 2003, Order the Commission stated that the safe harbor "is intended to provide shippers a guarantee that gas satisfying that provision will be accepted, regardless of changing conditions on the system."³⁶ The September 23, 2003 Order further stated that the safe harbor should be set at a level that will accommodate all conditions on Natural's system, while at the same time providing protection for shippers from discrimination. For the reasons discussed below, we affirm the ALJ's decision approving Natural's proposed 15°F CHDP safe harbor.

1. Overview

45. The ALJ found that Natural has satisfied its burden under section 4 of the NGA to show that its proposed 15°F CHDP safe harbor is just and reasonable.³⁷ The ALJ stated that Natural defined its major market zone as the Chicago market and then used the following data to evaluate and compute CHDP limits: (1) historical data from its Supervisory Control and Data Acquisition system to determine the normal composition

³⁶ *Natural*, 104 FERC 61,322 at P 38.

³⁷ ID at P 30.

of gas moving into its major market area;³⁸ (2) measurement data to determine the typical pressure and temperatures at points without line heaters;³⁹ and (3) the measurement of actual CHDP of a typical recent winter in its major market area. The ALJ stated that Natural's data show that the CHDP in the market area varies over the winter, but generally peaks within the range of 18°F to 23°F, with average CHDP during the winter at around 15°F.⁴⁰ The ALJ found that the record shows that when the CHDP is in the range of 18°F to 23°F, Natural experiences significant fallout of liquid hydrocarbons.⁴¹ The ALJ stated that Natural's proposed CHDP safe harbor is just below the peak range of actual winter experience and coincides closely with the average CHDP actually experienced during the winter by Natural. The ALJ further stated that this is the level of CHDP at which Natural has successfully managed the fallout of liquid hydrocarbons in the past with its existing facilities.

46. The ALJ stated that the Alliance witness admitted that Natural would be making significantly greater amounts of liquids in its system under Alliance's proposed 25°F safe harbor level than it would under the 15°F safe harbor proposed by Natural.⁴² The ALJ also stated that Natural's witnesses relied not only on the HDP White Paper methodology, but also on Natural's actual winter experience and their personal experiences and familiarity with the pipeline system in question.⁴³ The ALJ explained that the Commission has already held that the dynamic nature of the conditions on Natural's system requires some discretion to deal with the threat of liquids fallout.⁴⁴ Accordingly, the ALJ found that the experience of Natural's witnesses must be given an amount of deference in assuring the safe and reliable operation of Natural's system.

³⁸ *Id.* at 18-19.

³⁹ Ex. NGP-6 at 14, L6 – 16, L7.

⁴⁰ Ex. NGP-8.

⁴¹ Ex. NGP-11 at 17, L18-L23.

⁴² *Id.*

⁴³ Ex. NGP-8; Natural's Initial Br. at 2.

⁴⁴ *Citing Natural*, 102 FERC ¶ 61,234 at P 25.

47. The ALJ found that, using an accepted scientific, industry-approved methodology for computing CHDP limits, Natural selected a safe harbor level that will ensure safe and reliable operations under all conditions while also maximizing the gas supply available on its system. The ALJ stated that the witness for the Indicated Shippers admits that a 15°F CHDP safe harbor is reasonable.⁴⁵ The ALJ also stated that Natural does not anticipate imposing the 15°F CHDP level on most days and only seeks to impose that level when necessary to ensure operational integrity and to meet downstream customer requirements.⁴⁶ The ALJ noted that Natural routinely posts operational CHDP levels well above 15°F to maximize production. The ALJ found that in extraordinary circumstances where the safe harbor could come into play, the safety of Natural's system and of its downstream customers must trump the short term production and profit goals of producers.⁴⁷ Additionally, the ALJ found that Natural's approach is just and reasonable because it does not attempt to preclude all fallout of liquid hydrocarbons,⁴⁸ but is designed to limit liquids fallout to manageable levels.

48. The ALJ found it illogical to set a CHDP safe harbor at the same level as Natural's operational goal because it would not allow for any margin for error and virtually all unexpected circumstances could result in significant, and potentially dangerous liquid fallout.⁴⁹ The ALJ stated that the safe harbor must be set somewhat below the outer operational target to provide a margin of safety,⁵⁰ and therefore, Indicated Shippers' proposed 20°F CHDP safe harbor level does not provide an acceptable safety margin and leaves Natural "at the mercy of the nomination process."⁵¹ The ALJ found that Natural's analyses demonstrate that at a 17°F gas stream temperature and a volume of 2,700 MMcf the amount of liquids produced would approach 7,000 gallons in a day with a 20°F CHDP safe harbor, while a 15°F CHDP safe harbor would produce no liquids. Similarly, as discussed below, the ALJ stated that Alliance's 25°F CHDP safe harbor proposal is

⁴⁵ Ex. IS-1 at 20, L17-L18. The witness states that "one might conclude that a 15° Fahrenheit [level] seems reasonable."

⁴⁶ Peoples' Initial Br. at 10-11.

⁴⁷ Natural's Reply Br. at 4.

⁴⁸ Ex. NGP-6 at 27, L3-L5 and Tr. at 563, L17 – 564, L5.

⁴⁹ Ex. NGP-11 at 12, L4-L19.

⁵⁰ Ex. NGP-20 at 18, L15-L23.

⁵¹ Ex. NGP-20 at 20.

flawed because it fails to provide an appropriate margin of error. Therefore, the ALJ concluded that the proposed CHDP safe harbor of 15°F is just and reasonable under section 4 of the NGA, and not otherwise unlawful.

49. Indicated Shippers, Alliance, and Aux Sable take exception to the ALJ's approval of Natural's proposed 15°F CHDP safe harbor. Indicated Shippers argue that the ALJ erroneously adopted Natural's proposed 15°F CHDP safe harbor with minimal discussion and no analysis. Indicated Shippers contend that the ID quoted Indicated Shippers' witness out of context and inaccurately represented the witness' testimony when it stated that Indicated Shippers' witness Mr. Hereth admitted that a 15°F CHDP safe harbor is reasonable. Indicated Shippers explain that Mr. Hereth went on to say that it is invalid to assume that the 15°F CHDP safe harbor is reasonable because it is necessary to consider (1) the impact a CHDP safe harbor will have on the gas supply entering Natural's system and (2) the frequency and magnitude of the delivery points, particularly in the market area, receiving gas with a CHDP greater than 15°F. Indicated Shippers state that Mr. Hereth's analysis determined that Natural made deliveries into the market area in excess of a CHDP of 15°F, and in excess of a CHDP of 25°F, on numerous days, in several different years, at multiple points, without any hydrocarbon liquid dropout problems.

50. Indicated Shippers claim that the only Natural witness that provided any analysis regarding the CHDP safe harbor level was Mr. McClain, since Mr. Miller's analysis consisted of a general review of Mr. McClain's technical work, a review of CHDP limits of certain Chicago area pipelines, a generalization about Natural's potential loss of major blending capabilities, and a reference to his earlier testimony in this proceeding. Indicated Shippers contend that Mr. McClain's analysis is flawed.

51. Aux Sable similarly argues that Natural has failed to meet its burden to support a 15°F CHDP safe harbor and the ID erred in concluding that Natural has come forward with persuasive support. Alliance states that the evidence the ID relied on does not support Natural's proposed 15°F CHDP safe harbor. Alliance argues that the ID uncritically adopted Natural's proposed 15°F CHDP safe harbor and did not address the fact that Natural's evidentiary presentation was exposed as flawed and unreliable during the course of the hearing. Aux Sable and Alliance agree that Mr. Miller relied on Mr. McClain's analysis and Mr. McClain's analysis is flawed. Alliance argues that

Natural and Mr. McClain took no steps to ensure that the CHDP data was obtained through measurements that complied with the HDP White Paper's measurement directives,⁵² or that used the best measurement instrumentation that Natural had available.⁵³

52. Natural responds that the ALJ was well within his authority to conclude that the experience of Natural's witnesses with Natural's system must be given an amount of deference. Natural states that the ALJ observed lengthy cross examination of Natural's operating personnel and the witnesses for Alliance and Indicated Shippers admitted that they knew virtually nothing about Natural's system.⁵⁴ Natural states that Mr. Hereth testified that he does not differ with Natural's witness Mr. Miller in terms of his ability to handle liquids.⁵⁵ Natural also states that Mr. Janzen testified that Natural's personnel have done a fabulous job⁵⁶ and are well aware of how to blend their system.⁵⁷

53. Natural contends that the parties in this proceeding, with the apparent exception of Alliance,⁵⁸ accept the engineering and scientific validity of the HDP White Paper method. Natural states that it is undisputed that Natural's system will experience liquids fallout at a 15°F CHDP safe harbor.⁵⁹ Natural insists that the safe harbor it proposes is more liberal than what Natural could propose under its existing tariff and the Commission's orders in this proceeding.

⁵² Alliance states that although the HDP White Paper is not binding on this proceeding, Mr. McClain testified that his methods were consistent with the process suggested in the White Paper. Ex. NGP-6 at 6, L7 – at 7, L4.

⁵³ See Alliance's Brief on Exceptions at 21-24.

⁵⁴ *Citing* Tr. at 1151, L1 – 1152, L2 (Hereth); Tr. at 1408, L9-L12 and 1464, L25 – 1465, L5 (Janzen).

⁵⁵ *Citing* Tr. at 1196, L15-L17.

⁵⁶ *Citing* Tr. at 1453, L9.

⁵⁷ *Citing* Tr. at 1459, L17-L19.

⁵⁸ Alliance's Brief on Exceptions at 54.

⁵⁹ *Citing* Tr. at 1197, L11.

54. The Commission disagrees with Aux Sable's, Alliance's, and Indicated Shippers' arguments that Natural's analysis is flawed and the evidence provided is unreliable and find that Natural's proposal is well grounded in actual experience and that Natural's analysis was based on a scientific, industry-approved methodology for computing CHDP limits. The Commission agrees with Natural that not only is Natural's proposed safe harbor just below the "peak" CHDP level generally experienced by Natural in the winter and in line with average CHDP levels during the winter, but it also does not attempt to preclude all fallout of liquid hydrocarbons and is designed to limit liquids fallout to manageable levels. Natural also does not anticipate imposing the 15°F CHDP level on most days and only seeks to impose that level when necessary to ensure operational integrity and to meet downstream customer requirements. We agree with the ALJ's finding that in extraordinary circumstances where the safe harbor could come into play, the safety of Natural's system and of its downstream customers must be safeguarded. Therefore, the Commission affirms the ID and finds that: (1) Natural's 15°F CHDP safe harbor is reasonable and ensures safe and reliable operations under all conditions while also maximizing the gas supply available on its system; and (2) Natural has provided substantial evidence justifying its 15°F CHDP safe harbor, as discussed below. The parties' exceptions are discussed in more detail below.

2. Gas Supply

a. ID

55. The ALJ rejected Indicated Shippers' contention that Natural's proposed 15°F CHDP safe harbor would unduly restrict the gas supplies available to the markets served by Natural. The ALJ stated that it is in Natural's economic interest to maximize the gas supplies that can be made available to its customers.⁶⁰ The ALJ found that neither Indicated Shippers, nor Alliance identified any specific gas supplies that would not flow on Natural's system if Natural's proposed safe harbor was adopted and on cross examination, Indicated Shipper's witness was unable to substantiate that production would be impacted.

b. Parties' Exceptions

56. Indicated Shippers assert that lower CHDP limits can affect whether gas sources, particularly those without access to or control of processing, can enter Natural's system and the impact of a CHDP limit set at a CHDP safe harbor that is too low would be

⁶⁰ "[T]he goal is to provide the most amount of opportunity for production to flow on our system." Tr. at 85, L23-L25.

significant. Indicated Shippers use as an example the posting, included as Attachment C to its Brief on Exceptions, where Natural posted new CHDP limits which were significantly higher than any of the proposed CHDP safe harbor limits. Indicated Shippers contend that gas supplies that are threatened to be shut-in by 45°F and 60°F CHDP limits would certainly be affected by a 15°F CHDP limit. Indicated Shippers argue that the Commission's direction to determine a CHDP safe harbor that will accommodate all conditions on the Natural system includes an underlying assumption that the CHDP safe harbor should be the maximum CHDP that can appropriately accommodate all conditions on the pipeline. Indicated Shippers insist that a 15°F CHDP safe harbor is too strict because Natural can just as effectively manage its system at a CHDP safe harbor of at least 20°F while also allowing for more gas supply to enter the system.

