

121 FERC ¶ 63,011
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Southern Company Energy Marketing, Inc.
and Southern Company Services, Inc.

Docket No. EL04-124-000

INITIAL DECISION

(Issued November 9, 2007)

APPEARANCES

Dan H. McCrary, Esq., James C. Beh, Esq., Lyle D. Larson, Esq., and Scott B. Grover, Esq., on behalf of Southern Company Services, Inc.

Keith R. McCrea, Esq., Paul F. Forshay, Esq. and Matthew J. Binette, Esq., on behalf of Shell Trading Gas and Power Company

John T. Miller, Jr., Esq. on behalf of Dalton Utilities

Cynthia A. Govan, Esq., William J. Collins, Esq., and Gopal Swaminathan, Esq., on behalf of the Federal Energy Regulatory Commission Trial Staff

BOBBIE J. McCARTNEY, Presiding Administrative Law Judge

INTRODUCTION

1. The purpose of this proceeding is to develop a full and complete evidentiary record for the Commission on what constitutes a properly-constructed Delivered Price Test (DPT) upon which the Commission can rely in determining whether Southern Company Services, Inc., acting for itself and as agent for Alabama Power Company, Georgia Power Company, Gulf Power Company, Mississippi Power Company and Southern Power Company (collectively, "Southern") has generation market power in the Southern Control Area. The Commission *did not* set for hearing the issue of how the results of the properly-constructed DPT should be interpreted or whether Southern has generation market power in the Southern Control Area, choosing instead to address those matters

after the initial decision.¹

2. The Commission explained that the issues to be addressed in this proceeding include, but are not limited to: (i) the use of simultaneous import capability, rather than Total Transmission Capacity (TTC), as the measure of transmission constraints; (ii) the performance of the pivotal supplier analysis under the economic capacity measure; (iii) the use of historical data for prices, loads, and generation, rather than projected data, (iv) the development of sensitivity analyses and the data necessary to corroborate the DPT results in compliance with the Commission's regulations; and (v) the impact of any transmission constraints on the appropriate scope of the relevant market. The Commission subsequently resolved the issue of the appropriate scope of the relevant market determining that for purposes of this proceeding it is the Southern Control Area (SCA).²

3. In an attempt to resolve, through settlement, a number of methodological and data issues related to the construction of a Base Case DPT for short-term, non-firm energy, the Participants entered into a Joint Stipulation which was adopted by the undersigned Presiding Judge on August 16, 2006. The Participants specifically reserved seven (7) issues that, for the most part, were the subject of the evidentiary presentations in this case: 1) quantification of simultaneous import capability (SIC); 2) treatment of hydroelectric capacity; 3) treatment of Southern's control area reliability obligations; 4) appropriateness of separate DPT analyses for short term firm products and/or long term firm products; 5) development of appropriate sensitivity analyses; 6) presentation and interpretation of historical trade data; and 7) computation of the pivotal supplier test under the available economic capacity prong of the DPT analysis. In addition, Southern subsequently raised an issue regarding Dr. Yang's qualifications.

¹ *Southern Company Energy Marketing, Inc. and Southern Company Services, Inc.*, 112 FERC ¶ 61,054 at P 60, (July 2005 Order).

² Staff IB at 15.

JOINT PROCEDURAL HISTORY³

4. This proceeding began on December 17, 2004, when the Commission issued an order⁴ instituting a Federal Power Act (FPA) Section 206⁵ proceeding to determine whether Southern may continue to charge market-based rates in the Southern Control Area (SCA). Prior to that order, Southern had on August 9, 2004 (as amended on August 27, 2004 and November 19, 2004) submitted revised generation market power screens in accordance with the Commission's orders issued on April 14, 2004⁶ and July 8, 2004⁷ for the SCA and twelve first-tier markets. In the December 17 Order, the Commission concluded that Southern passed both the pivotal supplier screen and the wholesale market share screen for the twelve first-tier control areas for each of the four seasons.⁸ However, the Commission concluded that Southern's submitted screens indicated failures of the wholesale market share screen for the SCS in each of the four seasons.⁹ Thus, with regard to the SCA, Southern was directed to either: (i) file a Delivered Price Test (DPT) analysis; (ii) file a tailored mitigation proposal that "would eliminate the ability to exercise market power"; or (iii) "inform the Commission that it will adopt the April 14 Order's default cost-based rates or propose other cost-based rates and submit costs support for such rates" within sixty days of the date of this order.¹⁰

5. On January 18, 2005, the American Public Power Association (APPA), the Electricity Consumers Resource Council (ECRC), the National Rural Electric Cooperative Association (NRECA), Tractebel Energy Marketing, Inc. (Tractebel), Southern, Calpine Corporation (Calpine) and Shell filed Requests for Rehearing of

³ The following entities join in the Unopposed Joint Procedural History: Commission Trial Staff (Staff); Southern Company Energy Marketing Inc. and Southern Company Services, Inc. (Southern); Shell Gas and Power Company (Shell); and Dalton Utilities (Dalton). Staff, Southern and Shell are collectively referred to herein as "the Participants" or "the Parties". The Parties and Dalton prepared this unopposed Joint Procedural History at the undersigned's request, and agreed to provide additional supplemental material as necessary and appropriate in their briefs. The Undersigned has not substantively altered the submittal, but has made limited changes for the purposes of consistency with the Initial Decision.

⁴ *Southern Company Energy Marketing, Inc. and Southern Company Services, Inc.*, 109 FERC ¶ 61,275 (2004) (December 17 Order).

⁵ 16 U.S.C. § 824e.

⁶ *AEP Power Marketing, Inc., et al*, 107 FERC ¶ 61,018 (2004) (*AEP I*).

⁷ *AEP Power Marketing, Inc., et al*, 108 FERC ¶ 61,026 (2004) (*AEP II*).

⁸ December 17 Order, 109 FERC ¶ 61,275 at P 30.

⁹ *Id.* at P 31.

¹⁰ *Id.* at P 35.

the December 17 Order.

6. On February 15, 2005, Southern submitted the Direct Testimony and exhibits of Rodney Frame and Michael A. Bush to rebut the presumption of generation market power (February 2005 DPT).
7. On February 24, 2005, Calpine and Shell filed a Motion for Adoption of a Protective Order and Southern filed a response to that motion on March 2, 2005. On March 14, 2005, Southern filed a Motion for Adoption of a Protective Order. Also on March 14, 2005, Calpine filed a Procedural Motion for Extension of Time to File Comments on the February 2005 DPT. The Commission issued a notice on March 22 granting Calpine's Motion for Extension of Time and stated that comments were due no later than fifteen days after the Commission issued an order addressing Southern's Motion for Adoption of a Protective Order. On April 8, 2005, the Commission issued an order denying the Motion for Adoption of a Protective Order.
8. Longleaf Energy Associates, LLC filed a Motion to Intervene on March 15, 2005. On March 22, 2005, Board of Water, Light and Sinking Fund Commissioners of the City of Dalton, Georgia (Dalton) filed an intervention and comments on Southern's February 2005 DPT. On April 21, 2005, Alabama Municipal Electric Authority (AMEA) filed an intervention and comments on the February 2005 DPT. On April 25, 2005, Sawnee Electric Membership Corporation and Coweta-Fayette Electric Membership Corporation filed a Joint Motion to Intervene and Comments on the February 2005 DPT. On April 29, 2005, Calpine and Shell filed a protest, comments and an affidavit of David W. DeRamus in response to the February 2005 DPT. On June 10, 2005, the Southeast Electricity Consumers Association filed a motion to intervene. Entities filing timely Motions to Intervene were made parties to this proceeding in the July 8, 2005 Order setting this matter for hearing.¹¹
9. On May 5, 2005, the Commission issued an order¹² granting certain requests for rehearing¹³ of the December 17 Order. In addition, the Commission denied Southern's request for rehearing and clarification of the December 17 Order. On June 6, 2005, Southern filed a request for rehearing of the May 5

¹¹ *Southern Company Energy Marketing, Inc. and Southern Company Services, Inc.*, 112 FERC ¶ 61,054, at P 23 (2005) (Hearing Order).

¹² *Southern Companies Energy Marketing, Inc. and Southern Companies Services, Inc.*, 111 FERC ¶ 61,144 (2004).

¹³ Rehearing requests filed by APPA, ECRC, NRECA, Tractebel, Calpine and Shell.

Order.¹⁴

10. On May 16, 2005, Southern submitted a Motion to Strike and Response to the untimely materials filed by Calpine and Shell on April 29, 2005. Calpine and Shell filed an Answer to the Motion to Strike on May 31, 2005.

11. On July 8, 2005, the Commission issued an order establishing a trial-type evidentiary hearing¹⁵ and directing the presiding judge “to make any factual findings necessary to fully develop the record and to provide the Commission with a properly-constructed DPT on whose results the Commission can, in turn, rely.”¹⁶ Among the issues to be addressed were: “(i) the use of simultaneous import capability (SIC), rather than TTC, as the measure of transmission constraints; (ii) the performance of the pivotal supplier analysis under the economic capacity measure; (iii) the use of historical data for prices, loads, and generation, rather than projected data, (iv) the development of sensitivity analyses and the data necessary to corroborate the DPT results in compliance with the Commission’s regulations; and (v) the impact of any transmission constraints on the appropriate scope of the relevant market.”¹⁷ The Commission did not set for hearing the issue of how the results of the properly-constructed DPT should be interpreted nor whether Southern has generation market power in the Southern Control Area, choosing instead to address those matters after the initial decision and briefs on and opposing exceptions.¹⁸ On August 8, 2005, Southern filed a request for rehearing on the Hearing Order.

12. On July 13, 2005, the Chief Administrative Law Judge issued an order designating Administrative Law Judge Bobbie J. McCartney to be the Presiding Judge for the hearing established by the July 2005 Order.

13. On July 27, 2005, the Presiding Judge held the initial pre-hearing conference. On July 29, 2005, Staff filed an Unopposed Motion for an Extension of the Track II Procedural Schedule. On August 1, the Chief Judge issued an order granting the motion and adopting a procedural schedule.

14. On August 23, 2005, Southern filed an Unopposed Motion for Adoption of the Protective Order and the Presiding Judge adopted the Protective Order on

¹⁴ Southern Companies request for rehearing was dismissed as moot in an order issued on June 21, 2007. *Southern Companies Energy Marketing, Inc. and Southern Companies Services, Inc.*, 119 FERC ¶ 61,300, at P 25 (2007).

¹⁵ *Hearing Order*, 112 FERC ¶ 61,054 at Ordering Paragraph A.

¹⁶ *Id.* at P 60.

¹⁷ *Id.* at P 61.

¹⁸ *Id.* at P 60.

August 26.

15. On September 20, 2005, Southern submitted the Direct Testimony and Exhibits of Rodney Frame, Michael A. Bush and William D. McLaughlin.
16. On November 1, 2005, Calpine submitted the Direct and Answering Testimony and Exhibits of David W. DeRamus. On November 29, 2005, Calpine submitted errata to the Direct and Answering Testimony of David W. DeRamus.
17. On December 6, 2005, Staff submitted the Direct and Answering Testimony and Exhibits of James S. Ballard, Aaron P. Siskind, Allison L. Browning, and Jonathan D. Ogur.
18. On January 17, 2006, Calpine submitted a Notice of Withdrawal as a Party and of its pleadings, testimony and related materials. On January 19, 2006, Staff and Southern submitted a Joint Motion to Modify the Procedural Schedule. On January 24, 2006, Shell filed an Answer to the Joint Motion to Modify the Procedural Schedule and a Motion to Adopt the Testimony and Exhibits submitted by Calpine. On January 25, Southern filed an Unopposed Request to Suspend the Procedural Schedule. The Chief Judge issued an Order the same day granting Southern's motion requesting the two week suspension.
19. On January 27, 2006, Southern and Staff filed separate answers in response to Shell's motion to adopt Calpine's testimony and exhibits. On January 31, 2006, the Participants filed a Joint Motion to Modify the Procedural Schedule to allow the Participants to explore settlement. On February 1, 2006, the Chief Judge issued an order granting the Joint Motion to Modify the Procedural Schedule. On January 31, the Presiding Judge ruled at the pre-hearing conference that Shell could adopt the testimony and exhibits previously submitted by Calpine. In response, Shell submitted the Direct and Answering Testimony and Exhibits of David W. DeRamus on February 2.
20. On February 16, 2006, the Participants submitted a Joint Motion to Hold the Procedural Schedule in Abeyance to permit continued exploration of settlement. On the same day, the Chief Judge issued an order granting that motion. On April 27, 2006, the Participants submitted a Joint Status Report and request for maintaining the suspension. On April 28, the Chief Judge issued an order continuing the suspension of the procedural schedule. On May 26, 2006, the Participants submitted a Joint Interim Status Report on settlement discussions. On June 27, 2006, the Participants submitted a Joint Status Report and request for maintaining the suspension. On June 28, the Chief Judge issued an order continuing the suspension of the procedural schedule.

