UNITED STATES OF AMERICA 119 FERC ¶ 61,075
FEDERAL ENERGY REGULATORY COMMISSION

OPINION NO. 495

OPINION AND ORDER ON INITIAL DECISION

AES Ocean Express LLC	Docket Nos. RP04-249-001
v.	
Florida Gas Transmission Company	
Southern Natural Gas Company	CP05-388-000
Florida Gas Transmission Company	CP06-1-000

Issued: April 20, 2007

20070420-3043 Issued by FERC OSEC 04/20/2007 in Docket#: RP04-249-001

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

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(Issued April 20, 2007)

TABLE OF CONTENTS

1. On April 11, 2006, the Presiding Administrative Law Judge (ALJ) issued an Initial Decision[1] in the above-captioned proceeding addressing issues related to the determination of appropriate natural gas quality and interchangeability standards to accommodate the introduction of re-gasified liquid natural gas (LNG) into market areas of the Florida Gas Transmission Company, LLC (Florida Gas)[2] system. As discussed below, the Commission generally affirms the ALJ's decision, but the Commission does reverse the ALJ on a few issues.

I. Background

2. Florida Gas's pipeline system was constructed in 1959 to transport gas from traditional gas producing areas in Texas, Louisiana, Mississippi, and Alabama into Florida. When constructed, Florida Gas received domestically produced gas supply from onshore producers and upstream pipelines. Currently, the gas transported on Florida Gas comes mostly from sources in the Gulf of Mexico, with some from onshore producers.[3] Florida Gas provides transportation service for electric generation and local distribution companies (LDC) in Florida. Its electric generation customers constitute approximately 80 percent of its throughput.[4] Florida Gas's system consists of its Market Area, which includes its facilities east of the Alabama-Florida state line (*i.e.*, the facilities located within the state of Florida), and the Western Division, which consists of facilities west of the Alabama-Florida state line.[5]

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[1] 115 FERC ¶ 63,009 (2006).

[2] Florida Gas Transmission Company changed its name to Florida Gas Transmission Company, LLC, effective September 1, 2006. Unpublished Director Letter Order dated August 30, 2006, Docket No. RP06-463-000.

[3] Florida Gas's FERC 2006 Form 567.

[4] *AES Ocean Express, LLC v. Florida Gas Transmission Co.*, 107 FERC ¶ 61,276 at P 2 (2004).

[5] This division is memorialized in Florida Gas' tariff for zone rate and service distinction purposes. *See* Florida Gas's FERC Gas Tariff, Fourth Revised Volume No. 1, Sheet Nos. 7-14 for the zone rates, and Rate Schedules FTS-WD, ITS-1, and ITS-WD, and Section 1: Definitions, of the General Terms and Conditions for the service distinctions.

3. On January 29, 2004, the Commission issued a Presidential Permit and NGA sections 3 and 7 authorizations to AES Ocean Express LLC (AES) to construct and operate natural gas pipeline facilities to transport re-gasified liquid natural gas (LNG) from an offshore receipt point at the boundary between the Exclusive Economic Zone of the United States and the Commonwealth of the Bahamas to onshore delivery points in Broward County, Florida.[6] AES's proposed pipeline was to interconnect with Florida Gas in the Market Area.[7]

4. AES and Florida Gas were unable to reach an agreement on all of the terms and conditions of an Interconnection Agreement, and on April 5, 2004, AES filed a complaint with the Commission alleging that Florida Gas had insisted on burdensome terms that were not justified by its tariff or by operating conditions, including conditions related to gas quality and interchangeability. AES alleged that Florida Gas was creating barriers to an interconnection, and that Commission intervention to enforce its interconnection policy was necessary.

5. On June 18, 2004, the Commission issued its order on the complaint.[8] In that order, the Commission explained that Florida Gas had traditionally received deliveries of gas supplies from the Gulf of Mexico and onshore sources, and that its tariff addresses gas quality issues associated with those supply sources. However, the Commission noted that Florida Gas had stated that four new suppliers had requested interconnections that would introduce re-gasified LNG directly into its Market Area. The Commission stated that this could create operational issues that were not adequately addressed by Florida Gas's current gas quality standards.

6. The Commission explained that AES and Florida Gas agreed that the gas quality provisions in their Interconnection Agreement should be filed as revisions to Florida Gas's tariff, but disagreed on some of the substantive gas quality issues as well as when Florida Gas should make its tariff filing. Florida Gas stated that it would file its tariff provisions governing the quality specifications for LNG prior to commencement of any LNG deliveries, while AES asserted that Florida Gas should be required to file its

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[6] *AES Ocean Express, LLC*, 103 FERC ¶ 61,030 (2003), *order amending preliminary determination*, 103 FERC ¶ 61,326, *order issuing presidential permit and NGA sections 3 and 7 authorization*, 106 FERC ¶ 61,090 (2004).

[7] 103 FERC ¶ 61,030 at P 5.

[8] 107 FERC ¶ 61,276 (2004).

proposed gas quality standards within 60 days after AES obtained its construction financing because the gas quality standards could affect its construction plans.

7. The Commission found that there was a compelling need to address the natural gas quality and interchangeability standards[9] that would be in place on the Florida Gas system. The Commission stated that given the long lead time between project inception and the beginning of operation of a new source of LNG, decisions needed to be made at the outset on gas quality and interchangeability requirements which are essential to project planning and financial arrangements. The Commission stated that because Florida Gas was engaged in discussions with four potential LNG project pipelines, including one affiliated pipeline, there was a need for timely and comparable treatment of these issues. Therefore, the Commission exercised its authority under section 5 of the NGA to require Florida Gas to file tariff revisions related to gas quality and interchangeability standards. The Commission explained that pipelines seeking an interconnection with another pipeline must satisfy the standards established in *Panhandle Eastern Pipe Line Company*.[10] These standards were established to ensure that competitive forces operate freely, and to ensure that open access pipelines do not impose artificial restrictions. Further, the Commission stated that customers need assurances that the introduction of new LNG supplies into the Florida Gas system will have no detrimental effects on the pipeline or its customers. The Commission also found that it is not appropriate for Florida Gas to negotiate gas quality standards individually in the interconnection agreements. Negotiation of "special" conditions in an interconnection agreement may subject future shippers to hidden rules.

8. On July 23, 2004, Florida Gas filed *pro forma* tariff sheets to comply with the Commission's June 18, 2004 order. The proposed revisions applied only to Florida Gas's Market Area. Florida Gas asserted that it did not propose revisions to its existing gas quality and interchangeability provisions with respect to its Western Division because it is able to effectively blend LNG and domestic gas received in the Western Division. On

[9] The NGC+ Interchangeability Report defines interchangeability as "[t]he 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." NGC+ Interchangeability Report at 2. Gas Quality is concerned with the impact of non-methane hydrocarbons on the safe and efficient operation of pipelines, distribution facilities, and end-user equipment. *Policy Statement on Provisions Governing Natural Gas Quality and Interchangeability in Interstate Natural Gas Pipeline Company Tariffs,* 115 FERC ¶ 61,325 at P 5 (2006).

[10] 91 FERC ¶ 61,037 (2000).

September 7, 2004, the Commission issued an order on the compliance filing,[11] and concluded that issues related to the proposed gas quality standards would be best addressed at a hearing. In establishing the hearing in this proceeding, the Commission stated that the gas quality and interchangeability standards that are adopted in this proceeding must facilitate increased access to LNG supplies, and ensure that the introduction of LNG into Florida Gas's system will have no detrimental impact on the pipeline or its customers.

9. While the AES certificate application and complaint were being processed, another proposal for delivering vaporized LNG into Florida Gas's Market Area was processed by the Commission. It involves the importation of LNG to the Elba Island LNG Terminal owned by Southern LNG Inc. (SLNG) near Savannah, Georgia. The first component of this project is the expansion of storage and vaporization capacity at SLNG's Elba Island Terminal.[12] This expansion was placed into service on February 1, 2006. The second component of the proposal involves an expansion of Southern Natural Gas Company's (Southern) existing interstate pipeline system known as the Cypress Pipeline Project.[13] The primary new facility of the Cypress Pipeline Project will be a new pipeline (the Cypress Pipeline) extending from a point on Southern's existing pipeline system downstream from its interconnection with SLNG's Elba Island LNG Terminal to an interconnection with Florida Gas's Jacksonville Lateral near Jacksonville, Florida and to a direct interconnection with JEA. (See map below).[14] The Cypress Pipeline will allow Southern, for the first time, to deliver re-vaporized LNG from SLNG's Elba Island LNG Terminal directly into the state of Florida. The Cypress Pipeline, after all phases are completed, will be able to transport up to 500 MMcf/d of gas into Florida, with the initial firm service of 160,000 MMBtu/d scheduled to commence on May 1, 2007.[15] Southern entered into precedent agreements with BG LNG Services, LLC (BG LNG) and

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[11] *AES Ocean Express, LLC v. Florida Gas Transmission Co.*, 108 FERC ¶ 61,221 (2004).

[12] *Southern LNG Inc.*, 103 FERC ¶ 61,029 (2003) (order issuing authorization) and 101 FERC ¶ 61,187 (2002) (preliminary determination).

[13] *Southern Natural Gas Co.*, 113 FERC ¶ 61,199 (2005) (preliminary determination); and 115 FERC ¶ 61,328 (2006) (order issuing authorization).

[14] 113 FERC ¶ 61,199 at P 5. JEA was formerly known as the Jacksonville Electric Authority.

[15] 115 FERC ¶ 61,328 at P 1-2.

Florida Power Corporation d/b/a Progress Energy Florida, Inc. (Progress Energy) for firm transportation of re-vaporized LNG from SLNG's Elba Island LNG Terminal to the Florida interconnections. [16] In the final component of the proposal that the Commission certificated to bring re-vaporized LNG from the Elba Island LNG Terminal to Florida, Florida Gas was authorized to construct facilities in order transport BG LNG's and Progress Energy's volumes to delivery points on Florida Gas's system. Specifically, Florida Gas would transport the volumes by a combination of displacement and reverse flow on its Jacksonville Lateral to its mainline Compressor Station 16. From there, the gas would move to Progress Energy's primary delivery point at its Hines Electric Generating Facility southeast of Tampa.[17] The total estimated facilities cost for these three projects is $575 million.[18]

[16] Progress Energy and BG LNG entered into 20-year agreements with Southern for firm transportation services commencing on May 1, 2007. 113 FERC ¶ 61,199 at P 8. JEA indicates that it will be the recipient of BG LNG supplied gas directly from Cypress Pipeline. JEA's August 31, 2005 Response, Docket No. CP05-388-000, at p. 2.

[17] *Florida Gas Transmission Co.*, 115 FERC ¶ 61,238 (2006). Progress Energy entered into a 20-year summer service agreement at an initial level of 60,000 MMBtu/d starting on May 1, 2007, which increases to 80,000 MMBtu/d on May 1, 2008 and finally to 100,000 MMBtu per day on May 1, 2009. BG LNG entered into a 20-year summer service agreement for 60,000 MMBtu/d of firm service commencing on May 1, 2007. *Id.* at P 9.

[18] The estimated costs are as follows:

SLNG	$148 million	101 FERC ¶ 61,187 at P 6.
Cypress	$321 million	115 FERC ¶ 61,328 at P 1-2
Florida Gas	$106 million	115 FERC ¶ 61,328 at P 12.

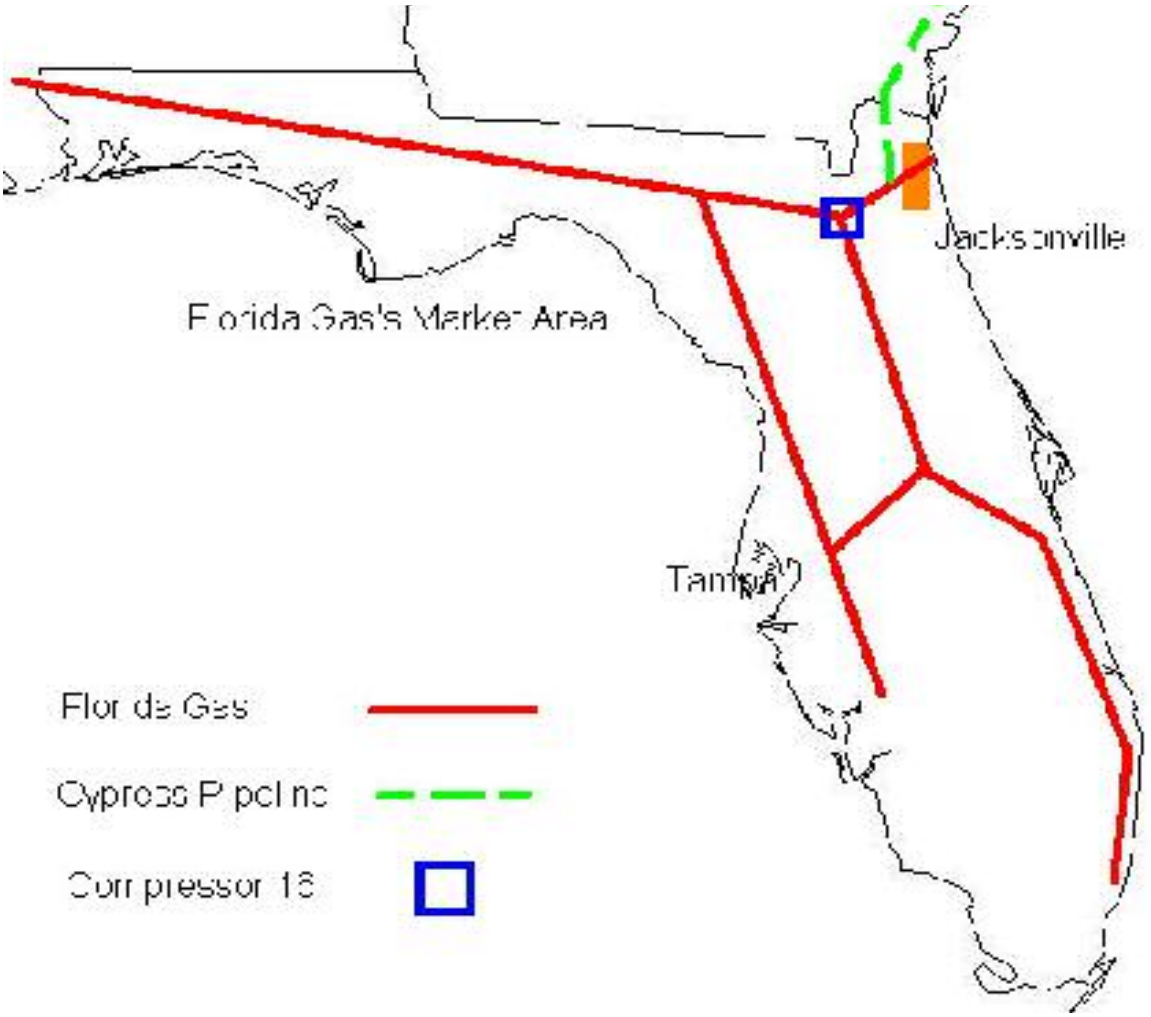

FIGURE No. 1

10. Certain LDCs and end-users that were parties to the Cypress Pipeline and Florida Gas certificate proceedings objected to Southern's and Florida Gas's proposals. They alleged that more restrictive gas quality standards may be necessary to prevent harm to customers unprepared to accommodate the wider variations in gas supplies that the Cypress Pipeline would make available. The Commission explained that the objecting parties (Peoples Gas, Florida Power & Light, and Florida Gas Utility) are located in Florida and are serviced directly by Florida Gas, and only indirectly by Southern. Therefore, the Commission stated, Florida Gas's tariff will control the gas quality and interchangeability standards that Southern must meet in order to deliver vaporized LNG to Florida Gas. Further, the Commission stated that these parties were also participating in this proceeding in *AES v. Florida Gas* and had also raised their concerns here. Thus, the Commission stated, the outcome of the instant proceeding will dictate the standards Southern must meet in order to deliver gas to Florida Gas at the Cypress-Florida Gas

interconnect[19] as well as those standards applicable to receipts on other parts of Florida Gas system.[20] Therefore, the gas standards adopted here apply to Southern's delivery of gas to the Cypress-Florida Gas interconnect as well as to Florida Gas's tariff.

11. On December 21, 2006, AES requested an extension of time to extend its in-service date until January 2011, from its original target date at the end of December 2006. On January 18, 2007, the Commission issued a letter order granting AES a two-year extension of time, until January 29, 2009, to complete construction and make its facilities available for service.[21] Thus, the delivery of LNG into the Florida Gas system through AES is no longer imminent. However, Southern's Cypress Project is currently under construction and is expected to be in service in May 2007.[22]

12. In accordance with the Commission's order, a hearing was held before an Administrative Law Judge (ALJ). The ALJ issued his decision on April 11, 2006. In the initial decision, the ALJ generally found that Florida Gas's proposal, as set forth in its rebuttal testimony, is just and reasonable, and therefore accepted its proposal. Specifically, the ALJ found the Wobbe Index[23] range proposed by Florida Gas of 1,340 to 1,396 to be just and reasonable because it will permit the safe operation of the electric generation turbines attached to its system without violating environmental standards, and at the same time will permit the importation of a substantial amount of LNG. In addition, the ALJ accepted Florida Gas's proposed Wobbe Index rate of change of 2 percent or less per six minutes. With regard to heating value, the ALJ accepted Florida Gas's proposed limits of HHV[24] of 1,025 to 1,110 Btu/scf at standard conditions of 60 degrees Fahrenheit

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[19] 113 FERC ¶ 61,199 at P 39-42.

[20] 115 FERC ¶ 61,328 at P 45-46.

[21] *AES Ocean Express LLC*, Docket No. CP02-90-000, January 18, 2007 (unpublished letter order).

[22] 115 FERC ¶ 61,328 at P 5.

[23] The Wobbe Index is a measure of the heat generated by a given burner with a fixed gas supply pressure and a constant metering orifice. Ex. FG-1 at 4:10-11.

[24] HHV stands for Higher Heating Value. The gross or higher heating value is that which is obtained when all of the products of combustion are cooled to the temperature existing before combustion, the water vapor formed during combustion is condensed, and all the necessary corrections have been made. www.aga.org. For ease of reference, the reader of this Order can equate HHV to the heat value of gas saturated with water.

and 14.74 psia,[25] for the Market Area. The ALJ, however, found that with regard to the Western Division, a lower limit should be adopted, and set the lower limit for the Western Division at 1,022. The ALJ also accepted Florida Gas's proposed LNG constituent limits.

13. Further, the ALJ held that the standards adopted should apply only to LNG, and not to domestic gas. The ALJ concluded, however, that the standards should apply not just to LNG received into the Market Area, but to LNG received into the Western Division as well. Finally, the ALJ found that the costs allegedly associated with accommodating the introduction of LNG into the Florida Gas system are speculative and too indefinite to be considered or allocated in this proceeding.

14. At the time that the hearing was being conducted, the Commission had pending a generic proceeding addressing gas quality and interchangeability issues in Docket No. PL04-3-000, *Natural Gas Interchangeability.* On February 28, 2005, the Natural Gas Council filed two technical papers in that proceeding, including one entitled *Natural Gas Interchangeability and Non-Combustion End Use*, referred to as the NGC+ Interchangeability Report.[26] The parties to this proceeding and the ALJ referenced this report in evaluating the appropriate standards to be applied on Florida Gas. On June 15, 2006, two months after the initial decision, the Commission issued its *Policy Statement on Provisions Governing Natural Gas Quality and Interchangeability in Interstate Natural Gas Pipeline Company Tariffs* (Policy Statement).[27] In that Policy Statement, the Commission set forth 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 and their customers should develop gas quality and interchangeability specifications based on technical requirements; (4) in negotiating technically based solutions, pipelines and their

[25] All Btu/scf heat measurements shown in this Order will be utilizing the standard conditions of 60 degrees Fahrenheit, 14.74 *psia* unless otherwise noted.

[26] Report on Liquid Hydrocarbon Drop Out in Natural Gas Infrastructure (HDP Report) and Report on Natural Gas Interchangeability and Non-Combustion End Use (Interchangeability Report), respectively.

[27] 115 FERC ¶ 62,325 (2006).

customers are strongly encouraged to use the Natural Gas Council Plus (NGC+) Interim Guidelines on gas quality and interchangeability as a common scientific reference point for resolving the issues; and, (5) to the extent pipelines and their customers 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.

15. Briefs on exceptions to the initial decision were filed by the Commission Trial Staff (Staff), BG LNG, Florida Gas Transmission Company (Florida Gas), jointly by Florida Generators[28] and Florida Power Corporation[29] (Florida Generators), Florida Power & Light Company (Florida Power), the LNG Suppliers Coalition (LNG Suppliers),[30] jointly by Peoples Gas System (Peoples Gas), a division of Tampa Electric Company, the Associated Gas Distributors of Florida, and the Florida Municipal Natural Gas Association (the LDCs), and Sempra Global (Sempra). Briefs opposing exceptions were filed by BG LNG, Florida Gas, the Florida Generators, the LDCs, LNG Suppliers, Southern, and Staff. The LNG Suppliers filed a motion to strike in part the brief opposing exceptions filed by the Florida Generators. Answers to the motion were filed by BG LNG and Florida Generators. Also, Florida Power filed a motion to strike the brief opposing exceptions filed by Florida Gas, and Florida Gas filed an answer to the motion.

II. Discussion

16. As discussed below, the Commission affirms the Initial Decision in part and reverses it in part. Specifically, the Commission generally upholds the ALJ's decision to accept as just and reasonable, Florida Gas's proposed standards, and further affirms the ALJ's conclusion that any mitigation costs downstream gas users may incur as a result of

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[28] The Florida Generators are Florida Power & Light Company, Florida Gas Utility, and Seminole Electric Cooperative, Inc.

[29] Florida Power Corporation does business as Progress Energy Florida, Inc. (Progress Energy). In this proceeding, Florida Power Corporation and Progress Energy filed documents under one or the other of the names, but rarely both. Throughout the order, the name Progress Energy will be used to refer to Florida Power Corporation as well as Progress Energy Florida, Inc.

[30] The LNG Suppliers Coalition are BP Energy Company, ConocoPhillips Company, Chevron U.S.A., Inc., ExxonMobil Gas & Power Marketing Company, and Shell NA LNG, LLC.

the introduction of LNG into the Florida Gas system are speculative. However, the Commission finds that the proposed standards are applicable to all gas tendered to Florida Gas's Market Area, not just to LNG as found by the ALJ. The Commission also finds that no mechanism should be established in the future for the recovery of any mitigation costs. In addition, for the reasons explained below, we will grant the motion to strike of the LNG Suppliers[31] and deny the motion of Florida Power.[32] Finally, we establish certificate compliance requirements for Southern and Florida Gas.

A. Appropriate Burden of Proof in this Proceeding

17. At the hearing, Florida Gas argued that its filing to comply with the June 18, 2004 order on complaint, as revised in its rebuttal testimony, should be evaluated under section 4 of the NGA. Florida Gas argued that this meant that if it showed that its proposed standards were just and reasonable, the Commission must accept those standards, even if the standards proposed by another party were also just and reasonable.[33] The Florida Generators contended that Florida Gas's filing constituted a section 5 filing and therefore the Commission should be free to select the best proposal among various just and reasonable proposals without regard to the source of that proposal.[34]

18. The Initial Decision stated, citing *Southern Natural Gas Co. v. FPC* (*Southern*),[35] that when the Commission requires, pursuant to section 5 of the NGA, a pipeline to file a new tariff, that new tariff is still filed under section 4, unless the Commission has found on the basis of evidence, the filing to be unjust and unreasonable. The Initial Decision concluded that in the circumstances of this case, Florida Gas's filing was a section 4 filing. The Initial Decision also stated that, as a practical matter, this ruling had no effect

[31] *See infra* P 34-47, discussion of The Appropriate Wobbe Index Range.

[32] *See infra* P 232-244, discussion of Florida Power's Right to Low Btu Gas.

[33] Florida Gas Reply Br. at 80.

[34] Florida Generators and Progress Energy Brief on Exceptions at 15. *See also,* Florida Generators Reply Br. at 7.

[35] 547 F.2d 826, 833 (5th Cir. 1977).

on the outcome of the proceeding because Florida Gas's proposal was the best proposal of all of the alternatives offered.[36]

19. On exceptions, the Florida Generators and the LDCs argue that the ALJ erred in finding that the applicable burden of proof in this proceeding is determined by section 4 of the NGA. These parties argue that the ALJ's reliance on the *Southern* decision is misplaced, and that Florida Gas's filing must be evaluated under section 5 of the NGA. They further argue that, contrary to the ALJ's finding, the burden of proof does have an effect on the outcome of this proceeding. They assert that the ALJ's analysis in the initial decision shifted the burden of proof from Florida Gas to the other parties to the proceeding to their detriment. Florida Generators assert that the ALJ erred in holding that the Commission must accept Florida Gas's proposed standards if they are just and reasonable regardless of whether the standards proposed by another party are better.

20. In their briefs opposing exceptions, Florida Gas and Staff argue that the ALJ properly found that the applicable legal standard is the just and reasonable standard under section 4 of the NGA. Florida Gas argues that the facts here are identical to those in the *Southern* decision cited by the ALJ, and state that in *Southern*, the pipeline was required by the terms of a Commission-approved settlement to file a proposed curtailment plan. The court held that the fact that the pipeline was required to make a section 4 filing did not change the applicable standard from section 4 to section 5 of the NGA. Florida Gas and Staff also argue that the decision in *Public Service Commission of the State of New York v. FERC,*[37] holds that when a pipeline is ordered by the Commission to file a tariff revision, the filing remains subject to NGA section 4 so long as the Commission's directive is not so coercive as to dictate a particular plan to a natural gas company. These parties state that in this case, the Commission did not dictate the contents of the standards, but instead directed Florida Gas to file its own standards and, therefore, the ALJ was correct in finding that the appropriate legal standard for review is section 4 of the NGA. In addition, Florida Gas cites *Transcontinental Gas Pipe Line Corp.*,[38] as holding that in determining whether a party bears a section 4 or section 5 burden of proof, the source of the proposed change is decisive, and not the form of the proposal. BG LNG, Florida Gas, and Staff also argue that whether Florida Gas's compliance filing is treated as a section 4 proposal or a section 5 compliance filing, the Florida Generators

[36] Initial Decision at P 115-116.

[37] 642 F.2d 1135 (D.C. Cir. 1980).

[38] 97 FERC ¶ 61,044 at 61,228 (2001).

and the LDCs have the burden of proving that their alternative proposals are just and reasonable, and that the ALJ correctly concluded that they failed to do so.

21. When a pipeline initiates a change to its tariff, it files a new tariff provision under section 4 of the NGA. In a section 4 proceeding, the pipeline bears the burden of proving that its proposal is just and reasonable. If the terms and conditions proposed by the pipeline are just and reasonable, the Commission will approve them even if other terms and conditions may also be just and reasonable. Under section 4, the Commission may suspend the effectiveness of the pipeline's proposal for up to five months and make its effectiveness subject to refund. When a tariff change is initiated by the Commission or by a third party on complaint, NGA section 5 governs the proceeding. Under NGA section 5, the Commission must first conclude that the existing tariff provision is unjust and unreasonable, and then determine the just and reasonable provision to put in its place. Tariff changes made under section 5 take effect prospectively, and the Commission has no authority under section 5 to order refunds.

22. This proceeding was initiated when AES filed a complaint against Florida Gas under sections 5 and 7 of the NGA. In its answer to the complaint, Florida Gas acknowledged that the gas quality standards of its tariff were not adequate to address the operational issues that could be created if large volumes of LNG were introduced into its market area.[39] In its order on the complaint, the Commission agreed that Florida Gas's tariff was inadequate in this respect and, therefore, invoked its NGA section 5 authority to require Florida Gas to file tariff revisions that included just and reasonable gas quality and interchangeability provisions that would accommodate the introduction of LNG into its system.[40]

23. Commission proceedings on complaints are processed under section 5 of the NGA, and when a pipeline makes a filing in compliance with a Commission order under section 5, the filing is processed under section 5. Thus, when Florida Gas filed *pro forma* tariff sheets on July 23, 2004, that compliance filing was made pursuant to section 5 of the NGA. Such filings are not suspended subject to refund, as are section 4 filings, and become effective only on a prospective basis, after the Commission has determined that the proposal is just and reasonable. This section 5 complaint proceeding was not transformed into a section 4 proceeding when Florida Gas submitted its compliance filing.

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[39] *See* 107 FERC ¶ 61,276 at P 22.

[40] *Id.* at P 28.

24. The decision in *Southern* cited by the Florida Gas and Staff is inapposite and does not suggest a contrary result. In *Southern,* the Commission had approved a settlement that, among other things, required the pipeline to file, on or before a specified date, tariff sheets setting forth the pipeline's curtailment program. The court found that the Commission's approval of the Settlement did not include a finding that the pipeline's existing practices were unjust and unreasonable, as required by section 5, but merely directed the pipeline to make a section 4 filing. Often, settlements contain provisions requiring the pipeline to make a section 4 tariff filing at the end of the settlement period. This represents the pipeline's agreement as part of the settlement bargain to exercise its initiative to make a section 4 filing. The circumstances here, where the Commission exercised its section 5 authority to order a tariff change, are not analogous.

25. Thus, we conclude that the ALJ erred in holding that Florida Gas's proposal should be evaluated under NGA section 4. However, we nevertheless find that he properly held that if Florida Gas showed that its proposed remedial tariff provisions are just and reasonable, its proposal should be accepted even if there are other just and reasonable remedies. In *ANR Pipeline Co.*,[41] the Commission acted under section 5 of the NGA to require the pipeline to modify a provision of its tariff. The Commission explained that since it was acting under section 5, it had the burden of showing the justness and reasonableness of the remedial tariff changes that it required.[42] However, the Commission stated that, while it was acting under section 5, it also would take into account the fact that the NGA delegates to the pipeline the primary initiative to propose rates, terms, and conditions of for its services under section 4 of the NGA. The Commission explained that if the rates, terms, and conditions proposed by the pipeline under section 4 of the NGA are just and reasonable, the Commission must accept them regardless of whether other rates, terms, and conditions may also be just and reasonable.[43] The Commission stated that, consistent with this structure of the NGA, it was also appropriate in those circumstances, where the pipeline agreed that its current tariff was unjust and unreasonable, to give the pipeline a similar initiative in proposing remedial tariff provisions under section 5. The Commission held that to the extent the pipeline's

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[41] 109 FERC ¶ 61,138 at P 28 (2004), *order on reh'g*, 111 FERC ¶ 61,113 at P 19 (2005) (*ANR*).

[42] The Commission explained that the first prong of its section 5 burden, *i.e.*, to show that the existing tariff provision was unjust and unreasonable had already been met.

[43] *Consolidated Edison Co. v. FERC*, 165 F.3d 992, 998, 1002-04 (D.C. Cir. 1999).

section 5 proposal was just and reasonable, the Commission would approve it even if other just and reasonable remedies might exist.[44]

26. In this case, as in *ANR*, Florida Gas agreed that its tariff was inadequate to address current gas quality and interchangeability issues in the Market Area. Thus, it was appropriate to give Florida Gas the initiative to propose remedial conditions. While, as discussed below, the Commission concludes that the ALJ evaluated all the proposals before him and approved the one he concluded was best suited to resolve the gas quality issues in this proceeding, even if the Florida Generators are correct that the ALJ did give deference to Florida Gas's proposal, that deference was appropriate. Moreover, as explained below, the Commission did not merely accept Florida Gas's proposal, but evaluated the evidence of the competing proposals. The Commission has required modifications to Florida Gas's proposal with regard to the lower heating value minimum, the constituent levels for methane and total sulfur, and has required that the interchangeability standards be applied to all gas in Florida Gas's Market Area, not just to LNG. The Commission concludes that Florida Gas's proposal, as modified, is just and reasonable and appropriately balances the interests of all of the parties.

27. Thus, the Commission has reviewed the evidence and has found that the tariff provisions adopted here on a prospective basis are just and reasonable as required by section 5 of the NGA. The Commission has therefore fulfilled its statutory obligation of finding that the existing provisions of Florida Gas's tariff are unjust and unreasonable and of determining the just and reasonable provisions to put in their place.