57. Indicated Shippers object that the ID relied on Natural's flawed analysis and held that a 15°F CHDP safe harbor would not restrict any gas supply from entering the Natural system. Indicated Shippers state that their analysis demonstrates that a 15°F CHDP safe harbor will unnecessarily restrict the amount of gas that can enter Natural's system and that a 20°F CHDP safe harbor will allow more gas to enter the system and create no additional problematic delivery points. Indicated Shippers estimate that as much as 250 billion more Btus are provided to Natural's market on a daily basis at a 20°F CHDP safe harbor than at a 15°F CHDP safe harbor and claim that approximately 20 percent of domestic gas supply cannot be processed.⁶¹ Indicated Shippers admit that a CHDP safe harbor by itself does not restrict gas supply from entering a pipeline system but argue that, under Natural's proposed CHDP provisions, Natural would have unfettered discretion to lower the CHDP limit to equal the CHDP safe harbor level.⁶² Indicated Shippers state that if a CHDP limit was set at the level of the CHDP safe harbor, particularly a 15°F CHDP safe harbor, substantial amounts of gas would not enter Natural's system.

c. Natural's Position

58. Natural agrees with the ALJ that the opponents to Natural's proposal failed to identify any specific gas supplies that would not flow on Natural as a result of the proposed safe harbor. Natural states that it is in its interest, and that of its LDC customers, to maximize the volume of gas available to flow on Natural's system. Natural asserts that the parties have offered only speculative assertions to support their conclusion

⁶¹ Ex. IS-11 at 21, L18-L21.

⁶² Indicated Shippers' Brief on Exceptions at 29 and n.58.

that a 15°F CHDP safe harbor will adversely impact gas supplies available to Natural's system. Natural states that its posting of less restrictive CHDP operational limits will assure that all gas supply continues to flow except during periods when the system requires more drastic action to maintain safe and reliable operations. Natural states that Indicated Shippers submitted an approximation (additional Btus delivered at 20°F) in post-hearing briefs. Natural asserts that this unsupported approximation should be disregarded.⁶³ Natural states that Alliance cites concerns over whether higher heating value Alaskan gas would be prevented from entering Natural's system, but Alliance's witness admitted that it is not known what the composition of Alaskan gas is going to be.⁶⁴ Natural claims that it does not use heating value to control the CHDP temperature on its system⁶⁵ and speculation about the composition and availability of Alaskan gas is not a basis for setting a safe harbor for Natural. Natural notes that its LDC customers Nicor Gas and Peoples are not concerned about the availability of gas supplies on Natural's system since they support Natural's proposed 15°F CHDP safe harbor.⁶⁶

d. Commission Determination

59. Indicated Shippers' concern that the 15°F CHDP safe harbor will reduce gas supply is based on the premise that Natural will require most gas entering its system to comply with the safe harbor CHDP, and thus generally reject gas with a CHDP higher than 15°F. This misconceives the role of the safe harbor in Natural's tariff. Section 26.1(h) of Natural's GT&C gives it the discretion to post varying upper CHDP limits for gas receipts on specified segments or other specified locations on its system as necessary to control liquid dropout on its system. As the Commission found in its February 27, 2003, and September 23, 2003, Orders, Natural's ability to address a liquid dropout problem caused by the injection of rich gas is neither uniformly distributed over its system or static in nature. Rather, this ability constantly changes, depending upon the amount of lean gas available to Natural and degree of operational flexibility Natural has to alter the rich vs. lean mix over the path that the rich gas flows before exiting Natural's

⁶³ *Citing Pacific Gas and Electric Co.*, 108 FERC ¶ 61,304 at P 9 (2004).

⁶⁴ *Citing Tr.* at 1470, L3-L4.

⁶⁵ *Citing Tr.* at 1148, L7- 1149, L7 and Ex. IS-23 at 2, L16-L18.

⁶⁶ *Citing Nicor's Initial Br.* at 2 and *Peoples' Initial Br.* at 5. Natural adds that despite Alliance's implications otherwise, the fact that intervening industrial end-users and power generators served by Natural have not filed testimony or made appearances in this proceeding may be telling the Commission that they support Natural's proposal.

system. Thus, permitting Natural to post varying upper CHDP limits allows it to accept high CHDP gas on parts of the system where it can be blended with low CHDP gas before it reaches an area where there is a danger of liquid dropout, but reject high CHDP gas where this is not possible. This enables Natural to safely operate its system, while maximizing gas flow over its system for the benefit of its customers.

60. The role of the safe harbor is to serve as an outer limit on Natural's discretion, preventing Natural from ever posting for any point or segment on its system a lower, more stringent CHDP standard than the safe harbor 15°F level. Thus, the Commission would expect that most of the time, on most segments of Natural's system, Natural would post CHDP limits in excess of 15°F. It is in Natural's economic interest to maximize the gas supplies available to its customers.⁶⁷ Indicated Shippers' assertion that Natural has posted CHDP limits for portions of its system which are substantially in excess of the 15°F safe harbor level simply confirms that Natural does accept gas with CHDP levels in excess of the safe harbor, where it is able to do so. The Commission agrees with the ALJ that the opponents to Natural's proposal failed to identify any specific gas supplies that would not flow on Natural's system as a result of the proposed safe harbor. In addition, none of Natural's customers have raised concerns that the 15°F safe harbor will restrict their ability to obtain needed supplies.

61. Therefore, the Commission finds that Natural's proposed CHDP safe harbor will ensure safe and reliable operations under all conditions while also maximizing the gas supply available on its system, consistent with the *Policy Statement*.⁶⁸

3. Gas Blending

a. ID

62. The ALJ found that Natural's ability to blend high CHDP gas with low CHDP gas on some parts of its system and during some time periods did not require establishing a safe harbor at a level above 15°F. The ALJ stated that he is bound by the Commission's previous holding that Natural's blending and processing capabilities are limited and, alone, are inadequate to address foreseeable instances of liquids formations.⁶⁹

⁶⁷ As Natural's witness Mr. Miller testified, its "goal is to provide the most amount of opportunity for production to flow on our system." Tr. at 85.

⁶⁸ 115 FERC ¶ 61, 325 at P 30.

⁶⁹ *Natural*, 102 FERC ¶ 61,234 at P 14.

b. Parties' Exceptions

63. Indicated Shippers argue that a CHDP safe harbor below 20°F does not take into account gas blending on Natural's system and Natural's operational targets are not relevant for determining a CHDP safe harbor for the entire Natural system. Indicated Shippers explain that because different sources of gas have different CHDP levels, if a CHDP limit is set at the CHDP safe harbor, then blended gas flowing through the system will be much lower than the CHDP safe harbor level. Indicated Shippers state that, if the CHDP safe harbor is 20°F, no gas with a CHDP over 20°F will be able to enter Natural's system; however, lower CHDP gas would also enter the system and the blended gas would have a CHDP significantly below the 20°F CHDP limit. Therefore, Indicated Shippers conclude that because of blending a CHDP limit or CHDP safe harbor can be above an operational target. Indicated Shippers cite examples to show that although some of the upstream points on Natural's system had "high" CHDPs, the "high" upstream gas is blended with "low" CHDP gas to result in low CHDP gas in the market area.

64. Aux Sable states that the ID ignores evidence that Natural effectively uses blending and processing to lower the CHDP temperatures of gas to effectively manage hydrocarbon fallout on its system. Aux Sable asserts that Natural effectively uses blending and processing to lower gas CHDP temperatures prior to delivery to end-use customers and the procedures permit Natural to accept gas with a 70°F CHDP on the Amarillo Line⁷⁰ and a 60°F CHDP on the Gulf Coast Line.⁷¹ Aux Sable states that the ID erroneously assumes that the Commission has already found that Natural's blending and processing capabilities are limited, and alone, are inadequate to address foreseeable instances of liquids formation. Aux Sable states that the Commission merely observed that "there are physical limits to what Natural's blending and extraction efforts can accomplish,"⁷² which is not a finding that they are in fact inadequate. Aux Sable also

⁷⁰ *Citing* Tr. at 84, 988-92, and 998; Ex. NGP-1 at 17 and 38. Aux Sable contends that volumes of low CHDP gas can be expected to increase as production in the Rocky Mountain basin continues to increase. Tr. at 627-28 and Ex. NGP-48.

⁷¹ Aux Sable states that Natural's use of its Searcy processing plant allows it to lower the CHDP temperatures of gas received on its Gulf Coast Line. Ex. NGP-6 at 23 and Tr. at 1007-08. Aux Sable states that if the Searcy Plant is unable to process gas, Natural could require all gas coming onto the Gulf Coast Line to meet Alliance proposed 25°F CHDP safe harbor.

⁷² *Natural*, 102 FERC ¶ 61,234 at P 14.

states that the ability to blend and process gas explains why there is no requirement for a safety margin below Natural's 18°F and 23°F CHDP target range for the winter in Natural's market area.

c. Commission Determination

65. The Commission finds no merit in Indicated Shippers' and Aux Sable's arguments that the setting of a CHDP safe harbor below 20°F does not take into account gas blending on Natural's system.

66. Natural currently blends gas receipts with varying CHDP in order to manage the potential of liquid fall-out of the blended gas stream in its system. However, this blending capability is limited by the gas composition and location of the gas supplies nominated into its system by Natural's shippers. Under most circumstances, the CHDP of the gas stream in Natural's market area during the winter months has been in the range of 18°F to 23°F.⁷³ Natural has been able to maintain the aforementioned CHDP range in its market area during the winter months through the combination of blending, gas processing at its cryogenic processing plant at Searcy, Arkansas, and also by posting 60°F to 70°F CHDP limits on production area receipts in the Gulf Coast area. The Searcy plant is located about midway up Natural's Gulf Coast line and consequently does not give Natural the ability to blend on its Amarillo Line. Nor is the Searcy Plant useful to the extent gas deliveries are made upstream of the plant. Thus, Natural is correct in its assertion that the pipeline system's blending capability is limited due to the fact that the Searcy plant can only process a portion of the gas supplies from the Gulf Coast area and cannot affect upstream gas deliveries.⁷⁴ Further, Natural's ability to blend is also limited if the Searcy plant has to be taken offline due to maintenance, operational considerations, or emergencies. Therefore, Natural's ability to utilize the Searcy plant to manage liquid fallout through blending operations cannot be assured at all times. Natural correctly considered the possible loss of some blending capabilities in determining a CHDP safe harbor.

67. As stated by the ALJ,⁷⁵ the intent of a CHDP safe harbor is to provide shippers with assurance that Natural will accept gas that meets the safe harbor level for CHDP once it has been properly nominated and confirmed. The Commission finds that the

⁷³ *Citing* Ex. NGP-6 at 21, L12-22.

⁷⁴ *Citing* Ex. NGP-1 at 38, L22-23, and 39, L1-5.

⁷⁵ *Natural*, 113 FERC ¶ 63,036 (2005).

CHDP safe harbor level must therefore be one that would make sure liquid fallout does not create operational problems under any operating conditions on Natural's system. Consequently, even taking into consideration Natural's gas blending capabilities, the 15°F CHDP provides only a limited margin of safety when compared to Natural's actual winter supply experience. Based on these considerations, the Commission finds that Natural's proposed 15°F CHDP safe harbor appropriately takes into consideration blending capabilities on Natural's system.

4. Winter CHDP levels in Natural's Market Area

a. ID

68. In developing its proposed 15°F CHDP safe harbor, Natural first defined the relevant major market area of its system to be the Chicago area, as required by the HDP White Paper. Natural then reviewed historical CHDP data for the Chicago market area. Based on his experience, Mr. Miller, who is in charge of Natural's operations, testified that Natural's high-end CHDP levels during the crucial winter months are generally in the 18°F – 23°F range.⁷⁶ Another witness for Natural, Mr. McLain tested Mr. Miller's information by reviewing typical CHDP levels for two representative points in Natural's market which received gas from the Amarillo and Gulf Coast lines during the 2003 – 2004 winter.⁷⁷ He testified that data for those two points validated Mr. Miller's observation.⁷⁸ The ALJ held that this evidence supported a finding that typical CHDP levels in Natural's market area in the winter are between 18°F and 23°F. The ALJ further found that this shows that Natural's 15°F safe harbor proposal is well grounded in actual experience, since Natural's proposed safe harbor is just below the "peak" CHDP level generally experienced by Natural in the winter and is in line with average CHDP levels during the winter, as shown on Exhibit NGP-8. Accordingly, the ALJ found that the experience of Natural's witnesses must be given an amount of deference in assuring the safe and reliable operation of Natural's system.

b. Parties' Exceptions

69. Indicated Shippers take exception to the ALJ's statement that Natural used historical data to determine the normal composition of gas moving into the market area and reviewed a "typical winter." Indicated Shippers contend that Natural's data did not

⁷⁶ Tr. at 130-131.