21. On August 14, 2006, the Participants filed a Joint Statement of Stipulated Issues and Joint Request to Adopt New Procedural Schedule (Joint Stipulation). The Joint Stipulation represented the culmination of the parties' settlement efforts, and identified twelve stipulated items and seven potentially disputed issues.¹⁹ The Chief Judge issued an order adopting the revised procedural schedule on August 15, 2006. On August 16, 2006, the Presiding Judge issued an order adopting the Joint Statement of Stipulated Issues.

22. On September 18, 2006, Southern submitted the Direct Testimony and Exhibits of D. Wayne Moore, Rodney Frame, and William D. McLaughlin. Southern Companies also filed a Motion to Establish a Restricted Service List. The Presiding Judge issued an order on September 21, 2006 adopting the Motion to Establish a Restricted Service List. On October 17, 2006, Southern submitted errata to portions of its Direct Testimony.

23. On October 19, 2006, Staff and Shell filed an Unopposed Motion to Modify the Procedural Schedule. On the same day, the acting Chief Judge issued an order modifying the Track II procedural schedule time standards and the Presiding Judge issued an order granting the Unopposed Motion to Modify the Procedural Schedule.

24. On November 17, 2006, Staff submitted the Direct and Answering Testimony and Exhibits of Aaron P. Siskind and James S. Ballard. On the same day, Shell submitted the Direct and Answering Testimony and Exhibits of David W. DeRamus and Songhoon Yang. On November 22, 2006, Shell submitted errata to portions of its Direct and Answering Testimony.

25. On December 5, 2006, Southern submitted a Motion to Strike portions of the Direct and Answering Testimony submitted by Staff and Shell and also requested a pre-hearing conference. On December 15, 2006 Staff and Shell filed separate answers to Southern's Motion to Strike. On December 19, 2006, the Presiding Judge issued an order scheduling oral argument on the Motion to Strike for December 21, 2006. On December 28, 2006, the Presiding Judge issued an order granting in part and denying in part Southern's Motion to Strike (December 28 Order).

26. On January 4, 2007, the Participants submitted a Joint Motion for Suspension of the Procedural Schedule. The Chief Judge granted that motion on the same day. On January 5, 2007, Southern submitted a Motion for Clarification of the December 28 Order and Shell filed a Motion for Reconsideration of the December 28 Order. On January 8, 2007, the Participants submitted a joint list of

¹⁹ Joint Stipulation, Exhibit No. J-1, at 3-6.

portions of testimony to be stricken or revised in accordance with the December 28 Order. On January 9, 2007, Southern, Staff and Shell filed separate statements of supporting rationale as to those portions of disputed testimony. On the same day the Participants submitted a Joint Response to the January 4 Order of the Chief Judge Granting the Temporary Suspension of the Procedural Schedule.

27. On January 11, 2007, Southern submitted a Response to Statements of Supporting Rationale filed by Shell and Staff. On January 12, 2007, Staff and Shell filed separate pleadings in response to Southern's January 11, 2007 Response to Statements of Supporting Rationale. On January 12, 2007, Southern filed an Answer in Opposition to Shell's Request for Reconsideration of the December 28 Order. On January 12, 2007, Shell and Staff filed Answers in Opposition to Southern's Motion for Clarification. On January 16, 2007, Southern submitted a letter to the Presiding Judge regarding Staff's and Shell's January 12 replies. On January 17, 2007, the Presiding Judge issued an order granting Shell's Motion for Reconsideration and denying Southern's Motion for Clarification.

28. On January 19, 2007, Shell and Staff submitted an e-mail to the Presiding Judge requesting clarification of the January 17 Order. On January 19, 2007, the Presiding Judge issued an order scheduling a date for the filing of answers and also scheduling oral argument for January 25, 2007. On January 22, 2007, the Participants submitted a Joint Report Pursuant to the Chief Judge's January 9th Order Revising the Procedural Schedule. On January 23, 2007, Southern filed an Answer to Shell and Staff's email to the Presiding Judge requesting clarification of the January 17 Order. On January 25, 2007, the Chief Judge issued an Order Extending the Procedural Schedule. On January 29, 2007, the Presiding Judge issued an order confirming the oral rulings made at a pre-hearing conference held January 25, 2007.

29. On January 31, 2007, Staff submitted errata to the Direct and Answering Testimony of Aaron P. Siskind.

30. On February 20, 2007, Southern submitted the Rebuttal Testimony and Exhibits of Rodney Frame, William D. McLaughlin, D. Wayne Moore, Andrew R. Sheppard and William H. Hieronymus.

31. On March 13, 2007, Staff and Shell submitted a Joint Motion to Modify the Procedural Schedule. On March 16, 2007, the Chief Judge issued an Order Modifying the Procedural Schedule.

32. On March 16, 2007, Shell submitted a Motion to Compel Production. Shell withdrew its Motion to Compel Production on March 23, 2007.

33. On April 3, 2007, Southern filed an Unopposed Motion to Modify the Procedural Schedule. The Chief Judge issued an order the same day granting the extension.
34. On April 3, 2007, Shell submitted a Motion to Compel Production. Southern filed an Answer to the Motion to Compel Production on April 6, 2007. On April 16, 2007, the Presiding Judge issued an order scheduling oral argument for April 17, 2007. The discovery dispute was resolved informally and as a result Shell withdrew its Motion to Compel Production on April 16, 2007.
35. On April 17, 2007, Southern submitted errata to portions of its Rebuttal Testimony. On April 19, 2007, the Participants submitted a Joint Motion to Modify the Procedural Schedule. On April 20, 2007, the Presiding Judge issued an Order Modifying the Procedural Schedule.
36. On May 7, 2007 Shell submitted the Surrebuttal Testimony and Exhibits of Dr. David W. DeRamus and Dr. Songhoon Yang and Staff submitted the Surrebuttal Testimony and Exhibits of James S. Ballard and Aaron P. Siskind. On May 8, 2007, Southern submitted a Motion to Modify the Procedural Schedule. On May 11, 2007, Staff and Shell submitted a Joint Answer to Southern's Motion to Modify the Procedural Schedule. On the same day, Southern submitted a Reply to the Joint Answer filed by Staff and Shell. On May 15, 2007, the Chief Judge issued an Order Granting the Motion to Modify the Procedural Schedule.
37. On May 16, 2007, Staff submitted errata to the Surrebuttal Testimony of James Ballard. On May 24, 2006, Shell submitted errata to the Surrebuttal Testimony of Dr. DeRamus and Dr. Yang. On June 19, 2007, Southern submitted errata to testimony it submitted in this proceeding.
38. On June 21, 2007, the Commission issued an Order Granting in Part and Denying in Part Rehearing of the July 8, 2005 order filed by Southern.
39. On June 22, 2007, the Participants submitted a Joint Statement of Issues. The hearing began on June 26, 2007, and concluded on July 19, 2007. There were 9 days of hearing.
40. On July 12, 2007, the Participants submitted a Joint Motion to Modify the Procedural Schedule. On the same day, the Chief Judge granted the Joint Motion to Modify the Procedural Schedule.
41. On July 17, 2007, Staff submitted a Summary of Errata to the Pre-filed Testimony and Exhibits of Aaron P. Siskind.

42. On July 23, 2007, Southern filed a Request for Clarification or Rehearing of the Commission's June 21, 2007 order. Shell filed an Answer opposing Southern's Request for Clarification on August 7, 2007.

43. On August 24, 2007, the Participants and Dalton filed Initial Briefs.

44. On September 21, 2007, the Participants and Dalton filed Initial Briefs.

ANALYTICAL FRAMEWORK

The purpose and mechanics of the Delivered Price Test (DPT)

45. As previously explained, in the December 17 Order, the Commission concluded that Southern passed both the pivotal supplier screen and the wholesale market share screen for the twelve first-tier control areas for each of the four seasons.²⁰ However, the Commission concluded that Southern's submitted screens indicated failures of the wholesale market share screen for Southern in each of the four seasons.²¹ Thus, with regard to the SCA, Southern was directed to either: (i) file a Delivered Price Test (DPT) analysis; (ii) file a tailored mitigation proposal that "would eliminate the ability to exercise market power"; or (iii) "inform the Commission that it will adopt the April 14 Order's default cost-based rates or propose other cost-based rates and submit costs support for such rates" within sixty days of the date of this order.²² Of these options, Southern elected to file a DPT analysis to support its application for market-based rates. The purpose of this proceeding is to develop a full and complete evidentiary record for the Commission on what constitutes a properly-constructed DPT upon which the Commission can rely in determining whether Southern has generation market power in the Southern Control Area.

46. The Delivered Price Test (DPT) is a well-established method, affirmed by the courts,²³ for analyzing whether an applicant has market power in electric markets which the Commission has long used in merger applications. More recently, as in the instant proceeding, the Commission has used the DPT for analyzing whether an applicant has market power in market-based rate (MBR) applications.²⁴ Staff provides a useful summary of the history and mechanics of

²⁰ *December 17 Order*, 109 FERC ¶ 61,275 at P 30.

²¹ *Id.* at P 31.

²² *Id.* at P 35.

²³ *See, e.g., Wabash Valley Power Associates, Inc. v. FERC*, 268 F.3d 1105 (D.C. Cir. 2001).

²⁴ *Inquiry Concerning the Commission's Merger Policy Under the Federal Power Act: Policy Statement*, Order No. 592, 61 Fed. Reg. 68,595 (1996), FERC Stats. &

the DPT in its Initial Brief which is hereby adopted by the undersigned.

47. The Commission first addressed the three-year market-based rate review submitted by, among others, Southern in an order issued November 20, 2001 (*SMA Order*).²⁵ In that order, the Commission announced a new generation market power test, the Supply Margin Assessment (SMA), which was to be applied on an interim basis in analyzing the market-based rate applications pending a generic review of new methods for comprehensively analyzing market power.

48. In *AEP I*, issued April 14, 2004, the Commission replaced the SMA test with two initial screens for assessing generation market power.²⁶ The Commission adopted a pivotal supplier analysis and a market share analysis and treated both screens as an indicative, rather than a definitive, determination of generation market power. Passage of both screens establishes a rebuttable presumption that the applicant does not possess generation market power. However, if the applicant fails either screen, it creates a rebuttable presumption that the applicant does have market power. An applicant could, however, overcome that presumption of market power by submitting a DPT and supporting historical data in accordance with the guidelines set forth in its order and appendices.²⁷

49. The purpose of the DPT is to measure the applicant's total "capacity to make wholesale sales at given market price levels applicable during ten well-defined seasons/load periods."²⁸ The DPT identifies all generation capacity that can be supplied to a market at a price equal to or less than 105% of the market price. Further, as noted by the Commission, the DPT applies not only to peak and off-peak periods, but also to non-firm energy, short-term firm energy (or capacity), and long-term capacity products.²⁹ For purposes of market-based rate

Regs., Regulations Preambles July 1996 – December 2000 P 31,044 (1996), *reconsideration denied*, Order No. 592-A, 62 Fed. Reg. 33,341 (1997), 79 FERC ¶ 61, 321 (1997) (Merger Policy Statement); *see also Revised Filing Requirements Under Part 33 of the Commission's Regulations*, Order No. 642, 65 Fed. Reg. 70,984 (2000), FERC Stats. & Regs., Regulations Preambles July 1996- December 2000 P 31,111 (2000), *order on reh'g*, Order No. 642-A, 66 Fed. Reg. 16,121 (2001), 94 FERC ¶ 61,289 (2001).