B. Gas Interchangeability Standards

28. Gas received by interstate pipelines is not pure methane. It is actually composed of a variety of hydrocarbons, inerts and other components. Every source of gas has a different composition of these constituents. Gas pipeline companies commingle shippers' gas, which creates a new gas composition. Because of variations in the composition of gas delivered to the pipelines, and variations in operations, the composition of the gas can vary throughout the day and throughout the year. Further, because pipelines often deliver by displacement, and because of the fiction of same-day

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[44] *See also, e.g., PJM Interconnection, LLC*, 117 FERC ¶ 61,331 at P 85 (2006) ("[W]hen choosing between competing just and reasonable options, the Commission has previously stated that it will accept the proposal of a utility if it is just and reasonable, rather than other competing just and reasonable proposals, even in the context of a filing under section 5 of the Natural Gas Act …"); *ANR Pipeline Co.*, 110 FERC ¶ 61,069 at P 49 (2005).

delivery of gas, the composition of the gas the pipeline delivers to a shipper is rarely the same as the composition of the gas that the shipper tendered the pipeline. Because tendered gas is not identical to delivered gas, end users have concerns with using gas of varying compositions.[45]

29. Gas interchangeability refers to the extent to which a substitute gas can safely and efficiently replace gas normally used by an end-use customer in a combustion application.[46] The NGC+ Interchangeability Report defines gas interchangeability as "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."[47] Several indices have been developed to characterize the interchangeability of different natural gases. The Wobbe Index, sometimes referred to as the interchangeability factor, is widely considered one of the more robust measures of gas interchangeability.[48] The ALJ explained that the Wobbe Index is the HHV in Btu/scf of a gas stream divided by the square root of the specific gravity of that stream.[49] If a fuel gas stream has a constant Wobbe Index, regardless of fuel composition, a constant heat release rate will be supplied through a specific orifice at a constant supply pressure.

30. The formula for determining the Wobbe Index takes into account the fact that the heat release rates for a gas stream vary directly with its Btu content, but inversely with the gas's specific gravity. That is because gas with a higher specific gravity has a lower volumetric flow rate. Therefore, if a gas stream with a higher gas gravity is substituted in a given burner with a fixed fuel supply pressure, fewer cubic feet of gas will flow across the metering orifice. As a result, in order to assure delivery of the same heat release rate to the burner, the substitute gas stream must have a higher heating value per cubic foot to offset the reduced volumetric flow rate. Conversely, if the substitute gas stream has a lower gravity, more gas volume will flow across the orifice during a given interval, and, hence, the heating value of the substitute stream must be lower to maintain the same Wobbe Index. When a relatively constant Wobbe Index cannot be maintained for the gas

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[45] For the most part, interchangeability is not an issue for pipeline operations.

[46] Policy Statement at P 7.

[47] NGC+ Interchangeability Report Ex. FGT-6 at 3.

[48] NGC+ Interchangeability Report Finding No. 5, Ex. FGT-6 at 18.

[49] Initial Decision at P 119.

supply, the fuel burning unit itself may need to be modified or adjusted to accommodate the change in Wobbe Index of the fuel supply.[50]

31. Gas interchangeability issues may arise, as they have here, where parties are concerned about the interchangeability of imported LNG as compared to the historic quality of delivered gas. As the Commission noted in the Policy Statement, while each case involves unique circumstances, there generally is tension between the interests of the pipeline and distributors to ensure the quality of gas entering their facilities, the desire of producers and shippers to have their product transported without onerous processing requirements, and the desire of end-use customers to receive gas that will not harm their equipment or cause inefficient operations. These interests are reflected in the positions of the parties in this proceeding where the LNG suppliers argue for broader standards that would allow for the greatest diversity of LNG supplies, while the generators and LDCs advocate more narrow standards.

32. In addressing interchangeability issues on the Florida Gas system, the ALJ considered the NGC+ Interim Guidelines, manufacturers' specifications, and other record evidence. He recognized that the NGC+ Interim Guidelines were a good, but not necessarily controlling, point of reference.

33. Subsequent to the Initial Decision, the Commission, on June 15, 2006, issued its Policy Statement.[51] The Policy Statement encourages pipelines that wish to modify or add tariff provisions concerning interchangeability specifications to use the NGC+ Interim Guidelines proposed by the NGC+ Interchangeability Task Group in the NGC+ Interchangeability Report.[52] That report recommended five guidelines for resolving interchangeability issues. These Interim Guidelines provide for: (1) use of the local average historical Wobbe Index average with an allowable range of variation of plus or minus 4 percent; (2) subject to a maximum Wobbe Index level of 1,400; (3) a maximum heating value limit of 1,110 Btu/scf; (4) a limit on butanes and heavier hydrocarbons (butanes+ or C4+) of 1.5 mole percent; and (5) an upper limit on the amount of total inert gases (principally nitrogen and carbon dioxide) of up to 4 mole percent. The NGC+ Interchangeability Report also recommends an exception from these Interim Guidelines for service territories that could demonstrate experience with supplies exceeding these Wobbe Index levels, Heating Value and/or Composition Limits. Companies in these

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[50] *Id.*

[51] 115 FERC ¶ 61,325 (2006).

[52] Policy Statement at P 37.

service territories could continue to use non-conforming supplies as long as use of these supplies does not unduly jeopardize the safety of or create utilization problems for end use equipment.[53]

1. The Appropriate Wobbe Index Range

34. For the reasons discussed below, the Commission affirms the ALJ's findings that Florida Gas's proposed Wobbe Index range of 1,340 to 1,396 is supported by the record evidence in this proceeding and is consistent with the NGC+ Interim Guidelines and the Commission's Policy Statement. However, the Commission reverses the ALJ's finding that the Wobbe Index range should apply only to re-vaporized LNG delivered to the Florida Gas Market Area, and the Commission finds that the standard should apply to all gas Florida Gas receives in its Market Area. The Commission first addresses the Wobbe Index, and later discusses the geographic scope of that finding.

a. Positions of the Parties

35. Florida Gas proposed a Wobbe Index range of 1,340 to 1,396.[54] Florida Gas, to derive this range, started with its historical range in Florida Gas's Market Area of 1,346 to 1,371, with an average of 1,356.[55] Then, Florida Gas considered several factors to evaluate the adjustments from the historical data. First, Florida Gas considered the NGC+ Interchangeability Report's recommendation for a Wobbe Index range of plus or minus 4 percent from the local historic average gas with a maximum range of 1,400.[56] Florida Gas noted that applying the plus or minus 4 percent range to Florida Gas's average Wobbe Index of 1,356 would result in a Wobbe Index upper limit of 1,410, which is well above what any party proposed. Florida Gas also considered the end use appliances on its system. Florida Gas discussed the application of the NGC+ Interim Guidelines to LDCs.[57] In addition, Florida Gas considered the appliances of its major shippers on its system, the electric generators, to determine what Wobbe Index limits are necessary to permit their safe operation. Florida Gas focused on manufacturers'

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[53] Ex. FGT-6, NGC+ Interchangeability Report at 26.

[54] Ex. FGT-11.

[55] Ex. FGT-7 at 1.

[56] Ex. FGT-6 at 27.

[57] Ex. FGT-11 at 5-10.

specifications of the turbines considered most affected by the proposed Wobbe Index standards: General Electric's (GE) and Siemens-Westinghouse's DLN turbines.[58] Florida Gas also reviewed publicly available results from a test performed by Siemens-Westinghouse,[59] an intervention from Peoples Gas,[60] testimony by its shipper customers Progress Energy and others,[61] and Florida Power's (a shipper customer) intervention in Southern's Docket No. CP05-388-000,[62] to derive the maximum Wobbe Index of 1,396. For the lower Wobbe Index, Florida Gas used its historic low Wobbe Index of 1,340.[63] The resulting range has a midpoint of 1368 and permits approximately a plus or minus 2 percent variation above and below that midpoint. Florida Gas notes that its pipeline, including its gas turbines, could operate safely with a Wobbe Index up to 1,400,[64] and it would support a broader set of LNG specifications than it proposed, and reserves the right to revise its tariff to reflect the outcome of additional studies.[65]

36. At the hearing, the LNG Suppliers advocated less stringent standards in order to give shippers access to the greatest diversity of LNG supply. Specifically, the LNG Suppliers advocate the adoption of a 1,302 to 1,400 Wobbe Index range based on the plus or minus 4 percent range from Florida Gas's historical mean Wobbe Index value of 1,356

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[58] Exs. FGT-4 and FGT-5, which are the GE and Siemens-Westinghouse manufacturer specifications.

[59] Ex. FGT-1 at 14: 8-11 with regard to a test subject to settlement privilege, and Ex. FPL-19 with regard to test results from Siemens-Westinghouse marked as Ex. PE-3 (also submitted as Exs. FG-5 and LNG-75).

[60] Ex. FGT-11 at p. 6:13-15, *citing* Ex. FGT-13 at 5 which indicates Peoples Gas's support of an upper Wobbe Index limit of 1,396.

[61] Ex. PE-1 at 12:8-19; Ex.PE-1 at 6:4-6; Ex. FG-7 at 16:7-12, wherein there are indications that the DLN turbines are capable of accepting gas with a Wobbe Index range of plus or minus 2 percent.

[62] Ex. FGT-9 at 7, wherein Florida Power indicates its support of a plus or minus 2 percent Wobbe Index range for the Southern tariff.

[63] Ex.FPL-19 at 19.

[64] Ex. FGT-1 at 14:12-15.

[65] Ex. FGT-1 at 11:12-23 and 13:12-15.

permitted by the NGC+ Interim Guidelines, with a maximum Wobbe Index cap of 1,400. The Florida Generators, on the other hand, contend that Florida Gas's proposal is too lenient and advocate the adoption of specifications that reflect those of the gas used historically on the system. Specifically, the generators proposed a Wobbe Index range of plus or minus 1 percent from the historical mean of 1,356, or a Wobbe Index range of 1,346-1,371.

37. Florida Gas's proposal was supported by Southern and Staff. The LDCs did not advocate specific interchangeability standards, but argued for caution in adopting broad standards because of leaks in compression joints on pipelines that, they assert, could be caused by the transmission of dry gas, lacking heavier hydrocarbon components, such as LNG, and because of uncertainty about potential adverse effects of that gas on their customer's end-use equipment.

b. The Initial Decision

38. In the Initial Decision, the ALJ accepted Florida Gas's proposed Wobbe Index limits of 1,340 minimum and 1,396 maximum for re-vaporized LNG received by Florida Gas in its Market Area. The ALJ recognized that the NGC+ Interim Guidelines permit a Wobbe Index range of plus or minus 4 percent from average local historical gas, subject to a maximum Wobbe Index of 1,400 and that application of the Interim Guidelines to Florida Gas's 1,356 historic average Wobbe Index would result in a range of 1,302 to 1,400. However, the ALJ found that relying solely on the Interim Guidelines in this case would result in a Wobbe Index range that exceeds the manufacturers' specifications for certain turbines operated by the electric generators attached to the Florida Gas system. The ALJ held that, by contrast, the narrower Wobbe Index range proposed by Florida Gas would permit the safe operation of those turbines without violating environmental emission standards (if the Siemens-Westinghouse turbines are retuned to the midpoint at minimal cost to the turbine owners), and will not void the manufacturer's warranties, and at the same time will permit the importation of a substantial amount of LNG. The ALJ therefore found the Wobbe Index limits proposed by Florida Gas to be just and reasonable.

39. In reaching his decision, the ALJ considered the impact of gas quality and interchangeability on the turbines operated by the electric generators on the Florida Gas system. The ALJ concluded that the GE DLN turbines can handle variations in gas between the minimum Wobbe Index of 1,340 proposed by Florida Gas and the maximum Wobbe Index of 1,400,[66] but that the higher Wobbe Index limit of 1,400 could pose a

[66] *Id.* at P 144.

safety and environmental risk for the Siemens-Westinghouse turbines. The ALJ further found that an upper Wobbe Index limit of 1,400 rather than 1,396 would not substantially increase LNG supplies. Therefore, the ALJ concluded that a maximum upper Wobbe Index limit of 1,400 is unjust and unreasonable in the circumstances on the Florida Gas system.

40. On the other hand, the ALJ found that the narrower Wobbe Index limits, of approximately plus or minus 1 percent from the historic mean of 1,356, or a Wobbe Index range that matches the historic Wobbe Index range of 1,346-1,371, as proposed by the Florida Generators, are overly restrictive. He concluded that this narrow range would preclude the importation of substantial amounts of LNG available on the world market that could otherwise be imported without jeopardizing safety and the environment or voiding electric turbine manufacturers' warranties. Consequently, the ALJ found these proposed limits to be unjust and unreasonable.[67]

41. The ALJ also considered the historic Wobbe Index range on Florida Gas. He stated that Florida Gas's historical average of natural gas in the Florida system East Leg of Florida Gas's Market Area has a Wobbe Index of 1,356, with a range of from 1,346 to 1,371.[68] The ALJ also considered the NGC+ Interim Guidelines, and the turbine manufacturer's specifications, which, he explained, are designed to be broad enough to enhance the turbine's marketability over competing products, and reliable enough for the manufacturers to base warranties on them.

42. BG LNG, the Florida Generators, Florida Power, and the LNG Suppliers filed briefs on exceptions to this portion of the ALJ's decision. BG LNG, Florida Gas, the Florida Generators, the LNG Suppliers, Southern, and Staff filed briefs opposing these exceptions. The issues raised by the parties are addressed below.

c. Discussion

43. For the reasons discussed below, the Commission affirms the ALJ's finding that Florida Gas's proposed Wobbe Index limits of 1,340 minimum and 1,396 maximum for the Market Area are just and reasonable. The Commission finds that the ALJ's decision is supported by substantial evidence in this proceeding, including the warranty specifications for the GE and Siemens-Westinghouse DLN turbines, the testimony of the expert witnesses, and the characteristics of the Florida Gas system.

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[67] *Id.* at P 117- 174.

[68] *Id.* at P 122.

44. While the Policy Statement encourages the use of the NGC+ Interim Guidelines, the Policy Statement also recognizes that the appropriate interchangeability standards for different pipelines may vary depending upon a number of factors.[69] These include whether there are customer loads with special gas quality requirements and the type and gas quality tolerances of the end-use equipment. The NGC+ Interchangeability Report also recognizes the need to take into account end-use equipment gas interchangeability requirements.[70] On Florida Gas's system, 80 percent or more of the gas throughput serves electric generators.[71] The Commission finds that the special requirements of the electric generators support Florida Gas's proposal of a Wobbe Index range with only a plus or minus 2 percent allowable variation from the midpoint, with an upper limit of 1,396, instead of the plus or minus 4 percent variation, with an upper limit of 1,400, allowed by the NGC+ Interim Guidelines. However, the Commission rejects the Florida Generators' contention that even more stringent Wobbe Index limits are required.

45. Several different types of electric generation plants exist in the Florida Market Area. Steam generators and certain turbine generators use diffusion flame technology.[72] These generators are capable of managing a wider Wobbe Index range than that approved by the ALJ, and, in this record, are not factors in establishing an appropriate range for the Wobbe Index.[73] For the generating parties in this proceeding, pre-mix DLN turbines are the appliances that have the least flexibility in handling different gas compositions.

46. Fifty-five turbines in Florida Gas's Market Area operate with a Dry Low NOx (DLN) combustion system, also referred to as Dry Low Emission (DLE) turbines.[74]

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[69] Policy Statement at P 38.

[70] NGC+ Interim Guidelines at 23.

[71] Florida Generators Brief Opposing Exceptions at 47; Tr. 1441:9-12

[72] The diffusion mode turbines are generally older turbines. Diffusion mode combustion is also common in industrial boilers and certain appliances. In conventional or diffusion combustors, fuel and air are fed separately into the flame zone. Furthermore, diffusion combustion has the most robust design and the greatest fuel flexibility. Ex. FG-5 at 38.

[73] Tr. 340; 871:6-16.

[74] Tr. 285:12-13. In this proceeding, the parties and the ALJ used the terms "DLE" and "DLN" interchangeability and the Commission will also do so here.

Generators with DLN turbines are sensitive to fuel gas quality and fuel quality can have a substantial impact on both exhaust emissions and machine lifetime. These turbines use a lean premixed fuel and air prior to the combustion chamber flame technology to generate low emissions, particularly low levels of carbon monoxide (CO) and nitrogen oxides (NOx), as compared to older diffusion flame technology turbines.[75] Advanced DLN combustion systems have restrictive operating fuel quality requirements due to the level of system control required to produce very low emissions. As a result, the DLN combustion systems are not capable of handling large changes in gas composition without changing turbine operating parameters by retuning.[76] Of the 55 DLN turbines in the Florida Gas Market Area, 46 are GE turbines and nine are Siemens-Westinghouse turbines.[77]

47. For the reasons discussed below, we find that the manufacturers' specifications for these turbines are the most reliable evidence in this record as to the allowable Wobbe Index ranges of the gas the turbines may burn without operational problems. In the first section below, we find that the manufacturers' specifications indicate that both the GE and Siemens-Westinghouse turbines can operate using gas with the Wobbe Index variability allowed by Florida Gas's proposed standard, without incurring extraordinary costs. In the following three sections, we explain why the other evidence relied on by the Florida Generators does not support their request for a more stringent Wobbe Index standard. Finally, we consider the contentions by both the Florida Generators and the LNG Suppliers concerning the consistency of Florida Gas's proposed Wobbe Index standard with the Policy Statement and the NGC+ Interim Guidelines.

i. Manufacturers' Specifications

48. The manufacturers' published specifications for the GE turbines were introduced into the record as Exhibit No. FGT-4 and the Siemens-Westinghouse specifications were introduced as Exhibit No. FGT-5. The ALJ found that the turbine manufacturer's specifications are a reliable basis for determining appropriate Wobbe Index limits for re-vaporized LNG. The ALJ stated that the manufacturer's specifications are designed to be broad enough to enhance the turbines' marketability over competing products, but also reliable enough for the manufacturers to base their warranties on them.

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[75] Ex. FG-1 at 7.

[76] Initial Decision at P 118 (*citing* Ex. FG-1 at 3-4).

[77] *Id.* at P 2.

49. The relevant GE specification, GEI 41040G, "Specification for Fuel Gases for Combustion in Heavy-Duty Gas Turbines," states that the specification sets forth allowable ranges to burn these fuels "in an efficient and trouble free manner."[78] The GE specifications for the DLE turbines are in terms of the Modified Wobbe Index (MWI), which includes temperature as a variable, in addition to the variables underlying the Wobbe Index.[79] The GE specification states that these DLE turbines have a MWI range of 40 to 54 as the "Absolute Limits," which is a range of plus or minus 14.9 percent.[80] In terms of the Wobbe Index, 54 MWI is the equivalent of a maximum Wobbe Index of approximately 1,368, and would reach 1,400 if heated to 85 degrees F.[81]

50. Further, the GE specification states that the DLE turbines have a "Range Within Limits" of plus or minus 5 percent within the "Absolute Limits."[82] Thus, once the GE DLE turbine is built to a point within the range of the "Absolute Limits" of the equipment, it can operate within a MWI range of at least plus or minus 5 percent. Note 8 in the specifications states that MWI variations greater than plus or minus 5 percent may be acceptable for some units that incorporate gas fuel heating, but GE must analyze and approve all conditions where the 5 percent MWI variation is to be exceeded.[83]

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[78] Ex. FGT-4 at 4.

[79] The Modified Wobbe Index (MWI) is a derivative of the Wobbe Index that adds temperature as a variable that makes the standard more appropriate for some applications. Tr. 305-306:9-18 and 800:5-11. However, instead of using HHV for the heat value, MWI uses LHV (Lower Heat Value). LHV is obtained by subtracting the latent heat of vaporization of the water vapor, formed by the combustion of the hydrogen in the fuel, from the gross or higher heating value. www.aga.org. The MWI formula is shown at Exhibit No. SNG-1 at p. 14:17-22. For the purposes of this Order, the reader can consider LHV as the heat value of dry gas. To convert HHV to LHV parties used a conversion factor of 1.11. Tr. 815:16.

[80] Starting at the midpoint of the range, 47, the range is plus or minus 7 MWI, or plus or minus 14.95 percent. *See* BG LNG Reply Brief at 9 and n. 26.

[81] Ex. LNG-72. Nowhere in the record is there a Wobbe Index equivalent calculated for the minimum MWI of 40.

[82] Ex. FG-6 at 5.

[83] Ex. FGT-4 at 7.

51. Thus, the relevant GE fuel specification makes a distinction between the design limits within which its turbines may be built, which is a range of plus or minus 14.9 percent, *i.e.* a MWI of 40 to 54, and the range over which the turbine can operate after it has been built to a center point within that range. The GE fuel specification states that the turbine can then operate within a Wobbe Index range of at least plus or minus 5 percent from the center point to which it has been built, and may be able to operate over a wider range if the turbine uses gas fuel heating or other conditions that may result from its analysis.

52. Similarly, the relevant Siemens-Westinghouse Gas Fuel Specification for W251, W501, W701 Series, sets forth the operating parameters for its DLN turbines. Siemens-Westinghouse states that the purpose of its gas specification is "to define the qualities and properties of gaseous fuels to be used in Siemens Westinghouse W251, W501, and W701 Series gas turbines" and to place "specific limits on fuel gas properties to ensure operability and maintainability."[84] The specification states that DLN turbines have different limits from conventional turbines, depending on the specific fuels and configurations involved. The specification further provides that in all DLN applications, MWI should be limited to plus or minus 2 percent at start, and up to the power level at which all burner zones are operating and have stabilized. At that point, MWI may vary and the specification sets forth the limits of the variation for each engine model. Specifically, the Siemens-Westinghouse specification states that to achieve emissions standards of 25 ppmv at 15 percent O2 or less, Wobbe Index variability of plus or minus 2 percent is "Acceptable," variability of plus or minus 4 percent is allowable if "active tuning" is installed, and a variability greater than plus or minus 4 percent is allowable if "nozzles are changed out."[85]

53. The manufacturers' specifications are intended to inform the users of their turbines how to operate the DLN turbines safely and reliably and in a manner that will protect the turbine. Based on these manufacturer's standards, the ALJ concluded that the GE DLN turbines could handle variations in gas above the plus or minus 4 percent variation allowed by the NGC+ Interim Guidelines and the plus or minus 2 percent variation Florida Gas proposes.[86] However, the ALJ stated that according to table 8 of the Siemens

[84] Ex. FGT-5 at 6.

[85] *Id.* at 8.

[86] Florida Power has 32 DLN turbines, all of which are GE turbines, and has the ability to tune them from a central location. Tr. 666-668. Florida Power also states that its own test indicates its equipment can operate within the plus or minus 5 percent range. Tr. 575:21-23

Westinghouse specification, Exhibit No. FGT-5 at 8, the Siemens-Westinghouse DLN turbines can operate safely within a range of plus or minus 4 percent in Gas Index (a variation of Wobbe Index) without retuning, but could only operate within the narrower range of plus or minus 2 percent, without retuning, to be able to comply with environmental emission standards.[87]

54. The Commission affirms the ALJ's findings. The manufacturers' specifications are public documents that customers rely upon for ordering,[88] operating their equipment[89] and warranties.[90] GE DLN specifications clearly state that their turbines have the capability of burning gas with a MWI range of plus or minus 5 percent. If the generators on Florida Gas's system were built to a center point anywhere near the system's average historic Wobbe Index, the GE DLNs should be able to manage the proposed Wobbe Index range that will vary by only plus or minus 2 percent. The historic Wobbe Index on Florida Gas's system is 1,356.[91] A range of plus or minus 5 percent is approximately 1,288 to 1,423. This is well beyond the proposed Wobbe Index range of 1,340 to 1,396. The GE DLN center points could be as low as 1,330 and still operate within the turbines' specifications.[92] The ALJ considered the allegations that the GE DLNs were built with center points significantly below Florida Gas's historical Wobbe Index. He rejected those allegations as unsupported and contrary to the public documents.[93] Further, even if true, the ALJ found, and the Commission affirms, that such discrepancies between what the customers ordered and what the manufacturer allegedly supplied,[94] should not control the outcome of the interchangeability standards for Florida Gas.

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[87] Initial Decision at P 148.

[88] Ex. LNG-23 at 4:1-15; Tr. 938:3-10, 1004-1005:19-1.

[89] Ex. LNG-23 at 7-8:6-9; Tr. 950:2-15, 1004-1005:19-1.

[90] Ex. LNG-23 at 7-8:5-9, 15:9-14; Ex. LNG-35 at 3; Tr. 996: 19-25.

[91] Ex. FGT-7 at 1.

[92] 1330 * 1.05 = 1396.5

[93] Initial Decision at P 158.

[94] *Id.* at P 157-158. *See also* Tr. 945-946:18-7, 947-948:25-4 and 1003-1005:18-15.

55. With regard to the Siemens-Westinghouse DLNs, the specifications are also clear that these turbines have the capability of burning gas with a MWI range of plus or minus 2 percent while maintaining their emissions standards and without the need for auto-tuning. The Siemens-Westinghouse DLN turbines are likely tuned to the historical Wobbe Index on Florida Gas's system, which means that, if delivered gas were to fall at the maximum 1,396 Wobbe Index proposed by Florida Gas, the gas would not be within the manufacturer's specifications for satisfying emissions standards.[95] However, the ALJ found that these generators can be re-centered.[96] If the turbines were re-centered to a Wobbe Index of 1,368, Florida Gas's proposed limits of 1,340 to 1,396 would allow them both to operate safely and satisfy the emissions standards.

56. We recognize that while we find that the GE and Siemens-Westinghouse DLN turbines can operate safely with gas compositions consistent with Florida Gas's proposed interchangeability standards, there may be some costs associated with retuning or re-centering the turbines.[97] However, the record in this proceeding indicates that those costs should not be beyond ordinary business costs that could be expected in operating sophisticated equipment with special needs as to the fuel it burns.

57. The ALJ did not aggregate the potential costs associated with adopting the proposed interchangeability standards, but found that the costs of retuning could be in the range of $100,000 to a "couple of hundred thousand dollars" per unit. The ALJ found that these potential mitigation costs, in the context of this proceeding, are nominal and, even if performed, may not even require incremental costs above the level of normal maintenance expenses.[98] Several different types of mitigation investments and operational expenses were identified. But the ALJ found that quantifying the actual

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[95] The historic Wobbe Index of 1,356 * 1.02 = 1,383, which is below the maximum Wobbe of 1,396. However, there would be no problem with safe operation. The Siemens-Westinghouse specifications state that its DLN turbines can operate safely within a range of plus or minus 4 percent, which would allow turbines tuned to the historic Wobbe Index to operate safely at a Wobbe Index of up to 1,410 (1,356 * 1.04).

[96] Initial Decision at P 148-150, 167.

[97] *Id.* at P 169-170. With regard to the LDCs, the ALJ found that there was no probative evidence that the LDCs or their end users will experience leaks or substantial risks. *Id.* at P 226(h).

[98] *Id.* at P 151.

mitigation costs would be difficult and contentious. Below we outline the various mitigation measures identified in the record.

58. The least cost mitigation measure is "tuning" a generator. Tuning costs can vary from as little as $15,000[99] to $100,000 per unit.[100] Tuning must be performed when a turbine first goes on line[101] and periodically thereafter as determined by schedules or performance standards.[102] In either case, tuning uses the gas composition in the gas stream as of the time of tuning.[103] There are a large number of variables that go into tuning a turbine, and many of the parameters of the variables are unique to the appliance because of its physical location, appurtenant and auxiliary facilities, and individual character.[104] Most of the Generators contend that once a DLN turbine is tuned to the Wobbe Index as of the day of tuning, the turbine is only capable of burning gas within a plus or minus 1 percent change from the Wobbe Index it is tuned. However, the ALJ found, and we affirm, that the manufacturers' specifications permit a plus or minus 2 percent[105] change in Wobbe Index without requiring further tuning (though that does not mean operators can ignore and not perform certain adjustments when changes within the plus or minus 1 to 2 percent occur).

59. Up to this point, all that has been described is normal operating requirements with no relationship to the issue of Florida Gas's interchangeability proposal or the introduction of re-vaporized LNG into the Market Area. With the introduction of re-vaporized LNG and the proposed interchangeability standards, the *potential* (but not certainty) exists that the Wobbe Index of the flowing gas will change beyond the plus or minus 2 percent the turbine was tuned for. Under some circumstances, the turbine simply needs to be retuned to the new flowing gas Wobbe Index. Two major means of

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[99] Ex. SNG-1 at 13:1.

[100] Tr. 980:18.

[101] Tr. 781-782:21-3; 807:13-18; 942:2-3; 985.

[102] Ex. SNG-1 at 12:17; Tr. 979:13-24; 980-981:22-21.

[103] Tr. 571:1-9; 738:12-15; 985:14-15; 986:3-4.

[104] Ex. SNG-1 at 12:17-19; Tr. 327-328:21-1, 328:20-23; 725:7-17; 733:8-12; 807:14-18; 881-882:24-2; 888:10-14.

[105] Ex. FGT-4 at 5; Ex. FGT-5 at 8.

performing these simple tunings in the Florida Market are discussed in the record. With the exception of Florida Power's DLN turbines, all DLN turbines require manual tuning.[106] Depending on the variables that require modification or repair, the turbine may have to be taken out of service for a short period of time.[107] The second method of tuning is remote tuning. Only Florida Power has this technology in place in the Market Area. All Florida Power DLN turbines are remotely monitored and can, within certain limits, be remotely tuned by a remote operator. The costs of these two methods were not distinguished in the record.[108]

60. But for some turbines (and none have been specifically identified in this proceeding) not all the equipment necessary for a turbine to operate within a plus or minus 2 percent Wobbe Index range may be in place. In this circumstance, the generator could incur the following costs, depending on the plant and the need for the equipment, faster Wobbe Index meters ($33,000), related outage costs ($100,000), dynamic monitoring ($200,000), control systems ($500,000), and replacement of nozzles in the combustion chambers that may not be designed for, or because of wear may no longer be able to handle, the range required by the new gas composition ($200,000).[109]

61. None of the costs identified in the record are significant. Even so, the record shows that, in the short term, modifications – if needed to achieve the full plus or minus 2 percent range of the turbines – may not be necessary for many turbines as there will no

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[106] Tr. 669:5-9. Florida Power's generators require manual inputs for those adjustments that require an outage, but such outages occur on a much less frequent schedule than those who do not have remote tuning capabilities. Tr. 677:2-8.

[107] Depending on what needs to be retuned, the outage may be from an hour to a day to accommodate a 50-point Wobbe Index swing. Tr. 732:11-24. However, as tuning is often part of normal scheduled outages, the time dedicated to tuning is difficult to separately quantify. Tr. 979:8-24.

[108] A third tuning technology discussed in the record is auto-tuning. Auto-tuning permits un-manned adjustments to certain variables on a near real-time basis. While the technology exists, the equipment does not seem to be readily available at this time. When it does become available, the Siemens-Westinghouse estimated costs are $350,000 for the equipment, but if the control systems are inadequate, it could be a "major investment." Tr. 994-995:12-6. However, the ALJ's findings were not founded on the availability or use of auto-tuning technology or equipment.

[109] Tr. 991-992. Nozzles are typically replaced every three years. Tr. 810:6-7.

change or only small changes in the variability and range of Wobbe Index for delivered gas. Re-vaporized LNG from SLNG is projected to be tendered to Florida Gas through the Cypress Pipeline. Given existing flows in the Florida Gas Market Area system, only net volumes from the Jacksonville Lateral will be injected into the mainline system at Compressor Station 16.[110] Downstream of that point, the re-vaporized LNG will be blended with domestic gas,[111] and the gas flowing upstream of Compressor Station 16 and on the whole western line serving the Tampa area will be composed of domestic gas.[112] With the exception of the Jacksonville Lateral, the change in the flowing gas's Wobbe Index as the result of introducing re-vaporized LNG will be small to no change from the domestic gas's Wobbe Index. If there is a limited or no likelihood of a Wobbe Index change outside of the parameters of domestic gas at a particular DLN turbine site, there is no imperative to invest in mitigation measures.[113]

62. Further, even within the realm of tuning and re-centering, the record shows that the generators have taken different business decisions regarding investment in plant and operations that will have a bearing on the magnitude of mitigation costs necessary to achieve the turbines' full plus or minus 2 percent Wobbe Index range capabilities. For example, GE specifications identify fuel preheaters as a tool to manage MWI variations.[114] But preheaters are also useful for improving the turbines' efficiency and reducing the risk of introducing liquids into the turbine,[115] which are separate and apart from MWI management at issue in this proceeding. Most, but not all, GE DLNs in the Florida Market Area have preheaters installed.[116] Why some generators chose not to

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[110] Ex. SNG-1 at 7:11-13.