⁷⁷ Ex. NGP-8.

⁷⁸ Tr. at 1068.

reflect the market area's historic composition, since it was limited to only four months of data for only two delivery points. Indicated Shippers claim that this is an unreasonable approach for determining a CHDP safe harbor for Natural's entire system. Indicated Shippers state that a comparison of the data with the other market area delivery points during the same period, the other market area delivery points during other recent winters, or the two delivery points' experience during other winters demonstrates that Natural's data does not reflect a "typical winter."⁷⁹ Alliance agrees with Indicated Shippers' objection and states that in lieu of any type of comprehensive or statistically valid review of Natural's market area CHDP level, Mr. McClain reviewed CHDP data for all of two points, as set forth on Exhibit IS-31, which represent the entire basis for Exhibit NGP-8, and for Mr. McClain's testimony that Natural has experienced 18°F to 23°F CHDP levels in the market area.⁸⁰ Indicated Shippers add that Natural did not compare the two delivery point temperatures with average daily temperature or determine if the points were representative of daily flow volumes, average CHDP temperatures, maximum CHDP temperatures, the range of pressure fluctuations, or average daily pressure on the Natural system. Indicated Shippers insist that an analysis of Natural's actual historical market area data disproves Natural's conclusion that the market area's maximum CHDP temperatures are between 18°F and 23°F, but instead the market area often experienced a CHDP above 20°F and regularly above 25°F.⁸¹ Indicated Shippers assert that the two delivery points used by Natural have experienced CHDPs in excess of 20°F.⁸² Indicated Shippers state that the records demonstrate that Natural has avoided hydrocarbon liquid dropout problems over the last five years when the CHDP has been above 25°F and Natural's witnesses conceded that there have been no hydrocarbon liquid dropout problems in the last twenty years on the Natural system. Indicated Shippers state that at market area CHDPs above 25°F, Natural has had no CHDP problems, or instances of gas or safety hazards related to hydrocarbon liquids causing an operational problem.⁸³

⁷⁹ *Citing* Attachment D and Attachment E to Indicated Shippers' Brief on Exceptions.

⁸⁰ *Citing* Tr. at 1067, L14-L23.

⁸¹ *Citing* Ex. IS-34.

⁸² *Citing* Attachment E to Indicated Shippers' Brief on Exceptions.

⁸³ *Citing* Tr. at 134, L25 – Tr. 135, L3; Tr. at 76, L25 – Tr. 77, L5; and Ex. IS-19. Indicated Shippers state this includes problems mentioned in the ID and Natural's testimony such as ice blockages, mechanical meter and regulator equipment failures at delivery points, liquids flowing into or through distribution systems, freeze offs, liquids

(continued....)

70. Aux Sable states that the ID improperly deferred to the experience of Natural's witnesses to determine the proper CHDP safe harbor and ignored evidence on Natural's operational circumstances.⁸⁴ Alliance agrees with Aux Sable stating that the experience of Natural's witnesses in operating the pipeline's system does not substitute for sustainable evidence in support of its proposed safe harbor. Alliance also states that the relationship between CHDP and safety and reliability issues, does not lead to the conclusion that the testimony of Natural's witnesses as to the appropriate safe harbor level must be accepted at face value.

c. Natural's Position

71. Natural states that based on his many years of experience, Mr. Miller knew that Natural's high-end CHDP during the crucial winter months is generally in the 18°F – 23°F range⁸⁵ and Mr. McClain tested Mr. Miller's observations.⁸⁶ Natural contends that the set of two representative points during the 2003-2004 winter months is sufficient to verify the range Mr. Miller provided. Natural argues that the Indicated Shipper's reliance on "maximum" CHDP temperatures in the market area ignores the need to set a CHDP safe harbor that will accommodate "all conditions" on Natural's system. Natural asserts that the focus belongs on a safe harbor that will be in effect when conditions are at their worst.⁸⁷ Natural claims that Indicated Shippers do not recognize the fact that the market area may experience temperatures significantly colder than those experienced in the 2003-2004 winter or account for possible outage of line heating equipment and Natural's processing capability or economic decisions resulting in gas not being processed.⁸⁸ Natural contends that, while it has been able to manage liquids formation when CHDP levels have exceeded 20°F on a number of occasions, significant and potentially

in delivery meters, abnormal pressure drops, damaged compression equipment, accelerated corrosion rate, liquid disposal problems, or volume regulators that could subject equipment to conditions beyond design parameters. *Citing* Ex. NGP-1 at 30, L16 – 32, L14; Tr. at 985; IS-19 at 2; and ID at 20.

⁸⁴ *Citing* Tr. at 1150.

⁸⁵ *Citing* Tr. at 130, L22 – 131, L5.

⁸⁶ *Citing* Ex. NGP-1 at 1, L13-L15 and Ex. NGP-8.

⁸⁷ *Citing* Tr. at 1049, L18-L20.

⁸⁸ *Citing* Tr. at 1297, L21-L24 and Tr. at 1049, L1-L7.

unmanageable levels of liquids fallout occur when CHDP levels exceed 18°F.⁸⁹ Natural states that at those levels it would be difficult to operate the system safely and reliably for an extended period time especially because these temperatures are most likely to occur during extended cold snaps when reliability is most critical. Natural insists that it needs a margin of safety between its historical operating range and the CHDP safe harbor.

d. Commission Determination

72. The Commission finds no merit in Indicated Shippers', Aux Sable's, and Alliance's assertion that Natural's historic operating conditions do not support the setting of a 15°F CHDP safe harbor value. The CHDP in Natural's major market area during the winter was determined through historical experience to lie within the range of 18°F – 23°F. This range was confirmed by the review of data for a recent winter in the Chicago market area.⁹⁰ The Commission finds the determination of this value is reasonable and is consistent with the guidelines shown in the HDP White Paper.⁹¹ The Commission rejects Indicated Shippers' argument that the two delivery points Natural relied upon to develop a CHDP safe harbor were not representative of the market area. In general, the Commission finds that the procedures Natural used for establishing a CHDP limit are consistent with the guidelines in the HDP White Paper.

73. The selected meter station locations at Eola and Des Plaines are located within Natural's Chicago market area and the data obtained lies within the range of CHDP values historically experienced by Natural.⁹² The data submitted by Indicated Shippers, which is also consistent in methodology with the HDP White Paper, provided additional instances of gas deliveries with a CHDP in excess of 15°F and up to 20°F. The Commission agrees with Natural that the fact that Natural, on occasion, has delivered gas above a certain CHDP level should not form the basis for setting a safe harbor level. The primary consideration for establishing a safe harbor value should always be the safety and reliability of the pipeline system. Based on the 18°F – 23°F CHDP range that Natural currently experiences in its market area, a 15°F CHDP safe harbor provides a reasonable safety margin. It is reasonable that in setting this value, Natural would take a conservative approach and weigh in favor of those periods during the heart of the winter

⁸⁹ *Citing* Tr. at 582, L23 – 583, L12.

⁹⁰ *See* Ex. NGP-1 at 38, L4.

⁹¹ *See* Ex. NGP-7.

⁹² *Citing* Ex. NGP-6 at 13-15.

season, where conditions for liquid fallout are most critical. This value must therefore be one that would not create operational problems under any operating condition on Natural's system.⁹³ Although a 20°F CHDP value may provide, in favorable seasonal conditions, greater flexibility in the processing of gas delivered to Natural's system, it is reasonable to defer to Natural's need to maintain responsible management of its pipeline system. Therefore, the Commission finds that Natural's methodology for defining its market area and computing its CHDP safe harbor limit is both reasonable and consistent with the HDP White Paper, and may be approved.

74. Indicated Shippers' analysis generates additional data points which identify deliveries that had been made by Natural in the market area at CHDP values at or above 20°F.⁹⁴ The fact that Natural historically has delivered gas which has a CHDP at or above 15°F or 20°F to the Chicago market on a number of occasions should not form the sole basis for the setting of a CHDP safe harbor value. The purpose of the safe harbor is to provide shippers a guarantee that gas satisfying that provision will be accepted, regardless of changing conditions on the system. The Commission has already held that the dynamic nature of the conditions on Natural's system requires some discretion to deal with the threat of liquids fallout.⁹⁵ Alliance has conceded that Natural would make significantly greater amounts of liquids under a proposed 25°F safe harbor level than it would under the 15°F safe harbor proposed by Natural.⁹⁶ The 15°F safe harbor value provides a margin of safety which is small when compared to the 18°F – 23°F CHDP range Natural has experienced on its system. The safe harbor value should be set below the operational values to provide an effective margin of protection for the system. Indicated Shippers' 20°F CHDP level and Alliance's 25°F CHDP level are both flawed because they fail to provide a margin of safety. The Commission therefore finds Natural's use of a 15°F CHDP safe harbor value for its system appropriate.

⁹³ *Natural*, 113 FERC ¶ 63,036 (2005).

⁹⁴ *See* Ex. IS-7.

⁹⁵ *Natural*, 102 FERC ¶ 61,234.

⁹⁶ Tr. at 1467, L13 – 1468, L11.

5. Natural's CHDP Curves

a. ID

75. After determining that peak CHDP levels in Natural's market area in the winter are 18°F – 23°F, Natural next selected a candidate CHDP safe harbor of 15°F.⁹⁷ Natural then evaluated whether such a safe harbor would enable it to keep liquid dropout to a manageable level. Liquid dropout is most likely to occur at those points on a system where there are pressure drops, for example at delivery points. This is because a decrease in pipeline pressure causes the temperature of gas to decrease, which in turn increases the possibility of liquid dropout. "The rule of thumb is that for every 100 pounds of pressure drop, the gas temperature will drop by 7°F."⁹⁸ This drop in temperature is represented by what is known as the Joules-Thomson (J-T) line. That line, which has a constant slope and is drawn tangent to a single point to the CHDP phase curve, enables an analyst to identify points where liquids fallout could potentially occur, depending upon the level of the pressure drop at or downstream of the delivery point.⁹⁹ Volumes with temperature/pressure points to the right of the J-T line will not experience liquid drop out no matter how large the decrease in pressure. Volumes with temperature/pressure points to the left of the J-T line will have the potential to experience liquid drop out.

76. The ALJ stated that, to evaluate the effectiveness of its 15°F CHDP safe harbor, Natural developed three phase diagrams representing 10°F, 15°F, and 25°F cricondenthem levels.¹⁰⁰ Initially, Natural plotted the pressure and temperature for points where pressure reductions are made by Natural or by customers immediately downstream of the point of delivery.¹⁰¹ Natural's methodology identified several points located to the left of the phase curve, indicating that liquids will fall out at the stated

⁹⁷ Ex. NGP-7, Appendix B.

⁹⁸ Section 2.4.5 of the HDP White Paper.

⁹⁹ Tr. at 1175, L7 – 1177, L23.

¹⁰⁰ Ex. NGP-10 (A phase diagram is a curve representing the temperature and corresponding pressure at which gas condensation will begin to occur for a given gas stream. It is also known as a hydrocarbon dew point curve. Individual points along the curve, which represent temperature and pressure combinations where phase change will occur, are known as the cricondenthem).

¹⁰¹ Natural's Initial Br. at 19-20.

pressures and temperatures.¹⁰² Later in rebuttal testimony, Natural prepared three phase diagrams which incorporate the J-T line into its existing analysis,¹⁰³ which indicates the J-T Effect.¹⁰⁴ Natural's expert added the J-T line because the HDP White Paper calls for its application. Natural identified the points to the left of the J-T line as potential problems which significantly increased the number of problematic points Natural originally identified.¹⁰⁵

b. Parties' Exceptions

77. Alliance argues that the illustrative CHDP curves that Mr. McClain developed are unreliable.¹⁰⁶ Alliance states that Mr. McClain testified that he determined the typical composition of the gas stream flowing in the market area, which was included in his prepared direct testimony to demonstrate that his determination was consistent with the HDP White Paper methodology.¹⁰⁷ Mr. McClain then stated that he prepared "illustrative" CHDP curves or "phase diagrams," to "closely approximate" hydrocarbon dew points of 25°F, 15°F and 10°F.¹⁰⁸ Alliance argues that the CHDP curves purport to illustrate "conditions which would prevail" if Natural controlled receipts to each of the 25°F, 15°F, and 10°F levels.¹⁰⁹ Alliance claims that this assertion ignores the fact that the CHDP condition of the gas stream in Natural's market area will always be lower than the CHDP limit that is imposed on receipts, because some of the gas received by Natural will necessarily have a lower CHDP than the safe harbor limit and such lower CHDP gas will blend with gas received at the CHDP limit, thus lowering the CHDP of the overall gas stream. Alliance also argues that Mr. McClain claimed at the hearing that he took gas composition data for his 25°F CHDP curve from a location on Natural's A/G system, which is located in Texas and Oklahoma as opposed to his claim of taking the gas

¹⁰² Tr. at 1175, L7 – 1177, L23.