²⁵ *AEP Power Marketing, Inc. et al.*, 97 FERC ¶ 61,219 (2001) (*SMA Order*).

²⁶ *AEP I*, 107 FERC ¶ 61,018 at P 77-86.

²⁷ *Id.* at P 37.

²⁸ Shell IB at 147.

²⁹ *Revised Filing Requirements Under Part 33 of the Commission's Regulations*, Order No. 642, FERC Stats. & Regs. ¶ 31,111 at P. 31,882 (2000), 93 FERC ¶ 61,164, *order on reh'g*, Order No. 642-A, 94 FERC ¶ 61,289 (2001) (*Order No.*

applications, the Commission has specified that the DPT should be implemented using the pivotal supplier, market share, and market concentration (HHI) measures.³⁰ An applicant fails the DPT using the pivotal supplier measure if wholesale load cannot be covered by competing suppliers. An applicant fails the market share measure of the DPT if the applicant's market share is above 20%. An applicant fails the market concentration measure of the DPT if the HHI is above 2,500.³¹

50. The DPT is implemented using two alternative measures of generation capacity: Economic Capacity (EC) and Available Economic Capacity (AEC). EC is defined as physically deliverable capacity with a price less than 105% of the market price, while AEC is defined as EC less native load and contractually committed capacity. The Commission weighs both EC and AEC results in assessing whether an applicant has generation market power.³²

51. In Southern's case the results under the EC prong of the DPT are incontrovertible. Southern's economic capacity DPT analysis shows that it is a "Pivotal Supplier in every DPT period and that [it's] market share ranges from 54.1 percent to 70.2 percent, and the SCA HHI ranges from 3,089 to 5,042."³³ Staff's results from the economic capacity prong of the DPT study track Southern's, finding "that Southern is a Pivotal Supplier in every DPT period and Southern's market share ranges from 58.5 percent to 70.9 percent, and the SCA HHI ranges from 3,577 to 5,144."³⁴ Thus, Southern's own analysis confirms that Southern fails the DPT for all season/load conditions using the EC form of the DPT, regardless of which specific measure is used (i.e., pivotal supplier, market share, and market concentration test).

52. In sharp contrast, according to Mr. Frame's testimony, Southern passes the Available Economic Capacity (AEC) form of the DPT, regardless of which specific measure is used, at least with regard to short-term non-firm energy products. However, expert witnesses presented by Staff and Shell Trading strongly urge that the DPT analysis presented by Mr. Frame on behalf of Southern is fatally flawed. These expert witnesses maintain that corrections to Mr. Frame's

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³⁰ The Hirschman-Herfindahl Index (HHI) is the sum of the squared market shares. For example, in a market with four equal size firms, each would have a 25 percent market share. For that market, $HHI = (25)^2 + (25)^2 + (25)^2 + (25)^2 = 625 + 625 + 625 + 625 = 2,500$.

³¹ For merger applications, the relevant HHI threshold is 1,800.

³² June 21, 2007 Commission Order on Rehearing

³³ Staff IB at 96.

³⁴ *Id.*

flawed analysis show that Southern fails not only the EC measure of the DPT, but it also fails the AEC measure of the DPT in a significant number of periods. Moreover, these expert witnesses offer their own versions of a properly constructed DPT analysis, as well as various sensitivity analyses in support of their position, which they maintain show a significantly greater number of DPT failures than reflected by Mr. Frame's findings.

53. Because Southern's own analysis confirms that Southern fails the DPT for all season/load conditions using the EC form of the DPT, regardless of which specific measure is used (i.e., pivotal supplier, market share, and market concentration test), the issues in this proceeding have focused on the AEC prong of the DPT. Particular attention has been paid to the appropriateness of Southern's AEC DPT analysis for short-term, non-firm energy products for each specific measure of the DPT required by the Commission (i.e., pivotal supplier, market share, and market concentration test) for the ten DPT season/load periods at issue. Moreover, as more fully discussed under Section VII, which is specifically devoted to this issue, both Southern and Staff have demonstrated that Southern passes the AEC pivotal supplier analysis in all ten season/load periods. Shell's AEC pivotal supplier analysis indicated a different result, but the undersigned has rejected that analysis as inconsistent with historical practices and Commission precedent.³⁵ Accordingly, the undersigned primarily focuses on Southern's AEC DPT analysis for the market share and market concentration measures of the DPT for the ten DPT season/load periods.

54. The mechanics of how to perform a properly-constructed DPT are set forth in Appendix F of *AEP I*. The Commission has provided further clarification in Appendix A of the Merger Policy Statement (Order No. 592),³⁶ and in Order No. 642³⁷ which sets forth the Revised Filing Requirements under Part 33 of the Commission's regulations. In addition, the Commission has issued a number of orders clarifying the essential elements of what constitutes a properly-constructed DPT, including most recently in its Final Rule issued June 21, 2007 (Order No. 697).³⁸

³⁵ See SCS-32, p. 52, line 23 through p. 53, line 5; see also SCS-15; S-29, pp. 9-11 & S-12.

³⁶ Inquiry Concerning the Commission's Merger Policy Under the Federal Power Act: Policy Statement, Order No. 592, December 18, 1996, Docket No. RM96-6, 18 C.F.R. 2.

³⁷ Order No. 642, FERC Stats. & Regs. ¶ 31,111 (2000), *order on reh'g*, Order No. 642-A, 94 FERC ¶ 61,289 (2001).

³⁸ Market-Based Rates For Wholesale Sales Of Electric Energy, Capacity And Ancillary Services by Public Utilities, 119 FERC ¶ 61,295 (2007).

55. A step-by-step description of how to perform a reliable DPT analysis is provided in Appendix F of the Commission's April 14, 2004 Order,³⁹ and the Commission refers further to Appendix A of its Merger Policy Statement and Order No. 642 for a complete description of the DPT and its requirements. In its July 8, 2005 Deficiency Order, the Commission further clarified the essential elements of a properly constructed DPT on which the Commission can rely. Appendix F of the Commission's April 14 Order identifies the five basic steps that are necessary in order to perform a proper DPT analysis. The first step is to identify a destination market, which in this proceeding is the Southern Control Area (SCA). The second step is to use the season/load levels to analyze: Super-Peak, Peak, and Off-Peak, for the winter, shoulder and summer periods, and an extreme Summer Peak, for a total of ten season/load levels. The third step is to identify a market price to correspond to each season/load period. In this proceeding, the parties agreed, for settlement purposes, to use system lambda as the proxy for market price in the Base Case short-term, non-firm DPT. The fourth step is to identify the suppliers that could sell into the destination market at a price less than or equal to 5 percent over the market price. The final step is to allocate the available transmission capability among sellers who are able economically to deliver power to the SCA.

The purpose and mechanics of the Simultaneous Import Capability (SIC)

56. One of the most hotly contested issues in this proceeding is the proper quantification of Simultaneous Import Capability (SIC) into the Southern Control area for the agreed upon test year of 2004 because it is a critical component of the DPT analysis assessing generation market power. SIC is one of the most important factors in assessing whether generation market power exists because it accounts for competing supply. As Staff explains in its Initial Brief,⁴⁰ the Commission's thinking regarding how to properly account for this competing supply has evolved over time. In the *SMA* Order, the Commission adopted Total Transmission Capability (TTCs) as "the upper limit for transmission access between control areas."⁴¹ The use of TTC was considered "a point of reference to establish the maximum amount of uncommitted supply, even though this amount of generation could not be simultaneously imported into the applicant's control area."⁴² In other words, the TTC values were used as a "simplifying assumption" for the upper limit for transmission access and issues concerning limits on import capability were to be addressed on a case-by-case basis.

³⁹ 107 FERC ¶ 61,018 (2004) (April 14 Order).

⁴⁰ Staff IB at P 22.

⁴¹ *AEP I*, 107 FERC ¶ 61,018, at P 80.

⁴² *Id.*

57. In *AEP I*, the Commission concluded that rather than “continuing to assume an unrealistically high degree of transmission access for competitors,” the Commission would adopt “a more realistic measure for such import capability.” Thus, in lieu of relying on the TTC as an upper limit for its DPT analysis, the Commission required a transmission-providing utility seeking to obtain or retain market-based rate authority to conduct SIC studies for its home control areas and for each of its interconnected first-tier control areas, in accordance with the guidelines set forth in its attached Appendix E.⁴³

58. Appendix E of the Commission’s *AEP I* Order generally describes how to conduct SIC studies. The following paragraphs provide a brief summary of the germane portions of that Order.

59. First, the SIC for the transmission provider’s control area is “a total transfer capability calculation that estimates the simultaneous imports that *could have historically been utilized* by remote resources.”⁴⁴ Since the TTC values were historically posted on Southern’s OASIS and represent what was made available to the market, Staff is correct in asserting that a properly-calculated SIC analysis should not result in values that exceed those posted TTC values.

60. Second, “the import capability calculations consider both the transmission provider’s tariff as a basis and the transmission reliability margins existing on the applicant’s flow gates during each seasonal peak being studied.”⁴⁵ Appendix E goes on to explain that the “power flow cases should represent the [Transmission Provider’s] tariff provisions, the operational practices historically used, all reliability margins (TRM, CBM, counter-flow, generating operating limits, operating reserves) existing during each peak, and all firm/network reservations held by applicant/affiliate resources during the most recent seasonal peaks.”⁴⁶ In other words, as correctly stated by Staff, the proper power flow cases and the criteria, methodology and procedures that should be used are those that were historically used to derive the OASIS posted TTC values during the study period.

61. Third, the applicant is required to treat its control area as a single area and also the first-tier markets as a single area.⁴⁷

62. Fourth, “the applicant shall scale up available generation in the exporting

⁴³ *AEP I*, 107 FERC ¶ 61,018, at P 84.

⁴⁴ *AEP I*, 107 FERC ¶ 61,018, Appendix E at 61,086 [Emphasis added].

⁴⁵ *Id.* at 61,086.

⁴⁶ *Id.*

⁴⁷ *Id.*

(aggregated first-tier areas) and scale down the study area resources according to the same methods used historically in assessing available transmission for non-affiliate resources.”⁴⁸

63. The Commission further clarified these guidelines in its issuance of subsequent orders and most recently in Order No. 697 where it affirmed the use of an Appendix E SIC analysis for the purpose of determining simultaneous import capability for the DPT:

The Commission reaffirms that the [SIC] study is “intended to provide a *reasonable simulation of historical conditions*” and is not “a theoretical maximum import capability or best import case scenario.” To determine the amount of transfer capability under the [SIC] study, “historical operating conditions and practices of the applicable transmission provider (e.g., modeling the system in a reliable and economic fashion as it would have been operated in real time) are reflected.” In addition, the “analysis *should not deviate from*” and “*must reasonably reflect*” its *OASIS operating practices* and “the techniques used must have been historically available to customers.”⁴⁹

64. Thus, the Commission has consistently maintained that the SIC study should comport with actual dispatch and operating conditions.⁵⁰ Order No. 697 specifically reiterated that the SIC is “intended to provide a reasonable simulation of historical conditions.” Also, Order No. 697 clarified that where a transmission provider’s historical practices conflict with the instructions in Appendix E, the transmission provider should follow its historical practices.⁵¹ Accordingly, consistent with Commission precedent, the undersigned has attempted to look first to Southern’s actual dispatch and operating conditions and to Southern’s historical practices in the analysis of the issues addressed in this decision. Likewise, the Commission’s well established preference for use of actual data, including historic trade data, when available, is also reflected in the analysis of the issues addressed in this decision.

⁴⁸ *Id.* at 61,087.

⁴⁹ *Order No. 697*, 119 FERC ¶ 61,295, at P 463 (2007) (Citations omitted) (Emphasis added).

⁵⁰ *Pinnacle West Capital Corp.*, 117 FERC ¶ 61,316 at P 6 (2006) (*Pinnacle West II*).