[111] Ex. SNG-1 at 7-8:13-15; Ex. FPL-16 at 4 and 10-18; Ex. FPL-17. Ex. FPL-17's short term worst case scenario shows that the Wobbe Index will change from 1356 to 1378, equal to 1.16 percent, downstream of Compressor Station 16.

[112] Ex. FPL-16 at 4: 8-15; Ex. FPL-17.

[113] Tr. 531:3-13, 532:17-23.

[114] Ex. FGT-4 at 7 and 24.

[115] Ex. FGT-4 at 24; Tr. 432-433:19-10; 667:1-11; 730:1-2.

[116] Of the 45 identified GE DLNs in the Market Area, 39 already have preheaters installed. Tr. 727:25. All of FPL's 32 GE DLNs have preheaters. Tr. 666:12-25; 668:13. Progress Energy states that preheaters are normally part of its installations. Tr. 937:3-15.

install preheaters is not explained. But as these investment decisions likely predate this proceeding, the business decision to invest in preheaters likely was not made in anticipation of increased variability of gas composition in the Market Area.[117] Another example is Florida Power's decision to invest in remote tuning. This investment decision was characterized as a business decision that cost "millions" [118] to achieve certain advantages over its competitors, including smaller tuning crews,[119] reduced equipment wear,[120] and significant costs savings.[121] Generators who have made these investments are not as likely to incur as much or any mitigation costs as they already made the investments to achieve additional flexibility from their equipment.

63. The Commission finds that, based upon the manufacturers' specifications, the Florida Generators can operate both the GE and Siemens-Westinghouse turbines using gas with the Wobbe Index variability allowed by Florida Gas's proposed standard, without incurring costs beyond what can reasonably be expected in operating sophisticated equipment with special needs as to the fuel it burns. In their briefs on exceptions, the Florida Generators contend that other evidence in the record indicates that the operating parameters of the DLN turbines are not as broad as the manufacturers' specifications suggest and therefore adoption of Florida Gas's proposed Wobbe Index standard would cause serious operating problems. For the reasons discussed in the next three sections, we reject these contentions.

ii. Protected Exhibits No. FG-3 and FPL-29

64. As discussed above, the GE and Siemens-Westinghouse gas fuel specifications, Exhibit Nos. FGT- 4 and FGT-5, clearly set out the operating parameters of each manufacturer's DLN turbines, including the Wobbe Index range for each turbine. However, Florida Generators and Florida Power have introduced two protected exhibits, Exhibit Nos. FG-3 and FPL-29, which, they allege, indicate that GE no longer supports the statement in its published standards that its DLE turbines can operate within a Wobbe Index range of plus or minus 5 percent. In reaching his decision on the appropriate

[117] Tr. 938:3-10.

[118] Tr. 672:7.

[119] Tr. 670-671:11-15.

[120] Tr. 676:11-23.

[121] Tr. 676-677:24-20.

Wobbe Index values, the ALJ stated that he gave no weight to these two confidential documents. Because these documents are non-public, the ALJ stated that he would discuss them only in general terms. The Commission's discussion of these documents in this order is also so limited. The public record in this proceeding indicates that these documents are letters, one to an attorney from GE.[122]

65. The ALJ stated that the only purported value of these letters would be in any conflict they might have with GE's published specifications, or to clarify any ambiguities in those specifications. The ALJ found that both documents are ambiguous and that the letter to the attorney is internally inconsistent. Further, the ALJ stated that even if there were a conflict between these protected documents and the manufacturer's published specifications, he would accept the manufacturer's specifications on which the turbines' warranties are based as the authoritative documents. The ALJ found that documents are hearsay, but he did not rule them out on evidentiary grounds. Instead, the ALJ stated that he gave them no weight because he found them to be "unfairly presented, suspect, ambiguous, of doubtful efficacy, and unreliable, and [he] could not in fairness base any findings on them."[123]

66. On exceptions, the Florida Generators argue that the ALJ erred in giving no weight to this evidence. They argue that these letters controvert the ALJ's conclusion that the published GE and Siemens-Westinghouse fuel specifications can be relied upon to establish interchangeability standards on Florida Gas, and further argue that the letters establish GE's belief that, regardless of what its fuel specifications may say, existing DLE turbines operating on Florida Gas's system cannot operate safety or reliably over the range of Wobbe Index values proposed by Florida Gas and adopted by the ALJ.

67. Further, the Florida Generators state that the documents were mischaracterized by the ALJ as "secret" documents, while they are simply protected documents obtained by the sponsoring parties from a non-party to the proceeding under a pledge that they would be offered into evidence on a confidential basis. They state that no party was prejudiced by their designation as protected documents and that these documents were properly admitted into evidence.[124] The Florida Generators also argue that while the ALJ characterized these exhibits as unreliable hearsay, hearsay evidence is admissible in

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[122] Tr. 122:1-6; 279:20-21.

[123] Initial Decision at P 157.

[124] Tr. 470:8-9; Tr. 140:8.

administrative proceedings and is commonly offered and accepted into evidence in matters litigated before the Commission.

68. BG LNG, the LNG Suppliers, and Florida Gas filed briefs opposing Florida Generators' exceptions. Florida Gas states that the letters contain serious flaws and omissions and do not support limiting LNG quality standards to the historical Wobbe Index range as advocated by the Florida Generators. Similarly, the LNG Suppliers and BG LNG assert that neither Exhibit Nos. FG-3 or FPL-29 provides credible evidence that turbines cannot operate within the range set forth in the manufacturer's fuel gas specifications or that the turbine manufacturers no longer support their fuel gas specifications.

69. The Commission affirms the ALJ's conclusion that Exhibit Nos. FG-3 and FPL-29 do not negate or undermine the continuing validity of GE's published specifications for its DLN turbines. We have reviewed these exhibits and, because of their confidential nature will not provide specific information regarding their content.[125] We agree with the ALJ that they are ambiguous and/or internally inconsistent. We find that nothing in these letters contradicts or modifies the published turbine operating parameters contained in the GE Fuel Specification GEI 41040G. GE DLN turbines have a range of plus or minus 5 percent within an Absolute Wobbe limit of 40 to 54 MWI.[126]

70. In addition, the ALJ was correct in finding that the very status of these letters as protected documents is relevant in determining their weight as evidence. The fact that these letters were submitted under seal suggests that they do not and are not intended to contradict the information that GE has made public about the operating parameters of its turbines. If GE intended to revise its turbine specifications, it is reasonable to assume that it would do so in a public manner that would fairly inform all affected persons, rather than modify its standards in a secret letter prepared at the request of an attorney that is not available to any other turbine owners, potential purchasers or other parties interested in supplying gas to the Florida Gas Market Area. It is not reasonable to assume that a leading turbine manufacturer is marketing its products under public specifications that are inaccurate, and has changed the public standards in non-public documents, in circumstances where reliance on inaccurate specifications would result in great harm to their turbine customers. Moreover, the letters are not contractually binding, as are the published specifications, and cannot affect turbine warranties. Further, this proceeding

[125] Like the ALJ, we do not find it necessary to attach confidential appendices to this order to provide more specific information about the content of these documents.

[126] Ex. FGT-4.

involves more than just DLN manufacturers and their DLN customers. It also involves many other parties involved in the gas supply chain and gas transportation system who need information relevant to their decision making process to invest hundreds of millions of dollars in plant and supply contracts. The Commission will not question the manufacturers' business model in disseminating the specifications of their equipment. But they and their customers cannot expect others to give the alleged specifications much weight if they are not known or kept secret.

71. The ALJ did not reject the evidence as hearsay, and thus the Florida Generators' assertion that hearsay is admissible in administrative proceedings is not on point. However, as the ALJ pointed out, the authors of the letters were not presented to explain the purpose of the letters, clarify their ambiguities, and answer whether the letters were intended to suggest that GE no longer supports its published and contractually-binding specifications and why they were prepared for use in this litigation. The letters are ambiguous and internally inconsistent on their face and no witness was presented to provide the any additional explanations of the letters that would give credence to the Florida Generators claim that they indicate that GE no longer supports its published turbine specifications. Therefore, while the letters were admitted into evidence in this proceeding, they are properly afforded no weight in the decision making process because they do not support the proposition for which they were offered.

iii. Other Documents Relevant to the GE Specifications

72. Florida Generators argue that the ALJ erred in ignoring other exhibits that raised the same concerns raised by these documents. Florida Generators cite Exhibit No. FPL-38 which, it states, put at least one LNG supplier, Shell NA LNG, LLC (Shell) on notice of the limits of GE's machinery and stated that although its turbines can operate over a plus or minus 5 percent range, re-tuning would be necessary within that range which could cause a 1-2 week outage and cost up to $200,000 per unit.[127]

73. The LNG Suppliers respond that Exhibit No. FPL-38 says nothing about the continued viability of the GE fuel gas specifications. They assert that the Florida Generators have misrepresented the contents of the exhibit, and that this exhibit in fact supports the conclusion that GE continued to support and rely on its fuel gas specifications. They state that in the referenced document, GE specifically referred to GEI 41040G and the requirements set forth in those specifications, and therefore did not abandon, but rather embraced those standards. Further, they assert that Exhibit No. FPL-38 confirms testimony by LNG Suppliers' expert witness Dr. Marshland that fuel gas

[127] Tr. 922:3-4.

heating could be used to manage MWI at the turbine site. The LNG Suppliers state that the table on page 8 of Exhibit No. FPL-38 shows that heating the seven gas samples from 80 degrees F to 365 degrees F (both identified as common fuel temperatures) prevents these fuels from violating GE fuel specifications.

74. The LNG Suppliers assert that GE's statement in Exhibit No. FPL-38 that re-tuning would be required for fuels within GE's fuel gas specifications is not surprising, since several witnesses in this proceeding have stated that turbines are re-tuned several times a year.[128] The LNG Suppliers state that the exhibit does not suggest that the tuning referenced therein is anything different from the re-tuning already routinely performed by gas turbine operators. Further, the LNG Suppliers state the GE presentation does not state under what circumstances re-tuning is required. They note that the exhibit states that re-tuning could be required even if vaporized LNG met the plus or minus 5 percent MWI limit, but does not state whether re-tuning would be required if the vaporized LNG was within plus or minus 2 percent of the test gas, plus or minus 1 percent of the test gas, or identical to the test gas. (See Exhibit No. FPL-38 at 9). The LNG Suppliers state that the most that can be concluded from the GE presentation is that additional costs would be incurred if vaporized LNG violating the GE fuel gas specifications of plus or minus 5 percent was utilized. They assert that because no party in this proceeding proposes gas quality standards broader that GE's plus or minus 5 percent limit, this conclusion is of little relevance to this proceeding and provides no guidance to the Commission.

75. The Commission finds that Exhibit No. FPL-38 does not support the proposition that the GE fuel specifications, published in GEI 41040G, are no longer valid nor gives any additional credence to Exhibit Nos. FG-3 and FPL-29. We find that Exhibit No. FPL-38 reasserts the specifications provided in Exhibit No. FGT-4 and confirms evidence given elsewhere in this record that GE's turbines have site-specific parameters when considering changes to fuel composition, including the Wobbe Index.

76. In addition, Florida Generators argue, the GE fuel specifications themselves clarify that the amount of fuel variation a GE turbine can accommodate is limited. They cite GE Fuel Specification GEI 41040G:

> [g]as turbines can operate with fuel gases having a very wide range of heating values, but the amount of variation that a specific system design can accommodate is limited… For DLN systems, an alternate control method may be required to ensure that the required fuel nozzle pressure

[128] LNG Suppliers Initial Br. at 72.

> ratios are met. An accurate analysis of all gas fuels, along with fuel gas temperature profiles shall be submitted to GE for proper evaluation.[129]

77. Florida Generators state that this statement bolsters their evidence that once designed, a given combustion turbine cannot operate across the entire plus or minus 5 percent range with no modifications or adjustments. They state that operation of the DLE turbines involves tuning the machine to the site-specific natural gas supply, which must have a Wobbe Index somewhere in the manufacturer's specified range. The actual operating range of an individual turbine is a more restrictive range of MWI. Florida Generators conclude that in the face of GE's concerns, as explained in the exhibits and testimony of its witnesses, it is not reasonable to conclude that GE turbines can operate safely over a plus or minus 5 percent Wobbe Index range without any modification.

78. The quoted portion of GEI 41040G simply states that the amount of variation in heating value that a turbine can accommodate is limited. There is no disagreement with this statement and, as discussed below, the Commission is adopting limits that would permit only a plus or minus 2 percent Wobbe Index range. However, contrary to Florida Generators' assertion, nothing in the quoted portion of this specification indicates that GE no longer supports its published specification.

79. Other, public and more credible evidence in this proceeding supports the finding that GE continues to support its published turbines specifications. For example, Exhibit LNG-38, is a letter GE submitted to the Commission on March 15, 2004 in Docket No. PL04-3-000. That letter states:

> GE supports the proposal to allow increased LNG importation to supplement the existing natural gas supply and to use Wobbe number (WN) as the interchangeability index of the replacement gas. GE has 6.9 million fired hours on heavy-duty gas turbines operating successfully on LNG and considers LNG to be a clean, suitable alternative to natural gas.
>
> All fuels for GE gas turbine use must meet the GE fuels specifications, including LNG. For utility turbine gas fuels the GE specification is GEI 41040g.[130]

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[129] Ex. FGT-4 at 11.

[130] Ex. LNG-38 at 2.

80. The letter further explains that alternate gas fuel supplied to existing units must have a Wobbe Index range that is centered near that of the original Wobbe Index design. For this reason, the letter states, an LNG that is "just within" plus or minus 5 percent Wobbe Index range of the current fuels may require that the system be recentered.[131]

81. Thus, according to GE's filing in the Commission's proceeding in Docket No. PL04-3-000, GE gas turbines currently handle large volumes of LNG without operational problems. Further, the submission clearly states that GE continues to support its fuel specification GEI 41040G.[132] The only qualification set forth in the letter is that when LNG is "just within" the plus or minus 5 percent range, recentering of the equipment may be required. The plus or minus 2 percent range adopted here is well within the plus or minus 5 percent range. In these circumstances even the minor adjustment of recentering may not be required.[133]

82. In its Brief Opposing Exceptions, the Florida Generators attempt to introduce into this proceeding a new document, allegedly clarifying Exhibit No. LNG-38 and supporting its position that GE no longer endorses its published specifications that the GE turbines cannot operate safely and reliably over a plus or minus 5 percent range of variability in Wobbe Index values. They have attached to their brief the affidavit of Colin Wilkes, a GE engineer, filed in Docket No. PL04-3-000 on May 12, 2006, over two years after the GE letter in Exhibit No. LNG-38 was originally submitted to the Commission, and one day after the due date of the filing of briefs on exceptions in this proceeding. In a footnote to their Brief Opposing Exceptions, the Florida Generators ask the Commission to take judicial notice of the GE supplemental filing and state that official notice could not have been previously requested because the filing had not been previously made.

83. The LNG Suppliers filed a motion to strike the affidavit attached to the Florida Generators' brief and the portion of the brief that discusses the affidavit. BG LNG filed an answer in support of the LNG Suppliers' motion. These parties argue that the Florida Generators' attempt to introduce this GE filing at this late date, after the record has been

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[131] *Id.*

[132] Ex. LNG-38 at 2; GE fuel specification GEI 41040G is marked in this record as Ex. FGT-4. The relevant portion of the fuel specification was not changed in the more recently issued GE fuel specification, GEI 41040I, which is marked as Ex. FG-6.

[133] Below in our discussion of Mr. Fitzgerald, we address the record with regard to Florida GE DLNs' plus or minus 5 percent center point.

closed in this proceeding and certified to the Commission is inconsistent with Rule 510(c) of the Commission's Rules of Practice. Further the LNG suppliers argue, the Florida Generators failed to justify its failure to produce the GE filing before its brief on exceptions, and thereby usurped other parties' opportunity to respond. In addition, the LNG Suppliers argue that the GE filing lacks credibility for many of the same reasons that the ALJ rejected Exhibit No. FG-3.

84. The Florida Generators filed an answer to the LNG Suppliers motion to strike. The Florida Generators state that in the Initial Decision, based on the evolving nature of the issues, the ALJ stated:

> if, at any time before the Commission renders its final decision, any participants can find further evidence, not available at the time of hearing, through testing or otherwise, that casts doubt on the findings or conclusions of this Initial Decision, the participant(s) may request that the Commission consider this evidence in making its determination.[134]

85. The Florida Generators state that the GE supplement is the type of further information that should be recognized and taken into consideration by the Commission in tackling this evolving issue. The Generators state that the GE supplement was not available at the time of the hearing and that it provides the necessary public clarification of GE's warranty fuel specification, along with information about GE's upcoming field testing of turbines to determine what system modifications may be required on a site-specific basis to accommodate fuel switching between domestic natural gas and LNG.[135]

86. The Commission will grant the motion to strike. The Florida Generators have provided no basis for the Commission to consider this late-filed document. The timing of this supplementary and entirely voluntary filing in Docket No. PL04-3-000, *i.e.*, one day after the due date for briefs on exceptions in this case, recalls the ALJ's statement concerning other evidence submitted by the Florida Generators that he found to be

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[134] Initial Decision at P 222.

[135] The Florida Generators also include in their answer additional arguments in support of their exceptions to the Initial Decision. Florida Generators had an opportunity in its brief on exceptions to provide its reasons for disagreeing with the ALJ's determination and cannot use its answer to the LNG Suppliers' motion to restate those arguments or to provide additional arguments that should have been included in its brief on exceptions.

"unfairly presented, suspect, ambiguous, of doubtful efficacy, and unreliable, and could not in fairness [be the basis for any findings]."

87. The Florida Generators' suggestion that the Commission should take judicial notice of this filing is without basis. Rule 508(d) of the Commission's Rules of Practice permits a presiding officer or the Commission to "take official notice of any matter that may be judicially noticed by the courts of the United States, or any matter about which the Commission, by reason of its function, is an expert." 18 C.F.R. § 385.508(d)(2006). Rule 201(b) of the Federal Rules of Evidence provides for the judicial notice of facts in United States courts, and provides in pertinent part, "A judicially noticed fact must be one not subject to reasonable dispute in that it is either (1) generally known within the territorial jurisdiction of the trial court or (2) capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned." Fed. R. Evid. 201(b). This additional GE document is similar to other evidence presented by the Florida Generators during the course of this proceeding, and it is clearly subject to dispute. It is not the type of document appropriate for judicial notice.

88. Further, the ALJ's statement that parties could ask the Commission to reopen the record to consider new evidence was made in light of the fact that there is ongoing testing in this area, and the Commission would want to be aware of any test results that could impact a decision. It was not intended to allow parties to create additional exhibits and advance further arguments on matters adjudicated at the hearing. [136]

iv. The Testimony of The Witnesses

89. The ALJ also evaluated the testimony of the expert witnesses, including the testimony of the Florida Generators' expert witness Dr. Klassen, Progress Energy's expert witness Mr. Fitzgerald, and Florida Power's expert witness Mr. Driebe. After evaluating the testimony, the ALJ concluded that the manufacturer's specifications for the turbines constituted a more reliable basis for establishing specific Wobbe Index limits on the Florida Gas system than did the testimony of these witnesses.

90. On exceptions, Florida Generators, Progress Energy, and Florida Power argue that the ALJ erred because he ignored or discounted the testimony of these witnesses. The Florida Generators state that these witnesses testified that there is no reliable evidence upon which to base a prediction of the precise impacts that varying gas composition will

[136] This does not foreclose interested parties or Florida Gas from proposing future changes to Florida Gas's tariff gas standards to reflect new test data in another proceeding under NGA section 4 or 5, as appropriate. *See* Policy Statement at P 29-33.

have on the DLE turbines, and more testing is needed. BG LNG, Florida Gas, the LNG Suppliers, and Southern filed briefs opposing these exceptions. As discussed below, we conclude that the ALJ accurately analyzed the testimony of the witnesses, and we affirm the ALJ's conclusion that the manufacturer's specifications are a more accurate guide to the operating parameters of the DLN turbines in establishing Wobbe Index limits.

(a) The Testimony of Florida Generator's Witness Dr. Klassen

91. In the Initial Decision, the ALJ cited the testimony of Dr. Klassen stating that generators with DLN turbines are sensitive to fuel gas quality and that these turbines are not capable of handling large changes in gas composition without changing turbine operating parameters, known as re-tuning. The ALJ notes that for the most part, these concerns of Dr. Klassen's over possible consequences of importing LNG with compositions different from that of domestic gas are not contested. (Initial Decision at P 117). However, with regard to establishing specific Wobbe Index limits on the Florida Gas system, the ALJ found that Dr. Klassen had made no independent determination based on his expertise as to the absolute limits or variability within those limits of a Wobbe Index range that could be accommodated by DLN turbines.

92. On exceptions, the Florida Generators argue that the ALJ erred because he alternately relied upon and then dismissed Dr. Klassen's testimony. The Florida Generators argue that the ALJ erred when he stated that Dr. Klassen had made no independent determination based on his expertise regarding the appropriate Wobbe Index range and that Dr. Klassen was not an expert on turbines. Florida Generators point out that Dr. Klassen was a part of the NGC+ Work Group, whose membership the ALJ characterized as "prestigious and knowledgeable." Further, Florida Generators assert, the ALJ relied on Dr. Klassen's testimony as his primary evidence supporting his finding in Paragraphs 118-131 of the Initial Decision regarding the operational capabilities of DLN turbines, but then stated that Dr. Klassen is not an expert on turbines. The Florida Generators argue that because the ALJ relied almost exclusively on Dr. Klassen's testimony as the relevant source of evidence to describe how a DLN turbine will be impacted by a wide swing in gas quality, the ALJ erred in then placing no value on Dr. Klassen's ultimate conclusions and recommendations based on that analysis about what Wobbe Index range is appropriate for the Florida Gas system. The Florida Generators argue that, based on his expertise, Dr. Klassen concluded that DLN generators must receive relatively stable gas supplies and that the precise impacts that varying compositions will have on DLN turbines is an issue on which definitive public data is largely unavailable.

93. In their briefs opposing these exceptions, Florida Gas, the LNG Suppliers, BG LNG, and Southern argue that the ALJ did not err in his evaluation of Dr. Klassen's

testimony. These parties argue that there is nothing inconsistent in the ALJ's reliance on some portions of Dr. Klassen's testimony, but not others. Further, these parties argue that Dr. Klassen did not quantify any of the impacts that importation of LNG would have on the DLN turbines.

94. The Commission affirms the ALJ's conclusion that with regard to establishing specific Wobbe Index limits for imported LNG on Florida Gas's system, the manufacturer's specifications provide a more reliable guide than the testimony of Dr. Klassen. There is nothing inconsistent in the ALJ's reliance on some portions of Dr. Klassen's testimony, but not others. The ALJ recognized that Dr. Klassen is an expert in combustion science and engineering and he cited Dr. Klassen's testimony to the extent it set forth in general and academic terms the basic proposition that DLE combustion systems are sensitive to wide swings in gas quality. This testimony that DLN turbines are sensitive to changes in gas quality is not disputed, and the ALJ was justified in relying on it.

95. However, the ALJ was required in this proceeding to define specific Wobbe Index limitations that would permit the DLN turbines to safely and reliably function. Dr. Klassen never quantified such specific limits. While Dr. Klassen stated that DLN turbines require "relatively stable" gas composition and that these turbines are not capable of handling "large changes" in gas composition without changing parameters by re-tuning,[137] when Dr. Klassen was asked to quantify "large changes," he was not able to do so.[138] Dr. Klassen also testified that re-tuning is not always an option if there is an "abrupt swing" in fuel composition, but did not quantify or place a specific value on what constitutes an "abrupt swing."[139] Dr. Klassen also testified on the importance of a "relatively constant" Wobbe Index for the gas stream, but again was not able to provide a specific range that would be "relatively" constant.[140] There is nothing in his testimony that suggests the Wobbe Index range of plus or minus 2 percent proposed by Florida Gas would be a "large change" or would not be "relatively stable."

96. Much of Dr. Klassen's documentation in support of his positions are of conditions that are not representative of the gas compositions that will likely occur on Florida Gas's

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[137] Ex. FG-1 at 3:20-21.

[138] Tr. 292:21-293:11.

[139] Tr. 297:2-6.

[140] Tr. 297:23-299:19.

system. For example, with regard to flame temperature, Exhibit No. FG-2, sponsored by Dr. Klassen, does include a range of fuels with gas composition variations.[141] However, only two of these fuels may be typical of re-vaporized LNG.[142] Exhibit No. FG-2 presents data showing different flame speeds for gas composed of a single constituent, such as methane, ethane or propane.[143] However, as will be discussed in greater detail later, gas actually delivered by Florida Gas, whether from domestic or re-vaporized LNG sources, will not be composed of a single constituent. Similar problems of non-representative conditions underlying Dr. Klassen's assertions exist for turbulent flame speed,[144] flame temperature impact on NOx production,[145] flame blowout[146] and auto-ignition.[147] As noted by LNG Suppliers' expert witness Dr. Santavicca, there exist chemical kinetics models that can provide insight to these issues as they apply to the standards to be established in this proceeding. Dr. Santavicca did analytically examine these issues, using a state-of-the-art model and Dr. Klassen's typical LNG fuel gas compositions.[148] Dr. Santavicca states that the results of the model do not identify significant concerns resulting from the proposed standards for most of the issues identified by Dr. Klassen.[149]

97. As the ALJ pointed out, Dr. Klassen was not able to offer any specific permissible range of Wobbe Index variation in gas composition to accommodate LNG, and simply fell back on the historical range of domestic gas, stating that Wobbe Index variability of more than plus or minus 1 percent from 1,356 is "likely to cause some operating

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[141] Ex. FG-2 at 16, Table 3.

[142] *See* Appendix A.

[143] Ex. FG-2 at 20, Figure 8.

[144] Ex. FG-2 at 21.

[145] Ex. FG-1 at 12:18-19.

[146] Ex. FG-1 at 8:6-7.

[147] Ex. FG-2 at 19.

[148] Tr. 1408:13-22.

[149] Ex. LNG-42 at 8-19. The model did not address auto ignition. Tr. 1424:12-14

difficulties without equipment upgrades."[150] Again, this statement is not specific, but merely speculates that "some operating difficulties" are "likely" to occur if a Wobbe Index range outside the historic range is adopted. Dr. Klassen did not provide any basis for this speculation, and, when asked about this statement at the hearing, he explained that he was not testifying that Florida Gas's proposed gas quality specifications would cause problems, but rather that such problems "might" or "can" occur, that they were "possible" risks.[151] Dr. Klassen also admitted that he could not identify the outer bounds of an acceptable Wobbe Index variability range beyond which the possible problems he identified would likely occur.[152] In fact, Dr. Klassen did not identify a single power plant in the United States that, having received re-gasified LNG as a fuel source, has had any of the problems he raises as potential concerns in this proceeding.[153]

98. Further, while Dr. Klassen states that there is insufficient information available upon which to base Wobbe Index limits, he did not examine the information used by the manufacturers in establishing their specifications for the operation of the turbines. Dr. Klassen acknowledged that he reached his conclusion without considering the ranges that GE and Siemens-Westinghouse have publicly stated that their turbines can tolerate and without examining the bases for GE's and Siemens-Westinghouse's conclusions. Dr. Klassen stated that he did not review the specifications until after he had reached his conclusions concerning the appropriate Wobbe Index range.[154]

99. The turbine specifications and information from the turbine manufacturers were part of the basis of Florida Gas's proposal, and Dr. Klassen acknowledges that he did not review relevant information from the turbine manufacturer and did not know about the manufacturer's specifications, warranties, and service agreements.[155] Thus, his testimony

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[150] Ex.FG-1 at 17:16-17.

[151] Tr. 406:1-8.

[152] Tr. 327:14-22.

[153] Tr. 418:19-22.

[154] Tr. 336:16-22; 389:7-9; 417-419:22-6 with regard to not reviewing the manufactures' specifications; Tr. 336-337:23-14 with regard to not reviewing the manufactures' warrantees; and Tr. 337:15-21 with regard to not reviewing the manufactures' service contracts.

[155] Tr. 364:16-21, 336:23-337:17.

cannot be read to undermine the manufacturer's specifications or to explain why the standards established by GE and Siemens-Westinghouse as limits for their turbines are not valid. Further, while Dr. Klassen states that there is insufficient information upon which to establish a Wobbe Index range, it is clear that he did not examine all of the information that is available. The Commission therefore finds that his testimony does not establish the proposition that the GE and Siemens-Westinghouse turbine specifications are not reliable guides to the operating parameters of the DLN turbines. Nor does it establish the proposition that there is insufficient information available to determine a safe Wobbe Index range for DLN turbines on Florida Gas and that, therefore, we must not deviate from the historical Wobbe Index range.

100. Dr. Klassen states that if re-vaporized LNG is to be introduced into the Market Area, extensive testing would be required to define the range of DLN turbines which "could be several years away."[156] This position ignores two realities. First, domestic gas composition is not stable, day to day, month by month or year by year. Appendix A shows that the gas composition on Florida Gas does change within the span of time identified by the Exhibits, and, further, in more recent years the ranges of individual constituents of delivered gas has increased. GE, in its own manufacturer specification material, anticipates gas composition to change for a variety of reasons: "The hydrocarbon dew point will be dependent on the source of the gas, the degree of gas processing and may vary seasonally with overall gas demand and the economics associated with liquids removal and recovery."[157] While changes in gas composition may traditionally have been small on Florida Gas's system, that is not indicative of what the future may hold for domestic gas. Second, the Commission has already found the construction of facilities to transport re-vaporized LNG through Southern's Cypress Pipeline for delivery to Florida Gas is required by the public convenience and necessity. Those facilities are projected to be ready to provide transportation service to Progress Energy on May 1, 2007. Elsewhere the Commission discusses how, on a practical level, the point of delivery of the Cypress Pipeline gas onto the Florida Gas mainline and the effects of blending and the speculative nature of future LNG projects serving the Florida Market will result in little to no change in gas composition from domestic levels for most of the Market Area. Depending on the physical location of the DLN turbine on the Florida Gas system, Dr. Klassen's testimony does not support depriving Florida Gas's Market Area of the benefit of access to re-vaporized LNG while additional testing is conducted.

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[156] Ex. FG-7 at 16:7-12.

[157] Ex. FG-6 at 25; Ex.FGT-4 at 22.

(b) Testimony of Progress Energy's Witness Mr. Fitzgerald

101. In his pre-filed testimony, Mr. Fitzgerald agreed that the Siemens-Westinghouse turbines could meet Florida Gas's proposed Wobbe Index range, but would require minor mitigation measures.[158] However, on rebuttal and at the hearing, Mr. Fitzgerald changed his endorsement of a Wobbe Index range of plus or minus 2 percent and instead supported a Wobbe Index range of plus or minus 1 percent around the historic mean of 1,356. The ALJ determined that Mr. Fitzgerald based this change in his position on hearsay evidence contained in confidential Exhibit Nos. FG-3 and FPL-29. The ALJ concluded that these exhibits were not reliable or credible and gave them no weight in reaching his decision. Thus, the ALJ stated that he viewed Mr. Fitzgerald's testimony as supporting a Wobbe Index range of plus or minus 2 percent from a midpoint set with compositional gas.[159]

102. Mr. Fitzgerald, in his direct testimony, testified that Progress Energy's fleet of electric generators was designed, manufactured and tuned to burn the natural gas available from the pipeline at the time of commissioning.[160] In his rebuttal testimony, Mr. Fitzgerald contradicted this statement and instead asserted that the GE turbines were designed and tuned for a modified Wobbe Index that is actually lower than currently experienced with domestic natural gas in the Florida Gas market.[161] At the hearing, he extended this contradiction to the Siemens-Westinghouse turbines as well as the GE turbines. Specifically, at the hearing, Mr. Fitzgerald stated that for the Siemens-Westinghouse DLN turbines at Progress Energy's Hines Unit 3, the design Wobbe Index was "about 1,335,"[162] even though the historic range in Florida Gas's market area was 1,346 to 1,371, with a mean of 1,356. Mr. Fitzgerald also reaffirmed his rebuttal testimony on the GE turbines, contending again that they were designed for a lower

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[158] Ex. PE-1 at 12-13. Progress Energy is the owner of six Siemens-Westinghouse DLN turbine generators, all located at the Hines, Florida site. *Id.* at 9:6-7. The Commission also notes that Progress Energy will be a shipper of re-vaporized LNG from SLNG. *See supra* text P 9.