¹⁰³ Ex. NGP-22, NGP-23, and NGP-24 apply the J-T line to the HDP curve.

¹⁰⁴ The J-T effect states that for each 100 pounds of pressure drop, the gas temperature will drop by seven degrees.

¹⁰⁵ Natural's Initial Br. at 20-21.

¹⁰⁶ See Ex. NGP-9 and NGP-10.

¹⁰⁷ See Ex. NGP-6 at 14, table, col. 1, row 2.

¹⁰⁸ Citing Ex. NGP-6 at 16, L16-L19.

¹⁰⁹ *Id.* at 17, L1-L8.

composition typical of “the market area.”¹¹⁰ Alliance further argues that the gas composition data used to generate the CHDP curves were taken from different heating seasons.¹¹¹

c. Natural’s Position

78. Natural states that although the HDP White Paper calls only for a phase diagram for the candidate CHDP, Mr. McClain’s testimony included a phase diagram for 10°F and 20°F to compare the relative differences in liquids formation.¹¹² In rebuttal testimony, Mr. McClain provided phase diagrams with J-T lines to aid in the identification of potentially problematic points for 15°F, 20°F, and 25°F.¹¹³ Natural claims that the addition of the J-T line revealed additional potentially problematic points on Natural’s system.¹¹⁴

d. Commission Determination

79. The Commission finds that Alliance’s arguments regarding the reliability of Mr. McClain’s illustrative CHDP curves have no merit. Alliance argues that the CHDP curves purport to illustrate “conditions which would prevail” if Natural controlled receipts to each of the 25°F, 15°F, and 10°F levels.¹¹⁵ Alliance then asserts that the CHDP condition of the gas stream in Natural’s market area will always be lower than the CHDP limit that is imposed on receipts, because some of the gas received by Natural will necessarily have a lower CHDP than the CHDP safe harbor limit and therefore lower the CHDP of the overall gas stream. Alliance forgets that since the purpose of the CHDP safe harbor is to provide shippers a guarantee that gas satisfying this provision will be accepted, regardless of changing conditions on the system, it is important for the CHDP safe harbor to accommodate all conditions on Natural’s system. The Commission notes that in order for Natural’s CHDP safe harbor to limit liquids fallout to manageable levels,

¹¹⁰ *Citing* Tr. at 1074, L9-L22.

¹¹¹ Ex. NGP-10; *See also* Alliance’s Brief on Exceptions at n.37.

¹¹² *Citing* Ex. NGP-9.

¹¹³ *Citing* Ex. NGP-22 - NGP-24.

¹¹⁴ *Citing* Ex. NGP-20 at 13, L22 – 15, L9 and NGP-22 - NGP-24.

¹¹⁵ *Citing* Ex. NGP-6 at 17, L1-8.

the CHDP safe harbor must be set somewhat below the outer operational target to provide a margin of safety for all unexpected circumstances that could result in significant, and potentially dangerous, liquids fallout.¹¹⁶

80. Further, the Commission rejects Alliance's assertion that the CHDP curves are unreliable because of the gas composition that Mr. McClain used to generate his CHDP curves. Alliance states that Mr. McClain claimed in his prepared testimony that the gas compositions underlying his CHDP curves were typical of gas flowing "in the market area," but confirmed in the hearing that the gas composition data for his 25°F CHDP curve contained data from a location on Natural's A/G system located in Texas and Oklahoma. In the testimony, Mr. McClain admitted that he couldn't find a representative sample in the Chicago Market area stating that, "as far as the cricondenthem curve, they were initially all from the Chicago market, but there was one temperature I just couldn't find the illustrative gas composition with that cricondenthem. So I found one of the conserves in the A/G system. But once again, it was illustrative. So I didn't see that as a significant issue."¹¹⁷ The Commission agrees that this issue is not a significant one. Even though the sample was not taken from the market area, the sample is representative for gas on Natural's pipeline at 25°F and is for illustrative purposes only. Further, as Natural's Exhibit No. NGP-6 at 14, table, col. 1, row 2, explains "[s]upply from any area may find its way to those markets."

6. Above-Ground Facilities

a. ID

67. The ALJ found that, in arguing that the safe harbor could be set at a level above 15°F CHDP without causing liquid dropout problems, Alliance had ignored Natural's above-ground facilities.

b. Parties' Exceptions

81. Alliance argues that the ALJ erred in criticizing Alliance's witness Mr. Janzen's methodology on the basis that it "ignores above-ground facilities" without discussion.¹¹⁸ Alliance assumes that since there are no citations to the evidence, the ID was adopting the criticisms of Natural's witness Mr. Miller, who challenged Mr. Janzen's assumption that

¹¹⁶ *Citing* ID at P 24.

¹¹⁷ *Citing* Tr. at 1074, L9-22.

¹¹⁸ ID at P 31.

flowing gas temperature equals ground temperature in assessing the appropriate CHDP safe harbor level.¹¹⁹ Alliance states that Mr. Miller asserted that all of Natural's meter stations are above-ground, not buried, and that there are other above-ground facilities on Natural's system or just downstream of its system. Alliance argues that the ID failed to acknowledge or address the numerous flaws in Mr. Miller's criticism, which render it unreliable.

82. Alliance states that Natural did not provide any scientific data or analysis to demonstrate the impact of above-ground facilities on flowing gas temperatures. Alliance submits that Mr. Miller testified that he did not perform any heat transfer calculations to demonstrate a reduction in heat value for the above-ground facilities shown at Exhibit NGP-18, attached to his rebuttal testimony.¹²⁰ Alliance adds that Mr. Miller further acknowledged that there are a number of factors that would enter into the calculation of heat transfer but did not do any calculations with respect to any of those factors.¹²¹ Alliance states that the absence of meaningful data and analysis regarding gas flow velocity makes it impossible to draw any conclusions about the impact, if any, of above-ground facilities on flowing gas temperatures. Alliance argues that Mr. Miller specifically acknowledged the dependence of the cooling effect of above-ground facilities on the velocity of gas and the importance of the velocity of gas on whether there was an impact on gas temperature from exposure to above-ground facilities, which could render any impact on gas temperature insignificant.¹²²

83. Alliance argues that in lieu of substantive analysis, Mr. Miller conceded that he "just put out the common sense thought that you will have more heat transfer to ambient air if it's very cold when the facilities are above grade than you would if they're below grade."¹²³ Alliance states that because Mr. Miller did not even attempt to demonstrate or quantify his assertion that Natural's above-ground facilities have an effect on flowing gas temperatures, which significantly increases the liquids dropout problem, there was no

¹¹⁹ *Citing* Ex. NGP-11 at 33, L8 – 34, L19.

¹²⁰ *Citing* Tr. at 92, L10-L17.

¹²¹ *Citing* Tr. at 103, L19 – 104, L22.

¹²² *Citing* Tr. at 92, L21-L23; Tr. at 495, L4 – 496, L5.

¹²³ *Citing* Tr. at 98, L10-13; Mr. Miller supported his view using Ex. NGP-11 at 33, L14-15 and Tr. at 494, L1-14.

basis for the ID to conclude that above-ground facilities have any significant impact on flowing gas temperatures on Natural's system or that they undermine Mr. Janzen's proposal.

84. Alliance asserts that the illustrative examples of above-ground facilities depicted in Exhibit NGP-18 were not shown to present liquids dropout concerns. Alliance argues that as an initial matter, Exhibit NGP-18 should have been disregarded in its entirety because, as noted above, Mr. Miller did not perform any heat transfer calculations or other substantive analysis with respect to any of the depicted facilities to determine their impact, if any, on reducing flowing gas temperatures.¹²⁴ Alliance states that the examples in Exhibit NGP-18 depict an elevated river crossing, a compressor station, and a few delivery points. Alliance states that for the bridge crossing, based on Mr. Miller's testimony,¹²⁵ there is no basis to conclude that gas would be any cooler upon reaching the next downstream delivery point than it was when it first left the ground to enter the bridge crossing.¹²⁶ Alliance states that for that reason, it cannot be concluded that the above-ground river crossing poses a liquids dropout concern.

85. Alliance argues that the facilities depicted at pages 2 and 3 of Exhibit NGP-18 are two pictures of the same site, *i.e.*, Natural's Compressor Station 311, located at Hammond, Illinois. Alliance submits that the above-ground piping shown in these pictures is located on the inlet and discharge sides of the compressor station.¹²⁷ Alliance states that the above-ground piping on the inlet side has three filter separators.¹²⁸ Alliance asserts that accordingly, if there were a risk of liquids dropout on the inlet-side piping, as alleged, that risk is countered by the presence of the liquids separators. Alliance states that on the discharge side of the station, Mr. Miller testified that the discharge temperature of the gas is anywhere from 90°F to 110°F when the station is running.¹²⁹ Alliance argues that thus, there should be no risk of liquids dropout when the station is running and the gas temperature is at such an elevated level. Alliance further

¹²⁴ *Citing* Tr. at 92, L10-L17.

¹²⁵ *See* Tr. at 501, L20-L24; Tr. at 502, L2-22.; Tr. at 504, L13-19; Tr. at 505, L5-10.

¹²⁶ *See* Alliance's Brief on Exceptions at n.77 & n.78.

¹²⁷ *Citing* Tr. at 496, L16-L18.

¹²⁸ *See* Ex. IS-26 at 1; *See also* Tr. at 1039-1040.

¹²⁹ *Citing* Tr. at 496, L23 – 497, L3.

argues that when the station is not running, the gas does not even flow through the station, but bypasses it and flows through the mainline pipe, all of which is located underground.¹³⁰ Alliance asserts that thus, the gas is not exposed to above-ground piping when the station is not running and the alleged risk of liquids dropout is not present.

86. Alliance states that the facilities depicted at pages 4 through 7 of Exhibit NGP-18 show certain delivery points on the Natural system. Alliance argues that no data is provided regarding the length or diameter of the exposed piping or the velocity of the gas flowing through that piping.¹³¹ Alliance states that Mr. Miller specifically stated that he did not calculate or verify the length of time that gas spends traversing the sections of pipe shown on pages 2 through 7 of Exhibit NGP-18, nor did he know the velocity of that gas.¹³² Alliance claims that Mr. Miller also did not know whether the power plant shown on page 4 of Exhibit NGP-18, performed conditioning on the gas as it takes delivery at that point.¹³³

87. Alliance concludes that there is simply no basis to conclude from Mr. Miller's testimony that the exposed piping shown in any of these "illustrative" snapshots has any appreciable impact on flowing gas temperatures, or on potential liquids dropout concerns. As such, Alliance argues that Exhibit NGP-18 cannot serve to undermine the validity of Mr. Janzen's presentation and there was no basis for the ID to reject Mr. Janzen's proposal on the ground that it "ignores above-ground facilities."

c. Commission Determination

88. The Commission rejects Alliance's argument that the ID erred by criticizing the Alliance witness, Mr. Janzen, on the basis that his argument "ignored above ground facilities when calculating an HDP Safe Harbor." As an initial matter, Appendix A of the HDP White Paper recommends the factors that should be considered when establishing a CHDP limit. Among those factors is the minimum ambient air temperature.¹³⁴ The Commission has stated that a permanent CHDP safe harbor for Natural is the minimum

¹³⁰ *Citing* Tr. at 497, L4-L10; Tr. at 498, L7-L8.

¹³¹ *See e.g.*, Tr. at 507, L12-L14, L20-L22 (Alliance states that Mr. Miller does not know the length of the piping depicted at page 6 or 7 of Ex. NGP-18).

¹³² *Citing* Tr. at 508, L12-L21.

¹³³ *Citing* Tr. at 499, L12-L14.