⁵¹ *Order No. 697*, 119 FERC ¶ 61,295 at P 356.

ISSUES

I. *Dr. Yang's qualifications as an expert witness**Summary of Parties' Positions*

65. Southern is challenging Dr. Yang's qualifications to provide the Presiding Judge with expert testimony about the construction of a proper SIC analysis. Though Southern recognizes Dr. Yang's impressive list of academic credentials, it claims that his education and list of achievements are not related to his testimony about the proper calculation of SIC, which requires some expertise in engineering. Shell first claims that this motion is untimely and thus, time-barred. Shell then argues that Dr. Yang is qualified to testify about Southern's compliance with the Commission's regulations and orders, which only requires knowledge of that precedent.

Position of the Parties

Southern

The Appendix E Study is an Engineering Exercise, and Shell has not Established Dr. Yang's Expertise in the Field.

66. In its Initial Brief, Southern challenges Dr. Yang's qualifications as an expert witness, claiming that Shell has failed to lay the requisite foundation for his expertise.⁵² Rule 702 of the Federal Rules of Evidence expressly recognizes five bases for qualifying an expert: "knowledge, skill, experience, training, or education."⁵³ Southern asserts that the "Appendix E study is absolutely a question of engineering" because it analyzes "transfer limits, power flow cases, counter flows, generating operating limits, contingency facilities, thermal limits, voltage limits, load conditions and other related metrics to determine the capability of a transmission system to import bulk power."⁵⁴ According to Southern, Shell presented Dr. Yang's impressive credentials in the field of High Energy Physics, but it failed to provide the court with a connection between this "highly-specialized" field and the "subject matter of his testimony[.]" which is the calculation of Simultaneous Import Capability.⁵⁵

⁵² Southern Initial Brief at 55 (hereinafter "SCS IB").

⁵³ *Id.* at 56 (quoting FED. R. EVID. 702).

⁵⁴ *Id.* at 58.

⁵⁵ *Id.* at 55.

Dr. Yang's Testimony is Based on Inadequate Research and Reflects Only a Lay Opinion on the Matter.

67. Southern claims that Dr. Yang simply ran the relevant software, which is an ordinary achievement that does not qualify him to give this court expert testimony on “the highly technical issues presented by the transmission studies” required for the SIC study.⁵⁶ If software proficiency is all that is required to qualify as an expert, then a witness’ expertise is only limited by his access to specialty software.⁵⁷ Southern anecdotally challenges this position, claiming that even engineers “reach incorrect conclusions based on the most-up-to-date software used to model transmission system conditions.”⁵⁸ Therefore, Southern argues that “Dr. Yang’s testimony should not be cloaked with ‘expert’ status without any such showing and a proper foundation laid by Shell Trading regarding Dr. Yang’s *relevant* qualifications and an affirmative finding of such by the Presiding Judge.”⁵⁹ Until then, Southern concludes that Dr. Yang’s testimony should be given little weight.⁶⁰

Shell

Southern's Challenge to Dr. Yang's Expertise is Untimely.

68. First, Shell argues that Southern’s challenge to Dr. Yang’s expertise is untimely.⁶¹ Shell notes that Dr. Yang “first submitted testimony (which included his résumé) in November of 2006.”⁶² Furthermore, Dr. Yang responded to discovery requests for seven months after that first submittal, “filed surrebuttal testimony, and sat for a lengthy deposition.”⁶³ Shell argues that Southern should have raised any concerns regarding Dr. Yang’s expertise long before now, and this belated attack is an attempt to sandbag the parties.⁶⁴

Dr. Yang is Qualified to Testify about Southern's Compliance with Commission Precedent.

69. Second, Shell disagrees with Southern’s claim that Dr. Yang is not

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.* at 56.

⁶⁰ *See id.* at 57.

⁶¹ *See* Shell Reply Brief at 37 (hereinafter “Shell RB”).

⁶² *Id.*

⁶³ *Id.*

⁶⁴ *Id.* at 37-38.

qualified to provide expert testimony.⁶⁵ “In Southern’s view, if a witness is not ‘of’ the utility community, he or she is not qualified to speak about the utility community, its systems, or its practices in the context of an Appendix E analysis.”⁶⁶ Shell flatly rejects this assertion, arguing that the application of the “Commission’s SIC guidance to utility systems like Southern’s []” does not require engineering education or experience.⁶⁷ According to Shell, the SIC analysis “is a backward-looking analysis that applies well-known regulatory policies and principles established by the Commission, together with historical practices and system conditions, to identify the level of power that could have been imported into a target control area during the particular period under review.”⁶⁸ It is not “an engineering exercise.”⁶⁹

70. Under that standard, Shell contends that Dr. Yang is clearly qualified.⁷⁰ According to Shell, “Dr. Yang has reviewed every significant post-AEP I Commission precedent involving the application of Appendix E[.]”⁷¹ Furthermore, “Dr. Yang has either worked on or reviewed numerous SIC analyses prior to this proceeding[.]”⁷² In fact, Shell maintains that there has not been any real dispute regarding engineering matters because “Dr. Yang has routinely accepted all engineering-related information, such as power flow models, provided by Southern.”⁷³ Therefore, “Dr. Yang is more than fully qualified to provide expert testimony in this proceeding.”⁷⁴

Commission Precedent Does not Require the Presiding Judge to Afford Little Weight to Dr. Yang’s Testimony, Regardless of his Engineering Qualifications.

71. Shell also claims that Southern has misguided the court on the controlling precedent regarding expert testimony.⁷⁵ According to Southern, “*Entergy Energy Services, Inc.*, 109 FERC ¶ 61,108 (2004) (*Entergy*) [stands] for the proposition that a Presiding Judge may afford little weight to the testimony of an unqualified

⁶⁵ *Id.* at 38.

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Id.* at 38-39.

⁶⁹ *Id.* at 39.

⁷⁰ *See id.*

⁷¹ *Id.*

⁷² *Id.*

⁷³ *Id.*

⁷⁴ *Id.* at 40.

⁷⁵ *See id.* at 41.

expert witness.”⁷⁶ According to Shell, “*Entergy* concerned whether a Staff witness with no experience overseeing or participating in a Request For Proposals (RFP) process could provide expert testimony regarding whether a particular RFP process had complied with the Commission’s directives and guidance on affiliate abuse.”⁷⁷ Though Southern was correct that the Presiding Judge gave no weight to the witnesses testimony due to her lack of expertise, it failed to mention that a later Commission order in the same case *overturned* this decision holding that the witness’ lack of expertise was “not relevant to her ability to compare Entergy’s RFP process with the criteria enunciated by the Commission and evaluate whether Entergy complied with the Commission’s directives and guidance on affiliate abuse.”⁷⁸

72. Similarly, Dr. Yang’s testimony concerns the application of firmly established Commission regulations and orders which instruct applicants in the performance of Appendix E SIC analyses.⁷⁹ His testimony does not relate to the propriety of Southern’s current engineering procedures or models.⁸⁰ Therefore, despite Southern’s arguments to the contrary, Shell concludes that “Dr. Yang’s SIC testimony is entitled to full evidentiary weight.”⁸¹

Discussion and Findings

73. Southern’s belated challenge to Dr. Yang’s qualifications as an expert witness, claiming that Shell has failed to lay the requisite foundation for his expertise, is a red herring in this proceeding which must be rejected.⁸² Shell is correct in observing that Southern should have raised any concerns regarding Dr. Yang’s expertise “long before now, rather than waiting until the briefing stage to sandbag the parties with such a challenge.”⁸³ Furthermore, and more importantly, Shell is correct in asserting that Dr. Yang’s testimony concerns the application of firmly established Commission regulations and orders which instruct applicants in the performance of Appendix E SIC analyses and that Dr. Yang is fully qualified to provide expert testimony on that issue in this proceeding.⁸⁴ The record in this proceeding, including a review of Dr. Yang’s academic and professional qualifications, a review of the subject matter and supporting analysis of Dr.

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Id.* (quoting *Entergy Services, Inc.*, 116 FERC ¶ 61,296, at P 153 (2006)).

⁷⁹ *See id.* at 42.

⁸⁰ *See id.*

⁸¹ *Id.*

⁸² *See* SCS IB at 55.

⁸³ Shell RB at 37-38.

⁸⁴ *See id.* at 42.

Yang's pre-filed testimony, and a review of Dr. Yang's expert witness opinion testimony, provide ample support for the conclusion that Dr. Yang is fully qualified to provide expert testimony in this proceeding; accordingly, his testimony will be given full consideration by the undersigned in the resolution of the issues before me for adjudication.

II. Quantification of simultaneous import capability into the Southern Control Area for calendar year 2004

What is the proper power flow base case for the calculation of SIC?

Summary of Parties' Positions

74. The parties disagree about which power flow case is the best or required to be used in the SIC analysis. Southern contends that its 2004 Transmission Planning Base Cases should be used because they are the most complete sets of data and because they were the ones used in the ordinary course of business to assess reliability and evaluate transmission services. By contrast, Shell and Staff claim that the Commission requires Southern to use the same power flow cases that it used in the posting of TTC values to OASIS, and that Southern's 2004 Transmission Planning Base Cases are not those cases. As such Southern's SIC analysis is flawed.

Positions of the Parties

Southern

Why the 2004 Transmission Planning Base Case is the Proper Power Flow Case for the SIC.

75. Southern argues that the appropriate power flow base case is the 2004 Transmission Planning Base Case because it was the one that Southern used in the ordinary course of business for the planning and evaluation of transmission service requests.⁸⁵ Southern further argues that the 2004 Transmission Planning Base Case reflects the most current complete set of information that projects the conditions of the system in 2004, and it was "the power flow cases actually used by Southern companies to assess reliability and evaluate transmission service."⁸⁶ Finally, Southern chose the 2004 Transmission Planning Base Cases because they required only minimal adjustments "to scale generation and load to conform to the

⁸⁵ SCS IB at 38.

⁸⁶ *Id.* at 39.

requirements of a DPT analysis.”⁸⁷

Why the 2003-11 Power Flow Cases Used by Shell are not Appropriate for the SIC analyses.

76. In contrast, Southern claims that Shell’s reliance on the power flow cases labeled “2003-11” was misplaced and corrupts Shell’s SIC calculation.⁸⁸ First, these 2003-11 power flow cases “were prepared in the fall of 2003 based on estimates of system conditions for 2004.”⁸⁹ Furthermore, these power flow cases were superseded by the later power flow cases used by Southern, and as they became outdated they were no longer used for posting TTC values on OASIS.⁹⁰ According to Southern, Shell chose these cases solely because they were the only set of “forecasted system condition for each month” in 2004.⁹¹ They are not the most accurate report of system conditions in 2004.⁹²

Commission Precedent Does Not Limit Proper Power Flow Cases to Those That Were Used to Post TTC Values.

77. Southern also maintains that Shell and Staff cannot find a deficiency in the “nuts and bolts” of its power flow cases, which leaves them claiming that “Appendix E excludes entire categories of historically accurate power flow cases and limits allowable studies to only a handful that were prepared for certain narrow purposes.”⁹³ Southern claims that this argument has no merit because the plain language of Appendix E refers to the “elements” of a power flow case and not its “purpose.”⁹⁴ Specifically, Appendix E states that “[t]he power flow cases should represent the [Transmission providers] tariff provisions, the operational practices historically used, all reliability margins (TRM, CBM, counter flow, generation operating limits, operating reserves) existing during peak, and all firm/network reservations held by applicant/affiliate during the most recent seasonal peaks.”⁹⁵ Therefore, to limit the power flow cases to those used to calculate TTC’s for the study year would ignore the other historical factors that Appendix E instructs the applicant to reflect in the power flow cases.⁹⁶

⁸⁷ *Id.*

⁸⁸ *Id.* at 39–40.

⁸⁹ *Id.* at 39.

⁹⁰ *Id.* at 39 – 40.

⁹¹ *Id.*

⁹² *See id.*

⁹³ *Id.* at 41.

⁹⁴ *Id.*

⁹⁵ *Id.* (quoting *AEP I*, 107 FERC ¶ 61,018 at P 90).