[159] Initial Decision at P 152.

[160] Ex. PE-1 at 8.

[161] Ex. PE-4 at 7.

[162] Tr. 941.

Wobbe Index than the historic gas and giving, as a hypothetical, a design Wobbe Index of 1,310.[163]

103. The ALJ found that Mr. Fitzgerald based his Siemens-Westinghouse Wobbe Index design value on a verbal communication from a Bruce Risen of Siemens-Westinghouse[164] and the lower-than-historic-gas Wobbe Index for GE turbines on a verbal communication from Colin Wilkes of GE.[165] The ALJ found Mr. Fitzgerald's testimony not credible because neither Risen nor Wilkes offered evidence concerning this matter in pre-filed testimony or at hearing, and their alleged oral communications to Mr. Fitzgerald cannot be substantiated. Further, the ALJ stated, there is no basis for concluding that the turbines were designed for gas at a lower than expected Wobbe Index level and that this allegation is contrary to Mr. Fitzgerald's repeated explanations of how turbines are tuned, *i.e.*, that they are tuned with whatever gas is available on the pipeline on the day of the tuning.[166] Thus, the ALJ stated, with a historic mean of 1,356, a high of 1,371 and a low of 1,346, the GE turbines could not have been tuned to 1,310 nor the Siemens-Westinghouse turbines tuned to 1,335.

104. In addition, the ALJ stated that it is not plausible that manufacturers would supply turbines designed to operate with gas with Wobbe Index levels far below those of the fuel gas consumed in the turbines, when they could eliminate any conceivable margin of error by ensuring that the design was comfortably at the historic mean. The ALJ found that in order to accept the assertion that the turbines were set at a Wobbe Index far below that of the gas being consumed in the turbines would require an explanation to justify this alleged practice by persons with first-hand knowledge of the facts. Wilkes and Risen were not called to the stand to explain whether Mr. Fitzgerald had understood them accurately. Therefore, the ALJ concluded, Mr. Fitzgerald's testimony on this point is not only hearsay, but is unreliable hearsay and not a sufficient basis for deviating from his prefiled direct testimony that put the design and tuning of the turbines squarely within the historic range. The ALJ concluded that it would not be reasonable to limit the Wobbe Index range based on secret documents and other unreliable hearsay.

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[163] Tr. 945-47, 1003-1004.

[164] The ALJ cites Tr. 941-2.

[165] Initial Decision at P 161, *citing* Tr. 947.

[166] Initial Decision at P 162, *citing* Tr. 945, 947, 985-87.

105. On exceptions, the Florida Generators argue that the ALJ misconstrued Mr. Fitzgerald's testimony in concluding that it is contradictory. They allege that a "fair reading" of Mr. Fitzgerald's testimony is that the existing combustion turbines on Florida Gas are designed to operate at or below the historic Wobbe Index value on the Florida Gas system, but were tuned to operate on whatever gas was flowing through the Florida Gas system on the date of the tuning. The Florida Generators explain that designing and tuning are separate functions and that design involves what component parts are selected for use in the turbine when it is being constructed, while tuning involves the use of actual flowing gas to establish optimal settings to ensure appropriate fuel flow, emission compliance, flame stability, and to avoid combustion dynamics.

106. The Florida Generators further state that "[i]n this case, based on *anecdotal* information provided to Mr. Fitzgerald by representatives from GE and Siemens, the existing DLE turbines on the Florida Gas system *appear* to have been designed for fuel having a lower Wobbe value than the historic Florida Gas average."[167] Further, Florida Generators state that "it is apparent that Mr. Fitzgerald's inclusive reference in his rebuttal testimony to a tune point for a modified Wobbe value that is actually lower than currently experienced with domestic natural gas was a misstatement."[168] However, while they acknowledge that this testimony was a misstatement, they allege that it should not have caused serious confusion since Mr. Fitzgerald repeatedly testified that turbines could be tuned only to the gas that was actually flowing on the day of tuning. Florida Generators state that there is no other evidence in the record on the design point of the GE and Siemens-Westinghouse turbines served by the Florida Gas system, and that there is nothing contradictory or unreliable about Mr. Fitzgerald's analysis of potential limitations on gas variability for existing turbines imposed by design points below the historic system average.

107. We find nothing in Florida Generator's brief on exceptions that would support reversing the ALJ on this issue. Mr. Fitzgerald's direct testimony that Progress Energy could maintain safety and reliability without auto tuning with a Wobbe Index range of plus or minus 2 percent was based on the published fuel specifications.[169] His retraction of this statement was based on less credible evidence. To the extent that his conclusions

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[167] Florida Generators Brief on Exceptions at 37 (emphasis added) (citing Tr. 945:13-946:7.

[168] Florida Generators Brief on Exceptions at 37.

[169] Ex. PE-1 at 5-6:24-1.

are based on Exhibit Nos. FG-3 and FPL-29, we have explained above why these exhibits are properly afforded no evidentiary weight in this proceeding.

108. Further, his testimony that the Progress Energy turbines are designed and/or tuned to a Wobbe Index lower than that of the historic gas supply on Florida Gas, is not based on reliable evidence and, in any event, does not provide a basis for establishing the Wobbe Index for the Florida Gas system. Florida Generators acknowledge that this testimony is based on "anecdotal information." They do not seem to be sure whether this anecdotal information is accurate since they merely claim that, based on this information, the existing DLE turbines on the Florida Gas system appear to have been designed for fuel having a lower Wobbe Index than the historic Florida Gas average. The unreliable character of this evidence is further confirmed in the transcript of the hearing where Mr. Fitzgerald states that this information was given to him verbally and states that "[t]here's nothing in writing that confirms that specifically."[170]

109. Even if we were to accept as true the allegations that Progress Energy's GE and Siemens-Westinghouse DLN turbines are designed for a Wobbe Index that is lower than the historic gas on the system (and we do not based on this record) it would not change our ultimate conclusion that a Wobbe Index range on Florida Gas of 1,340-1,396 is just and reasonable. It is not clear why GE would design or why Progress Energy would purchase a turbine that was not designed for the average Wobbe Index level of the historic gas supply on the Florida Gas system but instead purchase turbines designed for a much lower Wobbe Index level when this would result in serious operational limitations and operational costs. But, if they did, that is a self-imposed restraint and a matter to be resolved between Progress Energy and the turbine manufacturers, not a basis for establishing gas quality and interchangeability standards on Florida Gas applicable to all of Florida Gas's customers.

110. As with Dr. Klassen, Mr. Fitzgerald makes several declarative and speculative statements without any analytical support. For example, he states that elevated levels of butane and propane might impact operating temperatures of combustors and hot gas components,[171] that combustor dynamic pressures[172] could increase to unacceptable

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[170] Tr. 945:23-25.

[171] Ex. PE-1 at 6:17-20, 9:12-13.

[172] Combustion dynamics refers to a fluid mechanic process in the combustion system that encounters a resident behavior where it oscillates at the same frequency that the combustion chamber wants to oscillate. An oscillation at a particular frequency has to exceed 1 percent of the new pressure before it is considered an instability. Combustion dynamics is used interchangeably with combustion instability. Tr. 1445-1446:14-3.

levels and reduce service life,[173] and that the Siemens-Westinghouse turbines may exhibit increased NOx emissions if the Wobbe Index increases are greater than 2 percent of its tuned value that could exceed environmental limits.[174] Dr. Santavicca has shown there are analytical tools to evaluate the impact of changing gas compositions on these combustions issues. In his modeling of these same issues, he testifies that the risks for the different gas compositions at issue in this proceeding are comparable to those operators currently face from component wear, humidity and gas composition.[175] His analysis with these models supports the manufacturers' specifications identified in this proceeding.[176]

(c) Testimony of Florida Power's Witness Driebe

111. In the Initial Decision, the ALJ cited to Mr. Driebe's testimony in setting forth Florida Power's position on the issues in this proceeding. Although he discussed the issues raised by Mr. Driebe's testimony, he did not specifically cite to Mr. Driebe's testimony in reaching his conclusions.

112. On exceptions, Florida Power states that Mr. Driebe has extensive experience with gas turbines, gas supply to turbines, and the tuning of gas turbines,[177] and argues that the ALJ erred because he ignored Mr. Driebe's testimony. Florida Power states that Mr. Driebe testified that unless the quality of LNG supplies is restricted so that its gas composition is not widely varying from the domestic gas supplies, Florida Power's thirty-two GE DLN turbines would have operational reliability problems accommodating the LNG supply. Florida Power states that based on his experience, Mr. Driebe testified how Florida Power's generating units have been specifically designed for the characteristics of the historic domestic gas supply and have been installed and tuned to accommodate the consistent domestic supply on the system, and that unless the quality of gas is restricted so that its composition does not vary widely from domestic supply, its turbines would have operational reliability problems accommodating LNG supply.

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[173] Ex. PE-1 at 8:18-23

[174] Ex. PE-1 at 9:6-13.

[175] Tr. 1442:4-15.

[176] Ex. LNG-42 at 19-22.

[177] Florida Power cites Ex. FPL-1 at 1:7-8, 11-25; Tr. 570-71, 664-72, 593-94.

113. Florida Power states that Mr. Driebe also provided relevant testimony during the hearing on the GE fuel specifications,[178] and explained that the range of 40-54 MWI represents the entire design range of a standard GE machine. Mr. Driebe stated that during the purchasing process, GE is provided with the anticipated gas supply, and GE designs and manufactures a machine to operate on that specific gas supply. Mr. Driebe stated that once the turbine is designed and installed, it can operate, with proper retuning, over a plus or minus 5 percent operating range from the design point of the hardware supplied. However, Florida Power states, Mr. Driebe testified that the retuning process cannot be manually performed on an instantaneous basis to allow a turbine to switch back and forth between gas supplies with widely varying qualities. While there is an allowable gas quality variation within the plus or minus 5 percent range before retuning is necessary, that variation does not cover the entire plus or minus 5 percent operating range. Therefore, for reliable electric generation from these turbines, there must either be a narrower than plus or minus 5 percent Wobbe Index range so that retuning is not needed, or GE turbine owners would have to add auto-tuning capability.

114. Florida Gas, the LNG Suppliers, and Southern filed briefs opposing Florida Power's exceptions. The LNG Suppliers state that the ALJ properly disregarded much of Mr. Driebe's testimony which, they assert, was derivative of Dr. Klassen's testimony and outside Mr. Driebe's area of expertise. Further, they state he discussed the adverse effects that could occur if a turbine receives non-compliant gas, but did not describe fully what natural gas composition will cause those adverse effects. Southern states that with respect to the ability of DLN turbines to accommodate changes in their fuel gas, Mr. Driebe's testimony is substantially similar to Dr. Klassen's, and that the ALJ did not err in dismissing the testimony of Mr. Driebe without adding what would have been a repetitious explanation.

115. We find that the ALJ's failure to refer specifically to the testimony of Mr. Driebe in reaching his conclusions on the appropriate range for the Wobbe Index does not render his conclusions any less valid. Florida Power states that Mr. Driebe testified that unless the quality of LNG supplies is restricted so that its gas composition is not widely varying from the domestic supplies, the DLN turbines would have operational reliability problems. The ALJ clearly recognized this fact, but, like Dr. Klassen, Mr. Driebe did not quantify the degree of variability that would trigger the onset of operational difficulties. Therefore, his testimony was not a reliable basis for adopting specific standards and was not cited by the ALJ. Again, with regard to the GE turbine specifications, Mr. Driebe states that retuning cannot be done instantaneously to allow a turbine to switch back and

[178] Florida Power cites Tr. at 693-695.

forth between "gas supplies with widely varying qualities."[179] But, he does not quantify what constitutes a "widely varying quality." Mr. Driebe's testimony states only that the allowable operating range before retuning is necessary is less than plus or minus 5 percent, without specifying how much less. Florida Gas's proposed Wobbe Index range is only plus or minus 2 percent, considerably less than plus or minus 5 percent. There is no reason to assume that this narrower Wobbe Index range, which we approve here, would trigger a need for the retuning about which Mr. Driebe is concerned.

v. The NGC+ Interim Guidelines

116. As explained above, the NGC+ Interim Guidelines allow for a Wobbe Index range of plus or minus 4 percent from the average local historical gas, or, alternatively, from established adjustment or target gas, subject to a maximum Wobbe Index of 1,400. Nevertheless, Florida Gas proposed a narrower Wobbe Index range of plus or minus 2 percent from a Wobbe Index of 1,368, with a maximum Wobbe Index of 1,396, in order to meet the special needs of the electric generators attached to its pipeline. While the Florida Generators contended at hearing that Florida Gas should have proposed an even greater departure from the NGC+ Interim Guidelines, the LNG Suppliers contended that Florida Gas should not be permitted to depart from the NGC+ Interim Guidelines at all. Accordingly, they advocated a Wobbe Index range of plus or minus 4 percent from Florida Gas's five-year historic average Wobbe Index of 1,356, subject to a maximum of 1,400. This would result in a Wobbe Index range of 1,302 to 1,400.

117. The ALJ recognized that the NGC+ Interim Guidelines are a good point of reference, but nevertheless rejected the LNG Suppliers' Wobbe Index proposal based on the NGC+ Interim Guidelines, and approved Florida Gas's proposal. The ALJ found that relying solely on the NGC+ Interim Guidelines in this proceeding would result in a Wobbe Index range that exceeds the manufacturer's specifications for certain turbines now in use by Florida electric generators. The ALJ stated that this would raise safety and warranty concerns or possibly necessitate expensive upgrades[180] The ALJ concluded that in these circumstances, it was more appropriate to rely on the turbine manufacturers' specifications.[181] As discussed above, the ALJ concluded that the GE DLN turbines can operate within the maximum and minimum Wobbe Index values proposed by the NGC+ Work Group, but found that the Siemens-Westinghouse turbines could not cope with a

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[179] Florida Power Brief on Exceptions at 13.

[180] Initial Decision at P 140.

[181] *Id.* at P 141.

plus or minus 4 percent variation in the Wobbe Index, or a maximum Wobbe Index limit of 1,400 without safety and environmental risks. He therefore rejected the LNG Suppliers' Wobbe Index proposal based on the NGC+ Interim Guidelines and instead approved Florida Gas's proposal.

118. The LNG Suppliers and the Florida Generators filed briefs on exceptions challenging the ALJ's treatment of the NGC+ Interim Guidelines. The LNG Suppliers, on the one hand, argue that the ALJ erred because he did not adhere to all aspects of the NGC+ Interim Guidelines, including the plus or minus 4 percent range and the maximum Wobbe Index of 1,400, while the Florida Generators, at the other extreme, argue that the ALJ erred in relying on the NGC+ Interim Guidelines to reject their proposal for an even more stringent standard than Florida Gas proposed. Briefs opposing the exceptions of the Florida Generators were filed by the LNG Suppliers and Staff. Briefs opposing the exceptions of the LNG Suppliers were filed by the Florida Generators and Staff. For the reasons discussed below, we find that the ALJ properly used the NGC+ Interim Guidelines as a reference point in establishing the Wobbe Index standards for Florida Gas, but deviated from those guidelines when the specific circumstances on Florida Gas so warranted.

119. The LNG Suppliers argue that the 1,396 Wobbe Index ceiling adopted by the ALJ is overly restrictive and not supported by record evidence. The LNG Suppliers state that the NGC+ Work Group, which included representatives of turbine manufacturers, established this ceiling as an intentionally conservative level to address incomplete combustion, a key factor in the level of emissions experienced in a power production facility.[182] Further, the LNG Suppliers state that the ALJ adopted the narrower plus or minus 2 percent range proposed by Florida Gas based on his belief that certain Siemens-Westinghouse turbines may require active tuning to permit them to burn natural gas. However, they argue, all of the gas turbines connected to the Florida Gas system can operate safely and within emission standards with any natural gas allowed under the NGC+ Interim Guidelines.[183]

120. Moreover, the LNG Suppliers argue that the Siemens-Westinghouse turbines are subject to a narrower Gas Index limit, not a narrower Wobbe Index limit.[184] They state

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[182] The LNG Suppliers cite Ex. FGT-6 at 13.

[183] The LNG Suppliers cite their Initial Br. at 29-35 and state that Dr. Marshland testified that the LNG Suppliers' proposed standards provide a workable approach to interchangeability. Ex. LNG-12 at 17:4-13, 19:3-20:10.

[184] Ex. LNG-12 at 17:4-13, 19:3-20:10. The Gas Index is the same as MWI. Ex. FGT-5 at 6-7.

that the MWI differs from the Wobbe Index because the MWI accounts for variations in the temperature of natural gas,[185] and that this factor is critical because it means that a gas turbine owner can use fuel gas heating to ensure that the gas being burned at the turbine does not exceed the prescribed MWI specification.[186] They assert that all of the Siemens-Westinghouse turbines connected to the Florida Gas system already possess the fuel gas heating capabilities necessary to manage this concern, and therefore, the turbine owners can control the MWI of the incoming stream by using existing plant facilities without the unnecessary addition of expensive equipment. The LNG Suppliers argue that the Commission should adopt a Wobbe Index range of plus or minus 4 percent and replace the 1,396 Wobbe Index cap adopted in the Initial Decision with the 1,400 Wobbe Index cap resulting from the application of the NGC+ Interim Guidelines.

121. Contrary to the assertion of the LNG Suppliers, we find that the ALJ accurately interpreted the Siemens-Westinghouse specifications. The specifications clearly state that for an MWI variation beyond plus or minus 2 percent, active tuning and/or nozzle changes would be required. While active tuning is possible, and is becoming increasingly available,[187] it at present may not be available.[188] Requiring the installation of active tuning would risk taking turbines off-line due to the lack of available auto tuning equipment for emissions or other reasons.

122. The primary concern of the LNG Suppliers appears to be with the upper end of the allowed range. They argue that the ALJ's approval of a maximum limit of 1,396

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[185] Ex. LNG-12 at 15:1-2.

[186] LNG Suppliers Brief on Exceptions at 20 n. 56 cite Ex. LNG-23 at 16:20 – 17:10; Ex. LNG-12 at 8:3-6. They also state that GE has stated expressly that fuel gas heating is an appropriate technique for managing MWI, citing Ex. LNG-33 at 6-7; Tr. 765:8 – 768:9. The LNG Suppliers also claim that the record does not indicate that gas heating is not also an appropriate technique for managing the Gas Index for Siemens-Westinghouse turbines.

[187] Mr. Fitzgerald states that Siemens-Westinghouse has approximately nine MACT (Maximum Available Control Technology) dynamic tuning units in service in places like California Tr. 994:5-17. Florida Generators Initial Br. at 81, n. 325, *citing* Tr. 682, wherein GE has informed customers that they expect to have an auto-tuning product available to be installed by first part of 2007. *See also* Ex. FGT-5 at 8, wherein Siemens-Westinghouse's specifications make reference to this technology.

[188] Ex. FG-1 at 20:16-19; Ex. PE-4 at 3:13-14; Tr. 530:12, 763:1-10.

interferes with the importation of LNG. However, as the ALJ concluded, using an upper Wobbe Index of 1,400 instead of 1,396 would not increase available LNG supplies. This is supported by the LNG Suppliers own Exhibit No. 30, which does not identify any LNG supplier with a product with a Wobbe Index between 1,396 and 1,400. Because adopting an upper Wobbe Index limit of 1,400 would result in greater risks with no offsetting benefits, the ALJ properly established the upper Wobbe Index limit to the range set forth in the manufacturer's specifications for the turbines currently in use on Florida Gas.

123. The Florida Generators also filed exceptions to the initial decision with regard to the appropriate use of the NGC+ Interim Guidelines, but, unlike the LNG suppliers, they argue that no reliance should be placed on these guidelines at all. The Florida Generators allege that the procedures used by the NGC+ Work Group may not have been reliable and this makes it questionable to place any reliance on its conclusions. They assert that the NGC+ Work Group's process was not a matter of public record, its findings were not based on sworn testimony subject to cross-examination, it conducted no independent empirical studies, its process was suspect, it is not clear whether its report represents a consensus, and it did not document or support the basis for its findings and recommendations. The LNG Suppliers and Staff oppose these exceptions, and state that Florida Generators have not provided a basis for discounting the group's findings and recommendations.

124. The Florida Generator's concerns about the procedures of the NGC+ Work Group are unfounded. As the Commission explained in the Policy Statement, the report represents culmination of a year of work by a large group of natural gas industry stakeholders representing all segments of the natural gas industry who worked to reach a consensus understanding of the gas quality and interchangeability problems and recommendations about how theses problems should be managed.[189] The procedures of the group were not secret and are in no way suspect. Moreover, there is no basis for the Florida Generators' suggestion that sworn testimony and cross-examination are required in the preparation of technical reports. These are litigation procedures that are not well-suited to type of study and analysis engaged in by the NGC+ Work Group, and there is no requirement that this type of a report be prepared in the context of a litigated proceeding. The NGC+ Interchangeability Report is based on a Commission-initiated industry-wide process and included representatives of pipelines, LNG suppliers, LDCs, power generators, feedstock, users, appliance manufacturers, research organizations, state officials, and gas processors. Further, the Commission held an open technical conference

[189] Policy Statement at P 15.

on May 17, 2005 to permit parties to address these two reports before the Commission,[190] and the Commission provided additional opportunities to raise such issues.[191] There is no basis for the Florida Generators' vague allegations about the process used by the group, and no party to this proceeding has argued that its position was disregarded or excluded by the NGC+ Work Group. In the Policy Statement, the Commission encouraged the parties to use the NGC+ Interchangeability Report and Interim Guidelines in reaching solutions to gas quality and interchangeability issues and the Florida Generators argument here is a collateral attack on the Commission's order in the Policy Statement.

125. In addition, the Florida Generators state that the ALJ did not address the many caveats and limitations identified by the NGC+ Work Group itself as prerequisite to an expansion of gas interchangeability standards. Specifically, the Florida Generators assert, the NGC+ Interchangeability Report contemplate that the proposed standards could be modified to reflect the unique circumstances of individual regions and localities and the historic supply and end-use characteristics of specific regions, and that the NGC+ Work Group recognized the need to undertake additional research on gas interchangeability issues related to the DLE turbines. In addition, Florida Generators state, the NGC+ Interchangeability Report states that varying natural gas composition beyond acceptable limits for combustion turbines "can result in increased emissions, reduced reliability/availability, and decreased parts life" and in all end use equipment "can result in flame instability, including lifting and blowout in appliances."[192] The NGC+ Interchangeability Report further states that fluctuations beyond the limits to which the equipment is tuned to receive, particularly over a short period of time, is likely to reduce the ability of some equipment to perform as intended by the manufacturer.

126. The Florida Generators' criticism that the ALJ ignored specific characteristics of the locality and the types of equipment in use in that locality are unfounded. The ALJ recognized that the NGC+ Interim Guidelines are not a fixed nationwide standard, and that the application of the guidelines can result in a different set of specifications for each pipeline based on that pipeline's historic gas deliveries. That is why the ALJ did not

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[190] *See Natural Gas Interchangeability*, Notice of Technical Conference (Docket No. PL04-3-000) (issued April 13, 2005).

[191] *See Natural Gas Interchangeability*, Notice Seeking Comments (Docket No. PL04-3-000) (issued May 19, 2005) (requesting additional comments on the two reports by June 9, 2005).

[192] Ex. FGT-6 at 18-19.

simply adopt the NGC+ Interim Guidelines in their entirety, but confirmed Florida Gas's modifications to the range suggested by the guidelines, including the maximum Wobbe Index of 1,400, to accommodate the historical characteristics of the gas on the Florida Gas system and the specific DLN turbines currently in operation on the system.

127. Further, there is no disagreement that additional testing on gas quality and interchangeability issues should be performed. The NGC+ Work Group issued its report as Interim Guidelines to be applied until additional testing should be completed. The interim standards recognize the need for more testing, as does the Commission. However, Florida Generators suggest that, until all testing can be completed, no LNG should be permitted to enter the Florida Gas system unless it has the same characteristics as the historical domestic gas supply. This would essentially eliminate LNG as a gas supply, contrary to the Commission's goals, and would be completely unnecessary because the record establishes that the DLN turbines can handle the plus or minus 2 percent variations in supply approved by the ALJ. Moreover, there are no guarantees that the current composition of domestic gas will remain constant, and variations in characteristics of historic supply change over time even if supplies are limited to domestic gas.[193] Likewise, there is no disagreement that varying natural gas composition beyond acceptable limits for gas turbines can result in safety and reliability problems. That is why the ALJ adopted a Wobbe Index range within the acceptable limits for the DLN turbines as those limits are set forth in the manufacturer's specifications.

128. In sum, we find that the ALJ properly used the NGC+ Interim Guidelines as a starting point in determining the appropriate Wobbe Index range on the Florida Gas system, but deviated from them to the extent necessary to accommodate the circumstances on the Florida Gas system as reflected in this record. Neither of the extremes suggested by the LNG Suppliers or the Florida Generators, *i.e.*, that the standards must be applied without deviation, nor that they do not merit any consideration at all, are justified.

vi. Least Common Denominator

129. BG LNG notes that of the over 160 gas-fired combustion turbines identified as attached to the Florida Gas system, only 9 of them are Siemens-Westinghouse DLN gas turbines.[194] BG LNG notes that none of the operators of those 9 Siemens-Westinghouse DLN gas turbines has yet installed available active tuning equipment, and so these

[193] *See* Appendix A.

[194] *Citing* Ex. LNG-51; Initial Decision at P 143.

turbines currently have a narrower operating range than Siemens-Westinghouse DLN gas turbines with such available active tuning equipment. BG LNG argues that those 9 unmodified gas turbines should not be allowed to dictate the acceptable Wobbe Index ranges for Florida Gas. BG LNG argues that, instead of adopting an interchangeability standard that requires the use of the specifications for the most sensitive equipment in a given market - driving the standard to the lowest common denominator - the Commission's interchangeability standard should promote the greatest access to new natural gas supplies and encourage the development and purchase of reasonably versatile equipment. With available equipment installed, then, BG LNG argues, even the Siemens-Westinghouse gas turbines would be capable of accepting gas with a Wobbe Index variation of plus or minus 4 percent.[195]

130. The Commission rejects BG LNG's argument. The Commission does not support the use of least common dominator as a controlling factor to establish gas quality standards,[196] and does not believe that it should be a controlling factor in establishing gas interchangeability standards. However, neither the ALJ nor Florida Gas used a least common denominator approach in selecting the plus or minus 2 percent range. The ALJ found only that the plus or minus 2 percent limitation was required because, without active tuning, the emission requirements could not be met.[197] But the ALJ did not view that as a long-term constraint on Florida Gas's interchangeability standard. The ALJ specifically noted the modification for an expanded Wobbe Index range required "minor mitigation measures" from $100,000 to $1.5 million,[198] and noted the fact the automatic retuning technology for an expanded Wobbe Index range was already available for the Siemens-Westinghouse equipment.[199] The record shows that, while the automatic

[195] BG LNG Brief Opposing Exceptions at 7-8.

[196] 117 FERC ¶ 61,286 at P 64-67 (2006).

[197] Initial Decision at P 148.

[198] *Id.* at P 151, quoting Progress Energy's witness.

[199] Initial Decision at P 170.

retuning technology is currently available,[200] the equipment may not be.[201] The Commission anticipates that tariff gas quality and interchangeability standards may change in the future in recognition of changing requirements and technology.[202] The Commission's affirmation of the ALJ's findings is not a limitation on Florida Gas's ability to propose a change in the Wobbe Index range once the equipment becomes available.

2. Wobbe Index Rate of Change of 2 percent or less per 6 minutes

131. Florida Gas proposed requiring that the Wobbe Index of revaporized LNG received at Market Area receipt points not change by more than 2 percent during a 6 minute interval.

a. Initial Decision

132. The ALJ accepted Florida Gas's proposal. The ALJ found this rate of change provision addresses the ability of turbines to adjust to changing Wobbe Index levels in the gas stream,[203] and was supported by Peoples Gas in a filing in another proceeding.[204] However, the ALJ recognized that this provision does not fully accomplish its purpose. While it would preclude a supplier from changing the Wobbe Index of its tendered re-vaporized LNG at a faster rate than this limit, the limitation would not protect customers against a faster rate of change resulting from the quick blending of the LNG with

[200] Tr. 994:5-17: Mr. Fitzgerald states that Siemens-Westinghouse has approximately nine ACDMS dynamic tuning units in service in places like California; and Florida Generators' Initial Br. at 81, n. 325, *citing* Tr. 682, wherein GE has informed customers that they expect to have an auto-tuning product available to be installed by first part of 2007. *See also* Ex. FGT-5 at 8, wherein Siemens-Westinghouse's specifications make reference to this technology.

[201] Ex. FG-1 at 20:16-19; Ex. PE-4 at 3:13-14; Tr. 530:12, 763:1-10.

[202] Policy Statement at P 27.

[203] *Citing* Florida Gas Initial Br. at 41, which discussed in the NGC+ Interchangeability Report.

[204] *Id.*; Ex. FGT-10 at 10.

domestic gas or the LNG's quick replacement of that gas (or vice-versa).[205] The ALJ found that no participant suggested a provision that is practical and can fully accomplish this goal.[206]

b. Positions of the Parties

133. The LNG Suppliers argue that the ALJ's decision did not rely on substantial record evidence, and accepted Florida Gas's proposal even though it would not accomplish its intended purpose. The LNG Suppliers stated that Florida Gas provided no evidence that its meters and chromatographs are even capable of measuring a Wobbe Index rate of change over six minutes, much less provide this information to its customers on a real-time basis. The LNG Suppliers believe that the lack of efficacy and monitoring capabilities demonstrate that the rate of change proposal is not practical as a receipt point standard. The LNG Suppliers state that it is unlikely that LNG entering Florida Gas's system at a specified rate of change will be delivered to end-users at the same rate of change. Therefore, the LNG Suppliers assert that this constitutes an additional reason why the ALJ's approval of Florida Gas's proposal amounted to unreasoned decision making.[207]

134. Florida Generators and Progress Energy argue that the rate of change standard should be applied to all supplies entering the Florida Gas's system, including domestic supplies.[208]

135. Florida Gas, the Florida Generators and Staff believe that there is record support for the conclusion that a rate of change standard is appropriate and necessary. Beside the evidence cited by the ALJ, they also rely on evidence on rate of change requirements for DLE turbines.

136. The Florida Generators and Staff[209] acknowledge the adopted rate of change standard is imperfect. Nonetheless, Florida Generators argue that the standard is

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[205] *Citing* Tr. 127-31.

[206] Initial Decision at P 175-76.

[207] LNG Suppliers Brief on Exceptions at 25-27.

[208] Florida Generators and Progress Energy Brief on Exceptions at 71-72.

[209] Staff Brief Opposing Exceptions at 32-34.

designed to deal with LNG deliveries in close proximity to generating facilities.[210] Florida Generators state that several generating facilities are located on laterals on the Florida Gas system that are immediately adjacent to prospective LNG import interconnections. Florida Generators assert the Wobbe Index rate change standards would provide real-world protection to generating facilities that will be supplied by revaporized LNG delivered at those locations.[211]

137. Florida Gas, opposing the Florida Generators' position of applying the standard to domestic gas, stated that there is no record of any significant Wobbe Index rate of change caused by domestic gas. The problem, Florida Gas contends, is varying deliveries of re-vaporized LNG. With regard to reducing the rate of change to plus or minus 1 percent, Florida Gas states that its proposal was supported by the testimony,[212] the concerns discussed in the NGC+ Interchangeability Report,[213] some parties that would be directly affected by this standard,[214] and the Florida Generators and Progress Energy.[215]

138. Contrary to LNG Suppliers' claims, Florida Gas states that its mainline chromatographs analyze gas quality and calculate Wobbe Index every six minutes.[216]

c. Discussion

139. The Commission affirms the ALJ's finding in part. Elsewhere in this order we find that the receipt gas quality standards for the Market Area should be the same for both domestic and re-vaporized LNG sourced gas. That finding also applies to this Wobbe Index rate of change limitation. Thus the ALJ's finding applying the standard solely to re-vaporized LNG is reversed.