¹³⁴ *See* Ex. NGP-7.

system-wide dewpoint for the gas tendered to Natural that guarantees delivery of all gas with a dewpoint that does not exceed the safe harbor dewpoint regardless of changing conditions in Natural's own market areas.¹³⁵ Therefore, the Commission finds it necessary to take into account all conditions, including the ambient air temperature at locations where Natural has above-ground facilities, rather than simply relying on the average monthly ground temperature.

89. More specifically, the Commission also finds that above-ground facilities, including the Mississippi River crossing described by Natural¹³⁶ must be taken into account when calculating a CHDP safe harbor and that Mr. Janzen's methodology was flawed for not doing so. Moreover, the record provides a basis for the ID's criticism of the methodology. Mr. Janzen acknowledged that based on a calculation completed by Indicated Shippers' witness, Mr. Hereth, a temperature drop of up to 4°F could occur on the Mississippi River crossing.¹³⁷ Further, Mr. Janzen acknowledged that there may be other river crossings closer to Natural's market area, and that he did not consider those when determining Alliance's proposed 25°F CHDP safe harbor.¹³⁸ Mr. Janzen concedes that ambient temperature will have an effect on flowing gas temperature,¹³⁹ and thus the calculated CHDP safe harbor. Alliance claims that Natural did not do any substantive analysis when considering above-ground facilities. However, Natural's witness, Mr. McClain, provided a calculation for the CHDP using the minimum ground temperature of 36°F cited by Alliance. When considering the typical pressure drops on Natural's system, Mr. Miller came to the conclusion that a 15°F safe harbor limit should be employed.¹⁴⁰ The Commission finds that above-ground facilities should be considered when establishing a CHDP safe harbor and agrees with the ALJ's criticism of Alliance's method for calculating the CHDP safe harbor.

¹³⁵ *Citing Natural*, 102 FERC ¶ 61,234.

¹³⁶ *See* Ex. NGP-18.

¹³⁷ *Citing* Tr. at 1438, L23 – 1439, L13.

¹³⁸ *Citing* Tr. at 1439, L20 – 1441, L1.

¹³⁹ *Citing* Tr. at 1437, L24 – 1438, L8.

¹⁴⁰ *Citing* Ex. NGP-20 at 26, L12 – 27, L2.

7. Problematic Points

a. ID

90. Natural's phase diagrams revealed a number of problematic points on its system when liquid dropout could occur, even with a gas stream with a CHDP of 15°F, with an increasing number of problematic points at higher CHDP levels. Based on this evidence, the ALJ found that it is evident from the record that Natural will still experience fallout of liquids at numerous points even if it maintains a 15°F CHDP level¹⁴¹ and at 15°F, Natural may experience up to 135 potential instances of liquids formation.¹⁴² In contrast, the ALJ found that Natural could expect to experience over 160 problematic points at a 20°F cricondentherm and over 190 problematic points under the 25°F proposal.¹⁴³ The ALJ stated that Indicated Shippers' expert identified almost 1,000 specific instances of problems that could occur during a single winter¹⁴⁴ and conceded that these CHDP problems could occur on a weekly basis in the depth of winter.¹⁴⁵ The ALJ also stated that the Alliance witness admitted that Natural would be making significantly greater amounts of liquids in its system under Alliance's proposed 25°F safe harbor level than it would under the 15°F safe harbor proposed by Natural.¹⁴⁶

b. Parties' Exceptions

91. Indicated Shippers state that the ID erroneously relied on Natural's measurement data. Indicated Shippers state that Natural's analysis often did not include "typical pressure and temperature points," but instead included pressure/temperature points for anomalously low and unrepresentative volumes of gas flows. Alliance agrees with Indicated Shippers' arguments and states that Natural's testimony and exhibits purporting to show that unmanageable levels of liquids dropout would occur if receipts are not controlled to a CHDP of 15°F are unreliable and are based on selective use of unrealistic data. Indicated Shippers argue that the HDP White Paper states that the volume of

¹⁴¹ Ex. NGP-22.

¹⁴² Ex. NGP-25.

¹⁴³ *Id.*

¹⁴⁴ Tr. at 1295, L5-L16 and Ex. IS-11 at 24, L9-L22.

¹⁴⁵ Tr. at 1296, L20 -1297, L9.

¹⁴⁶ Tr. at 1467, L13 – 1468, L11.

flowing gas is a consideration when analyzing the impact of pressure cuts and temperature, and in determining the appropriate CHDP level for a pipeline system.¹⁴⁷ Indicated Shippers assert that it is invalid to use temperature/pressure readings associated with anomalously low, partial or no-flow volumes. Indicated Shippers state that low volume delivery points must be considered, but should not be used to determine the CHDP safe harbor for Natural's entire system. Indicated Shippers contend that Natural never determined if the volumes associated with the temperature/pressure combinations it plotted to identify potentially problematic delivery points were representative of the flow patterns at the applicable delivery points.¹⁴⁸

92. Indicated Shippers, Alliance, and Aux Sable all contend that Natural's evidence of problematic points is unreliable. Aux Sable and Alliance claim that of the 135 points identified as problematic points, at least 100 have line heaters,¹⁴⁹ and Mr. McClain testified that the 135 points included multiple entries.¹⁵⁰ Indicated Shippers state that the ID's reference to 135 potentially problematic points at 15°F is misleading because the 135 total includes delivery points that were double-counted by Natural.¹⁵¹ Indicated Shippers assert that of the 135 points there are only 100 potentially problematic points because some of the points are included twice. This is because Natural and the customer make pressure cuts at the point, Natural delivers different gas pressures to a customer at the same point, or there are multiple meter runs for one point. Alliance agrees that many points are double-counted, based on the existence of multiple meters at a single delivery point.¹⁵² Indicated Shippers state that of the 100 potentially problematic points 69 have line heaters and will not result in hydrocarbon liquid dropout problems leaving 31 potentially problematic delivery points at a CHDP of 15°F.¹⁵³ Indicated Shippers insist that when comparing points at a CHDP of 15°F and 20°F, there are no additional problematic points. Indicated Shippers contend that this is confirmed by Nicor Gas'

¹⁴⁷ *Citing* Ex. NGP-7 at 30 and Tr. at 1103, L13-L17.

¹⁴⁸ *Citing* Tr. at 1015, L1-L9; Ex. NGP-7 at 29; Tr. at 1103, L13-L17; and Tr. at 1022, L11-L15.

¹⁴⁹ *Citing* Tr. at 893-94 and Ex. IS-39.

¹⁵⁰ *Citing* Tr. at 894.

¹⁵¹ *Citing* Tr. at 894, L14-L18.

¹⁵² *Citing* Tr. at 878.

¹⁵³ *Citing* Tr. at 897, L1-L14; Ex. IS-39; and Tr. 893, L17-L24.

analysis.¹⁵⁴ Aux Sable, Alliance and Indicated Shippers explain that of the 17 additional potentially problematic points Natural identified at 20°F, 15 have line heaters.¹⁵⁵ Indicated Shippers add that based on Natural's data, under the actual conditions experienced the remaining two points would result in a flowing gas temperature greater than 20°F.¹⁵⁶ Indicated Shippers state that all the "specific instances of problems" cited by the ID were demonstrated to be either not problematic at a CHDP of 20°F because of line heaters and actual pressure drops or are equally problematic at a CHDP of 15°F. Aux Sable states that at least 18 of the 32 additional potentially problematic points identified by Natural at 25°F have line heaters.¹⁵⁷ Aux Sable states further that these points are only potentially problematic and under actual operating conditions these points would likely never experience hydrocarbon fallout.

93. In addition, Alliance submits that a large number of the points identified as problematic are at pressures of 700 psig and above, yet are shown at temperatures in the area of 20°F to 25°F. Alliance argues that this is not possible because in order for gas to exist at a pressure near 700 psig on Natural's system, the gas must be just downstream of a compressor station.¹⁵⁸ At that discharge of Natural's compressor stations, the gas temperature is in the area of 100°F.¹⁵⁹ Therefore, Alliance concludes that 20°F to 25°F gas at 700 psig is an impossible condition on Natural's system.

94. Indicated Shippers state that Natural has inconsistently treated the existence of line heaters when identifying potentially problematic points.¹⁶⁰ Aux Sable states that Mr. McClain failed to take into account the remedial impact of line heaters in Exhibit NGP-10. Aux Sable states that temperature increases by line heaters of just 10°F – 20°F would shift all problematic points on the left of the J-T line to the right of the J-T line for 15°F in Exhibit No. NGP-22 and that temperature increases by line heaters of just slightly

¹⁵⁴ *Citing* Tr. at 760, L2-L11 and Tr. at 743, L12-L13.

¹⁵⁵ *Citing* Ex. IS-37 and Tr. at 897.

¹⁵⁶ *Citing* Tr. at 909, L10 – 910, L5.

¹⁵⁷ *Citing* Ex. NGP-25 and APL 12.

¹⁵⁸ *Citing* Tr. at 194, L2-L15.

¹⁵⁹ *Citing* Tr. at 496-97.

¹⁶⁰ *Citing* Ex. NGP-6 at 15 and 19, L20; Tr. at 864, L5 – 865, L7; Tr. at 862, L15 – 863, L14; and Tr. at 679, L10-L25.

more than 10°F – 20°F would shift all problematic points on the left of the J-T line to the right of the J–T line for the 20°F and 25°F cricondentherm curves in Exhibit Nos. NGP-23 and 24. Indicated Shippers state that the HDP White Paper states that the presence of line heaters should be one of the parameters considered when establishing a CHDP limit,¹⁶¹ and Natural did not take into consideration the presence of line heaters at a significant number of potentially problematic delivery points. Indicated Shippers contend that the ID simply repeated Natural’s assertions that Natural identified potentially problematic points without line heaters, even though Natural’s witness on cross-examination admitted the mistakes. Indicated Shippers state that Natural’s claim that line heaters cannot be relied upon because they may malfunction or be inoperative during a critical period ignores the fact that failure of line heaters is rare and that Natural’s line heaters can and do have redundancies.¹⁶² Indicated Shippers assert that Natural failed to recognize that hydrocarbon liquid dropout is not a system-wide problem, but generally occurs as a result of a temperature reduction – which a line heater can prevent – following a pressure cut at a particular delivery point. Aux Sable and Indicated Shippers state that of Natural’s 100 delivery points with pressure cuts greater than 150 psig at least 96 have line heaters.¹⁶³ Aux Sable states that as pressure drops, so does the temperature at which hydrocarbon liquids fallout will occur.¹⁶⁴ Indicated Shippers note that no witness provided any examples of where a line heater could not be installed on either the Natural or an LDC system because of siting, permit, or emissions restrictions problems.¹⁶⁵ Aux Sable makes a similar argument. Aux Sable states that the ID fails to discuss the impact of line heaters on the calculation of the appropriate CHDP safe harbor and the HDP White Paper identified line heaters as an effective tool to prevent hydrocarbon liquids fallout.¹⁶⁶

¹⁶¹ *Citing* Ex. NGP-7 at 29, Appendix A.

¹⁶² *Citing* Tr. at 456, L21-L22 and Tr. at 1052, L2-L5; and Tr. at 1052, L24 – 1053, L3.

¹⁶³ *Citing* Ex. APL-12 and Tr. at 478, L22 – 479, L4.

¹⁶⁴ Aux Sable states that this is shown by the inward turning of the CHDP curve. Ex. IS-11 at 12, Ex. IS-5, and Tr. at 1193.

¹⁶⁵ *Citing* Tr. at 669, L1-L14 and Tr. at 1369, L8-L14.

¹⁶⁶ *Citing* Ex. NGP-7 at 14.

95. Aux Sable states that Natural's witnesses Miller and McClain concluded that the number of points below a 15°F cricondenthem is small enough to manage but at levels above a 15°F cricondenthem the number of points is too great to manage.¹⁶⁷ Aux Sable contends that Natural's witness McClain failed to adequately examine the problematic delivery points he plotted on his CHDP curve. Aux Sable claims that the assumed problematic points were unrepresentative points with nearly no flowing gas and nearly every one of the points have line heaters. Aux Sable argues that these factors eliminate nearly all of the problematic points below a 25°F cricondenthem and Mr. McClain's analysis supports a 25°F safe harbor. Aux Sable states that Mr. McCain took the minimum temperature of gas flowing at each assumed problematic point resulting from Natural's customers' pressure cuts that were not offset by line heaters.¹⁶⁸ Aux Sable asserts that Mr. McClain's analysis is suspect because the lowest temperature is not representative of actual flows at these points because these temperatures were taken during periods of little to no gas flow. Aux Sable asserts further that when a point has almost no gas flow the gas temperature at the point will be lower than normal because the gas becomes exposed to the ambient air temperature for an extended period of time.¹⁶⁹ Aux Sable contends that if Mr. McClain's analysis is corrected it supports a 25°F safe harbor.