⁹⁶ *See id.*

Shell

Southern's Power Flow Cases are not the Ones That Were Used to Post TTC values to OASIS.

78. Shell claims that Southern's 2004 SIC power flow cases clearly are not the ones that Southern "historically used in estimating the short-term (*e.g.*, monthly) TTC values posted to its OASIS."⁹⁷ In fact, Southern admits that its power flow cases were the ones used to evaluate transmission reliability and service and to assess the system's ability "to meet NERC reliability requirements[,] a description that conspicuously lacks any mention of the calculation of TTC values."⁹⁸ Finally, Shell notes that Southern's power flow cases are not among those that Southern provided to demonstrate the basis for their 2004 TTC values.⁹⁹

Southern's Failure to use the TTC Power Flow Cases Departs from Commission Precedent and Logic.

79. Shell then asserts that Southern's failure to use the power flow cases used to calculate the TTC values posted to OASIS "departs from Appendix E and related Commission guidance."¹⁰⁰ According to Shell, Appendix E requires that SIC "be calculated using the procedures and power flow cases that Southern . . . used in the past to calculate total transmission capability."¹⁰¹ Furthermore, restricting power flow cases to those used to calculate TTC makes logical sense because the purpose of the SIC study is to estimate the amount of imports that historically could have been utilized by remote resources and the limit on these imports is the posted TTC values.¹⁰²

80. Shell then refutes Southern's justification for not using the TTC power flow cases.¹⁰³ According to Southern, "the DPT measures market concentration in peak and off-peak periods," leaving "no basis for artificially restricting an SIC study to only those base power flow cases that were used to calculate posted monthly TTC values."¹⁰⁴ Shell maintains that plenty of Commission precedent after Appendix E has clearly indicated that the SIC should "account for the actual practice of posting

⁹⁷ *Id.* at 61.

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ Shell IB at 60.

¹⁰¹ *Id.* at 60 – 61.

¹⁰² *See id.* at 61.

¹⁰³ Shell RB at 9.

¹⁰⁴ *Id.* at 10 (quoting SCS IB at 45).

ATC to OASIS[.]”¹⁰⁵ Southern ignored this precedent when it chose power flow cases based on their ability to be scaled to calculate power flow cases to match the ten DPT periods.¹⁰⁶ These scaled power flow cases have *no* relationship to the ones used to post TTC values to OASIS, and as such are not the ones required by the Commission.¹⁰⁷

81. Finally, Shell dismisses Southern’s claim that its power flow cases conform to the purpose of the DPT because they are the “most accurate” available.¹⁰⁸ Based on what Southern provided in discovery, the power flow cases used by Shell are the most recently updated set that were used to post TTC values on OASIS.¹⁰⁹ Given that Shell is limited by the information provided by Southern, it believes these to be the most accurate and up-to-date power flow cases that conform to Commission Precedent.¹¹⁰

Staff

The Commission Requires Southern to Use the Power Flow Cases That Were Used to Post TTC values to OASIS.

82. Staff disagrees with Southern’s use of the 2004 Transmission Planning Base Cases because it is counter to the Commission’s instructions, but it supports Shell’s use of the 2004 TTC power flow cases.¹¹¹ In Appendix E, the Commission instructed applicants that “[t]he power flow cases should represent the [Transmission Provider’s] tariff provisions” and “*the operational practices historically used . . . during each peak . . .*”¹¹² Furthermore, in *Pinnacle West* “the Commission specifically rejected Pinnacle’s SIC study because it was inconsistent with how Pinnacle actually operated its system[,]” explaining that the applicant’s SIC methodology should incorporate the practices used to post TTC values to OASIS as opposed to systematic impact studies.¹¹³ Finally, Shell claims that Order No. 697 requires the SIC study to “account for the actual practice of posting

¹⁰⁵ *Id.* (quoting *Pinnacle West Capital Corp.*, 117 FERC ¶ 61,316, at P 6 n.15 (2006) (*Pinnacle West II*) & *Market-Based Rates For Wholesale Sales Of Electric Energy, Capacity And Ancillary Services by Public Utilities*, 119 FERC ¶ 61,295 at P 354, 356 (2007) (*Order No. 697*)).

¹⁰⁶ *See id.*

¹⁰⁷ *See id.*

¹⁰⁸ *Id.* at 11.

¹⁰⁹ *See id.*

¹¹⁰ *See id.*

¹¹¹ Staff Initial Brief at 40 – 41 (hereinafter “Staff’s IB”).

¹¹² *Id.* at 40 (quoting *AEP I*, 107 FERC ¶ 61,018 at P 90) (alteration in original).

¹¹³ *See* Staff Reply Brief at 4 (hereinafter “Staff RB”).

ATC to OASIS in order to capture *a realistic approximation of first-tier generation access* to the seller's market."¹¹⁴ Therefore, the Commission clearly requires applicants to use of the power flow cases that were used to calculate the TTCs posted on OASIS.¹¹⁵

The Power Flow Cases Used by Southern are not the Ones That Were Used to Post TTC Values to OASIS in 2004, but the Ones Used by Shell Were.

Staff then asserts that "Southern's 2004 transmission *planning* power flow cases are *not* the same power flow cases that Southern has historically used for calculating its monthly OASIS posted TTCs."¹¹⁶ In fact, these power flow cases were used to plan expansions and to assess the system's ability to respond to service requests,¹¹⁷ which are not the same issues reflected in the TTC power flow cases.¹¹⁸

83. By contrast, Staff supports Shell's SIC analysis, which uses the "monthly power flow cases that were provided by Southern" and confirmed to be the power flow cases used to calculate the monthly OASIS posted TTC values.¹¹⁹ Despite Southern's claims that Shell's power flow cases are outdated and unrepresentative of system conditions, those power flow cases *were* the ones used to calculate TTC values posted to OASIS, and under Appendix E, should have been used to calculate SIC.¹²⁰

Discussion and Findings

84. For the reasons discussed more fully herein below, the undersigned concurs with the position advocated by Shell and Staff in this proceeding that Southern is required to use the power flow cases that were used to calculate the monthly TTC values posted to OASIS, which are not the 2004 Transmission Planning Base Case used by Southern for its SIC analysis in this docket.

85. Southern's argument that the appropriate power flow base case to be used for the SIC analysis in this docket is the 2004 Transmission Planning Base Case because it was the one used by Southern "in the ordinary course of business for

¹¹⁴ *Id.* (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 356) (alteration in original).

¹¹⁵ *See id.*

¹¹⁶ Staff IB at 40.

¹¹⁷ *See id.*

¹¹⁸ *See* Staff RB at 6.

¹¹⁹ Staff IB at 41.

¹²⁰ *Id.* at 41 – 42.

planning and for evaluating transmission service requests,”¹²¹ departs from Southern’s own historical practices and completely ignores well established Commission precedent on this issue. In Appendix E, the Commission instructed applicants that “[t]he power flow cases should represent the [Transmission Provider’s] tariff provisions” and “*the operational practices historically used . . . during each peak . . .*”¹²² Furthermore, as correctly argued by Staff throughout this proceeding, Commission precedent on this issue as discussed in *Pinnacle West* clearly reflects “that the SIC study should be based on the transmission provider’s ‘actual ATC posting practices and not on system impact studies . . . which are not based on same-day operations.’”¹²³

86. Southern does not dispute that its 2004 transmission *planning* power flow cases are *not* the same power flow cases that it has historically used for calculating its monthly OASIS posted TTCs, but rather acknowledges that its 2004 transmission *planning* power flow cases were used to assess reliability and evaluate transmission service requests.¹²⁴ As Staff has amply demonstrated, these are not the same concerns addressed by power flow cases used to calculate TTC values or the same concerns addressed by the SIC study.¹²⁵ The purpose of the SIC study is to estimate “the simultaneous imports that could have historically been utilized by remote resources” and “the *maximum* imports that could have historically been utilized by remote resources are the posted TTC values[.]”¹²⁶

87. Shell’s use of the 2004 TTC power flow cases, which is fully supported by Staff,¹²⁷ provides the Commission with the only power flow analysis in this record which utilizes the procedures and power flow cases that Southern has historically used to calculate total transmission capability.¹²⁸ Shell utilized the most recently updated set of power flow cases provided by Southern that were used to post TTC values to OASIS.¹²⁹ Because Southern’s use of the 2004 Transmission Planning Base Case is flawed and inconsistent with established Commission precedent, the 2004 TTC power flow cases offered by Shell provides the best information available in this record with which to calculate SIC.¹³⁰

¹²¹ SCS IB at 38.

¹²² Shell IB at 40 (quoting *AEP I*, 107 FERC ¶ 61,018 at P 90) (alteration in original).

¹²³ Staff RB at 4 (quoting *Pinnacle West II*, 117 FERC ¶ 61,316 at P 6 n.15).

¹²⁴ SCS IB at 38 – 39.

¹²⁵ See Staff RB at 6.

¹²⁶ Shell IB at 61.

¹²⁷ Staff IB at 40 – 41.

¹²⁸ Shell IB at 60 – 61.

¹²⁹ See Shell RB at 11.

¹³⁰ Staff IB at 41 – 42.

Scaling Power Flow Cases for Each of the 10 DPT Periods

Summary of Parties' Positions

88. Southern asserts that the SIC must be calculated for each of the ten DPT periods, using the time appropriate power flow cases, as opposed to using of seasonal SIC averages. Southern claims that the seasonally averaged SIC values distort the system conditions existing at different times during the season, which the ten DPT values are supposed to represent. According to Shell, the Commission does not require the scaling of power flow cases to match the ten DPT periods, but it does require the calculation of the amount of supply that can be imported into the study area during the seasonal peaks. Additionally, Southern's decision to use power flow cases that can be adjusted to reflect the ten DPT periods ignores the Commission's requirement that they be the same power flow cases used to calculate monthly TTC values posted to OASIS. Staff agrees with Shell's criticisms, but it also argues that Southern inconsistently applied its scaling methodology and should have scaled the power flow cases for all of the control areas that were electrically connected to the first-tier control areas through alternating current interties.

Positions of the Parties

Southern

Logically, the Power Flow Cases Should be Scaled to the Ten DPT Periods.

89. Southern argues that the SIC study should correspond to the ten DPT periods because “[m]atching system conditions with the time period being studied is essential to a correct measurement of import capability for a given period.”¹³¹ Southern further explains:

90. It is important to note that each base case is a representation of a specific set of assumed system conditions at a particular time. Thus, for example, a base case representing a peak summer day is different from base cases representing a peak winter day or an off-peak summer day. This is because the prevailing load levels, generation, and other system conditions will be different in these study periods. As such, it is generally inappropriate (if not meaningless) to attempt to compare case results unless they are predicated on the same set of assumptions.¹³²

¹³¹ SCS IB at 42.

¹³² *Id.* (quoting SCS-23, at 8-9).

91. Furthermore, Southern claims that its “matching system” is “consistent with industry practice for transfer analyses.”¹³³ Southern asserts that failing to match system conditions with the period studied will lead to “inaccurate results” because transmission studies, like the SIC, are highly sensitive to the underlying system conditions.¹³⁴ If the SIC is intended to measure the amount of power that may be imported into a given control area, then modeling assumptions and data inputs about the system conditions that regulate the flow of that power will substantially influence the results of that study.¹³⁵

Shell’s Failure to Scale the Power Flow Cases Inappropriately Distorts Their DPT Results, Making Them Unreliable.

92. Thus, Southern claims that Shell’s SIC is flawed because it only calculates three seasonal peak averages, incorrectly assuming that these peak averaged values accurately reflect the SIC for each of the ten DPT periods.¹³⁶ Shell’s assumption ignores the fact that “those load levels include both peak and off-peak system conditions.”¹³⁷ In fact, Southern claims “that the load forecasts relied on by Shell Trading exceed the actual monthly peak load values in seven months for 2004[,]” which naturally distorts the dependent SIC values.¹³⁸

93. Southern claims that Shell’s justification of its methodology is lacking.¹³⁹ Shell claims that “econometric” principles support its averaging techniques because they minimize the effects of “variability and uncertainty” in variable assumptions/methodologies.¹⁴⁰ Shell explains that these averaging techniques reflect “an attempt to ‘reconcile’ a perceived ‘ambiguity’ in Appendix E.”¹⁴¹ Southern dismisses these claims as irrelevant because the SIC study “is not an econometric analysis[,]” and because there is no ambiguity in Appendix E.¹⁴² Therefore, Southern concludes that “these [averaged] values fail the basic standard set forth in *AEP I*, that an SIC study provide a reasonable approximation of the amount of simultaneous import capability that would have been available to competing suppliers during the time period being studied.”¹⁴³

¹³³ *Id.*

¹³⁴ *Id.* at 43.