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[210] *Citing* Tr. 131.

[211] Florida Generators and Progress Energy Brief Opposing Exceptions at 34-38.

[212] *Citing* Ex. FGT-11.

[213] *Citing* Tr. 127:20-24.

[214] *Citing* Ex. FGT-10 at 10.

[215] *Citing* Florida Generators and Progress Energy Brief on Exceptions at 71-72.

[216] Florida Gas Brief Opposing Exceptions at 39-40.

140. Rapid changes in the Wobbe Index of gas receipts do not cause operational problems for Florida Gas. However, such rapid change can cause problems for an end-user whose appliances have difficulty handling such changes. There are three scenarios discussed in the record: Market Area segments with gas a gas stream composed of 100 percent re-vaporized LNG, node movements at the displacement interface;[217] and blended gas streams including both re-vaporized LNG and domestic gas.[218] Of those three, Florida Gas's proposed solution only addresses those parts of its system where the received gas constitutes 100 percent of the throughput on the pipeline segment. Under these circumstances, there is nothing Florida Gas can do with its operations to mitigate the change in Wobbe Index of the gas received from the upstream source. The gas delivered is the same as the gas received.

141. The Florida Generators believe that they need the protection of a rate of change limit, the *NGC+* Interchangeability Report identifies the issue as a legitimate concern, and Florida Gas proposed an admitted partial solution within the limits of its operational abilities to monitor and implement. Parties agree that Florida Gas's proposal will have limited efficacy. Florida Gas and the Florida Generators argue that the proposed solution is better than nothing, whereas the LNG Suppliers, in effect, argue that if the proposed solution is not a complete cure, then the Commission should reject the solution.

142. The Commission rejects the LNG Suppliers' all-or-nothing standard of review. Pipeline operations are complex. Single solutions may not be possible for a given problem on complex systems. And there may be some situations where the solution may not be within the pipeline's control. Florida Gas is effectively saying that rapid Wobbe Index changes on certain segments should be managed by the upstream pipeline – because Florida Gas cannot once the re-vaporized LNG is on its system. The alternative is that Florida Gas will have the right to cut off that source of supply.[219] The proposed

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[217] As discussed in this proceeding, a node is the point where opposing pressures in the gas pipeline are equal. Because of the transitory nature of nodes, it is very difficult to predict where a node point may be at any point in time (Ex. FPL-50; Tr. 68:11-15, 69:19-22, 128-131:3-9, 900:11-17, 901:4-7), and difficult to have the monitoring capabilities to process and transmit the information in a timely fashion (LNG Suppliers Brief on Exceptions at 25).

[218] Blending gas streams results in averaging out of the streams' gas properties. The averaging results in a decreased probability that delivered gas will be at any of the gas quality extremes. Tr. 123:18-23. *See also*, Ex. FPL-17.

[219] Revised *Pro Forma* Sheet No. 103A, Section 2(D) of the proposed gas quality standards, Ex. FGT-12.

rate of change requirement essentially forces shippers on pipelines upstream of Florida Gas to tender gas in a manner that will result in gas delivered to Florida Gas compliant with the Wobbe Index rate of change requirement.[220]

143. The LNG Suppliers argue that Florida Gas may not be capable of monitoring Wobbe Index changes in the gas it receives. Florida Gas says that it is capable of doing this.[221] The Commission accepts its statement.[222] If the LNG Suppliers are correct, they will not be harmed as there will be no basis for Florida Gas to cut deliveries under this standard.

144. The LNG Suppliers also argue that the ALJ based his decision on an inadequate record. The Commission does not agree. The ALJ was simply citing what he determined to be the most compelling evidence. As has been shown above in this discussion, the record contains considerable pertinent evidence on various aspects of the problem of changing gas quality levels at the point of delivery. The fact that much of that record goes toward explaining why Florida Gas did not propose alternative solutions does not detract from the record supporting what it did propose. The LNG Suppliers' arguments are rejected.

3. Heating Value Limits

145. It is relatively easy to calculate a Wobbe Index if all the constituents in the gas stream are known. But in the real world of multiple gas suppliers from different domestic and international sources, different processes applied to the gas stream before and after introduction into the interstate pipelines, and the mixing of different gas streams, the composition of the gas will vary day-by-day and point-by-point. If the mathematical exercise is reversed to calculate the constituents necessary to achieve a target Wobbe

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[220] Note that Florida Gas's receipt gas quality requirements do not control the upstream pipelines' receipt requirements, only their delivery gas quality requirements. Just as Florida Gas's operations are complex, upstream pipelines' operations may be complex. Their receipt requirements need only take into account Florida Gas's receipt requirements. 117 FERC ¶ 61,286 at P 27 (2006).

[221] Florida Gas Brief Opposing Exception at 39-40.

[222] Even if Florida Gas is not currently capable of monitoring the Wobbe Index rate of change in a timely fashion, the construction and addition of monitoring equipment does not require Commission pre-approval, as they are auxiliary installations pursuant to section 2.55(a) of the Commission's regulations.

Index, the solution set will be infinite. This is because each one of the hydrocarbon constituents (in this proceeding typically C1 through C5+, but can include through C9 or higher if present and known) adds a different heat contribution to the gas stream.[223] Inerts, while not adding to the heat content, affect the specific gravity of the gas stream, and thus the Wobbe Index. Further, the number of possible acceptable gas constituent solutions is magnified by the fact that a range of acceptable Wobbe Index values is proposed. The resulting set of gas composition solutions, at least in this proceeding, is referred to as the "Interchangeability Box."

146. Not all possibilities within the range of Wobbe Index solutions are equally desirable. Starting in this section and carrying on into the following section on constituents, we discuss the imposition of various constraints on the possible solution set of the Wobbe Index Interchangeability Box.

147. For each of the infinite number of acceptable Wobbe Index solutions an actual heating content in Btus per standard cubic foot (scf) can be calculated. There have been several heating value units of measurement used in this proceeding, but for tariff purposes the unit is HHV. As with the Wobbe Index, it is easy to calculate the HHV for a particular known composition of gas. And, as with the Wobbe Index, the parties are trying to establish what should be the maximum and minimum permissible HHV. These maximum and minimum HHVs will establish one means of limiting the possible Wobbe Index solutions to a smaller subset.

148. Florida Gas's currently effective tariff provides that gas tendered to its system must have an HHV of no less than 1,000 Btu/scf. The tariff contains no maximum HHV limit, and the standard is applicable to gas tendered anywhere on its system.[224] Florida Gas proposed a maximum HHV of 1,110 Btu/scf and a minimum of 1,025 Btu/scf for all re-vaporized LNG tendered to its system in the Market Area. Florida Gas did not propose to change the HHV standards currently applicable to its Western Division, and the proposed standard would not apply to domestic gas tendered anywhere on its system.[225] In support of its maximum HHV limit, Florida Gas states that it relied upon

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[223] For e.g., the Gross Calorific Value (GCV in the record) for pure C1 (methane) is 994.1 Btu/scf; C2 (ethane) is 1,757 Btu/scf, C3 (propane) is 2,535 Btu/scf; and C4 (Butane) is 3,330 Btu/scf. Ex. FGT-6 at 206. GCV is the equivalent of HHV.

[224] Florida Gas's FERC Gas Tariff, Fourth Revised Volume No. 1, Original Sheet No. 207.

[225] Ex. FGT-12.

NGC+ Interim Guidelines and that appliances should not experience problems with this maximum. As for the minimum HHV limit, Florida Gas states that the 1,025 Btu/scf figure is the basis of its facility design, and that additional capacity would be required to deliver equivalent amounts of Btus if the gas tendered were below the design level.[226]

a. Initial Decision

149. The ALJ accepted Florida Gas's proposed range for HHV of 1,025 to 1,110 Btu/scf for the Market Area. However, the ALJ recommended that the Western Division's HHV range should be 1,022 to 1,110 Btu/scf.[227]

150. The ALJ disagreed with the Florida Generators' proposed maximum HHV of 1,075 Btu/scf. The Florida Generators argued that this limit has a historical basis, and that there was no showing that reducing the maximum HHV from 1,110 to 1,075 Btu/scf would exclude any LNG supply source.[228] The ALJ stated that the absence of an existing source of supply that may be affected does not preclude the possibility of some future gas source's surfacing within that range of heating values. The ALJ stated that, if such future source does surface, the tests that Florida Gas relies on for its proposed standard are the most reliable determinant as to the new source's interchangeability.[229]

151. In approving Florida Gas's proposed minimum HHV of 1,025 Btu/scf for the Market Area, the ALJ found that the standard was based on historical data, would permit the importation of gas from new sources, and would not diminish service to existing customers.[230] The ALJ agreed with Florida Gas's assertion that "natural gas with a lower

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[226] Ex. FPL-19 at 19, which consists of Florida Gas's data response to data request FPL-2.19. Florida Gas states that "the upper Btu level is supported by appliance test data from TIAX, SoCal and the NGC+ White Paper." The Commission notes that of those data, only the NGC+ Interchangeability Report [which is part of the NGC+ White Paper] is part of this record. Ex. FGT-6.

[227] Initial Decision at P 177-179.

[228] Florida Generators Initial Br. at 68-70 (Southern Witness Poellnitz confirms that LNG produced from Equatorial Guinea will have gas quality characteristics that will meet Elba Island specifications which contain a 1,075 Btu/scf limit. Tr. 1526:13-19).

[229] Initial Decision at P 179.

[230] *Id.* at P 178, citing *Panhandle Eastern Pipeline Co.*, 91 FERC ¶ 61,037 (2000).

Btu level has a lower heating value and, as a result, will have the detrimental effect of reducing the amount of pipeline capacity available to its customers if it replaces gas with a higher heating value."[231] However, the ALJ applied the minimum 1,025 Btu/scf limit only to the Market Area. For the Western Division, he recommended a minimum HHV limit of 1,022 Btu/scf. The ALJ stated that this figure is also based on Florida Gas's historical data, and the change would have minimal impact.[232]

b. Positions of the Parties

152. Florida Generators contend the ALJ did not adequately support adoption of Florida Gas's proposed maximum HHV of 1,110 Btu/scf, arguing that this maximum unnecessarily deviates from the historical maximum experienced on the Florida Gas system, and that Florida Gas has failed to prove that an LNG supply would be excluded unless this higher limit is adopted. Florida Generators oppose Florida Gas's two bases for the 1,110 figure, namely that appliances would not encounter a problem and that the NGC+ Interim Guidelines support it. Florida Generators aver that an HHV in excess of 1,075 Btu/scf will have a major adverse impact on generators and therefore Florida Gas's "limited rationale" for a higher maximum is unacceptable. Florida Generators argue that Florida Gas should have maintained its original proposal of 1,075 Btu/scf. They also object to Florida Gas's reliance on the NGC+ Interim Guidelines as a basis for the 1,110 figure stating that: the NGC+ Work Group's recommendations were suspect and did not represent a consensus; they were meant to be modified based on local considerations; the work group recognized the need for more research on issues related to DLE turbines; and the guidelines were interim in nature.[233] The Florida Generators state that the "Commission should require Florida Gas to adopt a HHV range of 1,026 to 1,068 in line with what shippers have historically experienced on the Florida Gas system."[234]

153. The LDCs maintain that more testing is necessary to determine the effect of Florida Gas's heat content range on end-use appliances. The LDCs except to the ALJ's holding that "although the record is incomplete and testing is needed with respect to the effects of regasified LNG meeting Florida Gas's proposed standards on end-use equipment (other than gas turbines) being supplied from the Florida Gas system, no

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[231] Initial Decision at P 178.

[232] *Id.* at P 179.

[233] Florida Generators and Progress Energy Brief on Exceptions at 72-77.

[234] *Id.* at 77

testing of such equipment will be required, even for the purpose of determining necessary adjustments and remediation, and the proposed standards may be adopted without such testing first being undertaken."[235] The LDCs hold that the Commission should require testing of end-use appliances with gas that meets the proposed standards and that without this testing it is impossible to conclude that the introduction of re-gasified LNG will have no detrimental effects.[236]

154. Florida Power argues that it has historically received natural gas of a consistent quality and that its units have been designed to accommodate the historical variation in gas supply with a Btu range of 1,026 and 1,068.[237] Florida Power asserts that the Initial Decision disregarded the testimony of Florida Power witness Mr. Driebe that a change in the historical gas supply would pose operational problems.[238] Florida Power does not specifically take exception to the HHV range proposed by Florida Gas of 1,025 to 1,110 Btu/scf.

155. The LNG Suppliers object to the 1,025 Btu/scf minimum established by the ALJ asserting it is based on flawed reasoning. They contend that the ALJ was in error when he relied on Florida Gas's opinion that natural gas with a lower heating value will reduce the amount of pipeline capacity available to customers if it replaces gas with a higher heating value.[239] The LNG Suppliers argue that since Florida Gas's tariff currently provides for a minimum Btu level of 1,000 Btu/scf for domestically produced natural gas, the introduction of re-gasified LNG with an HHV between 1,000 and 1,025 Btu/scf would not reduce the amount of pipeline capacity. The LNG Suppliers and BG LNG also object to the ALJ's finding that the minimums of 1,025 Btu/scf for the Market Area and 1,022 Btu/scf for the Western division apply only to re-vaporized LNG tendered to Florida Gas, while retaining the existing minimum HHV of 1,000 Btu/scf for domestic natural gas on the Florida Gas system.

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[235] LDC Brief on Exceptions at 8.

[236] *Id.* at 33.

[237] Florida Power Brief on Exceptions, citing Tr. 98, line 11, to Tr. 99, line 4, referring to Ex. FPL-25, and Ex.FGT-7 at 1.

[238] Florida Power Brief on Exceptions at 10.

[239] LNG Suppliers Brief on Exceptions at 21.

c. Discussion

156. Elsewhere in this order the Commission makes two findings that have a bearing on the discussion of HHV limits. First, the Commission finds that there was an inadequate showing that Florida Gas's existing tariff gas standards are no longer just and reasonable for the Western Division. Nothing in this order will affect Florida Gas's tariff gas quality standards as they apply to the Western Division, including the HHV findings. Therefore, for the Western Division, the minimum HHV limit remains unchanged at 1,000 Btu/scf and no maximum HHV.

157. Second, the Commission finds that there should be only one set of Market Area tariff receipt gas quality standards applicable to any gas Florida Gas receives into the Market Area. This includes the minimum and maximum HHV limits.

i. Maximum HHV Limit

158. The Commission affirms the ALJ that a maximum HHV limit of 1,110 Btu/scf is just and reasonable.

159. The Commission rejects the Florida Generators' objection that Florida Gas erred in basing its proposed maximum of 1,110 Btu/scf on the NGC+ Interim Guidelines recommendations. The Commission in its Policy Statement encourages pipelines and their customers to use the NGC+ Interim Guidelines as a common scientific reference point for resolving gas quality and interchangeability issues. The NGC+ Interchangeability Report suggests a process for applying scientific principles to individual markets but do not address the specifics of individual pipeline circumstances or tariff provisions. While the Policy Statement did not exist at the time of Florida Gas's proposal, its use of those Interim Guidelines as a starting point was prescient.

160. The interchangeability limitations set forth in the NGC+ Interchangeability Report's Interim Guidelines were established for gas supplies to those market areas without extended experience with gas supplies characterized by Wobbe Index values higher than 1,400 or gross heating values higher than 1,110 Btu/scf. These parameters where established for gases delivered to local distribution companies[240] on an assumed national historic average gas composition with a Wobbe Index of 1,345 and gross heating value of 1,035 Btu/scf.[241] Utilizing those averages and traditional interchangeability

[240] Ex. FGT-6 at 25.

[241] *Id.* at 26 and 227.

calculations, the NGC+ Work Group calculated the upper interchangeability limits.[242] Those limits were then confirmed to be within the range of actual experience.[243] Based on information supplied in their data gathering with regard to the tolerance of existing appliances to manage changes in gas composition, the NGC+ Work Group deemed, for the interim, a plus or minus 4 percent Wobbe Index variation from the historic average to be reasonable.[244] The recommended limitations are meant to be conservative until better data become available.[245]

161. Florida Gas's historic five-year average Wobbe Index and heating value were 1,356 and 1,041 Btu/scf, respectively.[246] These data are higher than the basis used by NGC+ Work Group, but well within the expected ranges for which the NGC+ Interim Guidelines were designed. As discussed above, Florida Gas had reasons as to why it proposed a maximum Wobbe Index below 1,400. Once the interchangeability requirements are satisfied, the NGC+ Interchangeability Report, other than establishing a cap, does not establish additional heating value specific procedures or items to examine for the purpose of establishing a maximum HHV. In short, the NGC+ Work Group found that, of the two numbers, Wobbe Index was the more important index to use as compared to HHV.

162. The Florida Generators claim that the work group's recommendations were suspect and did not represent a consensus; that they were meant to be modified based on local considerations; that the work group recognized the need for more research on issues related to DLE turbines; and that the guidelines were interim in nature. The Commission elsewhere addressed the Florida Generators' claim that the NGC+ Interim Guidelines and recommendations are suspect and do not represent a consensus, and rejects that argument here for the same reasons. Further, the Florida Generators do not identify what needs to be examined that are HHV specific and are not already part of the review to establish a Wobbe Index range. HHV is the numerator of the Wobbe Index calculation. A lower maximum HHV would reduce the numerator, thus increasing the probability that the resulting Wobbe Index will be lower. The Florida Generators' Wobbe Index position is

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[242] *Id.* at 230-231.

[243] *Id.* at 231.

[244] *Id.* at 233.

[245] *Id.* at 26 and 232.

[246] Ex. FGT-7 at 1, Brooker measuring point, August 2000 to July 2005.

that they wish to have a lower maximum Wobbe Index. Thus, indirectly, HHV has already been examined above in this order.

163. The Commission notes that Florida Gas's currently effective tariff has no maximum HHV. In the alternative to Florida Gas's proposed maximum HHV of 1,110 Btu/scf, the Florida Generators support a maximum HHV of 1,075 Btu/scf first proposed by Florida Gas in this proceeding but since abandoned.[247] Other than the Florida Generators' affinity for the 1,075 Btu/scf and the indirect relationship with Wobbe Index, there does not appear to be any other support for this figure. The Commission notes that our affirmance of the ALJ's approval of the 1,110 Btu/scf places the Florida Generators in a better position than under Florida Gas's currently effective tariff – now there will be a maximum HHV, whereas before there was none.

ii. Minimum HHV Limit

164. The Commission reverses the ALJ's minimum HHV findings for the Market Area and leaves Florida Gas's existing minimum HHV of 1,000 Btu/scf in effect for gas tendered to the Market Area.

165. In the Policy Statement, the Commission sought, among other things, to minimize any unnecessary restrictions on gas supplies.[248] Therefore, when a pipeline proposes to tighten its gas standards, it must demonstrate an operational or other reason why such a tightening is necessary. Here, Florida Gas has not shown that increasing the minimum limit on the Btu content of gas it will accept onto its system is necessary. Florida Gas has not alleged that its existing 1,000 Btu/scf minimum has caused it any operational problems or caused any problems for its customers.[249]

166. The ALJ also held that Florida Gas's existing minimum 1,000 Btu/scf HHV level could lead to a diminution in service to existing customers by reducing the capacity

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[247] On the issue of maximum HHV, Florida Gas changed its position from a maximum 1,075 Btu/scf in Ex. FGT-1 and Ex. FGT-3 to 1,110 Btu/scf in Ex. FGT-11 and Ex. FGT-12.

[248] Policy Statement at P 41.

[249] The Commission notes that a minimum HHV of 1,000 Btu/scf utilizing the SLNG tariff gas quality standards would result in a Wobbe Index of 1,342. Tr. 1479:19-25. This demonstrates that the 1,000 Btu/scf does not represent a significant constraint on Wobbe Index Interchangeability Box solutions.

available to serve them. The Commission rejects this argument. The ALJ confuses available capacity with contract transportation rights and the impact on existing customers. Florida Gas argues that it utilizes 1,025 Btu/scf for designing pipeline capacity in the Market Area.[250] However, when customers sign transportation contracts for capacity in Florida Gas's Market Area, the contract terms are in MMBtu.[251] Florida Gas does not propose to change existing firm customers' contract demand levels. Florida Gas is building new incremental facilities to provide new incremental service.[252] There is no issue with regard to diminution of service to existing customers on existing facilities as the result of any proposed change to the minimum HHV permissible in the Market Area.

167. Florida Gas claims that it designs its Market Area facilities on the basis of an expected low of 1,025 Btu/scf, which supports setting the minimum HHV at that level. This argument ignores the fact that the existing minimum tariff HHV for all the gas delivered to the Market Area is and has been for years 1,000 Btu/scf.[253] The fact that the tariff provides for a minimum HHV different from the one used by Florida Gas to design its facilities is not an issue. Gas pipeline design takes into account *expected* operating conditions in addition to tariff and contract requirements.[254] The preponderance of the evidence in this record is that parties expect re-gasified LNG from Southern's Cypress pipeline will be on the upper side on the HHV range at issue in this proceeding, not the lower side. Thus the Commission believes that Florida Gas's expected operating design parameter of 1,025 Btu/scf is certainly reasonable, and presents minimal risk that it

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[250] The Initial Decision cites Ex. FPL-19 at 19.

[251] Florida Gas's FERC Gas Tariff, Fourth Revised Volume No. 1, Original Sheet No. 528, which contains the Quantity section of Florida Gas's pro forma service agreement for firm transportation service that will be used for gas received from Cypress: Rate Schedule FTS-2, Market Area.

[252] *Florida Gas Transmission Co.*, 115 FERC ¶ 61,328 (2006).

[253] Florida Gas's FERC Gas Tariff, Fourth Revised Volume No. 1, Original Sheet No. 207.

[254] Section 157.14(a)(7), wherein the Commission requires pipelines to support its pipeline design showing proposed operating conditions. *See in accord El Paso Natural Gas Co.*, 104 FERC ¶ 61,045 at P 77 (2003) (discussing the variables used to design a pipeline under steady state conditions).

under-designed its incremental capacity to transport its incremental MMBtu contract levels.

168. The Commission reverses the ALJ's recommended minimum HHV limit of 1,025 Btu/scf. As a result of this finding, the HHV lower limit remains unchanged at 1,000 Btu/scf for the Market Area.

4. Constituent Limitations

169. For the most part, this section discusses additional limitations to constrain the acceptable solutions in the Wobbe Index Interchangeability Box.[255] As discussed earlier, there are an infinite number of possible combinations of constituents to the gas stream that can result in acceptable Wobbe Index numbers. However, not all constituent solutions are equally acceptable. For example (though not an issue in this proceeding), heavier hydrocarbons can change from gaseous to liquid phase under certain conditions commonly experienced during normal pipeline operations.[256] In this section the discussion will focus on the appropriate floors and caps for various constituents in the gas stream.

170. The Commission's findings are summarized in the table below.

a. Initial Decision

171. The ALJ found that the constituent limitations listed in the table below were not objected to on an individual basis, and found all of the limits proposed by Florida Gas to be just and reasonable on the bases presented by Florida Gas. The Initial Decision gives the following constituent limitations:

[255] Temperature and the sulfurs are not factors in the Wobbe Index or HHV calculations. The temperature tariff condition should not be confused with the temperature variable used in discussing the Modified Wobbe Index. That temperature is in the context of the gas's end-use application, whereas the tariff condition is focused on the temperature of the gas Florida Gas receives, not the temperature of the gas it delivers. The sulfur components address separate operational issues not relevant to the Wobbe Index, HHV, and gas stream composition discussion.

[256] For example, one of several recent Commission orders discussing this issue in the context of gas quality: *ANR Pipeline Co.*, 116 FERC ¶ 61,002 at P 3-5 (2006).

Summary of ALJ's and Commission Market Area Receipt Point Constituent Limitation Findings

Constituent	ID Constituent Limitation	ID citation	Commission Finding
Methane Number	≥ 80	P 181	Reversed
C_1 (methane) mole %	≥ 85	P 182	Affirmed
C_2 (ethane): mole %	≤ 10	P 183	Affirmed
C_3 (propane) mole %	≤ 2.75	P184	Affirmed
C_{4+} (butanes+) mole %	≤ 1.2	P 185	Affirmed
C_{5+} (pentanes+) mole %	≤ 0.12	P 186	Affirmed
Combined CO_2 + N_2 volume %	≤ 3	P 187	Affirmed
CO_2 volume %	≤ 1 and none injected as a dilutant	P 188	Affirmed
O_2 volume %	≤ 0.25	P 190	Affirmed
Hydrogen Sulfide grains per cubic foot	≤ 0.25	P 191	Affirmed
Total sulfur grains per cubic foot	≤ 2	P 192	Reversed
Water Vapor lb per MMcf	≤ 7	P 193	Affirmed
Maximum temperature degrees F	≤ 120	P 194	Affirmed
Minimum temperature	Case-by-case	P 194	Affirmed

172. The ALJ accepted Florida Gas's proposed C_3 (propane) limit of 2.75 mole percent. In support of the Florida Gas proposed C_3 limit, the ALJ noted Siemens-Westinghouse's fuel specification limit of 2.5 mole percent.[257] Subsequent to the adoption of that specification, the ALJ found that Siemens-Westinghouse conducted a test in which it concluded that a relaxed limit of 2.75 mole percent was sufficient.[258] The ALJ notes that

[257] *Citing* Ex. FGT-5 at 19.

[258] *Citing* Tr. 132.

Florida Gas relied upon the test results. [259] The ALJ concluded that where the manufacturer is satisfied that its turbines can operate safely and within environmental standards with limits beyond its published specifications, there is no reason to limit the fuel to the more restrictive specifications.[260]

173. With regard to C_{4+} (butanes+), the ALJ noted that the Siemens-Westinghouse fuel specifications state a limit of 1.0 mole percent.[261] However, the ALJ notes that because of the same test that examined propane, Siemens-Westinghouse concluded that a relaxed limit of 1.2 for butanes was sufficient.[262] The ALJ noted that Peoples Gas supported the proposed butanes+ limitation, and concluded that the proposed butanes+ limitation to be just and reasonable.[263]

174. The ALJ noted that the combined CO2 + N2, O2, hydrogen sulfide, and water vapor limits and minimum and maximum receipt temperatures were continuations of Florida Gas's existing tariff and were not opposed. The ALJ concluded that these constituent provisions remained just and reasonable.[264]

b. Positions of the Parties

175. The Florida Generators oppose the ALJ's findings with regard to propane and butane. The Florida Generators support the individual constituent limits first proposed by Florida Gas in Exhibit No. FGT-3 as consistent with turbine warranty specifications. However, the Florida Generators argue that the changes to the propane limit from 2.5 mole percent to 2.75 mole percent and to the butane limit from 1 mole percent to 1.2 mole percent is only supported by a suspect Siemens-Westinghouse test. [265]

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[259] *Citing* Florida Gas Initial Br. at 44-45.

[260] Initial Decision at 130.

[261] *Citing* Ex. FGT-5 at 19.

[262] *Citing* Tr. 134; FGT Initial Br. at 46.

[263] Initial Decision at P 185.

[264] *Id.* at P 187.

[265] Florida Generators Brief Opposing Exceptions at 78.

176. The LNG Suppliers[266] assert that there is no need for individual constituent limitations, arguing that the NGC+ Interim Guidelines' "Interchangeability Box" provides a complete set of interchangeability standards, making constituent limitations "unnecessary and overly restrictive." They argue that the proposed limitations would unnecessarily restrict LNG importation. With regard to the methane number, the LNG Suppliers, BG LNG and Sempra LNG argue that the limitation is both unsupported and unnecessary in the Market Area. BG LNG opposes the ALJ's adoption of a new total sulfur limit as unsupported.

177. The Florida Generators reject the claim made by the LNG Suppliers and Sempra that either their preferred or the ALJ's recommended constituent standards would preclude the importation of gas from certain countries.[267]

c. Discussion

178. Many of the disputes center on various Florida Gas proposed hydrocarbon constituent limits. Because of the nature of the Interchangeability Box, any floor or cap on a single constituent has implications for the other constituents. For this reason, we address the hydrocarbon constituents in a single section of the order. Elsewhere in this order, we find that there should be only one set of receipt gas standards applicable to the Market Area. Therefore, the findings below take into account these later findings in this order.

i. Hydrocarbon Constituents

179. **NGC+ Interim Guidelines' Lack of Hydrocarbon Constituent Levels:** The NGC+ Interim Guidelines do not suggest specific hydrocarbon constituent levels for interchangeability. The closest suggestion is a maximum 1.5 mole percent for C4+ (butanes+).[268] Florida Gas proposes specific minimums or maximums for C1 through C3, and maximum levels for both C4+ and C5+.

180. The LNG Suppliers support the use of only the NGC+ Interim Guidelines' suggested hydrocarbon limits for Florida Gas's tariff. They argue that the Interim Guideline's hydrocarbon limit, in combination with the Wobbe Index and HHV limits,

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[266] LNG Suppliers Brief on Exceptions at 9-18.

[267] Florida Generators Brief Opposing Exceptions at 39-44.

[268] Ex. FGT-6 at 27.

provides Florida Gas with a complete set of interchangeability standards that addresses all combustion phenomena without overly prescriptive constituent and inert limits. The LNG Suppliers argue that supplemental individual constituent limits further restrict LNG supplies without providing any corresponding benefit and, therefore, are unjustifiable.

181. The Commission rejects the LNG Suppliers' proposal. First, the Commission's Policy Statement did not mandate the use of the NGC+ Interim Guidelines. Rather, the Commission strongly encouraged pipelines and their customers to use the NGC + Interim Guidelines as a common scientific reference point for resolving gas quality and interchangeability issues.[269] To the extent pipelines and their customers cannot resolve disputes over interchangeability, such as in the instant proceeding, the Commission will give significant weight to the NGC+ Interim Guidelines.[270] It was not the Commission's intent to require a pipeline to rigidly follow all of the parameters of the NGC+ Interim Guidelines, but to set out the practical suggestions of the NGC+ Interim Guidelines to be considered in conjunction with establishing tariff interchangeability standards.[271]

182. Second, the NGC+ Interchangeability Report indicates that additional constituent limits may be necessary (such as butanes-plus, propane, etc.) to address manufacturer concerns until research and data are available to better understand the impact on operability of equipment.[272] Florida Gas indicated that it did base several of its proposed constituent limits on a review of various manufacturer concerns.[273] Therefore Florida Gas's stated approach in how it generated its proposed constituent limits is consistent with the NGC+ Interchangeability Report's expectations. The fact that the LNG Suppliers may not agree with each of the proposed constituent levels is not an argument that Florida Gas's proposal is inconsistent with the NGC+ Interim Guidelines, or, even if it was inconsistent, that the LNG Suppliers' alternative is the required alternative.

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[269] Policy Statement at P 32.

[270] *Id.* at P 33.

[271] *See in accord ANR Pipeline Co.*, 117 FERC ¶ 61,286 at P 42 (2006), wherein the Commission discussed the application of the Policy Statement adoption of the HDP Report's gas quality standards.

[272] Ex. FGT-6 at 23, recommendation no. 10

[273] Ex. FGT-1:10 and 14:8-11; Ex. FPL-19 at 19.

183. Third, in this section 5 proceeding, Florida Gas bears the burden to show that its proposal for remedying the deficiencies in its tariff is just and reasonable. If Florida Gas satisfies that burden, its proposal must be accepted, even if some other set of constituent levels could also be found to be just and reasonable. However, as the Commission explained earlier in this order, if Florida Gas shows that its proposed remedial tariff provisions are just and reasonable, the Commission will accept those proposals even if there are other just and reasonable remedies. Parties supporting alternative constituent levels in this proceeding also bear the burden of proof under section 5 of the NGA to show that their proposal is just and reasonable.[274] Thus, we will not require Florida Gas to adopt different constituent levels unless we find (1) that Florida Gas has not shown that its proposed constituent levels are just and reasonable and (2) that the alternative proposal (in this instance, the LNG Suppliers' proposal to adopt the NGC+ Interim Guidelines) is itself just and reasonable.