96. Indicated Shippers state that the ID asserted that when Natural applied the J-T line to its phase diagrams plotting temperature/pressure combinations to identify potentially problematic points the number of problem points significantly increased. Indicated Shippers state that although the J-T line is a useful screening tool, the identification of problem points does not provide enough information to determine a proposed CHDP safe harbor or if a delivery point will experience hydrocarbon liquid dropout. Indicated Shippers say that according to the HDP White Paper, the analysis does not end with the identification of the potential problem points, but the next step is to examine each point to determine if it would experience an actual problem. Indicated Shippers state that the ID did not take into account that of the potentially problematic points identified, many never experience dropout problems. Indicated Shippers further state that the relevant factors include: the existence of equipment such as line heaters and pressure reduction facilities

¹⁶⁷ *Citing* Ex. NGP-1 at 45 and NGP-6 at 20 and 28.

¹⁶⁸ *Citing* Tr. at 1112 and 1114-37.

¹⁶⁹ *Citing* Tr. at 594 and 1091.

at the delivery point; the magnitude of pressure reductions; the way pressure reductions occur; the volume of gas at the delivery point; and whether deliveries are made intermittently.¹⁷⁰

97. Indicated Shippers state that in rejecting a 20°F safe harbor, the ID inaccurately stated that Indicated Shippers' witness identified almost 1,000 specific instances of problems that could occur during a single winter. Indicated Shippers also state that they identified 966 temperature/pressure combinations identifying potentially problematic delivery points. Indicated Shippers explain that the temperature/pressure combination are not individual delivery points or actual problems, but identify potentially problematic points which must be further examined. As discussed above, Indicated Shippers claim that there are no additional problematic delivery points at a CHDP of 20°F compared to a CHDP of 15°F.

98. Finally, Indicated Shippers contend that Natural's assertion that a 17°F gas stream would experience 6,869.5 gallons a day of additional hydrocarbon liquid dropout was repeated by the ID. Indicated Shippers state that the basis of Natural's hypothetical is that the entire system's flowing temperature would be 17°F for the entire day. Indicated Shippers claim that while it is possible to have an ambient air temperature of 17°F in the market area for the entire day, it is not possible for the market area's entire gas stream to experience a flowing gas temperature of 17°F. Indicated Shippers assert that piping and facilities that are buried in the ground cannot experience a flowing gas temperature of 17°F, because the flowing gas temperature will be the same as the ambient ground temperature. Indicated Shippers and Alliance state that the lowest ambient ground temperature and, thus the lowest flowing gas temperature in the Natural market area is 36°F.¹⁷¹ Indicated Shippers claim that even the gas that flows through Natural's longest above-ground piping and has the longest exposure to ambient air temperature would have a flowing gas temperature only as low as 32°F,¹⁷² and hydrocarbon liquids will only dropout if the CHDP temperature is higher than the flowing gas temperature.¹⁷³ Therefore, Indicated Shippers conclude that there never would be 6,869.5 gallons of liquids in the market area in any one day since it is not possible for the market area's entire gas stream to be at a flowing gas temperature of 17°F for an entire day. They add

¹⁷⁰ *Citing* Ex. IS-1 at 18, L1-L4.

¹⁷¹ *Citing* Ex. APL-2 and APL-13.

¹⁷² *Citing* Tr. at 1370, L7-L16.

¹⁷³ *Citing* Ex. NGP-1 at 5, L18-L20 and IS-11 at 13.

that even if all gas supplies entering Natural's system were subject to a 20°F CHDP limit, the CHDP in the market area would be less than 20°F because of the natural blending that occurs on a pipeline.

c. Natural's Position

99. Responding to assertions that Natural should not have considered problematic points with line heaters, Natural states that while line heaters are important they do not replace an appropriate CHDP safe harbor.¹⁷⁴ Natural states that the HDP White Paper indicates that line heaters offer nothing more than a point-specific solution to liquids formation problems on a pipeline and they occasionally fail, and often fail when they are most needed.¹⁷⁵ Natural contends that Indicated Shippers' witness conceded that there are substantial obstacles to the installation of line heaters in populated areas.¹⁷⁶ Natural states that if it relies exclusively on line heaters in developing its CHDP safe harbor it would result in a market area CHDP safe harbor which would create an immediate safety hazard if a line heater failed. Natural asserts that this is an unacceptable risk.

100. Natural states that Indicated Shippers' analysis supports a 15°F CHDP safe harbor as shown in the calculations of Indicated Shippers' witness Mr. Hereth demonstrating that for the winter of 2000 Natural would have potentially experienced almost 1,000 instances of liquids fallout at 36 percent of its active delivery points at Mr. Hereth's proposed 20°F CHDP safe harbor.¹⁷⁷ Natural states further that Mr. Hereth attempted to characterize these problems as "infrequent" but he admitted on cross examination that under his proposal Natural would experience problems on a weekly basis during the winter. Natural contends that this degree of liquids fallout at 20°F demonstrates the need for a 15°F CHDP safe harbor.

d. Commission Determination

101. The Commission finds no merit in Alliance's and Indicated Shippers' arguments that the ID erroneously relied on unrealistic measurement data in determining its CHDP safe harbor since they are structured around the statement, "typical pressure and temperature points." The Commission finds that Indicated Shippers misrepresent the ID

¹⁷⁴ Tr. at 479, L5-L9 and Tr. at 744, L16-L24.

¹⁷⁵ *Citing* Tr. at 486, L21-L22.

¹⁷⁶ *Citing* Tr. at 1285, L19 – 1286, L4.

¹⁷⁷ *Citing* Ex. S-11 at 24, L6-L22 and Tr. at 1295, L6-L16.

by substituting the idea that the ID relied on typical “points” instead of typical “pressure and temperatures” at points. The Commission finds that the pressure and temperature data supplied by Natural is typical for Natural’s market area. The Commission notes that Natural contends that low gas flow through certain meters is normal and such low flow points often represent interconnections with small municipalities particularly susceptible to the dangers of liquids fallout and without resources to cope with the liquids.¹⁷⁸ The Commission also finds merit in Natural’s argument that Natural has some obligation to protect the pipeline’s captive customers¹⁷⁹ and to develop a CHDP safe harbor capable of accommodating all conditions on its system.¹⁸⁰ Natural has met this obligation by using pressure and temperature data representative of its pipeline and its market area. The Commission finds that accommodating all conditions on Natural’s system¹⁸¹ necessitates consideration of low flow points as well as larger points.¹⁸²

102. The Commission rejects Alliance’s, Aux Sable’s, and Indicated Shippers’ claims that problematic points in which line heaters are installed should not be taken into consideration when determining the appropriate CHDP safe harbor limit. Line heaters are important devices which could be used to mitigate the potential of liquid fall out. However, the HDP White Paper states that “while gas heaters do indeed provide immediate protection ... gas heating alone should not be considered a system wide hydrocarbon dewpoint control.”¹⁸³ The Commission concurs with Natural’s witness, Mr. McClain, that the potential failures of line heaters must be considered when determining the CHDP safe harbor limit.¹⁸⁴ Indicated Shippers’ witness, Mr. Hereth acknowledges that under the right circumstances existing separators and pre-heaters could be overwhelmed,¹⁸⁵ causing unmanageable hydrocarbon liquid fallout on Natural’s system. Furthermore, Mr. Hereth acknowledges that new or retrofit gas heaters will be

¹⁷⁸ *Citing* Tr. at 99, L1-L12 and Ex. NGP-11 at 44, L18 – 45, L2.

¹⁷⁹ *Citing* *Natural*, 73 FERC ¶ 61,050, at 61,128 (1995).

¹⁸⁰ *Natural*, 104 FERC ¶ 61,322 at P 38.

¹⁸¹ *Id.*

¹⁸² *Citing* Tr. at 98, L19 – 99, L12 and Tr. at 99, L25 – 100, L3.

¹⁸³ *See* Ex. NGP-7 § 2.4.9.

¹⁸⁴ *Citing* Ex. NGP-29 at 14, L16-L21.

¹⁸⁵ *Citing* Tr. at 1201, L23-L25.

problematic due to air quality permitting, space availability, and noise.¹⁸⁶ Due to the potential failure of line heaters, the Commission agrees with Natural that the existence of line heaters does not provide an adequate basis to exclude delivery points with line heaters when determining where liquid fallout may occur on its pipeline system.

8. Consideration of Downstream Entities

a. ID

103. The ALJ stated that he is bound by the Commission's previous holding that in selecting the CHDP safe harbor for its system, Natural may consider the gas quality restrictions imposed by downstream entities.¹⁸⁷

b. Parties' Exceptions

104. Alliance argues that if Mr. Miller suggests that a CHDP safe harbor accommodate downstream pressure reductions down to the extreme low levels that he referenced on distribution systems, then it would be inconsistent with the Commission's direction that the safe harbor in this case accommodate all conditions "on Natural's system."¹⁸⁸ Alliance states that the Commission did not direct that the safe harbor accommodate all conditions downstream of Natural's system to the burner tip, as Mr. Miller seems to be suggesting. Alliance asserts that Natural itself must tacitly accept this point because its own safe harbor proposal is not designed to accommodate the type of extreme downstream pressure reductions referenced in Mr. Miller's testimony. Alliance notes that a pressure drop from a mainline pressure of about 800 psig¹⁸⁹ down to 100 psig would equate to a temperature reduction of 49°F and the 15°F safe harbor proposed by Natural is not designed to accommodate 49°F of temperature reduction. Alliance submits that in order to provide a buffer of that magnitude, Natural would have to assume that wintertime flowing gas temperatures are at 65°F, and no witness seriously suggests that wintertime temperatures are anywhere near that level.

¹⁸⁶ *Citing* Tr. at 1285, L19-L23.

¹⁸⁷ *Natural*, 102 FERC ¶ 61,234 at P 37-38.

¹⁸⁸ *Citing Natural*, 104 FERC ¶ 61,322 at P 38.

¹⁸⁹ *Citing* Tr. at 194.

105. Alliance argues that requiring a CHDP safe harbor to accommodate pressure reductions greater than 150 psig on downstream distribution systems would represent bad policy and downstream entities should not be permitted to unnecessarily restrict the delivery of substantial supplies of gas into the interstate pipeline system. Alliance claims that such restrictions could deprive the market of critically needed gas supplies. Alliance also claims that CHDP concerns involving receipts on downstream systems should be handled on a point-specific basis.

106. Alliance also argues that Mr. Miller alluded to CHDP limits that might be imposed by downstream entities and Natural's alleged status as a "middleman" as factors for supporting its asserted need for a CHDP safe harbor of 15°F.¹⁹⁰ Alliance states that Mr. Miller subsequently retreated from those assertions. In introducing this "middleman" concept, Mr. Miller made the point that Natural has no authority over "the specifications of the interconnecting entities to which it delivers gas."¹⁹¹ When asked to provide the specifications to which he was referring, Mr. Miller stated that his reference was merely "a generic one."¹⁹² Alliance claims that at the hearing, Mr. Miller disavowed reliance on restrictions imposed by downstream entities in Natural's development of its 15°F safe harbor proposal. Mr. Miller also stated that downstream limitations were not important¹⁹³ and that Natural's status as a so-called "middleman" was not an important factor.¹⁹⁴

107. Alliance also argues that on redirect, Mr. Miller suggested that he intended to limit his disavowal to limits imposed by interconnecting pipelines. Alliance states that Mr. Miller reiterated that Natural did not take into account the downstream requirements of pipelines, but testified that he did consider, or at least have discussions with, downstream LDCs.¹⁹⁵ On re-cross, however, he conceded that, if there were any specific

¹⁹⁰ *Citing* Ex. NGP-1 at 28, L23-L29; Tr. at 490, L19 – 491, L7.

¹⁹¹ *Id.* at 28, L23-L24.

¹⁹² *Citing* Ex. APL-4.

¹⁹³ *Citing* Tr. at 490, L13-L18.

¹⁹⁴ *Citing* Tr. at 491, L2-L5.