¹³⁵ *Id.*

¹³⁶ *Id.* at 44.

¹³⁷ *Id.*

¹³⁸ Southern Reply Brief at 29 (hereinafter “SCS RB”).

¹³⁹ *See id.*

¹⁴⁰ *See id.*

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ *Id.* (citing *AEP I*, 107 FERC ¶ 61,018 at P 84).

94. Southern demonstrates the ramifications of Shell’s incorrect assumptions by comparing the power flow cases relied upon by Shell in its SIC analysis with the actual system load conditions in 2004.¹⁴⁴ Not only do Shell’s power flow cases not match the actual system load conditions in 2004, but this error is compounded by Shell’s averaging of the power flow cases into three seasonal peaks to be applied to each DPT period within that season.¹⁴⁵ Furthermore, Shell’s averaging procedures yield SIC values that “are *lower* than those produced using the Appendix E generation shift methodology in every month except October, November, and December.”¹⁴⁶ Thus, Shell’s approach illogically “biases the study results during the time periods when market power concerns may be more acute in exchange for a higher SIC in the winter when such concerns are likely to be reduced.”¹⁴⁷

The Commission’s Regulations and Orders do not Prohibit Scaling Power Flow Cases to Match the Ten DPT Periods.

95. Southern disagrees with Shell’s “claim that Appendix E . . . prohibits analysis of off-peak periods.”¹⁴⁸ According to Southern, Shell’s argument is as follows: “Appendix E relies on posted TTCs, and because posted TTCs in turn rely on forecasted peak values for the relevant period, Appendix E must prohibit consideration of off-peak periods.”¹⁴⁹ In response, Southern claims that the DPT exists to measure peak and off-peak period market concentration.¹⁵⁰ As such, “there is no basis for artificially restricting an SIC study to only those base power flow cases that were used to calculate posted monthly TTC values.”¹⁵¹ Furthermore, the Commission requires Southern to post “TTC values for Yearly, Monthly, Weekly, Daily, and Hourly transmission service[.],” which results in thousands of power flow cases over the course of the year.¹⁵² Given the thousands of different power flow cases, Southern argues that Shell’s “cherry picked” power flow cases shouldn’t be given any credence as reflecting the “true” system conditions, especially when compared to Southern’s use of actual system data.¹⁵³

¹⁴⁴ SCS IB at 44 – 45.

¹⁴⁵ *Id.* at 45.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ *Id.*

¹⁵⁰ *Id.*

¹⁵¹ *Id.*

¹⁵² *Id.*

¹⁵³ *See id.*

96. Southern also attempts to discredit Shell's reliance on *Pinnacle West* by distinguishing it from the facts of this case.¹⁵⁴ "In *Pinnacle West*, the Commission admonished the applicant for modeling higher loads than those historically experienced in the Phoenix valley load pocket."¹⁵⁵ Conversely, Southern has not been accused of calculating "unrealistically high loads."¹⁵⁶ Rather, Shell argues that it was improper to calculate SIC values for each of the ten DPT periods.¹⁵⁷ Therefore, Southern contends that "*Pinnacle West* does not support Shell's position."¹⁵⁸

The Commission Should Accept Southern's More Accurate DPT Analyses.

Southern concludes its argument on this point by noting that the DPT is intended to be a more thorough analysis of market power and concentration than the market screens, which is evidenced by the DPT's analysis of "ten discreet load periods, denominated by hours, rather than days or months."¹⁵⁹ According to Southern, it is illogical to condemn an SIC analysis for being "too accurate" because it calculates SIC values for each of the ten DPT periods.¹⁶⁰ It is true that Southern has never "scaled loads to reflect the 10 DPT season/load periods" in its TTC calculations, but this is because the DPT is a "creation of the Commission's market power analysis" that has no connection to the posting of TTC values.¹⁶¹ If the DPT is to properly measure market share and concentration for each of the ten periods, it must accurately calculate "the amount of competing supply that may access the relevant market during" each period.¹⁶² Southern contends that only its SIC meets this high standard¹⁶³ and that it should not be penalized simply because it is the *first* to take the initiative and calculate SIC for off-peak peak periods as well as peak periods, which in turn yields more accurate DPT results.¹⁶⁴

¹⁵⁴ See SCS RB at 33.

¹⁵⁵ *Id.* (emphasis added).

¹⁵⁶ *Id.* at 33-34.

¹⁵⁷ *Id.* at 34.

¹⁵⁸ *Id.*

¹⁵⁹ See SCS IB at 45-46.

¹⁶⁰ SCS RB at 31-32.

¹⁶¹ *Id.* at 31.

¹⁶² SCS IB at 46.

¹⁶³ *Id.*

¹⁶⁴ See SCS RB at 34-35. Southern also responded to Shell's claim that the SIC calculations for the Summer off-peak period would overload the system, arguing that this is pure conjecture from an unqualified witness. See *id.* at 33. More to the point, the conjecture reflects an excess of production as opposed to importation beyond transmission capabilities. See *id.* at 34. The practical effect would be increased supply in the market, lower prices and greater competition, which

Shell

The Commission's Regulations and Orders do not Permit Applicants to Scale Their Power Flow Cases, and Doing so Ignores the Purpose of the SIC Study but Southern's Methodology Ignores This Clear Instruction.

97. According to Shell, Southern chose its power flow cases because of their suitability “to be “scaled” to represent the ten DPT load periods.” Shell argues that this decision is inherently flawed because Appendix E does not contemplate such “scaling.”¹⁶⁵ In fact, Shell claims that such an adjustment is unprecedented.¹⁶⁶ Rather, the Commission requires the applicant to “estimate the amount of competing supply that can reach the destination market during seasonal peak periods based upon monthly *peak* power flow cases that applicants used in the past to calculate posted TTC values.”¹⁶⁷ Shell estimates the amount of competing supply for each seasonal peak by averaging monthly peak SIC values in that season.¹⁶⁸ In contrast, Southern’s approach completely ignores Appendix E and other commission guidance by calculating peak and off-peak values.¹⁶⁹

Southern's Methodology Also Ignores the Purpose of the SIC Study.

98. Besides ignoring Appendix E’s requirements, Southern’s approach fails to comply with the “fundamental purpose of an SIC study, *i.e.* ‘to provide a reasonable simulation of historical conditions’ on the system under review.”¹⁷⁰ Given that Southern’s power flow cases have no historical connection to the OASIS posted 2004 TTC values and that TTC values represent the total import capability made available to remote resources, Shell concludes that Southern’s SIC study can’t properly approximate the SIC that remote resources could have used during peak periods.¹⁷¹ According to Shell, this renders Southern’s “SIC results unreliable for use in a proper DPT analysis of the Southern Control Area” for the 2004 calendar year.¹⁷²

contradicts a finding of market power. *See id.*

¹⁶⁵ Shell IB at 62.

¹⁶⁶ *Id.*

¹⁶⁷ *Id.* (emphasis added).

¹⁶⁸ *Id.* at 62 – 63.

¹⁶⁹ *Id.* at 63.

¹⁷⁰ *Id.* (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 354 (2007)).

¹⁷¹ *See id.*

¹⁷² *Id.*

Staff

The Proper Load Levels are not resolved by the Joint Stipulation.

99. Staff denies Southern's claim that its load levels "were part of the data set the parties had agreed to use under the Joint Stipulation."¹⁷³ To the contrary, the Joint Stipulation "lists the quantification of SIC as a 'disputed issue.'"¹⁷⁴ Because the proper load level is an essential component in the calculation of SIC, it must still be a "live" issue in this proceeding.

Southern's Scaled Power Flow Cases Ignore the Purpose of the SIC Study.

100. Furthermore, the SIC study's purpose is to determine the historical amount of transmission capacity available to other utilities at each seasonal peak period that is used in the generation market power screens.¹⁷⁵ Southern's radical departure from its usual TTC methodology to its current "scaling" methodology misrepresents the amount of SIC that was available in 2004.¹⁷⁶ Therefore, Southern's proffered SIC study ignores the principle purpose of the SIC study.

Southern's "Scaling Approach" Lacks Balance.

101. Staff also criticized the lack of balance in Southern's "scaling" methodology.¹⁷⁷ According to Staff, Southern's "scaling" methodology is critically flawed because it only adjusts Southern's and its first-tier control areas' load and generation.¹⁷⁸ If Southern really wanted to reflect load levels at each period, it should have applied the scaling methodology to all control areas "that [were] electrically connected to the first-tier control areas through alternating current (AC) interties" in 2004.¹⁷⁹ By only scaling one side of the equation, Staff

¹⁷³ Staff RB at 9 (citing SCS IB at 42 n.83).

¹⁷⁴ *Id.*

¹⁷⁵ *See* Staff IB at 42.

¹⁷⁶ *Id.*

¹⁷⁷ *Id.* at 43.

¹⁷⁸ *See id.*

¹⁷⁹ *Id.* Southern argued in its Initial Brief that Staff failed to meet its burden of persuasion because it failed to quantify the practical impact of this criticism. *See* Staff RB at 10. Staff argues that though these control areas "do not participate in the base transfers between Southern and its first-tier control areas, [they] remain an important component of a properly-constructed base model." *Id.* Because "[b]ase flows directly influence the calculation of SIC (SIC = FCITC + Base Flows)[,] . . . [i]mproperly modeled base flows naturally lead to the calculation of

contends that Southern has significantly distorted its SIC and DPT results.

Shell's SIC Study Properly Used Twelve Monthly Peak SIC Values.

102. Finally, Staff supports Shell's SIC, which "used the twelve monthly peak SIC values derived from [its] power flow cases to calculate three seasonal average peak values for use in his DPT."¹⁸⁰ Furthermore, Staff noted that Southern's witness, Dr. Hieronymus, has also consistently used seasonal peak values to perform DPT analysis in other cases, but for some unknown reason he has chose to radically change his approach in this case.¹⁸¹ Given the unprecedented nature of Southern's scaling approach, Staff concludes that the Commission does not require ten separate SIC/DPT analyses, and "especially if the results do not reflect what has historically occurred on the system."¹⁸²

Discussion and Findings

103. Southern's argument that the issue of proper load levels is precluded from consideration by the undersigned by virtue of the Joint Stipulation must be rejected. As correctly noted by Staff, the Joint Stipulation clearly identifies the quantification of SIC as a disputed issue in this docket. The undersigned concurs with Staff's position that the proper load level is a vital part of the quantification of SIC and as such it must be considered as an integral part of the SIC analysis in this proceeding.

104. Consistent with attempts by the undersigned to rely as much as possible on the procedures that Southern has historically used in conducting a Commission approved SIC study, the undersigned finds the position advocated by Staff and Shell on this issue compelling. That is, that Southern's departure from its usual TTC methodology, and the methodology used in its previously approved 2002 SIC study, to one that "scales" power flow cases to match each of the 10 DPT periods is unprecedented and significantly distorts the amount of transmission capacity which was actually available in 2004. Such an adjustment contravenes the principle purpose of the SIC study, which, as previously explained, "...is to obtain a reasonable reflection of transmission capacity historically available to competitive resources during each seasonal peak used in the generation market power screen analysis."¹⁸³

erroneous and inappropriate SIC values." *Id.* Therefore, Staff suggests that quantification is not necessary. *See id.*

¹⁸⁰ *See* Staff IB at 43.

¹⁸¹ *Id.*

¹⁸² *Id.*

¹⁸³ Staff IB at 42.