184. Fourth, the LNG Suppliers only support their proposal on two bases: policy and the NGC+ Interim Guideline standards are the most accommodating of LNG imports. With regard to the first basis, a Commission policy is not a rule or regulation to which pipelines and parties must conform. A policy provides guidance for the industry, but it is not a mandate.[275] As a result, when the Commission applies the policy in an individual case, it must support the application based on substantial evidence in the record of that proceeding. The LNG Suppliers assertions do not comprise scientific or technical evidence necessary to resolve the technical issues in this proceeding. As for the second basis, access to the maximum amount of imported LNG is not the only or controlling factor in determining any interchangeability standard.

185. **Methane Number:**[276] The Commission rejects the Florida Gas's proposed methane number specification as unsupported. Florida Gas states the methane number is

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[274] *Western Resources, Inc. v. FERC*, 9 F.3d 1568, 1577-9 (D.C. Cir. 1993).

[275] A policy statement announces to the public the policy which the agency hopes to implement in future rulemakings or adjudications. *Panhandle Eastern Pipe Line Company v. FERC,* 198 F.3d 266, 269-270 (D.C. Cir. 1999). A policy statement is not a substantive rule nor a precedent and it does not establish a binding norm or finally determine the issues or rights to which it is addressed. *Id. citing Pacific Gas & Electric Co. v. FPC*, 506 F.2d 33, 38-39 (D.C. Cir. 1974).

[276] The Methane Number is a measure of knock (detonation) resistance of a fuel. Ex. FGT-6 at 176. Pure methane is assigned a Methane Number of 100, whereas hydrogen is assigned a Methane Number of 0. *Id.* at 178.

based on internal combustion engine warranties. However, as the LNG Suppliers, BG LNG and Sempra point out, there is no evidence in the record that such engines exist on Florida Gas's system or will exist in the near future. Further, there is no evidence that the methane number is required for any other end use application downstream of Florida Gas, or necessary for Florida Gas's operational purposes.

186. **C1 (Methane) at ≥ 85 mole percent and C2 (Ethane) at ≤ 10 mole percent:** No party explicitly took issue with Florida Gas's proposal or the ALJ's findings with regard to methane or ethane constituent levels. The LNG Suppliers[277] did object in the context of their NGC+ Interim Guidelines counter proposal. The NGC+ Interim Guidelines have no suggested constituent levels for methane or ethane. However, the LNG Suppliers provided no additional arguments as to why Florida Gas's specific proposed methane or ethane levels were not just and reasonable and should be rejected.

187. Florida Gas's methane and ethane constituent levels were based on a review of turbine fuel specifications of turbines in the generators' fleets.[278] Specifically, the GE fuel gas specification for methane is a minimum of 85 mole percent.[279] The proposed ethane level is within the parameters identified in the GE and Siemens-Westinghouse documents. The Commission affirms the ALJ on Florida Gas's proposed methane and ethane constituent levels.

188. **C3 (propane) at ≤ 2.75 mole percent and C4+ (butanes and above) at ≤ 1.20 mole percent:** The Commission will combine the discussion of the proposed limits for propane and butanes and above (butanes+) into a single section, as Florida Gas's support for these proposed limits and the parties' objections are the same.

189. As with methane and ethane, Florida Gas started with the manufacturers' turbine fuel specifications. In this instance, the Siemens-Westinghouse set of specifications provides for propane of less than 2.5 mole percent and butanes+ of less than 1.0 mole

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[277] On this issue, BG LNG supports the Florida Gas proposed methane and ethane levels. BG LNG Brief on Exceptions at 12.

[278] Ex. FGT-1 at 9-10:20-15.

[279] Ex. FGT-4 at 5. The Siemens-Westinghouse fuel specification exhibit does not provide a minimum level for methane, but does indicate that C2+ should not be in excess of 19.5 mole percent (excluding olefins). Ex. FGT-5 at 11 and 19.

percent.[280] Florida Gas then took into account test results from Siemens-Westinghouse showing that its turbines could operate with somewhat higher levels of propane and butanes+. Accordingly, Florida Gas proposed limits for propane of less than 2.75 mole percent and for butanes+ of less than 1.2 mole percent.[281]

190. The Florida Generators oppose Florida Gas's proposed propane and butanes+ limits, favoring instead limits based solely on the Siemens-Westinghouse fuel specifications shown at Exhibit No. FGT-5. They argue that there is no evidence that Siemens-Westinghouse has relaxed its fuel specifications for either constituent, or that the test demonstrated that the turbine could accommodate the proposed constituent limits.

191. Every party in this proceeding, the ALJ and the NGC+ Interchangeability Report all agree that more testing is required on a wide variety of appliances to further quantify each appliance's capacity to handle a range of gas compositions. Testing is required because many appliances were designed and built with the assumption of one gas composition, and that assumption already has or will soon be losing its validity. The whole concept behind these tests is to determine what an appliance is capable of given a new set of assumptions. Accordingly, it was appropriate for Florida Gas to take into account the results of the Siemens-Westinghouse test of its turbines.

192. Florida Gas utilized the only publicly available test data on the Siemens-Westinghouse DLN turbines. No other test results of any type are in the public record. This test is described by Mr. Fitzgerald as follows:

> Second, a series of tests were performed by Siemens Westinghouse in October 2004 on a large frame gas turbine, of a type that is similar to those used at Progress Energy Florida's Hines station, using "synthetic" LNG. To be more explicit, conventional domestic natural gas was blended with varying amounts of propane and butane in order to simulate the range of

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[280] Ex. FGT-5 at 11 and 19. The comparable limits for the GE turbines are given as a maximum of 15 mole percent of propane and a maximum of butanes+ of 5 mole percent. Ex. FGT-4 at 5.

[281] Ex. FPL-19 at 19, Tr. 132:4-11 regarding propane and Tr. 134:11-13 regarding butanes+. Florida Gas states that the test results it relied upon are at Ex. PE-3 at 29-30, though the Commission notes that the presentation actually encompasses 24-30. Florida Gas Initial Br. at 44-45. Ex. PE-3 was resubmitted in a color version at Ex. LNG-75. Florida Gas discussed the origin of the propane and butanes+ limits in the context of the Siemens-Westinghouse tests. Tr. 131-134.

> fuel gas quality defined by the proposed Florida Gas tariff. The results of these tests are partially described by slide # 29 from Exhibit No. PE-3 (from the March 9, 2005 Gas Turbine Association Conference).[282]

The test results where incorporated in a larger presentation given to a large audience[283] possibly attended by Siemens-Westinghouse employees.[284] However, the actual test parameters where not provided to the public, even though individuals made these requests, because the test information was deemed proprietary.[285] What Siemens-Westinghouse deems proprietary is its business, as is its means of distributing and publicizing information about its products. But Florida Gas and its shippers still have to make business decisions involving hundreds of millions of dollars and long lead times. The Commission finds that Florida Gas's decision to use what information Siemens-Westinghouse did make public is reasonable.

193. The LNG Suppliers state their specific concern is with Florida Gas's proposed limit for propane of less than 2.75 mole percent. They argue that many LNG sources of supply would not meet this limit, thus restricting supply to the Florida Gas market.[286] The Florida Generators question the basis of the LNG Suppliers' concern that these proposed constituent levels represent a constraint on supply over and above what the LNG Suppliers have already accepted. The Florida Generators claim that the LNG Suppliers' own Exhibit No. LNG-30 demonstrates that even the identified supplies would still be too hot by the NGC+ Interim Guidelines' standards, and that, at a 1,110 Btu/scf HHV, propane and butanes+ effectively would be capped at 1.4 mole percent and 0.8 mole percent respectively.[287] Thus, the Florida Generators conclude, the LNG Suppliers' concern that these constituent limits will limit LNG supplies is overblown.

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[282] Ex. PE-1 at 11:6-13.

[283] Tr. 869:8, wherein the audience was estimated to be 50 people.

[284] Tr. 877:21-23; 891:3-17.

[285] Tr. 875:10-12.

[286] *Citing* Ex. LNG-30.

[287] At this point, the Florida Generators are also responding to the LNG Suppliers' proposal to use the NGC+ Interim Guidelines' standards for butane+: 1.5 mole percent. The Commission addressed this aspect of the LNG Suppliers' position earlier.

194. The Florida Generators' observations are well taken. Exhibit No. LNG-30 does show many LNG trains delivering an LNG supply with propane levels in excess of the proposed 2.75 limit.[288] But the same data also show that the supplies would have Wobbe Index values in the range of 1,422 to 1,437, and HHVs of 1,127 to 1,157 Btu/scf. Whether Florida Gas's proposed standards are applied or the NGC+ Interim Guidelines are applied, these LNG supplies would require some processing or inert injection.

195. The Commission did not confirm the Florida Generators' constituent calculations contained in their briefs. But their exercise with Exhibit No. LNG-30 points out the compositional differences between imported LNG and domestic gas, and whether the proposed caps represent a real constraint on either domestic or LNG supply.

196. Relative to domestic supply, LNG supply tends to have more ethane and propane. However, for butanes+, LNG tends to have less of these constituents than domestic gas (see Appendix A). LNG's lower levels of heavier hydrocarbons are attributed to the liquefaction process.[289] More important for the issue here, Appendix A shows that neither the proposed limits for propane of less than 2.5 or 2.75 mole percent and for butanes+ of less than 1.0 or 1.2 mole percent represent a serious impediment to either domestic or LNG supplies.

197. In conclusion, the Commission affirms the ALJ's findings.

198. **C5+ (pentanes+) ≤ 0.12 mole percent:** Florida Gas proposed this limitation for pipeline operational reasons.[290] As shown by Appendix A, this issue really only impacts domestic gas. For LNG supplies, pentanes+ are not an issue. Other than the LNG Suppliers' alternative proposal addressed above, no party expressed opposition to this standard. The Commission affirms the ALJ's finding.

ii. Other Constituents

199. ***Total Sulfur:*** The ALJ accepted Florida Gas's proposed maximum total sulfur standard of 2 grains per cubic foot permissible in delivered gas as unopposed. On exceptions, BG LNG notes that it did and continues to oppose the proposed standard on the basis that it is unsupported. Further it notes that Florida Gas's existing tariff provides

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[288] Ex. LNG-30 at 1, columns 3 and 4.

[289] Ex. LNG-83 at 9; Ex. LNG-10 at 3; Tr. 796-7:23-1, 1410:6-22.

[290] Ex. FGT-1 at 10:19-20; Tr. 61:20-25.

maximum total sulfur standard of 10 grains per cubic foot. BG LNG makes the argument that it makes no difference to the end user whether the origin of the sulfur is domestic gas or LNG. It only matters, BG LNG continues, that the end users can manage the sulfur.

200. Florida Gas, when cross-examined on its support for the proposed 2 grain level, admits that it submitted no support.[291] The Initial Decision summarized Florida Gas's support as Exhibit No. FGT-3.[292] However, that exhibit supported Florida Gas's initial proposal of 10 grains. In the ALJ's discussion, he cites the fuel specifications for the GE and Siemens-Westinghouse turbines. The Initial Decision cited Exhibit No. FGT-4 (GE), pp. 15-17 to demonstrate that there are no specific total standards set for the GE turbine. As cited by the Initial Decision, Exhibit No. FGT-5, p. 12 (Siemens-Westinghouse) states, "For protection of the gas turbine, the total sulfur content in the natural gas shall not exceed 156 gr/100 scf (5,000 ppmv) unless otherwise restricted by more stringent contract requirements." Neither Florida Gas nor any other party in this proceeding provided any rationale for this figure. A maximum of ten grains is the existing standard for domestic gas tendered Florida Gas.[293] Nothing has been shown why the 2 grain standard is required for Florida Gas's operations, or is of concern to its end users. The Commission rejects Florida Gas's proposed change in total sulfur as unsupported. As a result of this finding, the existing 10 grain standard will remain applicable to gas delivered to both the Western Division and the Market Area.

201. ***CO2 + N2, CO2, O2, hydrogen sulfide, water, and temperature:*** There were no exceptions filed on these constituents and temperatures for receipt gas standards. The Commission affirms the Initial Decision.

5. Impact on LDC Distribution Facilities

202. Both at the hearing and on exceptions, the LDCs[294] have argued that end user appliances and compression couplings on LDC systems should be tested prior to approval

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[291] Tr. 154:14-18.

[292] Initial Decision at P 17.

[293] Ex. FPL-51: 4th Rev. Sh. No. 107 as shown in Southern's FERC Gas Tariff, Seventh Revised Volume No. 1. These sheets are still in effect as of the date of this order.

[294] The LDCs is a group comprised of Peoples Gas System, Florida Gas Utility, and the Associated Gas Distributors of Florida.

of the Florida Gas tariff.[295] In support of their contention, the LDCs make reference to the experiences of Washington Gas Light Company (WGL) and Long Island Lighting Company (LILCO). The LDCs contend that increased leaks resulted on the WGL's and LILCO's systems when revaporized LNG and drier Canadian gas entered their systems, respectively, for the first time. Both of these new gas streams had few C5+ entrained hydrocarbons. The LDCs cite the LDCs' expert witness Dr. Loftus and his ENVIRON International Corporation study of the WGL experiences, and recommendations to the New York Public Service Commission.[296]

203. The ALJ concluded that Dr. Loftus's testimony and ENVIRON Report were of little value other than to suggest that increased leakage occurring on systems in which LNG or other dry gas is introduced is a comparably infrequent phenomenon and that, probably, it is attributable to factors other than the mere change in gas composition, including, at least, the presence of defective seals and large swings in seasonal temperatures.[297]

204. The Commission affirms the ALJ. The Commission has examined the ENVIRON Report and the LILCO record elsewhere,[298] and does not agree with the LDCs that those examples are instructive. In *Dominion Cove Point*, the Commission, in summary with regard to WGL, found the increase in leak rates in Prince George's County, Maryland was due to the combined effects of temperature, pressure and to a lesser degree, low concentrations of C5+, on seals rendered "marginal" as a result of the application of hot tar.[299] With regard to the LILCO experience, the Commission found that during the installation process of the compression couplings, LILCO did not apply enough torque to the compression cup-style nut in order to prevent possible cold flow of the gasket which could lead to leaks.[300] There is no indication that the Florida LDCs' installation

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[295] LDC Initial Br. at 10,17.

[296] LDCs Brief on Exceptions at 17-32, citing Ex. PJL-1; Ex. PJL-2 (the ENVIRON report on WGL); Ex. LNG-21; Ex. LNG-22 (LILCO related documents).

[297] Initial Decision at P 217.

[298] *Dominion Cove Point LNG, LP*, 118 FERC ¶ 61, 007 (2007) (*Dominion Cove Point*).

[299] *Id.* at P 49-96.

[300] *Id.* at P 99-104.

techniques were similarly flawed, and the winter ambient air and ground temperatures in Florida are not comparable to those in Maryland or New York.

205. The Commission believes that LDCs should do what they believe is necessary to determine the integrity of their systems. Those procedures, however, are not within this Commission's jurisdiction. Further, the LDCs have provided no set of procedures or timeline that other parties to the proceeding or the Commission can evaluate in our determination as to what the appropriate interchangeability standards should be for Florida Gas's Market Area. The LDCs' proposal essentially is that the new standards should not be adopted until actual tests are performed, but there is no proposal as to when those tests will be performed. This is a proposal for indefinite delay.

206. The NGC+ Interim Guidelines' parameters were established for gases delivered to local distribution companies. These parameters were based on historical data that utilized an envelope of gases delivered to and successfully utilized by LDCs. The NGC+ Work Group states that its recommended Interim Guidelines are conservative as they are based on historical data.[301] Florida Gas's proposed interchangeability standards are more restrictive than the NGC+ Interim Guidelines, especially with regard to the upper and lower Wobbe Index limits and constituent limitations to the Interchangeability Box. Thus a set of interim interchangeability standards designed on LDC delivery data and intentionally conservative are proposed to be further limited by Florida Gas. Further, Southern presented evidence of its experience with introducing 100 percent re-vaporized LNG to the Savannah LDC market near Elba Island, Georgia. Southern reports its customers had no problems.[302] Florida Gas and the NGC+ Interchangeability Report all make reference to additional residential appliance studies, including tests involving Southern California Gas Company (SoCal) in California and Gas Technology Institute (GTI) testing of LNG on appliances in 2002.[303] The Commission agrees that nothing will be certain until re-vaporized LNG actually flows. But none of the tests, studies or actual experiences have demonstrated that re-vaporized LNG that meets the proposed interchangeability standards will cause LDCs or their end users problems.

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[301] Ex. FGT-6 at 25, 228.

[302] Ex. SNG-2 at 8.

[303] Tr. 146:19 to 147:17 Tr. at 1574:6 to 1575:1; Ex. FGT-6 at 213.

6. Geographic Scope of Tariff Standards

207. Three issues were addressed by the Initial Decision and the parties relating to the geographic scope of the gas tariff standards. The first relates to Florida Gas's proposal to apply separate receipt gas quality standards on the basis of the origin of the gas: LNG or domestic. The second issue relates to whether the receipt gas quality standards should apply to Florida Gas's system as a whole or just the Market Area. And the third issue the Commission has grouped in this section of the order relates to a dispute between Florida Gas and Florida Power with regard to certain contract terms.

a. Separate Gas Standards by Source

208. Florida Gas proposed receipt gas quality standards that would apply only to re-vaporized LNG received into the Market Area. The proposed standards would not apply to the Western Division, and domestic gas delivered to the Market Area would continue to be governed by Florida Gas's existing gas quality standards.

i. Initial Decision

209. The Initial Decision found that the proposal to apply LNG specific standards is appropriate because the domestic suppliers had not been given notice that the new standards would apply to them, there is no record on how the proposed standards would impact domestic gas, and it would be unfair to domestic suppliers to decide the issue in a forum where they are not adequately represented.[304] The Commission reverses the Initial Decision's finding.

ii. Positions of the Parties

210. BG LNG argues that subjecting LNG supplies to a more restrictive standard without operational justification unlawfully discriminates against LNG. BG LNG states that the fact that the chemical composition of various gas supplies differs is precisely why a uniform set of specifications is needed to assure that supplies are interchangeable.[305]

211. Florida Gas argues that there are differences in blending that demonstrate a reason to apply the proposed standards only to LNG in the Market Area. Florida Gas and Staff

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[304] Initial Decision at P 197.

[305] BG LNG Initial Br. at 25.

also state that domestic gas does not present a Wobbe Index rate of change issue and therefore, the standard should not apply to domestic gas.[306]

iii. Commission Decision

212. The Commission reverses the Initial Decision's finding. The objective of this proceeding was to establish gas *interchangeability* standards. The gases to be interchanged by displacement or blending are domestic gas[307] and re-vaporized LNG. As has been explained earlier in this order, the Interchangeability Box for the Wobbe Index is concerned with the individual constituents of gas. Where these constituents originate is not relevant to the calculation of either the Wobbe Index or the other constraints on the acceptable Wobbe Index Interchangeability Box solutions.

213. Florida Gas argues, in support of its dual standard proposal, that its Market Area blending capabilities diminish the further downstream from the point of receipt. But Florida Gas does not explain why this argument is relevant. Florida Gas makes almost no claim that there are pipeline operational justifications. The exception is the proposed standard for C5+ (pentanes+), wherein Florida Gas claims the standard is required to prevent liquid drop out in its system.[308] Florida Gas provides no explanation for why liquid dropout is of concern for only re-vaporized LNG sourced pentanes+ and not domestic pentanes+. There is thus no record evidence that dual receipt gas quality standards are necessary for the safe operation of Florida Gas's system.

214. Florida Gas and Staff argue that the proposed standards should not be applied to domestic gas because domestic gas does not represent a problem. Florida Gas's argument undercuts the premise of most of its testimony. If domestic gas does not represent a problem, then the proposed gas quality standards for re-vaporized LNG – almost all based on historical data composed exclusively of domestic gas – are not necessary either. If Florida Gas is, in effect, arguing that applying the proposed gas quality standards to domestic gas would not be a constraint on domestic gas, then we see no reason why these standards should not be applied to domestic gas as well.

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[306] Florida Gas Initial Br. at 52.

[307] The record uses the term "domestic" gas as gas received in the Market Area from Florida Gas's Western Division. In fact, Western Division gas can have LNG sourced gas from Trunkline LNG. *See infra* P 220-231, discussion of Application to the Western Division.

[308] Ex. FGT-1 at 10:19-20; Tr. 61:20-25.

215. Florida Gas's argument also ignores the changing sources of gas that its Market Area customers will experience due to Florida Gas's operations. A Florida Gas exhibit indicates that some customers will, at times, experience 100 percent re-vaporized LNG,[309] whereas when the re-vaporized LNG is not flowing, those customers will experience 100 percent domestic gas, as will customers upstream of the point of receipt.[310] Customers downstream of key system interconnection points such as Station 16 may experience a range of blended gas from the two sources.[311]

216. Therefore, customers, depending on their location in the Market Area, must be prepared to receive gas sourced anywhere from 100 percent domestic gas to 100 percent re-vaporized LNG. For these swing customers, dual receipt gas quality standards are meaningless. They must be prepared to manage the extremes of the combined standards. For example, the proposed Wobbe Index maximum limit for re-vaporized LNG is 1,396 with a 1,110 HHV and the other constituent constraints discussed elsewhere in this order. However, if no re-vaporized LNG is flowing, then the domestic gas standard would permit the delivery of gas at any Wobbe Index, HHV and constituent mix, as there are no limits in the currently effective gas quality and interchangeability standards for receipts into the Market Area. The same problem exists on the low side of the standards. A customer must be prepared to utilize domestic gas of 1,000 Btu/scf, even though, on days re-vaporized LNG is delivered, the heat content would not be below 1,025 Btu/scf.

217. The ALJ argues that he was constrained in examining the issue because domestic suppliers were not on notice that interchangeability could impact them. The Commission disagrees. The issue of interchangeability arose because of the imminent direct introduction of re-vaporized LNG into the existing Florida Gas market.[312] The gas to be displaced either by pipeline operations or market displacement could only be domestic gas. Further, AES explicitly raised the issue, and the Commission set it for hearing in the instant proceeding.[313]

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[309] Ex. FGT-9 at 3. *See also* Ex. SNG-1 at 4-5:20-5; Ex. LNG-50.

[310] Ex. FPL-16 at 20-21:15-10, 23:3-11.

[311] *See supra* Figure No. 1; Ex. FPL-16 at 4:14-16, 6-18:*passim*; Ex. FPL-17, Ex. SNG-1 at 5:6-10, 5-8:*passim*; Ex. LNG-50.

[312] 108 FERC ¶ 61,221 at P 2 (2004).

[313] *Id.* at P 13.

218. The Commission is also concerned that Florida Gas's dual standard proposal is unworkable, because LNG may arrive at Florida Gas receipt points already blended with domestic gas. In the case of re-vaporized LNG from SLNG and Trunkline LNG, the gas is not tendered directly by these companies to an interconnection with Florida Gas's Market Area. The re-vaporized LNG is first tendered to an intermediary interstate pipeline (SLNG to Southern's Cypress Pipeline and Trunkline LNG to Trunkline to Florida Gas's Western Division). Because interstate open access pipelines commingle gas and deliver by displacement, gas tendered by the intermediate pipeline will not be the gas that is delivered to the Market Area. Molecules of re-vaporized LNG are not segregated or tagged in a manner that would permit their identification, much less apply the different gas quality standards on a molecule by molecule basis. Further, because of capacity release and secondary receipt and delivery point rights, the Commission can easily envision shippers delivering gas to the Market Area whose origins may be, from a contract path view, domestic, but operationally be re-vaporized LNG. Shippers and upstream pipelines would have limited means of determining the origin of delivered molecules. The Commission finds that dual standards are basically unenforceable and unduly discriminatory in providing gas access to transportation pursuant to sections 284.7(b)(2) and 284.9(b) of the Commission's regulations. [314]

b. Application to Western Division

i. Initial Decision

219. Florida Gas proposed that the gas quality standards adopted in this proceeding apply only to its eastern leg, or Market Area. AES, BG LNG, Southern, and Florida Generators, on the other hand, argued at the hearing that the gas quality standards should also apply to the Western Division.

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[314] 18 C.F.R. § 284.7(b)(2) (2005). Applying to firm transportation, section 284.7(b)(2) provides as follows:

> An interstate pipeline that offers transportation service on a firm basis under subpart B or G of this part must provide each service on a basis that is *equal in quality for all gas supplies transported under that service, whether purchased from the pipeline or another seller*. (Emphasis added)

Section 284.9(b) applies to interruptible transportation, and incorporates by reference section 284.7(b). 18 C.F.R. § 284.9(b) (2005).

220. The ALJ rejected Florida Gas's proposal to limit the standard to its Market Area. The ALJ found that the September 7, 2004 Order, made clear that that the Commission viewed the proposed standards as having system-wide application. The ALJ also stated that in *Southern Natural Gas Co.*,[315] the Commission assumed that the standards it adopted here would apply to LNG flowing through the other interconnects on Florida Gas's system.[316]

221. Further, the ALJ stated that Florida Gas's basis for distinguishing the two legs of its system is its alleged ability to blend all of the LNG gas imported to its Western Division with domestic gas before it reaches customers. However, the ALJ found that Florida Gas's evidence was not convincing that all of the LNG delivered to the Western Division can be successfully blended to meet the standards adopted here. Therefore, the ALJ held that the standards should be applied to the Western Division. The ALJ also stated, however, that Florida Gas could include a provision in its tariff to permit it to import into its Western division LNG that does not meet those standards to the extent that it can insure that such gas, through blending, processing, or otherwise, will meet the standards when delivered to customers and distribution facilities, unless each customer or LDC that is protected by a standard specifically waives that standard.[317]

ii. Positions of the Parties

222. In its brief on exceptions, Florida Gas argues that the Commission's September 7, 2004 order and *Southern* did not prejudge the issue of whether its Market Area gas quality standards should apply to the Western Division. Further Florida Gas argues that the facts are entirely different for the Western Division, and that the Initial Decision does not analyze these facts.

223. Florida Gas further asserts that the parties' arguments that Florida Gas's Market Area LNG quality standards should be applied to the Western Division were speculative and based on projects that could potentially interconnect with many different pipelines, including Florida Gas's Western Division. However, Florida Gas argues, there was no evidence presented that any such "potential" LNG terminals would have an actual effect on the blending that occurs in the Western Division. Further, Florida Gas argues that

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[315] 113 FERC ¶ 61,199 at P 41.

[316] Initial Decision at P 198-199.

[317] *Id.* at P 200-201.

imposing Market Area LNG quality standards on the Western Division when other pipelines in the same Gulf Coast region do not have similar LNG quality standards would discriminate against delivery of LNG supplies to the Western Division.

224. Sempra and BG LNG also oppose the Initial Decision's finding. Sempra asserts that extending the proposed standards to the Western Division will significantly and adversely impact LNG supplies and will impose unnecessary costs on gas consumers. Sempra and BG LNG state that the gas quality standards were specifically developed for the Market Area, and that the Initial Decision contains no discussion as to whether those standards are appropriate or workable from an operational or commercial perspective in the Western Division. Sempra and BG LNG argue that those supporting new Western Division standards offered only hypothetical and unsupported assumptions, failed to demonstrate any need for these changes, and failed to address the detrimental effects imposing those standards will have on LNG supplies. BG LNG argues that there is no evidence that Florida Gas's existing standards are inadequate to manage existing blending operations of domestic and LNG supplies for either Western Division customers or gas delivered to the Market Area.

225. In its brief opposing exceptions, the Florida Generators argue that the Commission's order was not limited to the Market Area and that Florida Gas's proposal to apply quality standards only to the Market Area is not consistent with the Commission's order. The Florida Generators assert that blending is not a reliable method of managing interchangeability because the pipeline does not control blending; any blending is coincidental because transportation is governed by customer nominations of volumes and receipt points. The Florida Generators further argue that the record shows that there are end-users in the Western Division that will be impacted if no gas quality and interchangeability standards are adopted in that region. Further, the Florida Generators argue, the evidence does not show that blending of supplies in the Western Division will be sufficient to protect end-use facilities in the Market Area from abrupt changes in gas quality.

226. Southern argues that the ALJ correctly found that this proceeding was intended to establish LNG quality standards for the entire system. Southern states that it is a fundamental tenet of Commission regulatory policy that a pipeline's terms and conditions should apply to all customers on a non-discriminatory basis.

iii. Commission Decision

227. The Commission reverses the ALJ's finding and accepts Florida Gas's proposal to limit the proposed gas quality standards changes to the Market Area. In order to require Florida Gas to extend its proposed interchangeability standards to the Western Division, the Commission would have to find under NGA section 5 that their existing standards

applicable to the Western Division are unjust and unreasonable and that application of the proposed standards to that division would be just and reasonable. While the ALJ was correct that our orders establishing the hearing in this case permitted the parties to examine this issue, we made no finding in those orders that the existing standards applicable to the Western Division were unjust and unreasonable. Further, neither the Southern Cypress Pipeline nor Florida Gas certificate orders made any such finding or required a change in the Western Division standards.

228. The record developed at the hearing is inadequate to support a finding that the current Western Division gas standards are unjust and unreasonable. Much of the hearing focused on what were then at least two imminent projects to deliver re-gasified LNG into the Florida Gas's system. However, both those projects were for delivery into Florida Gas's Market Area. Considerable evidence was introduced into the record as to other new LNG projects that could inject re-vaporized LNG into Florida Gas's Western Division.[318] However, it is not clear which of these projects will ever be completed,[319] whether they would deliver gas to Florida Gas,[320] how Florida Gas's operations may be impacted[321] or whether the Western Division markets required any special gas quality considerations.[322] The Commission finds it difficult to find anything in this speculative and inchoate Western Division record to support a finding that the existing Florida Gas tariff is no longer just and reasonable and should be replaced with any of the various proposals made in this proceeding.

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[318] Ex. SNG-8; Ex. SNG-12; Ex. SNG-13; Ex. SNG-14; Tr. 106:13-15

[319] Ex. SNG-8; Tr. 1495-96:25-16.

[320] Tr. 1477-1479.

[321] Tr. 106:19-21; 1492-1494.

[322] Florida Generators claim and provide citations to the record establishing the fact that there are end use customers in the Western Division and that they will be impacted by not having system-wide standards. Brief Opposing Exceptions at 62-63. But the Florida Generators provide no cites to any specific problems that the Western Division customers may experience. Simply claiming that there are customers does not equate to those customers have or will experience gas quality problems.

229. What the record does show is that the Western Division receives gas from domestic sources and re-vaporized LNG from Trunkline LNG.[323] Trunkline LNG's re-vaporized LNG has been as high as 1,131 Btu/scf,[324] and up to 6 percent of Florida Gas's Western Division throughput can consist of Trunkline LNG deliveries.[325] The Florida Generators argue that blending cannot be relied upon to keep such high Btu gas within certain parameters. But Florida Gas's operational history shows otherwise. Notwithstanding the years Florida Gas has received high Btu re-vaporized LNG in the Western Division, there are no reports in either the Western Division or the Market Area of problems from Western Division gas delivered to either market. Application of the Market Area receipt point gas quality standards, especially the maximum Wobbe Index and HHV limits, would clearly restrict receipts from Trunkline LNG. As there are no identified gas quality problems in the Western Division under its existing tariff gas quality standards, and there is nothing definitive as to where, when and whether new re-vaporized LNG will be tendered, the Commission finds Florida Gas's lack of a proposal both supported and in compliance with the Commission's compliance requirement. The Commission also rejects Southern's contention that separate gas quality standards for different segments or regions of a pipeline imply undue discrimination. There can be differences in terms, conditions of service and rates that are not unduly discriminatory or preferential if there is operational justification for the difference.[326] Here, there do appear to be such operational differences, since it has not been shown that there are any gas users in the Western Division with special needs similar to the generators in the Market Area. Also, there are no new projects about to go into service to bring additional LNG to the Western Division.

230. Finally, the Florida Generators are concerned that if Western Division gas quality standards are not synchronized with the Market Area's requirements, Market Area

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[323] Tr. 181:22-25. The Commission uses the term Trunkline LNG loosely in this context. Trunkline LNG receives, stores and vaporizes LNG, and delivers the gas to interstate pipelines on behalf of its shippers. It does not own or sell gas.

[324] Ex. SNG-16 indicates Trunkline LNG delivered revaporized gas having an HHV as high as 1,131 Btu/scf and a Wobbe Index as high as 1,434 between September 3, through November 29, 2005. *See also* Ex. SNG-9, consisting of Trunkline LNG's tariff receipt gas quality standards, which provide for a high HHV of 1,200 Btu/scf.

[325] Ex. FPL-36.