¹⁹⁵ *Citing* Tr. at 583-584.

limitations on the ability of LDCs to receive gas at a particular CHDP (and he did not know whether there were any), those type of limitations did not form the basis for Natural's 15°F proposal.¹⁹⁶

108. Alliance submits that as Mr. Janzen testified, if specific end-users permit pressure reductions, which reduce the gas temperature below the CHDP that results from application of a 25°F CHDP safe harbor, those entities should be responsible for reheating the gas stream prior to delivery or taking some other remedial action.¹⁹⁷ Alliance states that a CHDP safe harbor should be designed to accommodate gas as it goes from a pipeline's supply meter to a delivery meter, including pressure changes and blending and pressure reductions after delivery should be dealt with as unique circumstances on a point-by-point basis.¹⁹⁸ Alliance stresses that no single delivery point should justify a system-wide safe harbor.¹⁹⁹

c. Commission Determination

109. We affirm that in selecting the CHDP safe harbor level for its system, Natural may consider the gas quality restrictions imposed by downstream entities.

110. The September 23, 2003, Order stated that, "[t]he purpose of the permanent safe harbor dewpoint is to provide an outer limit to the flexibility we have permitted Natural to vary its gas quality standards to ensure that no liquids fallout in the gas stream. This also enables Natural to meet downstream gas quality requirements while giving shippers at least some degree of certainty that Natural will accept their gas."²⁰⁰

111. As discussed in the rehearing portion of this order, the September 23, 2003, Order did not intend to mandate that upstream pipelines' gas quality standards require that all gas received on their system meet whatever gas quality standards any downstream entity may establish.²⁰¹ The Commission finds that Natural's CHDP safe harbor may

¹⁹⁶ *Citing* Tr. at 585-88.

¹⁹⁷ *Citing* Ex. APL-1 at 13, L5-L16.

¹⁹⁸ *Citing* Tr. at 1443.

¹⁹⁹ *Citing* Tr. at 1445.

²⁰⁰ *Natural*, 104 FERC ¶ 61,322 at P 24.

²⁰¹ *ANR Pipeline Company*, 116 FERC ¶ 61,002 at P 47 (2006).

reasonably take into consideration Natural's ability to make deliveries to downstream interconnects, but Natural is not required to base its CHDP safe harbor on operating conditions on downstream systems. Based on these findings, the Commission affirms the ID and finds that the 15°F safe harbor is just and reasonable.

9. Processing Costs

a. ID

112. The ALJ stated that all that would be required to assure gas flow on Natural's system would be processing so that gas meets the posted limit and adopting the alternative safe harbor proposals would shift the costs of processing rich nonconforming gas away from the party tendering rich gas. The ALJ explained that the Commission has concluded that the shipper that injects rich gas at any point, or along any given line segment of Natural's system, must bear the cost of processing that nonconforming gas because the unprocessed rich gas could preclude Natural from providing service to other customers.²⁰² The ALJ stated that Indicated Shippers' witness agreed that the place to solve gas quality problems is at the source.²⁰³

b. Parties' Exceptions

113. Aux Sable argues that Natural's 15°F CHDP safe harbor could result in discrimination against one market area source of gas (Alliance, and by extension Aux Sable) and lead to unfair subsidization and reduce gas supply in the market area. Aux Sable states that the ID ignored Aux Sable's argument that Natural's proposal could selectively prevent some gas supplies from flowing. Natural apparently intends to impose the 15°F CHDP safe harbor on only a discrete portion of its market area. Aux Sable asserts that if Natural is permitted to do so, the result will be shifts in the costs and burden of the CHDP issue downstream into the truncated market area. Aux Sable states that Natural's Posting and Monitoring Plans include the imposition of a 15°F safe harbor in the truncated market area; however it is not listed as a management option for the Gulf Coast Line and the Amarillo Line upstream of the truncated market area. Aux Sable contends that the Alliance interconnection is the only pipeline interconnection in the truncated market area. Aux Sable states that if Natural posts its proposed 15°F CHDP safe harbor only in the truncated market area, Aux Sable could be required to process gas at a loss while other shippers/producers are not required to process gas because their

²⁰² *Citing Natural*, 102 FERC ¶ 61,234 at P 42.

²⁰³ Tr. at 1267, L3-L6; Tr. at 1273, L5-L12.

CHDP limit is 60°F or 70°F. Aux Sable adds that, if Aux Sable elects not to process gas, Alliance's gas may be unable to flow onto Natural's system. Thus, Aux Sable states that gas flowing on Alliance's pipeline would be singled out for disparate treatment, if Natural only imposes a 15°F CHDP safe harbor in the truncated market area. Aux Sable submits that a 15°F CHDP safe harbor would not be discriminatory if it were applied to gas tendered to Natural system-wide. Aux Sable claims that one likely outcome of disparate application of the 15°F CHDP safe harbor may be increased shipper nominations from Natural's affiliates, Trailblazer and Kinder Morgan Interstate.

114. Indicated Shippers state that the ID incorrectly concluded that costs would not be shifted to shippers and end-users at a 15°F CHDP safe harbor. Indicated Shippers maintain that Natural's application of overly broad CHDP limits would impose unnecessary costs on all shippers, including producers, LDCs, and end-users by requiring unnecessary processing and unnecessarily restricting gas supply.

c. Commission Determination

115. We affirm our earlier decision that the cost of processing nonconforming rich gas must be borne by those shippers who tender such gas. The February 27, 2003, Order found that the record shows that Natural's blending and liquefiable extraction efforts do not enable it to accept all non-conforming gas and "the shipper that injects rich gas at any point, or along any given line segment of Natural's system, must bear the cost of processing that non-conforming gas, since in the absence of such processing the presence of that rich gas in Natural's system could prevent Natural from providing service to other customers."²⁰⁴ Also, if the shippers who tender the non-conforming rich gas do not pay to process the gas, the cost of the additional processing required because of the non-conforming rich gas may be shifted to other shippers. Therefore, Natural should be able to impose operational CHDP limits at points and on segments of the system as operationally necessary, as long as they are not lower than the CHDP safe harbor. If Natural imposed more stringent operational CHDP limits than necessary at all points and on all segments of the system, gas supply would be restricted unnecessarily.

10. Alliance's Evidence to Support a 25°F CHDP Safe Harbor

a. ID

116. As discussed above, the ID found that Alliance's 25°F CHDP safe harbor proposal is flawed because it fails to provide an appropriate margin of error. The ALJ noted that

²⁰⁴ *Natural*, 102 FERC ¶ 61,234 at P 42.

Alliance's proposal is not based upon industry standards, ignores above-ground facilities, and does not focus on the coldest ground temperature readings, which represent the greatest potential for liquids fallout.²⁰⁵ The ALJ explained that Alliance's witness set the proposed safe harbor level based on average ambient ground temperatures and an assumed pressure drop of 150 psig. Not only is this methodology out-of-step with the industry-wide methodology for determining CHDP limits, it is also not based on Natural's operations. The ALJ stated that Alliance's witness assumed that Natural would not experience pressure drops in excess of 150 psig and therefore concluded that a 25°F CHDP safe harbor provides a sufficient margin of safety. The ALJ stated that 150 psig represents the average pressure drop on Alliance's system;²⁰⁶ however, Natural quite frequently experiences pressure reductions in excess of 150 psig. The ALJ stated that Alliance's witness conceded on cross examination that Natural experienced numerous pressure drops of greater than 150 psig.²⁰⁷

b. Parties' Exceptions

117. Alliance argues that the ID did not address Alliance's evidence or arguments for the 25°F safe harbor and a fair review of its evidence demonstrates that its proposed 25°F safe harbor level is well supported and just and reasonable. Alliance states that its witness, Mr. Janzen, developed a pragmatic approach to determining the appropriate CHDP safe harbor level, taking into account ambient ground temperatures, which are directly related to flowing gas temperatures, as well as a reasonable level of pressure reduction. Alliance submits that Mr. Janzen has extensive experience in natural gas pipeline hydraulic design²⁰⁸ and operations and based on that experience, he developed an appropriate CHDP safe harbor level for Natural's system. Alliance argues that his approach is based primarily on the most critical factors that can result in hydrocarbon dropout: ambient ground temperature, which is directly related to minimum flowing gas temperature, and pressure reduction.

²⁰⁵ Peoples' Reply Br. at 5.

²⁰⁶ Ex. APL-1 at 12-13.

²⁰⁷ Ex. NGP-19.

²⁰⁸ *Citing* Ex. APL-1 at 2, L1-9; In addition to his experience with Alliance, Mr. Janzen testified that he previously worked for the Nova Gas Transmission Corporation (Nova) in Canada, which he testified is the most complex gathering and transmission system in the world. Tr. at 1464, L15-L24; Tr. at 1474, L8 – 1475, L2.

118. Mr. Janzen first explained the fundamental premise of the hydrocarbon dropout phenomenon and explained further that hydrocarbon dropout can only occur when the gas stream is comprised of a significant percentage of components that are unable to remain in a gaseous phase at lower temperatures.²⁰⁹ Mr. Janzen explained that these components include butane and heavier hydrocarbon components and when they are present in the gas stream, at significant levels, the primary factors that can result in hydrocarbon dropout are ambient ground temperature, which directly relates to flowing gas temperature, and pressure reduction.²¹⁰

119. Alliance submits that its proposal of a 25°F CHDP safe harbor would have an 11°F “cushion” between flowing gas temperature and the CHDP, since the minimum ground/gas temperature during the coldest month on Natural’s system is 36°F.²¹¹ Alliance objects to the ALJ’s finding that it is “illogical” to set the safe harbor at the same level as “Natural’s operation goal” because that “would not allow for any margin for error.”²¹² Alliance argues that its proposed 25°F CHDP safe harbor level provides an even greater margin of safety than the 11°F cushion discussed above. Alliance claims that this is because, on Natural’s system like most interstate pipeline systems, gas delivered to the pipeline with a higher CHDP will generally mix or “blend” with lower CHDP gas.²¹³ Alliance further claims that if the safe harbor is enforced against all receipt points, the resulting CHDP of the gas in Natural’s system will be lower than the safe harbor level.²¹⁴

120. Alliance states that gas flows on Natural’s system have an actual CHDP level far below the CHDP limits imposed on receipts, demonstrated by the fact that Natural has imposed CHDP limits on receipts of 60°F and 70°F since 2001 and yet Natural’s own testimony states that the actual CHDP levels experienced in its market area were in the

²⁰⁹ *Citing* Ex. APL -1 at 4, L14-L15; at 9, L1-L7.

²¹⁰ *Id.* at 9, L7-9; Alliance submits that Natural’s witness Mr. McClain agreed that the two elements that contribute to flowing gas temperature are ground temperature and pressure reduction. Tr. at 1084, L2-7.

²¹¹ *See* Ex. APL-1 at 12, L18 – 13, L2.

²¹² *Citing* ID at P 31.

²¹³ *See, e.g.*, Tr. at 217, L20-L22.

²¹⁴ *See* Tr. at 492, L9-L14.

18°F to 23°F range.²¹⁵ Alliance argues that thus, Natural's claimed actual CHDP levels are some 40°F to 50°F below its CHDP receipt limits and because the actual overall CHDP of the gas stream on Natural's system will be well below the safe harbor level, Alliance's proposed 25°F safe harbor provides an even greater margin of safety than the 11°F cushion and 150 psig pressure drop.²¹⁶

121. Alliance states that several additional factors support the adoption of Alliance's proposed 25°F CHDP safe harbor level. Alliance argues first that Natural's witness Mr. Miller submitted sworn testimony in support of Natural's initial tariff change filing in this proceeding, which acknowledged that Natural uses a 25°F CHDP to define safe operating conditions in the market area.²¹⁷ Alliance also argues that Ms. Williams for Nicor Gas, the LDC which represents Natural's largest customer,²¹⁸ provided testimony at the hearing with regard to the temperature of the gas delivered by Natural to Nicor Gas. Alliance states that Ms. Williams acknowledged that Natural's tariff requires that Natural deliver gas to Nicor Gas with a minimum delivery temperature of 40°F.²¹⁹ Ms. Williams also testified that she was unaware of any examples where the temperature of the gas delivered by Natural to Nicor Gas fell below 40°F²²⁰ and further testified that, for periods other than the past winter, she was also unaware of any past instances where Natural delivered gas to Nicor Gas at a temperature of less than 40°F.²²¹ Alliance asserts that the fact that Natural's largest customer is unaware of ever receiving gas at a temperature lower than 40°F further highlights the conservative nature of Alliance's 25°F CHDP safe harbor proposal.²²²

²¹⁵ *Citing* Ex. APL-1 at 14, L15-L17.