105. Because the undersigned declines to adopt Southern's "scaling" adjustment as an unprecedented departure from historical practice and from Commission precedent, Shell's submission using the twelve monthly peak SIC values derived from its power flow cases provides the best available methodology for determining proper load levels in this docket.¹⁸⁴ However, should the Commission ultimately be persuaded that Southern's "scaling" methodology should be permitted, the undersigned notes that Staff's contention that Southern has significantly skewed its SIC and DPT results by only adjusting Southern's and its first-tier control areas' load and generation must also be addressed by requiring Southern to apply its scaling methodology to all control areas "that [were] electrically connected to the first-tier control areas through alternating current (AC) interties" in 2004.¹⁸⁵

Using Generation Shifting or Load Shifting

Summary of Parties' Positions

106. According to Southern, relevant Commission precedent requires the use of the generation shift in the simulated power transfer, which is necessary for the calculation of SIC. Southern criticizes Shell's decision to perform a load shift and a generation shift and then to average the results of the two because such averaging techniques distort the system conditions. Further, Southern also criticizes Shell's performance of the load shift, claiming that it did not follow Southern's historical practices. Shell and Staff argue that Commission precedent requires Southern to use the load shift and that any ambiguity in this matter was resolved in Order No. 697. Shell also defends its averaging methodology as a standard practice in econometrics, which was necessary to alleviate the impact of the then existing legal ambiguity.

¹⁸⁴ *Id.* at 43.

¹⁸⁵ *Id.* Southern argued in its Initial Brief that Staff failed to meet its burden of persuasion because it failed to quantify the practical impact of this criticism. *See* Staff RB at 10. Staff argues that though these control areas "do not participate in the base transfers between Southern and its first-tier control areas, [they] remain an important component of a properly-constructed base model." *Id.* Because "[b]ase flows directly influence the calculation of SIC (SIC = FCITC + Base Flows)[,]. . . [i]mproperly modeled base flows naturally lead to the calculation of erroneous and inappropriate SIC values." *Id.* Therefore, Staff suggests that quantification is not necessary. *See id.*

Positions of the Parties

Southern

The Commission Requires Southern to Use the Generation Shift Model.

107. Southern contends that the generation shift model should be used in the simulated power transfer.¹⁸⁶ Southern supports its contention with Appendix E's plain language, ". . . the applicant shall scale up available generation in the exporting (aggregated first tier areas) and scale down the study area resources according to the same methods used historically in assessing available transmission for non-affiliated resources."¹⁸⁷ Southern then claims that *Pinnacle West* reaffirmed this position.¹⁸⁸ Finally, Southern recognizes that Order No. 697 instructs applicants to perform a load shift if that is their historical practice, but Southern claims that the Order has no bearing on this matter because it became effective September 18, 2007, after the parties had filed the relevant market power analysis.¹⁸⁹ Therefore, Southern believes that Appendix E, alone, controls this issue, and it clearly instructs applicants to use generation shifting, which is an instruction that Southern has followed.¹⁹⁰

In Addition to Violating Appendix E's Generation Shift Requirement, Shell's Averaging Technique Impermissibly Distorts its Results.

108. Southern also criticizes Shell's decision to conduct both a generation *and* load shift and then to average those two values.¹⁹¹ As noted above, Southern claims that the plain language of Appendix E requires applicants to use a generation shift in the modeling of power transfers for SIC calculations, which makes Shell's load shift study irrelevant. Despite Shell's insistence on performing a load shift, Southern is more troubled by Shell's decision to average its load shift and generation shift values.¹⁹² As noted in previous sections, Southern claims that these "averaged" values have no correlation to actual system conditions over the 2004 year, arguing that they clearly "failed to replicate Southern Companies' load shift practices" because they deviate substantially "from (the results) derived from

¹⁸⁶ SCS IB at 46.

¹⁸⁷ *Id.*

¹⁸⁸ *Id.*

¹⁸⁹ *See* SCS RB at 36-37.

¹⁹⁰ *See id.* at 36.

¹⁹¹ SCS IB at 67.

¹⁹² *Id.*

Southern Companies' actual practices.”¹⁹³

Shell's Alternative Load Shift Study Fails to Follow Southern's Historical Practices.

109. Southern also argues that Shell's “alternative SIC study,” which is its load shift study, is fatally flawed.¹⁹⁴ First, it fails to follow Southern's historical practices because Shell uses an “injection group” concept that is not consistent with how Southern has historically conducted its load shifts.¹⁹⁵ Southern claims that this “injection group” approach has not been adequately explained, and consequently, it has not been able to replicate Shell's results.¹⁹⁶ In addition, the results of Shell's load shift study differ “substantially” from those “obtained using Southern Companies' methodology in 2004,” which Southern attributes to a significant deviation from its “historical load shift method.”¹⁹⁷ These “deviations” are not limited to the use of an injection group.¹⁹⁸ Shell claims that it adopts Southern's “position on key parameters,” but it actually just “adopts [Shell's] position on several key elements, despite direct criticism from [Southern].”¹⁹⁹ For example, Shell ignores Southern's position on TRM and simply “makes the same across-the-board deduction for TRM as [it] did in [its] base case.”²⁰⁰ Therefore, Southern concludes that Shell's SIC analysis fails to follow Southern's historical practices as required by the Commission.

Shell

Shell's Averaging Technique Reconciles an Ambiguity in the Law.

110. Despite Southern's claims that Shell incorrectly departed from the Commission's instructions, Shell's averaging approach is actually used to “reconcile” an ambiguity in Appendix E.²⁰¹ “Given the uncertainty over the use of

¹⁹³ *Id.* at 68. Though Shell may have calculated both load and generation shifting models, it is only sponsoring the results of the averages of the generation and load shift models, which have been shown to not be accurate reflections of 2004 system conditions. *Id.*

¹⁹⁴ *See id.* at 70.

¹⁹⁵ *See id.*

¹⁹⁶ *See id.*

¹⁹⁷ *Id.* at 71.

¹⁹⁸ *See id.* at 72.

¹⁹⁹ *Id.*

²⁰⁰ *Id.*

²⁰¹ Shell IB at 105.

a generation or load shifting method, [Shell] adopted a middle ground approach: [it] used both generation shifting and load shifting methodologies in conducting [its] base case SIC study, and [it] then averaged these two sets of SIC values to obtain [its] final base case SIC values.”²⁰² Shell maintains that this is a logical approach that resolves a confusing dilemma in the Commission’s SIC instructions.²⁰³

Shell Followed Southern’s Historic Methods in Performing the Load Shifts.

111. Also, Shell claims that its load shifting approach is consistent with Southern’s historical load-scaling practice, even though Southern argues that it “differs substantially” from the posted TTC values.²⁰⁴ First, Shell believes that it is inherently contradictory for Southern to claim in one breathe that comparisons of SIC and TTC values are “meaningless” and then in the next to compare Shell’s load shift SIC values to the relevant TTC values as evidence that Shell must have deviated from Southern’s historic load-scaling practice.²⁰⁵ Second, Shell claims that its SIC results do not “differ substantially” from Southern’s posted TTC values. Shell “scaled down available load in the exporting Super Area and scaled up available load in the Southern control area *according to the same methods Southern used historically in assessing available transmission for non-affiliate resources.*”²⁰⁶ In fact, Shell never criticized Southern’s historic methods, but simply implemented them.²⁰⁷

Shell’s Averaging Approach is not unprecedented.

112. Despite Southern’s argument that Shell’s averaging approach is unprecedented, Shell claims that it is “a well known principle of econometrics that when variability and uncertainty exist in assumptions and methodologies used in estimating a parameter of interest, an estimate obtained by an averaging procedure will be inherently better and more robust than a single estimate based on one set of modeling assumptions.”²⁰⁸ Shell is not surprised that Southern’s witness has “never heard of averaging the results of two separate studies in this fashion” because he has demonstrated a uniform “lack of experience in both regulatory

²⁰² *Id.*

²⁰³ *See id.*

²⁰⁴ *Id.*

²⁰⁵ *Id.* at 105-106.

²⁰⁶ *Id.* at 106.

²⁰⁷ *Id.*

²⁰⁸ *Id.* at 105

proceedings and in conducting SIC analyses.”²⁰⁹ According to Shell, the Commission routinely accepts and uses averaging procedures to estimate “values that are subject to variability and uncertainty, such as the proper computation of return on equity (‘ROE’) in utility rate making proceedings.”²¹⁰ Thus, Shell’s use of averaging is neither unprecedented nor does it invalidate Shell’s SIC results.²¹¹

Staff

Southern Use of a Generation Shift Contradicts its Prior Practice and Litigation Positions.

113. Staff criticizes Southern’s use of generation scaling despite its historic use of load scaling in “calculating area-to-area TTC limits.”²¹² According to Staff, Southern *supported* the use of load scaling in its 2002 SIC study.²¹³ Also, Staff quotes that same 2002 SIC study for Southern’s admission that it uses the “load-shift methodology” for the calculation of its “transfer capability for OASIS postings.”²¹⁴ Thus, Staff was surprised by Southern’s sudden change to generation shifting in its 2004 SIC study and remains skeptical of Southern’s proffered reason, namely, to comply with Appendix E.²¹⁵

Order No. 697 Clearly Controls the Issue and Requires Southern to Perform Load Shifts.

114. Staff recognizes that there may have been some ambiguity in Commission precedent as to which was the preferred method in cases such as this one, but it claims that any such ambiguity was resolved in Order 697.²¹⁶ Order 697 instructs applicants that “[u]sing historical practices provides an appropriate method to obtain a transparent and measurable analysis of a seller’s actual balancing authority area transmission conditions and practices.”²¹⁷ Because “Southern has historically used the load scaling methodology for deriving its OASIS-posted

²⁰⁹ *Id.* at 107

²¹⁰ *Id.*

²¹¹ *See id.*

²¹² Staff IB at 45 – 46.

²¹³ *See id.* at 45 (quoting Southern’s 2002 SIC study as touting the superiority of the load scaling method “because there are a greater number of load stations than generation busses and, thus, loads are shifted across a greater number of locations”).

²¹⁴ *Id.*

²¹⁵ *See id.* at 45 – 46.

²¹⁶ *Id.* at 46.

²¹⁷ *Id.* (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 357).

TTCs[.]” Order No. 697 requires it to be “used in calculating SIC values in this case[.]”²¹⁸ Southern’s decision to use generation shifts incorrectly ignores this instruction.²¹⁹

Discussion and Findings

115. Order No. 697 instructs applicants to “use a load shift scaling method if that approach reflects the applicant’s historical practices[.]”²²⁰ and instructs applicants that “[u]sing historical practices provides an appropriate method to obtain a transparent and measurable analysis of a seller’s actual balancing authority area transmission conditions and practices.”²²¹ Thus, because Southern has historically used the load scaling methodology for deriving its OASIS-posted TTCs, compliance with Order No. 697 would require that same methodology to be used here. Southern acknowledges that the load shift scaling method approach reflects its historical practices and its currently filed market power analysis uses a generation shift methodology. However, Southern asserts that because of Appendix E’s specific reference to the utilization of a generation shift scaling method, and the fact that Order No. 697 did not become effective until September 18, 2007, after the subject filing, that its currently filed market power analysis should nevertheless be accepted for use in this docket.

116. Shell acknowledges that the language of Appendix E creates uncertainty as to whether an applicant must use a generation scaling method even if that method fails to accord with the same methods historically used by the applicant in assessing available transmission for non-affiliated resources. Shell resolves this uncertainty by using both generation shifting and load shifting methodologies in conducting its base case SIC study and then averaging these two sets of SIC values together to obtain its final base case SIC values. Shell defends its averaging methodology as a standard practice in econometrics, which was necessary to alleviate the impact of the then existing legal ambiguity.

117. Neither Southern nor Shell have provided persuasive arguments in support of their positions on this issue. There is no question the Commission prefers the method used historically on the system for assessing available transmission for non-affiliate resources, which in this case is the load shifting methodology. Clearly, Southern could have, and should have, made an updated filing to comport with the requirements of Order No. 697 but elected not to do so. On the other hand, Shell’s “averaging” method does not comport with either Southern’s

²¹⁸ *Id.*

²¹⁹ *See id.*

²²⁰ SCS RB at 36-37.