[326] *Consolidated Edison Co. v. FERC*, 165 F.3d at 1012-4.

customers could experience swings in gas quality that go beyond those proposed by Florida Gas in its proposed LNG gas quality tariff standards. Under the existing tariff, there is no high HHV limit, nor are there Wobbe Index or constituent constraints for Western Division sourced gas. In the previous section, the Commission found that there should be only a single Market Area receipt gas quality standard. The gas quality receipt point standards for the Market Area will apply equally to receipts from the Western Division. That change will offer more protection to Market Area end-users than the current Florida Gas tariff offers.

c. Florida Power's Right to Low Btu Gas

231. At the hearing, Florida Power argued that, under Paragraph 4 of its 1989 Service Agreement with Florida Gas, which remains in effect through July 31, 2015, it has a contractual right to capacity on Florida Gas to transport low Btu gas. Florida Power argued that its right to low Btu gas exists independently of generic standards, and that any modification of this right would have to meet the *Mobile-Sierra* public interest standard. Florida Power asserted that it relied on the service agreement when it invested billions of dollars in its DLE turbines, and that introduction of high Btu LNG into the system would put those turbines in jeopardy.

232. Paragraph 4 of Florida Power's 1989 Service Agreement with Florida Gas provides:

> During the primary or extended term of any service provided by Florida Gas under the FTS-1 Service Agreement, FPL shall have the right and Florida Gas shall have the obligation, subject to all necessary regulatory authorizations, to utilize the capacity reserved hereunder for transportation of low Btu gas downstream of Florida Gas's Compressor Station No. 16. The capacity utilized for this purpose shall be limited by the need for Florida Gas to maintain an acceptable gas quality in its pipeline and adequate service to its customers, as determined by Florida Gas in its sole discretion. Florida Gas will use due diligence to obtain all necessary regulatory authorizations for transportation under this Paragraph 4 if requested by FPL.

i. Initial Decision

233. The Initial Decision rejected Florida Power's argument and found that Florida Power had not introduced sufficient evidence concerning the purpose, meaning, and application of the Agreement to warrant giving the Agreement critical importance in deciding the issues in this proceeding. The ALJ raised a number of questions concerning the purpose and meaning of the quoted contact provision. Thus, the ALJ stated that,

while Florida Power suggests that the agreement was designed to protect the DLN turbines from high Btu content gas, this was questionable because the agreement was entered into in 1989, before the introduction of LNG or other high Btu content gas into Florida Gas's Market Area was contemplated. The ALJ suggested that another possible explanation is that the provision was intended to permit Florida Power to transport gas from a source with a lower Btu content than what was otherwise allowed on the system. The ALJ also stated that it was not clear what gas was considered low Btu gas, and further that it was not clear how much of the pipeline's capacity was reserved for this low Btu gas. Moreover, the ALJ noted that the agreement gives Florida Gas the sole discretion to limit Florida Power's right to this capacity to maintain adequate service to its customers. In any event, the ALJ stated, the standards were being set so that they do not harm Florida Power's turbines, which Florida Power claimed is the purpose for the contractual provision, and therefore, the provision was immaterial to the decision.[327]

ii. Positions of the Parties

234. On exceptions, Florida Power argues that the ALJ's reasons for disregarding Florida Power's contractual right are not valid. First, Florida Power asserts that the initial decision does not acknowledge that the entire agreement is in the record and that this provision, therefore, can be read in the appropriate context. Further, Florida Power asserts, it was inaccurate for the initial decision to refer to the purpose of the agreement as "questionable" when the assurance of low Btu gas supply can logically have only one purpose, *i.e.*, protection from high Btu gas. Florida Power argues that the finding of the initial decision that, because Florida Power failed to offer evidence to explain the agreement's meaning or purpose, there was insufficient evidence to assign the agreement importance was in error. Florida Power argues that no extrinsic evidence is necessary because the plain meaning of the agreement is that low Btu gas excludes high Btu gas such as LNG.

235. Florida Power also disputes the ALJ's finding that the Agreement is not clear with regard to what constitutes low Btu gas. Florida Power asserts that "low Btu gas" has the common sense meaning that historical supply, the LNG Suppliers' witness, and Commission orders have given it, *i.e.*, not high Btu gas, such as LNG. In addition, Florida Power argues that the provision of the agreement that Florida Power's reserved capacity can be limited by Florida Gas's need to maintain acceptable gas quality and adequate service, in Florida Gas's sole discretion, cannot reasonably be read to vitiate Florida Gas's obligations. Florida Power states that LNG is not necessary to maintain

[327] Initial Decision at P 204-208.

adequate gas quality or service, and even if "adequate service" were interpreted to include gas supply, and gas supply were interpreted to include LNG, Florida Gas no longer has a gas supply obligation, but only transports gas. Further, Florida Power asserts, that despite the ALJ's finding that the agreement does not state what capacity was reserved for low Btu gas, the record is clear that this capacity under the FT-1 service agreement includes capacity to delivery points at Martin, Sanford, and Turkey Point.

236. Further, Florida Power asserts that its contractual right exists independent of the broader issue of generic Florida Gas standards or generic national standards, and that there has been no showing that this contractual right should be denied under the public interest standard of the Mobile-Sierra doctrine. Florida Power also argues that there is no conflict between its right and the adoption of some broader generic tariff standard because Florida Gas has options such as installing processing facilities to lower Btu or reaching an agreement with Florida Power that would hold Florida Power harmless for delivery of high Btu gas to DLE facilities.

237. BG LNG, Florida Gas, and the LNG Suppliers oppose Florida Power's exceptions. These parties argue that the ALJ was correct in questioning Florida Power's statements concerning the purpose of the Agreement and in concluding that the 1989 Agreement is immaterial to the decision in this proceeding. Florida Gas states that 1989 Agreement is subject to Florida Gas's Tariff and the LNG quality standards approved in this proceeding. Further, Florida Gas argues the provision in the 1989 Agreement which states that the capacity utilized by Florida Power for transportation of low Btu gas "shall be limited by the need for Florida Gas to maintain an acceptable gas quality in its pipeline and adequate service to its customers, as determined by Florida Gas in its sole discretion," limits Florida Power's right to transportation of low Btu gas. BG LNG states that there is no evidence that the letter agreement had anything to do with Florida Power's DLN generators. The LNG Suppliers argue that no provision of the 1989 Agreement requires Florida Gas or any other entity to pay for modification costs that Florida Power might incur if it does not deliver low Btu gas.

iii. Commission Decision

238. The Commission affirms the ALJ's finding that section 4 of the 1989 Agreement does not give Florida Power a right to any specific capacity on Florida Gas's system for transportation of low Btu gas, and further finds that the agreement does not give Florida Power a right to require Florida Gas to deliver to its DLE turbines gas of any specific Btu content. The Commission also affirms the ALJ's conclusion that the Agreement is not material to the adoption of gas quality standards in this proceeding.

239. The Commission finds that, contrary to Florida Power's assertion, it is not the case that the 1989 Agreement could have had only one purpose, protection from deliveries of

high Btu gas. As the ALJ pointed out, the agreement could also have been intended to permit Florida Power to tender to Florida Gas for transportation on its system gas from a source with a lower Btu content than would otherwise be permitted on the system pursuant to Florida Gas's receipt point gas quality provisions. Further, Florida Gas, the other party to the agreement, disagrees with Florida Power and states that the purpose of the agreement was to provide Florida Power with the opportunity to transport any landfill gas purchased by Florida Power, regardless of the low Btu content of the gas.[328]

240. Moreover, the purpose suggested by the ALJ and Florida Gas appears to be more consistent with the language of the Agreement than the one advocated by Florida Power since it does not appear that the 1989 Agreement would have the effect of prohibiting higher Btu gas from being delivered to the DLE turbines. The Agreement simply allows Florida Power to transport lower Btu gas below Compressor Station 16. It does not guarantee the delivery of low Btu gas to the DLE turbines at Martin, Sanford, and Turkey Point, or to any specific point. Since gas on the pipeline is commingled, creating a new gas composition, an agreement to allow a shipper to tender low Btu gas to Florida Gas for transportation on its system does not guarantee delivery to the shipper's delivery point of low Btu gas. Because of variations in gas composition delivered to the pipelines, and variations in operations, the composition of the gas can vary throughout the day and throughout the year. Further, because pipelines often deliver by displacement, the composition of the gas that is delivered to a shipper is rarely the same composition that the shipper tendered the pipeline. Therefore, tendered gas is not identical to delivered gas.

241. Thus, it does not appear that the Agreement provided Florida Power with "the assurance of low Btu gas supply," as Florida Power claims. The Agreement addresses only transportation service and transportation capacity; it does not require Florida Gas to provide any assurance that Florida Power always would receive deliveries of low Btu gas supply. Moreover, there is no evidence that the agreement was related to the purchase or

[328] Florida Gas states that the Agreement arose during a period when landfill gas projects were being planned and developed in Florida, and that Florida Gas had an interconnect with at least one such project. Florida Gas states that Florida Power was aware of such projects and likely considered purchasing gas from one or more landfill gas developers. In that context, Florida Gas asserts, it was logical for Florida Power to seek an agreement with Florida Gas that provided Florida Power with the opportunity to utilize its capacity, subject to the limitations in the Agreement, to transport any landfill gas regardless of the low Btu content.

operation of Florida Power's DLN turbines. In these circumstances, the purpose of the 1989 Agreement is not clear.

242. Florida Power argues, on the one hand, that no extrinsic evidence is necessary here because the meaning of the provision is clear on its face, and, on the other hand, faults the ALJ for not recognizing that the entire Agreement was in the record[329] so that the quoted provision could be read in the appropriate context. If Florida Power believes that other provisions of the 1989 Agreement support its argument, or that the overall context of the agreement gives support for its position, it should have presented that argument to the ALJ at the hearing. Florida Power has not explained what in the overall context of the agreement substantiates its claim. The Commission finds that the ALJ correctly concluded that there is nothing in this agreement that precludes the Commission from adopting the receipt point standards adopted in this order. In any event, as the Commission has explained above, the gas interchangeability standards adopted here will not harm the DLN turbines used by Florida Power on the Florida gas system.

243. The 1989 Agreement may result in Florida Power tendering gas to Florida Gas that is below Florida Gas's existing tariff minimum 1,000 HHV. Section 2.A(9) of Florida Gas's currently effective General Terms and Conditions permits it to "waive the quality standards for gas delivered into its pipeline system at receipt points, provided that such waiver will not affect Transporter's ability to maintain an acceptable gas quality in its pipeline and adequate service to its customers."[330] The tariff criteria by which Florida Gas will evaluate Florida Power nominations to tender low Btu gas are the same as contained in the 1989 Agreement. Nothing in this Order will change Florida Gas's tariff with regard to its rights to waive the gas quality provisions of its tariff with regard to receipt point minimum HHV. Thus, Florida Power's rights under the 1989 Agreement to tender low Btu gas to Florida Gas have not and will not change as a consequence of this proceeding.

iv. Motions to Strike

244. Florida Power states that the Commission should strike Florida Gas's brief because it exceeds the 100-page limit contained in section 711(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R § 385.711(a)(2)(2005), for briefs opposing

[329] The ALJ never suggested that the entire agreement was not in the record, but instead focused on section 4 of the Agreement, which is the provision that Florida Power has quoted as providing it a right to transport low Btu gas.

[330] Florida Gas's Fourth Revised Volume No. 1, Original Sheet No. 207.

exceptions. Although the text of Florida Gas's Brief Opposing Exceptions is 97 pages long, Florida Power argues, citing *Tennessee Gas Pipeline Co.*,[331] that the page limit has been interpreted to require that both the text and appendices may not exceed 100 pages. In the alternative, Florida Power asks the Commission to strike the portions of Florida Gas's brief that rely on extra-record evidence, or that exceed the 100 page limit.

245. Florida Power argues that in its Brief Opposing Exceptions, Florida Gas introduces extra-record information from the American Gas Association (AGA) Glossary for the Gas Industry as well as information from the Energy Information Administration's (EIA) website. Further, Florida Power argues, Florida Gas attached and discussed Florida Power's FTS-1 agreement, which was never introduced into evidence. Finally, Florida Power states, Florida Gas introduced for the first time in its Brief Opposing Exceptions, a new explanation of what Florida Power's contractual provision might mean, *i.e.*, that Florida Power wanted to assure that it could use its contract to transport gas from a landfill. Florida Power explains why it considers this explanation to be implausible. Florida Power requests that to the extent that the Commission decides not to strike Florida Gas's brief opposing exceptions, it give weight to a further explanation of the intent of its agreement with Florida Gas which it presents in its motion in response to Florida Gas's brief opposing exceptions.[332]

246. Florida Gas filed an answer to Florida Power's motion to strike. Florida Gas asserts that its brief is 97 pages long and therefore did not exceed the 100-page limit. Further, Florida Gas asserts that, contrary to Florida Power's contention, the FTS-1 Agreement, and the AGA and EIA definitions were not presented for the first time in its brief on exceptions, but were previously set forth in Florida Gas's reply brief to the ALJ in direct response to arguments presented by Florida Power in its initial brief to the ALJ, and the entire FTS-1 Agreement was attached to its reply brief. Further, Florida Gas states, Florida Power did not present a witness to explain the meaning of the 1989 agreement and, its arguments as to the alleged intent of the 1989 Agreement were made for the first time in its initial brief. Florida Gas states that Florida Power's argument referenced both the FTS-1 Service Agreement and the term "low Btu gas."

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[331] 40 FERC ¶ 63,032 (1987) (*Tennessee*).

[332] Florida Power states that a more likely explanation than the one given by Florida Gas is that the contract protection was negotiated as Florida Gas was planning to close its Brooker processing plant, which until then had assured Florida Power that low Btu gas would be delivered downstream of Station 16.

247. Florida Gas states that until Florida Power presented these arguments in its initial brief, it had no notice as to what arguments Florida Power would make with regard to the 1989 Agreement. Thus, Florida Gas states, it was entirely appropriate for it to submit the FTS-1 Service Agreement and the AGA and EIA definitions of "low Btu gas" in its reply brief because Florida Gas was responding to matters raised for the first time in Florida Power's initial brief, and was providing facts that Florida Power had omitted in making its allegations. Florida Gas states that Florida Power did not object to the FTS-1 Agreement and the AGA and EIA definitions at the time they were included in the reply brief. Further, Florida Gas argues that there is no merit in Florida Power's objection to Florida Gas's discussion as to the availability of low Btu landfill gas in south Florida in the 1980's. Florida Gas states that its discussion was a direct and proper response to Florida Power's claim that the assurance of low Btu gas could have only one purpose.

248. The Commission finds no reason to strike any portion of Florida Gas's Brief Opposing Exceptions. The brief does not exceed the 100 page limit.[333] Further, Florida Gas's reference to the FTS-1 transportation agreement and to definitions of low Btu gas, merely respond to arguments made by Florida Power and are not objectionable.[334] These arguments with their references to the transportation agreement and the definition of low Btu gas are not being made for the first time in Florida Gas's brief opposing exceptions, but were previously made and presented to the ALJ.[335] In any event, the Commission is not relying on the FTS-1 Agreement or on definitions of "low Btu gas" in reaching its decision on this issue.

249. Nor did the ALJ determine that the purpose of the 1989 Agreement was to allow transportation of low Btu gas from a landfill. The ALJ merely pointed out that Florida Gas, the other party to the contract, did not agree with Florida Power's statement as to its purpose, and that Florida Gas and the ALJ pointed out that there are other reasonable interpretations of the purpose of the agreement, and therefore, it is not the case that the agreement could have had only one purpose. This ruling does not provide a basis for accepting an additional argument from Florida Power concerning the intent of the Agreement. The Commission will not address Florida Power's contentions concerning

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[333] In the *Tennessee* decision cited by Florida Power, the brief at issues contained 169 pages of argument and 28 pages of appendices. Thus, the page limit was exceeded by the text of the brief without the appendices.

[334] Florida Gas Brief Opposing Exceptions at 89-96.

[335] Initial Decision at P 203-208.

its possible relationship to the closing of a processing plant, as it has no possible bearing on this proceeding.

C. The Recovery of Mitigation Costs

250. Above, the Commission has approved just and reasonable interchangeability standards for Florida Gas's Market Area, based upon a careful consideration of all the parties' contentions. The record shows that the adopted standards could require owners of downstream appliances to incur certain incremental expenses to enable their equipment to use the gas delivered off the Florida Gas system. The required expenses depend on a variety of factors, including the capabilities of individual appliances, their location on the Florida Gas system relative to the point re-vaporized LNG is received, and the likelihood that delivered gas will reach the extremes of the approved interchangeability standards. Pleadings in both the Complaint proceeding and the Southern and Florida Gas certificate proceedings raised issues with regard to the recovery of these expenses as mitigation costs.[336]

1. Initial Decision

251. The ALJ stated that most of the parties, other than the LNG suppliers, requested that the Commission establish some method for downstream gas users to recover their costs of testing, remediation, and repair that may be necessary to accommodate the introduction of LNG into Florida Gas's system. However, the ALJ found that all of the prospective costs raised in the hearing are highly speculative with regard to their need, amount, or cause, with the exception of those that may be incurred for testing end-use appliances, for which some need has been established. But even for the latter, no specific testing program has been established, and it is not for the Commission to propose or supervise one and monitor its costs.

252. The ALJ also found that allocating in advance prospective costs, the amount of which is undetermined even as to a broad order of magnitude, and which may be unnecessary or the contractual responsibility of others, is a prescription for unnecessary

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[336] *See e.g.s,* pleadings of Peoples Gas System and Tampa Electric Company in *AES Ocean Express LLC v. Florida Gas Transmission Co.,* Docket No. RP04-249-001; pleadings of Florida Gas Utility, Peoples Gas System, and Florida Power & Light Company in *Southern Natural Gas Co.,* Docket No. CP05-388-000; pleadings of Peoples Gas Systems and Tampa Electric Company in *Southern Natural Gas Co.,* Docket Nos. CP05-388-000 and CP06-1-000.

or inflated costs and endless bickering. The ALJ stated that, to the extent a participant may incur a cost which it attributes to the actual importation of LNG under this decision, it may make an appropriate filing, presumably under Section 5 of the NGA, to recover that cost. The ALJ made no determination with regard to any such prospective filing as to its propriety or on its merits.[337]

2. Positions of the Parties

253. Florida Generators, the LDCs and Staff believe the ALJ erred in declining to make a determination regarding the recovery of mitigation costs. The Florida Generators believe that, if the Commission affirms the ALJ's recommended interchangeability standards, the record clearly identifies significant mitigation costs. The Florida Generators argue that the sponsor of LNG should be required to bear "any" costs necessary to install equipment necessary to protect their turbines. Florida Generators point out that in *Columbia Gas Transmission Corp.*, the Commission approved a pipeline's proposal to compensate two sales customers for their costs of modifying equipment in order to accommodate the pipeline's purchase of LNG to serve all its customers.[338] Further, Florida Generators contend that there is widespread support for a cost allocation method pursuant to the *Columbia* model.[339] The Florida Generators also believe that the ALJ was in error in stating that participants could obtain a remedy through a future NGA section 5 filing to recover mitigation costs. The Florida Generators contend that the Commission lacks the authority to make reparation orders or impose monetary damages.[340]

254. The LDCs argue that the ALJ confused the indeterminacy of the mitigation costs with indeterminacy of Commission policy on what kind of costs qualify and how they should be allocated. Citing *Cove Point LNG Limited Partnership*, the LDCs contend that the Commission's cost mitigation policy expressed in *Columbia* is still Commission policy.[341] The LDCs assert that they face real mitigation costs, such as testing couplings.

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[337] Initial Decision at P 223-225.

[338] *Citing* 13 FERC ¶ 61,102 at 61,219 (1980) (*Columbia*), *opinion and order denying reh'g*, 14 FERC ¶ 61,073 (1981), *aff'd Corning Glass Works v. FERC*, 675 F.2d 392 (1982).

[339] Florida Generators Brief on Exceptions at 83-85.

[340] *Id.* at 86.

[341] *Citing* 97 FERC ¶ 61,276 at 62,267-8 (2001)(*Cove Point*).

While acknowledging the need for procedures to minimize costs, they contend that the lack of exact mitigation cost data is not a reason to avoid a cost mitigation allocation policy statement.[342]

255. The LDCs state that moderating the impact of interchangeability falls within the Commission's jurisdiction. For example, in *Panhandle* the Commission required that interconnecting parties "must not diminish service to the pipeline's existing customers."[343] The Certificate Policy Statement, continue the LDCs, requires the applicant "to eliminate or minimize any adverse effect the project might have on the existing customers of the pipeline proposing the project, existing pipelines in the market and their captive customers, or landowners and communities affected by the new pipeline."[344] The LDCs note that the Commission consistently applies the Certificate Policy Statement to LNG projects.[345] Further, the LDCs contend that the Commission has broad authority under NGA sections 3 and 7 to apply terms and conditions, even when the LNG import facilities are not co-joined with facilities requiring NGA section 7 authorization.[346] The LDCs state that the Commission noted the interdependence of Southern's Cypress Pipeline with Florida Gas's gas quality and interchangeability tariff proceeding.[347] The LDCs contend the time is ripe to make a determination on cost responsibility for the measures that are known to be necessary, *i.e.*, testing of compression couplings and end-use appliances, and condition its authorizations accordingly. The LDCs also contend that the Commission should confirm now how the costs that meet the Commission's criteria will be allocated, and specify the procedures by which the costs will be monitored, verified, and collected.[348]

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[342] LDCs Brief on Exceptions at 37-38.

[343] *Id.* at 38, *citing Panhandle* at 61,141.

[344] *Citing Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 at 61,745 (1999)(Certificate Policy Statement).

[345] LDCs Brief on Exceptions at 39.

[346] *Id.* at 39-40, *citing Distrigas Corp. v FPC*, 495 F.2d 1057, 1063-64 (D.C. Cir. 1974), *cert. denied* 419 U.S. 834 (1974); *Dynegy LNG Production Terminal, L.P.*, 97 FERC ¶ 61,231 at 62,053-54 (2001).

[347] *Citing* 113 FERC ¶ 61,199 at P 42 (2005).

[348] LDCs Brief on Exceptions at 40-41.

256. The LDCs contend that mitigation costs should be borne by those who financially benefit: the LNG suppliers and project sponsors. The LDCs note that Peoples Gas is not a customer of LNG supply. Yet it will receive from Florida Gas 100 percent re-vaporized LNG due to its location on the Florida Gas system. Peoples Gas will face real mitigation costs, but the benefits for Peoples Gas are speculative. The LDCs contend that shifting mitigation costs will not likely impede LNG imports.[349] Florida Gas argues, the LDCs claim, that mitigation costs are ordinary costs of construction and operation. The LDCs disagree, stating that mitigation costs are extraordinary and not necessary but for the introduction of LNG into the Florida Gas system.[350] The LDCs also argue that the Commission has a jurisdictional reach not available to the Florida Public Service Commission (FPSC). The FPSC is not able to allocate mitigation costs to all the beneficiaries of LNG supply because not all end-users of natural gas in Florida are subject to its jurisdiction.[351]

257. Staff also believes the ALJ erred in not establishing an appropriate mitigation cost allocation method. While Staff states that mitigation cost allocation was not directly mentioned in the Commission hearing order, this issue underlays the proposed gas quality and interchangeability standards. Staff believes that an appropriate cost allocation decision combined with mitigation cost eligibility criteria would prevent, rather than invite, inflated costs and endless bickering.[352] Staff notes that there are many issues related to mitigation cost responsibility, including equity, the identity of beneficiaries of re-vaporized LNG, and the identity of free riders of the mitigation measures paid for by others. Hence, Staff recommends socializing mitigation costs over all parties. Staff recommends the application of the *Columbia* method – reapportion direct LNG conversion costs of direct customers to all customers if the costs are reasonable, prudent and necessary and one-time. Staff also contends that *Cove Point* is indicative that the Commission believes the *Columbia* policy is applicable. [353] Staff also believes that the ALJ's cost recovery procedural recommendation is unclear.[354]

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[349] *Id.* at 42-5.

[350] *Id.* at 46.

[351] *Id.* at 46-47.

[352] Staff Brief on Exceptions at 14.

[353] *Id.* at 16-17.

[354] *Id.* at 14-17.

258. Florida Gas strongly opposes requiring it to include any mechanism in its rates to permit generators and LDCs to recover their mitigation costs from other parties. Florida Gas contends that the various mitigation cost recovery proposals fail to recognize the Commission's lack of jurisdiction with respect to Florida electric utilities and LDCs, ignores the fact that the costs are not for facilities that are used and useful for a pipeline's jurisdictional transportation service, would result in inappropriate subsidization of one business entity by another, provide a disincentive to efficient and cost effective decisions, and fail to properly utilize the experience and expertise of the FPSC which has years of experience regulating both the generators and the LDCs.

259. BG LNG also objects to any suggestion that suppliers should bear any mitigation costs. BG LNG alleges that the Florida Generators' have not shown that mitigation expenses are even necessary.[355] BG LNG argues that the Commission lacks authority to order compensation as requested by the Florida Generators and the LDCs. While the Commission has jurisdiction over pipeline rates, BG LNG states the Commission does not have the authority to direct payments among parties not subject to its jurisdiction, lacks jurisdiction to order payments for equipment upgrades from parties under its jurisdiction, and lacks authority to award damages or reparations.[356] BG LNG also disagrees with the Florida Generators and LDCs with regard to *Columbia* and *Cove Point*. *Columbia*, BG LNG continues, found that the pipeline, not supplier, should reimburse affected customers for certain costs. As for *Cove Point*, BG LNG notes that the Commission made no finding on specific costs – as is the case in the instant proceeding.[357]

260. Southern believes that the ALJ was not required to make an allocation finding as the Commission did not identify that issue to be tried.[358]

3. Discussion

261. For the reasons discussed below, the Commission affirms the ALJ's holding that no mechanism should be established in this proceeding for electric generators, LDCs or other gas users to recover any costs they may incur as a result of the introduction of LNG

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[355] BG LNG Brief Opposing Exceptions at 30.

[356] *Id.* at 35-36.

[357] *Id.* at 36-37.

[358] Southern Brief Opposing Exceptions at 24-27.

into the Florida Gas system. In addition, the Commission further finds that no such mechanism should be established in any future Florida Gas proceeding. In cases such as this, involving pipeline proposals to change their gas quality and interchangeability tariff standards, all parties have an opportunity to contest the pipeline's proposed standards. The parties may, as they have here, argue that the pipeline's proposed standards are not just and reasonable, because they will place excessive cost burdens on existing customers. However, once the Commission has considered those contentions, and approved just and reasonable gas quality and interchangeability standards, the Commission will not act further to provide for the recovery of any mitigation costs incurred by non-jurisdictional downstream gas users. This is primarily because the Commission lacks jurisdiction with respect to such matters, except in unusual circumstances.

a. Mitigation Cost Allocation Within the Scope of the Hearing

262. We first consider the threshold issue raised by Southern as to whether the ALJ erred in even considering the issue of allocation of downstream customers' mitigation costs. Southern argues that the Commission did not include the issue as among those to be tried, thus the ALJ went beyond his instructions. The LDCs, Staff and (in the alternative) the Florida Generators[359] argue that real costs will result from changing the gas quality standards from historic levels, and the ALJ was within his mandate to make recommendations on the issue.

263. The Commission affirms the ALJ's holding that the issue of cost mitigation was within the scope of the hearing. The Commission's September 7 Order gave the ALJ wide discretion, stating,

> The Commission finds that the parties have raised numerous concerns about the engineering, operational and market implications of FGT's proposed gas quality and interchangeability standards that are best addressed at a hearing. A hearing will allow FGT and all other parties an opportunity to provide further factual support for their respective positions and will provide the Commission with a written record that will enable it to

[359] Subsequent references to the Florida Generators in this section of the order should be read with the understanding that the Florida Generators' primary position is the adoption of their preferred gas quality and interchangeability standards, and the exceptions they delineated with regard to this set of issues was in the event the Commission were not to adopt their primary position.

make determinations on the many issues of material fact in dispute in this proceeding.[360]

264. The Commission did exclude issues related to the Ocean Express interconnection agreement that were being addressed in a separate proceeding. However, those did not include the gas quality and interchangeability provisions in Florida Gas's tariff raised here that have system-wide implications. Further, mitigation costs and cost allocation issues were specifically raised by Peoples Gas System and Tampa Electric Company.[361] The Commission did not exclude these issues from the hearing. We thus turn to the merits of whether we should require Florida Gas to include in its tariff a mechanism for downstream gas users to recover their mitigation costs, whether from the LNG project sponsors, Florida Gas, or from other Florida Gas customers.

b. Jurisdiction over Downstream Customers' Mitigation Costs

265. The ALJ indicated that the prospective costs which electric generators, LDCs, or other downstream gas-users may incur as a result of the introduction of LNG onto Florida Gas's system are nominal in the context of this proceeding, too indefinite to be considered in this proceeding or the contractual responsibility of others. The Florida Generators and LDCs generally concur with the Initial Decision that their mitigation costs are indefinite, but make the point that those costs will be real costs if Florida Gas's proposed gas quality and interchangeability standards are adopted. While refusing to make a finding on prospective mitigation cost recovery and allocation, the ALJ found that to the extent that a participant may incur a cost which it attributes to the actual importation of LNG, it may make an appropriate filing with the Commission to recover that cost. However, the ALJ stated he was making no finding as the merits or propriety of such a filing.

266. The Commission fully agrees with the Initial Decision that the generator, LDC and end-user mitigation costs are speculative and indefinite. But the ALJ did not address a fundamental question: even if these costs were known, does the Commission have the jurisdiction to evaluate generators', LDCs' and end-users' mitigation costs, and assign

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[360] 108 FERC ¶ 61,221at P 20.

[361] *Id.* at P 12. *See also* 113 FERC ¶ 61,199 at P 39-42 and 115 FERC ¶ 61,328 at P 45-46, wherein these same parties raised the same issues and the Commission directed them to the instant proceeding.

cost responsibility among generators, LDCs, end-users, LNG project sponsors, and/or Florida Gas?[362]

267. Section 1(b) of the NGA establishes the Commission's primary jurisdiction:

> The provisions of this Act shall apply to the transportation of natural gas in interstate commerce, to the sale in interstate commerce of natural gas for resale for ultimate public consumption for domestic, commercial, industrial, or any other use, and to natural-gas companies engaged in such transportation or sale, and to the importation or exportation of natural gas in foreign commerce and to persons engaged in such importation or exportation, but shall not apply to any other transportation or sale of natural gas or to the local distribution of natural gas or to the facilities used for such distribution or to the production or gathering of natural gas.

268. In addition, the Natural Gas Wellhead Decontrol Act[363] narrowed the Commission's sale for resale jurisdiction by removing all "first sales" from the Commission's jurisdiction. This in essence removes all gas commodity sales from the Commission's jurisdiction, except sales for resale by pipelines, LDCs, and their affiliates.[364] Moreover, as discussed further below, the Energy Policy Act of 1992 amended NGA section 3 to provide that the importation of natural gas and LNG would be treated as a first sale under the NGPA, thereby removing the importation of LNG from the Commission's jurisdiction.

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[362] Although not identified directly by the Florida Generators or the Florida LDCs as a potential recipients of mitigation cost allocation, Southern and SLNG could be construed to be in their vague references to allocating costs to parties upstream of Florida Gas. Southern, through Cypress Pipeline, and SLNG also are providing only transportation services. To the extent the Florida Generators or the Florida LDCs imply these entities are possible recipients of mitigation costs allocation or could pass through to others these costs, the Commission findings equally apply to these pipelines.

[363] *Natural Gas Wellhead Decontrol Act of 1989*, Pub.L. No. 101-60, 103 Stat. 157 (1989) (Wellhead Decontrol Act).

[364] *See In the Matter of Amendments to the Blanket Sales Certificates*, 107 FERC ¶ 61,174 at P 19-28 (2004), for a full discussion of the Commission's remaining sales for resale jurisdiction.