²¹⁶ *Id.* at L7-L14.

²¹⁷ *Citing* Ex. APL-1 at 15, L10-L19.

²¹⁸ *Citing* Tr. at 541, L14-L22.

²¹⁹ *Citing* Tr. at 733, L23 – 734, L5.

²²⁰ *Citing* Tr. at 734, L24 – 735, L10.

²²¹ *Citing* Tr. at 736, L2-L8.

²²² Alliance claims that this acknowledgement by Ms. Williams is particularly significant in that most of the points identified as “problematic” by Natural are Nicor Gas delivery points.

122. Alliance also argues that while the process of delivering gas to end-users by LDCs involves a series of pressure regulating and controlling devices, which may result in pressure and temperature reductions, Mr. Janzen testified that gas typically will travel some distance in an LDC system between pressure regulation devices and during such transportation, the gas is commonly returned to ambient ground temperature. Alliance states that thus, by the time the gas is required to undergo the next pressure reduction, the temperature has been restored to what it was when initially delivered by the interstate pipeline.²²³

123. Alliance further argues that every delivery point that requires greater than 300 psig of pressure reduction also requires a line heater to preheat the gas prior to that pressure reduction. Alliance states that as demonstrated on Exhibit APL-12, approximately 96 percent of the points that Natural identified as having over 150 psig of pressure reduction were demonstrated to be protected by line heaters. Alliance argues that this simple fact makes all three proposed CHDP safe harbor levels equal from an operational perspective. Alliance asserts that selecting the 25°F safe harbor will provide the most flexibility for shippers on Natural's system and will offer the greatest benefit to shippers and consumers.

124. Alliance states that the fact that Alliance has a 14°F CHDP limit is irrelevant to setting a CHDP safe harbor for Natural's system. Alliance claims that since it operates in a colder climate than Natural, commencing in western Canada (Exhibit APL-1 at 2, L17-20), it is not unexpected that Alliance would have a lower CHDP limit. Even, Mr. Miller conceded that due to its colder operating climate, Alliance might well have a lower dewpoint limitation than a pipeline operating in the Midwest and Gulf South.²²⁴ Mr. Janzen explained at the hearing that Alliance originally adopted the 14°F CHDP limit in its tariff to match the CHDP limit on the Nova Gas Transmission system in Canada for competitive purposes²²⁵ and to facilitate regulatory approval of the Alliance pipeline project by the Canadian National Energy Board. Alliance further argues that since its system is an integrated "bullet" line, the U.S. tariff has the same CHDP limit as the Canadian segment of the system.²²⁶ Moreover, Alliance states that since August 6, 2002,

²²³ *Citing* Ex. APL-1 at 16, L1-L8.

²²⁴ *Citing* Tr. at 466, L11-L22.

²²⁵ *See* Tr. at 1470, L12-L23.

²²⁶ *Citing* Tr. at 1470, L24 – 1471, L3.

Alliance has had a waiver of the 14°F CHDP tariff limit in place, allowing the receipt of gas with up to a 68°F CHDP.²²⁷ Furthermore, Mr. Janzen testified that Alliance would change its CHDP limit, if requested by shippers.²²⁸

125. Alliance states that the argument that Mr. Janzen’s methodology is inconsistent with the HDP White Paper in no way undermines the validity of his approach. Alliance argues that the HDP White Paper represents a recommendation only,²²⁹ which has not been adopted by the Commission, and which is not binding on this proceeding. Alliance also argues that the HDP White Paper does not even deal with the establishment of an CHDP safe harbor,²³⁰ and the factors set forth in the HDP White Paper are identified specifically as “a set of parameters that may be useful” in setting a CHDP to avoid liquid dropout. Indicated Shippers state that the ID erroneously disregarded Alliance’s analysis of Natural’s data. Indicated Shippers state that, although Alliance did not use the HDP White Paper’s approach, Alliance used an approach based on its operating experience. Indicated Shippers state that Alliance’s analysis is based largely on ground temperatures and pressure drops on Natural’s system (both identified as important factors by the HDP White Paper). Alliance and Indicated Shippers contend that the ID largely dismissed Alliance’s proposal because Alliance focused on pressure drops on Natural’s system lower than 150 psig. However, both Alliance and Indicated Shippers state that almost all of Natural’s delivery points with pressure drops greater than 150 psig have line heaters and, thus, are not problematic.²³¹ Alliance states that Natural’s witness, Mr. Miller testified that the gas which Natural delivers to the market must often be reduced in pressure to 100 psig or lower.²³² Mr. Miller also cites testimony by Nicor Gas and Peoples regarding pressure drops of up to 500 psig on downstream distribution systems.²³³ Indicated Shippers state the ID also claims that Alliance ignored Natural’s above-ground facilities. However, as discussed above, Indicated Shippers contend that as

²²⁷ *Citing* Tr. at 1471, L3-L8.

²²⁸ *Citing* Tr. at 1419, L21-L22; Tr. at 1471, L6-L8.

²²⁹ *Citing* Ex. NGP-7 at 2, section 1.1.

²³⁰ *Citing* Ex. NGP-6 at 15, L7.

²³¹ Alliance points out that of the 100 points on Natural’s system that have a 150 psi pressure drop, only three or four are not protected by line heaters. *See* Ex. APL-12.

²³² *Citing* Ex. NGP-11 at 38, L21 – 39, L6.

²³³ *Id.* at 39, L12-L19.

long as the flowing gas temperature is above the CHDP temperature there will be no hydrocarbon liquids dropout and that Natural did not do any analysis regarding its above-ground facilities.²³⁴ Aux Sable makes similar arguments.

126. Aux Sable claims that, contrary to the ID's assertion, Alliance has not ignored the coldest ground temperature readings in selecting a 25°F CHDP safe harbor. Aux Sable states that during 2002-2004 the average ground temperature did not fall below an average of 35°F in February, the coldest part of winter, and during December 2004-February 2005, the flowing gas temperatures on the inlet side of the compressor stations in Natural's market area almost always fell within a 39°F to 60°F range before compression.²³⁵ Aux Sable insists that, although Natural's witnesses testified that it has many above-ground temperature facilities exposed to cold ambient air temperature, Natural did not provide any actual evidence regarding the gas temperatures at these above-ground locations.²³⁶ Aux Sable discusses Station 311 as an example to demonstrate that there is little to no decrease in gas temperatures on Natural's above-ground facilities. Aux Sable states it is important that flowing gas temperatures not be allowed to drop below 25°F and that serious operational concerns are why Natural requires that gas may not be delivered at a temperature below 40°F.²³⁷ Aux Sable concludes that the record supports a 25°F CHDP safe harbor and fails to demonstrate that Natural's flowing gas temperatures justify the proposed 15°F CHDP safe harbor.

c. Natural's Position

127. Natural asserts that the alternative safe harbor proposals should be rejected. Natural states that Alliance's witness Mr. Janzen proposes to set the safe harbor entirely on average ambient ground temperatures and an assumed pressure drop of 150 psig, which is not based on (and does not accurately reflect) Natural's operations. Natural claims that Mr. Janzen admits that Alliance's proposal will lead to substantially greater

²³⁴ Indicated Shippers state that Natural did not perform heat transfer calculations, determine the velocity of the gas, determine the length of time the gas is above ground, determine the impact of ambient air temperatures on CHDP levels, or consider the fact that many of its above-ground facilities flow gas through a compressor which increases gas temperatures.

²³⁵ *Citing* Ex. APL-2 and APL-13.

²³⁶ *Citing* Tr. at 494.

²³⁷ *Citing* Ex. NGP-12 at 2.

levels of liquids fallout on Natural's system.²³⁸ Natural states that the HDP White Paper explains that minimum ambient ground temperature is only one of the many factors to be considered in setting CHDP limits.

128. Natural further states that Mr. Janzen did not prepare a phase diagram for the proposed 25°F safe harbor; plot points reflecting actual experienced temperature and or pressure reduction; or conduct a review of the historical operating pressures and temperatures in Natural's market area. Natural states that Mr. Janzen's proposal leaves the smallest margin for safety making consideration of actual operating experience imperative. Natural asserts that it experiences dangerous levels of liquid hydrocarbon fallout when its market area gas stream's CHDP reaches the range of 18°F to 23°F during the winter.²³⁹ Natural notes that Mr. Janzen admitted that under his proposal there are numerous problematic points that would not be problematic under a 15°F CHDP safe harbor.²⁴⁰ Natural adds that Mr. Janzen's approach ignored Natural's above-ground facilities which are subject to ambient air temperature. Natural contends that Mr. Janzen admitted he did not know if he was dealing with a colder than normal winter or if the years he used were dryer or wetter than normal and ground moisture might be a more important factor than ground temperature. Natural states that Alliance attempts to minimize the importance of some of the 100 points in Iowa and Illinois on Natural's system that experience pressure reductions in excess of 150 psig²⁴¹ because they are small volume points. Natural reiterates that it must address the interest of the numerous small customers and end use markets Natural serves. Natural adds that it must not be concerned with the profitability of an affiliated processor, as Alliance and Aux Sable are.

d. Commission Determination

129. We affirm the ID's rejection of Alliance's 25°F CHDP safe harbor proposal.²⁴² The Commission finds that Alliance's proposal is flawed because it uses a methodology that is different from the Commission's directed methodology for determining CHDP limits, and is not based on Natural's operations. Alliance's proposal did not follow the

²³⁸ *Citing* Tr. at 1467, L13 – 1468, L11.

²³⁹ *Citing* Ex. NGP-11 at 17, L17-L23.

²⁴⁰ *Citing* Tr. at 1467, L13 – 1468, L11.

²⁴¹ *Citing* Ex. NGP-11 at 35, L22-L23 and NGP-19.

²⁴² *Citing* ID at P 31.

Commission's directive to "accommodate all conditions"²⁴³ on Natural's system and therefore dismissed pertinent information for determining the proper CHDP safe harbor. The Commission agrees with Natural that Alliance did not account for pressure drops in excess of 150 psig,²⁴⁴ ignored above-ground facilities and did not focus on the coldest ground temperature readings. Therefore, Alliance's proposal does not allow an appropriate margin for error. For the above stated reasons, Alliance's proposal is rejected.

11. OFOs

a. Parties' Exceptions

130. Indicated Shippers state that the ID mischaracterized the Indicated Shippers' position as requiring Natural to regularly issue OFOs when there are suboptimal operating conditions. Indicated Shippers claim that their position appears to be the same as Natural's stated position. Indicated Shippers state that no party has suggested that Natural should no longer be able to issue an OFO to protect the integrity of its system; however, Natural's issuance of OFOs should be limited to circumstances against which no reasonable CHDP safe harbor can protect. Indicated Shippers add that the ID stated that at a CHDP of 20°F virtually all unexpected circumstances could result in significant, and potentially dangerous, hydrocarbon liquid dropout. Indicated Shippers maintain that Natural has not provided any record evidence indicating that the hydrocarbon liquids would be more manageable with a 15°F CHDP safe harbor and an OFO would not be issued if Natural's hydrocarbon liquid management equipment and measures fail.

b. Commission Determination

131. The Commission finds no merit in Indicated Shippers' argument that Natural's issuance of OFOs should be limited to circumstances against which no reasonable CHDP safe harbor can protect. The CHDP safe harbor is a single figure to be set forth in Natural's tariff and applies to Natural's entire system, not just a single segment or certain points. The CHDP safe harbor will not fluctuate based on changing operational conditions. However, in contrast, operational CHDP limits which are based on the changing operational conditions on various segments or at certain points on Natural's system may fluctuate but may not be lower than the CHDP safe harbor. The Commission

²⁴³ *Citing* ID at P 19.

²⁴⁴ *Citing* Ex. NGP-19. Natural states that Mr. Janzen conceded that Natural experiences numerous pressure drops of greater than 150 psig. Tr. at 1462, L15-L19.

finds that in order for Natural to protect the integrity of its system, Natural may issue an OFO in accordance with its tariff. It is not possible to foresee all events on the pipeline and emergencies that may arise in which Natural must issue an OFO to protect the operational integrity of its system. The OFO provisions in Natural's tariff provide Natural with the ability to address these emergency situations.

The Commission orders:

(A) The requests for clarification and rehearing are denied, as discussed in the body of this order. However, the Commission will further consider the issue of Natural's Btu limits, but only pursuant to the procedures established in the body of this order.

(B) The ID is affirmed, as discussed in the body of this order.

By the Commission.

(S E A L)

Magalie R. Salas,
Secretary.