269. Thus, the Commission's only relevant jurisdiction in the present case is with respect to the rates, terms, and conditions of Florida Gas's interstate transportation service. The Commission has no NGA jurisdiction with respect to any of the purchases and sales that may bring LNG into the Florida market or the entities that may incur mitigation costs. Since Order No. 636,[365] Florida Gas has not performed any sales service,[366] and thus will not be purchasing LNG for sale to its customers. The Commission has no jurisdiction over the LNG suppliers' sale of LNG to the shippers on the Florida Gas system, because those sales are exempt first sales. NGA section 1(b) expressly excludes the LDCs' local distribution services from the Commission's jurisdiction. And end-use customers, whether generators or others, do not come under the Commission's NGA jurisdiction, because they do not engage in interstate transportation or interstate sale for resale of natural gas.

270. Thus, the Commission's task under the NGA in this case is solely to ensure that the rates, terms, and conditions of Florida Gas's transportation service are just and reasonable. This obviously includes ensuring that Florida Gas' proposed tariff standards governing the interchangeability of the gas it accepts onto its system and redelivers to its transportation customers are just and reasonable. In determining the justness and reasonableness of those standards, one factor the Commission must consider is the effects those standards will have on downstream gas transporters and users, including whether those standards may impose excessive cost burdens on downstream entities.

271. In the preceding sections of this order, we have carefully considered the evidence and arguments presented by all interested parties on this issue. In recognition of the special needs of the electric generators attached to Florida Gas's system, we have approved interchangeability standards for gas received onto Florida Gas that are more

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[365] *Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol*, Order No. 636, 57 Fed. Reg. 13,267 (April 16, 1992), FERC Stats. and Regs., Regulations Preambles (January 1991 - June 1996) ¶ 30,939 at 30,446-48 (April 8, 1992); *order on reh'g*, Order No. 636-A, 57 Fed. Reg. 36,128 (August 12, 1992), FERC Stats. and Regs., Regulations Preambles (January 1991 - June 1996) ¶ 30,950 (August 3, 1992); *order on reh'g*, Order No. 636-B, 57 Fed. Reg. 57,911 (December 8, 1992), 61 FERC ¶ 61,272 (1992); *reh'g denied*, 62 FERC ¶ 61,007 (1993); *aff'd in part and remanded in part*, *United Distribution Companies v. FERC*, 88 F.3d 1105 (D.C. Cir. 1996); *order on remand*, Order No. 636-C, 78 FERC ¶ 61,186 (1997).

[366] *Florida Gas Transportation Co.*, 70 FERC ¶ 61,017, at 61,057 (1995).

stringent than would otherwise be permitted by the NGC+ Interim Guidelines. In particular, the standards we have approved permit a variation in the Wobbe Index of only plus or minus 2 percent with a maximum of 1,396, rather than the plus or minus 4 percent with a maximum of 1,400 permitted by the NGC+ Interim Guidelines. As a result, we have found that, although electric generators may incur some mitigation costs, those costs are not so excessive as to render Florida Gas's proposed standards unjust and unreasonable. We have also found that the approved standards should not adversely affect LDCs and end-users served by the LDCs.

272. Having made these findings and approved Florida Gas's proposed standards, with certain modifications, as just and reasonable, we find no basis to assert jurisdiction over the allocation and recovery of the downstream entities' mitigation costs. The Commission's only rate jurisdiction in this situation is over the rates Florida Gas charges its shippers for transporting their gas. The mitigation costs which Florida Gas's LDC and electric generator customers seek to recover from the LNG project sponsors, Florida Gas, or other shippers are not Florida Gas's costs, but are the customers' costs of testing and modifying their own equipment.

273. In order for the Commission to have jurisdiction to establish a mechanism for the recovery of such costs, we would have to find some basis to find that whatever mechanism we were to approve is necessary to ensure that Florida Gas recovers *its costs of providing jurisdictional transportation service from its customers* in a just and reasonable manner consistent with the NGA.[367] However, as discussed in the next two sections, the generators and the LDCs have not shown any nexus between Florida Gas's cost of providing transportation service and the downstream entities' mitigation costs. In addition, their proposed allocation of the costs to importers, sellers and purchasers of LNG would inevitably involve the Commission in matters that are beyond its responsibilities under the NGA.

c. Nexus between Florida Gas's costs and mitigation costs

274. In arguing that the Commission may, in essence, treat downstream entities' mitigation costs as part of an interstate pipeline's cost of providing transportation service, the LDCs, Staff and the Florida Generators rely primarily on the Commission's 1980 and 1981 orders in *Columbia*. These parties contend in *Columbia*, the Commission found

[367] *See Alabama Elec. Co., Inc. v. FERC*, 684 F.2d 20, 27 (D.C. Cir. 1981) (holding that it is well established that under the just and reasonable standard, "rates should be based on the costs of providing service to a utility's customers, plus a just and fair return on equity").

that downstream sales customers' mitigation costs could be included in the pipeline's rates if they: (1) were incurred directly as a result of Columbia's purchasing LNG for resale to the customers; (2) were reasonable, prudent, and necessary in order to permit the safe utilization of LNG; and (3) were of a one-time, nonrecurring nature.[368] Further, the Commission required Columbia to recover the costs from all its customers and then make mitigation payments to at least two LDCs.[369] These parties also assert that the Commission reaffirmed the reasonableness of the *Columbia* findings in *Cove Point*.[370]

275. The Commission finds that the parties in this case have not shown a similar nexus between their mitigation costs and Florida Gas's costs of providing jurisdictional service as existed in *Columbia*. In *Columbia*, which was decided when pipelines still made jurisdictional bundled gas sales, the Commission did approve a pipeline's proposal to modify its jurisdictional sale for resale rate to compensate two customers for their costs of modifying equipment to accommodate the pipeline's purchase of LNG for resale to all its sales customers. In that case, the sales customers whose delivery points were closest to the receipt point where the pipeline received its purchased LNG incurred approximately $2.5 million in order to modify their systems to accommodate the LNG. The Commission found that this enabled the pipeline to avoid over $60 million in costs to make modifications to its own system so that it could continue to sell gas of the same quality as it previously sold.[371] The Commission held that the two customers' incurrence of their costs had benefited the pipeline and all its sales customers by avoiding a substantial additional expense that otherwise would have been included, at least in part, in the pipeline's cost of service and borne by all the customers.[372] Accordingly, the

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[368] *Columbia Gas Transmission Corp.*, 13 FERC ¶ 61,102 at 61,219 (1980), *opinion and order denying reh'g*, 14 FERC ¶ 61,073 (1981), *aff'd, Corning Glass Works v. FERC*, 675 F.2d 392 (1982).

[369] *Id.*

[370] *Cove Point LNG Limited Partnership***,** 97 FERC ¶ 61,276 at 62,267-8 (2001) (*Cove Point*).

[371] The cheaper of the two alternatives Columbia had to modify its own system would have been to construct a stripping plant to remove ethane and the heavier hydrocarbons from the revaporized LNG and build a pipeline to market the removed hydrocarbons. This would have cost a total of about $65 million, including $20 million for the stripping plant.

[372] *Columbia Gas Transmission Corp*., 10 FERC ¶ 63,065 at 65,508 (1980).

Commission concluded that requiring all the sales customers to share the two customers' costs was necessary to render the pipeline's jurisdictional sale for resale rates not unduly discriminatory.

276. In the instant case, Florida Gas's electric generator and LDC customers do not allege any similar link to Florida Gas's transportation service and rates. While Columbia chose to purchase LNG as a supply source for its pre-existing jurisdictional sales-for-resale services across its system,[373] Florida Gas is not and does not propose to be a seller for resale of LNG-sourced gas. The distinction between Commission jurisdictional sales and transportation services is significant. Florida Gas, like most pipelines since implementation of Order No. 636, is only engaged in transportation services. And, since Order No. 636, all gas transported on open access pipelines, including Florida Gas, must be customers' gas – not the pipelines' gas. Other than line pack and fuel, Florida Gas does not own the gas. Nor does Florida Gas need LNG to satisfy transportation service contracts with its transportation customers. Shippers are obliged to find the sources for their gas, not Florida Gas. Thus, unlike the situation in *Columbia*, Florida Gas does not need LNG to render any jurisdictional service, and is not itself bringing LNG to its system.

277. In addition, the generators and LDCs in this case have not alleged that any of them are incurring disproportionate mitigation costs in order to avoid requiring Florida Gas to incur substantially greater costs to provide its jurisdictional transportation service. Rather, as discussed in the next section, they argue only that it would be equitable for the LNG suppliers, marketers and purchasers to bear the mitigation costs, since those are the entities that are benefiting from the purchase and sale of LNG. Neither Florida Gas nor the generators and LDCs have made any claim that the introduction of LNG onto Florida Gas's system will or could involve additional pipeline costs that will require recovery from its customers. This record shows no pipeline costs attributable to Florida Gas's pipeline operation or design related to its proposed gas quality standards.

278. In *Columbia*, because the pipeline was purchasing the LNG for use as part of the system supply it sold to its customers, the pipeline would have been responsible for any necessary processing of the LNG to render it of the same quality as the gas it previously sold to its customers. The record in that case showed the construction of the necessary processing facility would have cost the pipeline approximately $20 million. Here, however, parties upstream of Florida Gas will bear the cost of processing the LNG so that

[373] *Columbia Gas Transmission Corp.*, 1 FERC ¶ 61,312, at 61,789 (1977).

it will satisfy the gas quality and interchangeability standards in Florida Gas's tariff.[374] Thus, unlike in *Columbia*, there are no avoided jurisdictional costs at issue here that could justify requiring Florida Gas to include a mitigation cost recovery mechanism in its rates.

279. The Commission's recent decision in *Dominion Cove Point LNG, LP*, 118 FERC ¶ 61,007 at P 17-19 (2007), distinguished *Columbia* on similar grounds. As for the earlier *Cove Point* order relied on by the excepting parties, the Commission stated it "made no finding regarding what costs will be appropriate for reimbursement if Washington Gas or any other party must convert its facilities to accommodate LNG."[375]

280. The Commission concludes that no nexus has been shown between downstream mitigation costs and Florida Gas's cost of providing jurisdictional transportation service.

d. Lack of Authority to Allocate Mitigation Costs in Manner Requested

281. We also find no basis to assert jurisdiction to require the mitigation cost recovery mechanism sought by the Florida Generators and LDCs, because they seek to allocate those costs in a manner that would involve us in matters that are outside the responsibilities assigned to us by the NGA. The Florida Generators and LDCs argue that those responsible for bringing re-vaporized LNG into Florida should be responsible for the mitigation costs, since those are the parties benefiting from the importation of LNG. There are three identified ownership classes of LNG in liquid or re-vaporized form to whom the mitigation costs would be allocated under this proposal: (1) the importers of the LNG upstream of Florida Gas (the LNG importers located at SLNG's Elba island); (2) the shipper-end-user (Progress Energy); and (3) the shipper-marketer of LNG (BG LNG).

282. The Florida Generators and LDCs contend that the upstream importers of the LNG should bear a portion of the mitigation costs as an equitable matter, because they will make substantial profits from their sales of LNG. However, imported LNG is not subject to the Commission's price regulation. The Wellhead Decontrol Act eliminated regulation of all first sales of natural gas under the NGA. Further, the Energy Policy Act of 1992 amended NGA section 3 to provide that the importation of natural gas and LNG would be

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[374] Initial Decision, at P 209 ("LNG Suppliers must invest billions of dollars in importing and processing facilities.")

[375] *Cove Point* at 62,267.

treated as a first sale under the NGPA; that the Commission would not discriminate, or give preference to natural gas or LNG on the basis of its place of production; and that applications to import or export natural gas or LNG would be granted without modification or delay. The legislative history of the Energy Policy Act of 1992 states that the amendments were enacted to ensure that Canadian gas imports and LNG imports were treated more like domestic natural gas production. To do this, the amendments: (1) gave first sale status to imports so that, like first sales of domestic gas, the imported gas supplies are not subject to our jurisdiction; (2) barred Federal or state regulators from treating these imports differently than domestic gas, for example, by imposing special new tests, rate adjustments, or standards for import projects; and (3) made the importation of gas consistent with the public interest so that such applications shall be granted without modification or delay.[376] There is thus no statutory basis for the Commission to assess costs to the importers' sales of imported LNG into the market.

283. In any event, any effort to allocate costs to the LNG importer-suppliers and marketers on the ground that they are profiting from the introduction of LNG onto Florida Gas's system would go well beyond what the Commission approved in *Columbia*. In that case, the pipeline's affiliate, Columbia LNG Corporation, imported the LNG to its Cove Point, Maryland LNG terminal and sold the re-vaporized LNG to Columbia, which then transported and resold the LNG to its sales customers. The mitigation cost recovery mechanism the Commission approved allocated the mitigated costs solely to Columbia's sales customers, all of whom purchased Columbia's system supply of which the LNG was one component. The Commission did not allocate any of the mitigation costs to Columbia LNG Corporation, Columbia, or any other entity involved in supplying the LNG to Columbia. Indeed, absent a Commission finding that Columbia and/or any upstream entities subject to the Commission's jurisdiction had acted imprudently in purchasing the LNG, any requirement that such an upstream entity absorb a portion of the costs would have violated the Commission's obligation under the NGA to

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[376] 1992 U.S.C.C.A.N. 1953, 2000. See also NGPA Sections 2(21) and 601. The need to amend the statutes to ensure equal treatment of gas as a commodity came about as a result of the Commission's decision in *Salmon Resources Ltd.*, 50 FERC ¶ 61,101, *reh'g denied*, 51 FERC ¶ 61,148 (1990), which found that marketers selling imported gas for resale in interstate commerce were required to obtain a certificate of public convenience and necessity, unlike marketers who made first sales of domestic gas that were exempt from the certificate requirements as a result of the Wellhead Decontrol Act. *See in accord Dynegy LNG Production Terminal, L.P.*, 97 FERC ¶ 61,231 at 62,053-54 (2001).

provide an opportunity for natural gas companies to recover their prudently incurred costs.

284. Moreover, any effort to impose the mitigation costs on the LNG importer-suppliers would run up against a further obstacle: there must be a NGA jurisdictional service contract between the pipeline and the party to be allocated the costs, in order for the Commission to authorize the pipeline to recover the costs. In *Columbia*, that requirement was met, because the pipeline proposed, and the Commission approved, allocating the mitigation costs solely to the pipeline's jurisdictional sale-for-resale customers, with whom the pipeline had service agreements. Here, there is no indication that all the LNG importer-suppliers to whom the Florida Generators and LDCs seek to allocate their mitigation costs currently have contracts for service on Florida Gas. If the upstream (or downstream parties) are not customers or only intermittent customers of Florida Gas, the Commission has no other means to require the collection of mitigation costs from these parties.

285. The Florida Generators and LDCs also seek recovery of their mitigation costs from any purchaser-end-users of the re-vaporized LNG. On this record, the one such entity with such a purchase contract is Progress Energy, an electric generator regulated by the Florida Public Service Commission (FPSC). Progress Energy's purchase of re-vaporized LNG and its use in its generators are not subject to the Commission's jurisdiction. Progress Energy specifically requested FPSC to pre-approve its purchase of imported LNG under a 20-year contract and its recovery of associated costs.[377] The FPSC approved Progress Energy's request.[378] The record clearly shows that the FPSC

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[377] Ex. SNG-21.

[378] Ex. SNG-20, Final Order Approving Progress Energy Florida, Inc.'s Long-Term Fuel Supply and Transportation Contracts, Florida Public Service Commission, July 5, 2005 at 6-7:

> PEF's [Progress Energy] petition sought approval of the terms and conditions of its contract for re-gasified LNG supply and transportation with BG, SONAT, and FGT. . .
>
> Based on the forgoing, it is
>
> ORDERED by the Florida Public Service Commission that Progress Energy Florida, Inc.'s petition for approval of long-term fuel supply and transportation for Hines Unit 4 and additional system supply and transportation is hereby approved as set forth in the body of this Order.

has jurisdiction over the LNG purchases and/or mitigation cost recovery of (1) certain electric generators in Florida, such as Progress Energy, and (2) all Florida LDCs, and has reviewed and approved Progress Energy's proposal to purchase and use re-vaporized LNG in Florida.

286. The generators and LDCs, all of whom are located in Florida and many subject to the jurisdiction of the FPSC, would have us establish a mechanism under which their mitigation costs would be allocated to Progress Energy, among others. This would involve us in authorizing some state-regulated companies to recover their costs from another state-regulated entity on the grounds that a purchase by the latter entity approved by the FPSC caused the former entities to incur additional costs. The Commission believes this is a matter more appropriately within the jurisdiction of Florida regulatory bodies.

287. If the Commission were to adopt any of the various proposals for recovery of mitigation costs, including staff's proposal to allocate the costs solely to shippers on Florida Gas, the Commission would have to decide numerous issues concerning the eligibility of the costs for recovery and the justness and reasonableness of the proposed allocation of the costs. These issues include matters which are outside our NGA jurisdiction and our area of expertise. For example, some of the equipment modifications that electric generators may make to accommodate changes in gas quality due to LNG also provide benefits unrelated to the introduction of LNG into Florida. Such equipment includes gas heaters and auto-tuning equipment. Florida Power has already installed such equipment in order to avoid liquid drop-out and obtain other efficiencies including a longer life for its turbines.[379] If another generator now installed such equipment and sought recovery of the costs through a mitigation cost recovery mechanism, the Commission would have to determine (1) whether the costs were in fact incurred solely because of the introduction of LNG onto Florida Gas's system or were installed for independent business reasons, (2) the prudence of such costs, and (3) the extent to which other utilities who have already installed such equipment should have bear a portion of these costs while receiving no compensation for their own similar costs. These are matters which are completely extraneous to our NGA jurisdiction, and are best left to the FPSC to the extent the generators are subject to its jurisdiction.

288. Finally, BG LNG appears to be reserving transmission capacity on the Cypress Pipeline and Florida Gas for delivering and selling imported LNG to the Florida market on speculation. Progress Energy's Hines, Florida, delivery point appears to be the

[379] Tr. 666-668.

expected market.[380] BG LNG's sales of revaporized LNG also would not be subject to the Commission's jurisdiction. As with the importers, these sales would also be first sales.[381] To the extent the BG LNG sale is made to an entity subject to FPSC jurisdiction, the Commission presumes that the FPSC would exercise its authority as it did with Progress Energy. The Commission has no authority to either review or impose terms on BG LNG's sales irregardless of whether the purchaser is or is not subject to FPSC jurisdiction.

e. Certificate Authority

289. The LDCs claim the Commission has certificate authority to review the impact of Florida Gas's tariff proposals, and condition the certificate to provide for the quantification, allocation, collection, and dispersal of mitigation costs. In support of their position, they cite the Certificate Policy Statement and *Panhandle Eastern Pipe Line Co.*,[382] setting forth the Commission's interconnection policy. According to the LDCs,

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[380] Florida Gas's Docket No. CP06-1-000, filed October 5, 2005, Exhibit I, Rate Schedule FTS-2 contract with BG LNG, Exhibit B identifies the primary delivery point as "Progress-Hines."

[381] Order No. 644 (*Amendments to Blanket Sales Certificates*, 105 FERC ¶ 61,217 (2003); 68 Fed. Reg. 66,323 (Nov. 26, 2003)) at P 14 explains first sales as follows (emphasis added with regard to the applicability to BG LNG):

> Under the NGPA, first sales of natural gas are defined as any sale to an interstate or intrastate pipeline, LDC or retail customer, or any sale in the chain of transactions prior to a sale to an interstate or intrastate pipeline or LDC or retail customer. NGPA Section 2(21)(A) sets forth a general rule stating that all sales in the chain from the producer to the ultimate consumer are first sales until the gas is purchased by an interstate pipeline, intrastate pipeline, or LDC. Once such a sale is executed and the gas is in the possession of a pipeline, LDC, or retail customer, the chain is broken, and no subsequent sale, whether the sale is by the pipeline, or LDC, or by a subsequent purchaser of gas that has passed through the hands of a pipeline or LDC, can qualify under the general rule as a first sale on natural gas. In addition to the general rule, NGPA Section 2(21)(B) expressly excludes from first sale status any sale of natural gas by a pipeline, LDC, or their affiliates, except when the pipeline, LDC, or affiliate is selling its own production.

[382] *Panhandle Eastern Pipe Line Co.*, 91 FERC ¶ 61,037 at 61,141 (2000) (*Panhandle*).

these orders are applicable to Florida Gas in the instant proceeding, because Florida Gas has to receive Commission certificate authority to interconnect with Southern's Cypress Pipeline, and build facilities to transport the additional gas to be delivered to Florida Gas.[383] Further, the LDCs cite the Commission's order certificating Southern's Cypress pipeline:

> … The outcome of that proceeding will dictate not only the gas standards that AES must meet, but also the gas standards that Southern will have to meet to make deliveries to FGT. Thus, the gas quality and interchangeability criteria established in *AES v. FGT* should address the concerns raised by parties in this proceeding. Therefore, we will condition any certificate authorization for Southern's expansion on Southern delivering gas to the Cypress-FGT interconnect that complies with the FGT gas quality standards established in the pending Docket No. RP04-249-001 proceeding.[384]

The LDCs contend that they will suffer harm from the introduction of re-gasified LNG into Florida Gas's system, unless they are compensated for mitigation costs.

290. The Florida LDCs are arguing that the Commission should exercise its authority under NGA section 7(e) to impose conditions on the issuance of a certificate in order to require Florida Gas to establish a mitigation cost recovery mechanism. The Commission does not agree.

291. In the previous two sections, the Commission has explained why its lacks jurisdiction under the NGA to require Florida Gas to establish a mitigation cost recovery mechanism of the type the Florida Generators and LDCs request. As the United States Court of Appeals for the District of Columbia Circuit held in *AGA vs. FERC*, 912 F.2d 1496, 1510-1 (D.C. Cir. 1990), "The Commission may not use its § 7 conditioning power to do indirectly (1) things that it can do only by satisfying specific safeguards not contained in § 7(e) (in the case of reducing previously approved jurisdictional rates, by meeting its burden under § 5), or (2), *a fortiori*, things that it cannot do at all [citations omitted]." It follows that, for all the reasons given in the previous two sections, the Commission may not condition any certificate issued to Florida Gas on its including a mitigation cost recovery mechanism in its rates, since that falls into the category of "things that [the Commission] cannot do at all."

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[383] 115 FERC ¶ 61,328 at P 8-15.

[384] 113 FERC ¶ 61,199 at P 41; 115 FERC ¶ 61,328 (2006) at P 46.

292. Neither *Panhandle* nor the Certificate Policy Statement is applicable to the issue of mitigation cost allocation. In *Panhandle*, the Commission established a new interconnection policy that required pipelines to grant requests for interconnections that met certain standards. The focus of the interconnection policy was requests for interconnection that did not involve construction other than the actual interconnect and thus did not require individualized certificate authorization.[385] The *Panhandle* policy is not applicable to Florida Gas's proposed facilities. In Florida Gas's Docket No. CP06-1-000, Florida Gas needed significant additional facilities to transport Progress Energy's and BG LNG's gas to central Florida. It was not just an interconnection with no required additional downstream facilities. Further, *Panhandle's* discussion of impact on existing customers was limited to impact on the service they received from the pipeline.[386] As previously discussed, we have addressed impacts on Florida Gas's customers through the approval of interchangeability standards governing the gas that can be accepted onto Florida Gas's system, and have found that the approved standards should ensure that downstream entities do not incur excessive mitigation costs.

293. The Certificate Policy Statement does apply and was applied to Florida Gas's proposed facilities in Docket No. CP06-1-000.[387] However, the Certificate Policy Statement proceeding never inquired into issues such as gas quality or interchangeability. Nor did it inquire or address issues such as cost impacts on customers after the delivery to the end user or city gate,[388] nor did the comments address such issues.[389] The fact that the

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[385] *Panhandle* at 61,141:

> The Commission emphasizes that this new policy, which relates only to the construction of new interconnections, does not require a pipeline to expand its facilities, to construct any facilities leading up to an interconnection, or even to construct the interconnection itself.

See also 107 FERC ¶ 61,276 at P 19-21 (2004) wherein the Commission addressed the scope of *Panhandle* when setting the instant proceeding for hearing.

[386] *Panhandle* at 61,141:

> Third, the proposed interconnection and any resulting transportation must not diminish service to the pipeline's existing customers.

[387] 115 FERC ¶ 61,328 at P 23-24 (2006).

[388] Certificate Policy Statement, 88 FERC ¶ 61,227 at 61,737-738 (1999).

Certificate Policy Statement did not address these issues is not surprising. Gas quality and interchangeability were not significant issues at the time, and the focus of the Certificate Policy Statement was on providing guidance on how the Commission would evaluate certificating new construction.[390] The Certificate Policy Statement provides no guidance applicable to the Florida LDCs' issue.

294. The Commission has already found that Southern's Cypress Pipeline and Florida Gas facilities are required by the public convenience and necessity, conditioned upon the appropriate tariff gas standards. As has been discussed above, the Commission has applied the NGA section 4 just and reasonable standard evaluating Florida Gas's proposed gas tariff standards. There are no additional criteria or statutory standards that Florida Gas must satisfy simply because of NGA section 7.

D. Certificate Tariff Conditions

295. Peoples Gas, Florida Power, and Florida Gas Utility filed protests in the Southern Cypress Pipeline certificate proceeding and the related Florida Gas certificate proceeding. These parties alleged that re-vaporized LNG from SLNG's Elba Island LNG terminal delivered into the Florida Gas system through the new Cypress Pipeline would adversely affect their LDC systems and end use equipment, including electric generation turbines.[391] In the Cypress Pipeline preliminary determination on non-environmental issues, the Commission noted that these parties were directly served by Florida Gas and that Florida Gas's tariff would control the character of the gas the protesting parties receive. Therefore, the Commission stated that Florida Gas's tariff would control the gas quality and interchangeability standards that Southern must meet in order to deliver gas, including re-vaporized LNG into Florida Gas's pipeline system.[392] The Commission stated that the instant proceeding would determine the appropriate gas quality and interchangeability criteria for receipts of re-vaporized LNG into the Florida Gas Market Area that Southern would be required to meet.[393] The Commission then conditioned approval of Southern's Cypress Pipeline on Southern delivering gas to the Cypress

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[389] *Id.* at 61,738-742.

[390] *Id.* at 61,737.

[391] 113 FERC ¶ 61,199 at P 17-21.

[392] *Id.* at P 39.

[393] *Id.* at P 41.

Pipeline/Florida Gas interconnection that meets the gas quality and interchangeability standards established in the instant proceeding.[394] The Commission made no requirement that Southern modify its own gas quality and interchangeability standards.

296. In the instant proceeding there was little record with regard to the applicable gas pipeline quality and interchangeability standards for Cypress Pipeline. Southern was not required to propose and did not propose a separate set of standards applicable to only the Cypress Pipeline part of its system. Nor did any other party propose a set of gas standards to be applicable just to Southern or its Cypress Pipeline. Southern does mention that the re-vaporized gas delivered to its system by SLNG will not exceed SLNG's tariff specifications, and that the gas that Cypress Pipeline will likely deliver to the Florida market will be unblended Elba Island gas.[395] Further, with regard to Southern's experience with revaporized Elba Island gas, it stated that the average Wobbe Index was 1,377, and the mathematical maximum under SLNG's tariff is 1,396.[396]

297. Appendix B identifies the comparable receipt gas standards for SLNG, Southern and for Florida Gas as the result of the findings in this order. Appendix B shows by tariff the likely controlling constitute standard. Where the cells are in light grey, the controlling tariff standard will be either SLNG's or Southern's. The cells shaded in dark grey show the constituent levels the Commission found, above, applicable to Florida Gas's receipts that are more stringent than either the SLNG's or Southern's tariffs. Neither Southern nor its shippers stated a position with regard to these more stringent constituent proposals as they would apply to Cypress Pipeline. The Commission can only assume that these discrepancies are not a practical concern to Southern or its shippers on the Cypress Pipeline. In the absence of any proposed change to Southern's tariff by any party, and almost no record regarding gas quality on the Cypress Pipeline, the Commission does not require Southern to make any changes to its tariff gas standards.[397]

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[394] *Id*. at P 41, *aff'd*, 115 FERC ¶ 61,328 at P 46-46.

[395] Ex. SNG-1 at 16:4-10.

[396] Ex. SNG-1 at 15:21 and 16:6-7.

[397] The fact that Southern's gas quality standards may be different than Florida Gas's is not controlling. In *ANR Pipeline Co.*, 117 FERC ¶ 61,286 at P 20-31(2006), the Commission found that pipelines could consider, but were not bound to adopt as part of their tariff, more stringent downstream gas quality standards.

The Commission orders:

(A) The Initial Decision is affirmed in part and reversed in part, as discussed in the body of this order.

(B) Florida Gas is directed to file, in Docket No. CP06-1-000, actual tariff sheets implementing the interchangeability standards approved above prior to the in-service date of Southern's Cypress Pipeline interconnection with Florida Gas.

(C) Those issues raised by the parties that have not been addressed in this order, are deemed denied.

By the Commission.

(S E A L)

Philis J. Posey,
Deputy Secretary.

Appendix A

Comparison of Domestic and LNG Hydrocarbon Constituents

	Domestic Gas					LNG Supplies	
All measurements in mole % **(FGT-3 Proposal)**	**Florida Gas @ Brooker 2/19/91> 7/31/94 Min/Max FPL-25[398]**	**SNG to SNG's market 12/1/99-11/30/01 Avg. SNG-1 p. 9**	**FGT 8/1/00-6/21/02 Min/Max** **LNG-49**	**Transco 6/16/05-9/15/05 Min/Max** **LNG-8 pp. 13-15**	**White Paper "Typical US"** **FGT-6 p. 141**	**LNG-30 p. 1, columns 1 & 2 (Interim Guideline spec)**	**LNG-30 p. 1, columns 3 & 4 (not Interim Guideline spec)**
C1 Methane (≥ 85)	94-6-96.0	97.031	92.23-96.45	94.5-96.2	95.7	91.80-94.43	86.53-89.94
C2 Ethane (≤ 10)	2.15-3.25	1.855	2.07-4.31	2.13-3.43	3.2	3.80-7.50	6.0-12.0
C3 Propane (≤ 2.75)	0.32-0.69	0.263	0.261-1.123	0.35-0.80	0.7	0.20-1.17	1.33-4.30
C4+ Butanes+ (≤ 1.2%)	C4: 0.151-0.337	C4: 0.086	C4: 0.100-0.505	C4: 0.14-0.39	0.4	0.00-0.40	0.06-0.87
C5 (C5+ ≤ 0.12)	0.055-0.116	0.040	0.031-0.140	0.015-0.137		0.0	0.0
C6+	0.071-0.136	0.033	0.035-0.123	0.020-0.108			

[398] Brooker is located near Compressor Station 16. Tr. 245-246:24-1. *See also supra* Figure No. 1.

Appendix B

Comparison of SLNG's, Southern's and Florida Gas's Tariff Gas Quality Specifications

Gas Standard	SLNG's Receipt Gas Standards[399]	Southern's Tariff Receipt Point Gas Standards[400]	Commission's Findings Florida Gas Receipt Points
Wobbe Max/Min	None	None	1396 ≥ gas ≥ 1340
HHV Max/Min Btu scf	1075 ≥ gas ≥ 1000	No max ≥ gas ≥ 950	1110 ≥ gas ≥ 1000
HPD	Free of liquids at 800 lbs pressure and 50^0 F	None in tariff, may be posted by segment	C5+ ≤ 0.12 mole %
C6+	0.30 gallons per Mcf	None in tariff, may be posted by segment	
Total Sulfur grains/Mcf	200	200	200
Hydrogen Sulfide grains/Mcf	10	3.0	2.5
CO2 + N2 %	3	3	3
O2 %	1	1	0.25
Water lbs/MMcf	0	7	7

[399] Exhibit No. FPL-52: Org. Sh. Nos. 42-43 as shown in SLNG's FERC Gas Tariff, Original Volume No. 1. These sheets are still in effect as of the date of this order.

[400] Exhibit No. FPL-51: 4th Rev. Sh. No. 107 and 3rd Revised Sheet No. 108 as shown in Southern's FERC Gas Tariff, Seventh Revised Volume No. 1. These sheets are still in effect as of the date of this order. The Commission notes that the HDP and C6+ tariff language is currently in effect as a result of a Southern proposal in Docket No. RP04-42-000, which the Commission has not yet found to be just and reasonable. *Southern Natural Gas Company*, 105 FERC ¶ 61,254 (2003), *order requiring filing*, 116 FERC ¶ 61,295 (2006), *order on reh'g*, 119 FERC ¶ 61,003 (2007).