²²¹ Staff IB at 46 (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 357).

historical load shifting methodology or the generation shifting methodology referenced in Appendix E.

118. Because Shell's "averaging" method fails to comport with either Appendix E or Order No. 697, and because Shell has failed to establish that its "averaging" methodology has produced results which accurately reflect Southern's 2004 system conditions, the undersigned finds that Southern's submission is the more useful for purposes of conducting an SIC study in this docket.²²²

Inclusion of nuclear and hydroelectric generation in transfer analysis

Summary of Parties' Positions

119. Southern included nuclear and hydroelectric generation resources in its model power transfers, claiming that the Commission favors a uniform shift as opposed to one based on economic merit order dispatch. Shell and Staff both disagree and argue that applicants are required to follow their historical practices when performing model transfers, which in this case, requires the exclusion of nuclear resources and a limitation on the participation of hydroelectric resources.

Positions of the Parties

Southern

The Commission's Silence Indicates a Preference for a Uniform Shift.

120. Southern included nuclear and hydroelectric generation in its generation shift power transfer analysis because it is consistent with both industry standards and Commission precedent.²²³ Despite Shell's claims to the contrary, Southern argues that Appendix E does not require "an applicant to distinguish between resource types" nor does it require "certain baseload generation, including nuclear and hydroelectric resources," to "to be excluded from generation shifting because these types of units have lower variable costs and are therefore less likely to be reduced to facilitate import."²²⁴ Southern believes that "[i]f the Commission had

²²² It should be noted that Shell only sponsored the results of the averages of both the generation and load shift models and did not separately submit a load shifting model for consideration.

²²³ SCS IB at 59.

²²⁴ *Id.* Southern notes in its Reply Brief that Shell "does not cite to Appendix E to support its argument." SCS RB at 51. Southern claims that this is "most likely

intended for an applicant to replicate an economic merit order dispatch protocol as part of an SIC study (or distinguish between resources in any other manner), it could have done so.”²²⁵ According to Southern, the Commission’s silence on this issue clearly indicates a preference for a uniform shift.²²⁶

121. In addition to challenging Shell and Staff’s interpretation of Appendix E, Southern also believes that they have misinterpreted *Pinnacle West*.²²⁷ According to Shell, *Pinnacle West* prohibits Southern from scaling “its nuclear units down below normal operating levels.”²²⁸ In Southern’s view, *Pinnacle West* adjudicated “the appropriate treatment of remote generating resources owned by the applicant in conducting an Appendix E analysis.”²²⁹ Southern claims that “the Commission’s concern was that Pinnacle West had scaled down its own remote nuclear unit to zero such that the remote unit no longer competed for transmission capacity into the control area under study.”²³⁰ The problem there was that the nuclear unit served base load in the study area and “always required transmission into the study area.”²³¹ Improperly scaling this unit by “turning it off” directly overstated the “amount of transmission available to competing first-tier resources.”²³² Southern then claims that “this aspect of Pinnacle West’s SIC study was made clear in the subsequent August 13, 2007 order accepting the companies’ revised SIL study, an order that is not referred to by Shell Trading or by Trial Staff in their Initial Briefs.”²³³ Thus, Southern concludes that *Pinnacle West* is irrelevant to the treatment of “internal units” used in Appendix E model power flows.²³⁴

Shell has Failed to Calculate the Impact of the Inclusion of Nuclear and Hydroelectric Resources.

122. Southern also claims that Shell has failed “to quantify the impact of this issue or to provide any indication of the extent to which the disposition of this

because Appendix E does not distinguish between classes or types of generation resources.” *Id.*

²²⁵ SCS IB at 60.

²²⁶ *See id.*

²²⁷ *Id.*

²²⁸ *Id.*

²²⁹ *Id.* (emphasis in original).

²³⁰ *Id.*

²³¹ *Id.*

²³² *Id.* at 60 – 61.

²³³ SCS RB at 52.

²³⁴ SCS IB at 61.

issue will affect Southern Companies' SIC Study."²³⁵ According to Southern, this failure renders Shell's argument too abstract to provide a sound basis for "altering or impeaching" Southern's SIC study.²³⁶ Regardless, Southern claims in its Reply Brief to have tested Shell's theory and "found that SIC values would *increase* if the changes in resource dispatch sought by Shell were implemented."²³⁷

Shell

Southern's Inclusion of Nuclear and Hydroelectric Units in its Generation Shifts Violates Commission Guidance.

123. Shell criticizes Southern's inclusion of nuclear and hydroelectric units in its generation shifts.²³⁸ It claims that the inclusion significantly departs from the Commission's guidance, and the result is an inflation in SIC values.²³⁹ According to Shell, *Pinnacle West II* instructed applicants to not reduce output from generating units below "historical operating levels."²⁴⁰ Southern's decision to scale nuclear and hydroelectric units ignores this instruction because nuclear and hydroelectric resources "have the cheapest variable production costs among thermal units" and thus, there is an "economic incentive to always maximize their output, subject to operating and reliability constraints."²⁴¹ Though Southern attempts to distinguish this case based on the fact that it concerned remote generation, Shell maintains that the announced "generation scaling method reaches well beyond 'remote' nuclear generation units and concerns the accurate reflection of actual historical operating practices."²⁴²

Southern's Inclusion of Nuclear and Hydroelectric Resources Ignores Reality and Logic.

124. In fact, Southern admits that its nuclear resources are "non-dispatchable," which means that their output is not reduced to facilitate actual energy importation from the first-tier Super Area.²⁴³ Furthermore, nuclear units are subject to "stringent regulatory control to maintain expected output levels and outage rates," making it exceedingly difficult to adjust their generation up or down for a real

²³⁵ *Id.* at 58 – 59.

²³⁶ *Id.* at 59.

²³⁷ SCS RB at 53 (emphasis in original).

²³⁸ See Shell IB at 74 – 78.

²³⁹ *Id.* at 75.

²⁴⁰ *Id.* (quoting *Pinnacle West II*, 117 FERC ¶ 61,316 at P 7).

²⁴¹ *Id.*

²⁴² Shell RB at 30.

²⁴³ Shell IB at 75.

power transfer.²⁴⁴ Shell also claims that Southern absurdly scales up its hydroelectric generation in its power transfer models to the point that it is required to use pump storage units, which actually consume power, to “recycle” the water back above the generators.²⁴⁵ According to Shell, it is unrealistic and historically inaccurate to believe that Southern is scaling down its cheapest generation and scaling up hydroelectric generation to the point of using pumps that consume significant amounts of power.²⁴⁶

The Inclusion of Nuclear and Hydroelectric Resources has a Significant Impact on Southern’s SIC Results.

125. According to Shell, these “assumptions” about nuclear and hydroelectric generation have a “distorting impact” on Southern’s SIC analysis.²⁴⁷ Shell analyzed Southern’s power transfers and concluded that “the GPFs of Southern’s pump storage units range between 280 and 563; nuclear units range between 595 and 934; and Barry CC units range between 55 and 86.”²⁴⁸ This means that Southern’s power transfers require “‘non-dispatchable’ nuclear units to ramp down their outputs as much as 17 times more than the ‘dispatchable’ Barry CC units[.]”²⁴⁹ In addition, the power transfers require Southern’s hydroelectric pump storage units to consume as much as 1,500 MW “to facilitate imports from non-affiliate resources.”²⁵⁰ Southern’s unrealistic assumptions in its power transfers distort its final SIC values, making them unreliable for use in the DPT analysis of market power and concentration.²⁵¹ Therefore, Shell recommends using its SIC analysis, which excludes nuclear units from power transfers but permits hydroelectric participation up to the point where the pump storage units are required.²⁵²

Staff

Scaling Down Nuclear and Hydroelectric Resources is Counter to Southern’s Historic Practice and Common Sense.

²⁴⁴ *Id.*

²⁴⁵ *Id.* at 76.

²⁴⁶ *See id.*

²⁴⁷ *Id.* Despite Southern’s claims to the contrary, Shell has quantified the impact of this errant “uniform shift” as is seen in the paragraph above. *See* Shell RB at 31.

²⁴⁸ Shell IB at 77.

²⁴⁹ *Id.*

²⁵⁰ *Id.* at 78.

²⁵¹ *See id.*

²⁵² *Id.* at 82.

126. Staff, also criticizes Southern’s inclusion of nuclear and hydroelectric units in its power transfers.²⁵³ According to Staff, Southern did not scale down its nuclear units in the power transfers used to derive its OASIS postings, nor did it do so in its 2002 SIC study.²⁵⁴ Furthermore, scaling down nuclear resources is economically nonsensical and ignores the regulatory constraints on adjustments to nuclear generation.²⁵⁵ Staff agrees with Shell that it is ridiculous to scale up hydroelectric resources to the point that pump storage units must be used despite their consumption of power.²⁵⁶ Staff concludes that neither nuclear nor hydroelectric resources should be permitted to participate in Southern’s power transfer models because the net result is an artificial inflation of Southern’s SIC values.²⁵⁷

*Southern Misinterpreted Commission Precedent, Which
Instructs Applicants to Follow Historical Practices.*

127. Furthermore, Staff disagrees with Southern’s interpretation of *Pinnacle West*. “According to Southern, *Pinnacle West* addressed the treatment of *remote* generating resources owned by the applicant and that ‘does little to inform the scaling process for *internal units* used to model power flows in an Appendix E analysis.’”²⁵⁸ Staff argues that this is an irrelevant distinction because the Commission clearly announced in that same opinion that baseload resources must be scaled in accordance with “historical operating levels.”²⁵⁹ Therefore, Staff rejects Southern’s methodology but supports Shell’s treatment of Southern’s nuclear and hydroelectric resources in the SIC power transfers.²⁶⁰

Discussion and Findings

128. Southern did not scale down its baseload units in the power transfers used to derive “estimates for its OASIS postings,” nor did it do so in its 2002 SIC study.²⁶¹ As explained above, Southern is required to follow its historic practices in calculating its SIC, which in this case means that Southern is required to use the same power flow models that it used to calculate the TTC values that were posted

²⁵³ See Staff IB at 50 – 51.

²⁵⁴ See *id.* at 50.

²⁵⁵ *Id.* at 50 – 51.

²⁵⁶ See *id.*

²⁵⁷ See *id.*

²⁵⁸ Staff RB at 25-26 (quoting SCS IB at 60-61) (emphasis in original).

²⁵⁹ See *id.* (quoting *Pinnacle West II*, 117 FERC ¶ 61,316 at P 7).

²⁶⁰ Staff IB at 51.

²⁶¹ *Id.* at 50.

to OASIS. Therefore, the undersigned does not reach the issue of whether a *proper* power flow model should exclude nuclear resources or to what extent it should exclude hydroelectric resources. Rather, Southern is required to exclude these baseload resources in its SIC power flow models because that was what it did when it calculated the TTC values that were posted to OASIS.

Proper Participation Factors

Summary of the Parties' Positions

129. Southern claims that its participation factors start by accounting for existing reservations, and then, it allocates the remaining incremental transmission capability uniformly across the three northern interfaces, adjusting for interface impact. Southern maintains that this iterative process is consistent with its historical practice and allows the market to determine the relative degrees of participation for the first tier control areas on the northern interfaces. Conversely, Southern argues that Shell's rigid 1/3 participation methodology ignores both historical practices and the market forces. However, Shell claims that it is Southern who has ignored historical practices because this "iterative process" is not the one used to calculate the monthly posted TTC values as required by the Commission. By contrast, Shell claims that its participation factors mirror those used by Southern for its TTC calculations. Staff agrees with Shell that Southern's area participation factors do not reflect its historical practices, and it supports Shell's allocation methodology because it is the same one used by Southern to calculate its monthly posted TTCs. According to Staff, Southern's improper participation factors have inflated its SIC values far beyond what was offered to remote resources.

Positions of the Parties

Southern

Southern explains how its Allocation Method is Consistent with Historical Practice.

130. Southern defends its generation participation factors as being consistent with its historical practice.²⁶² Southern claims that it usually discounts generation participation by the "existing service reservations" and then offers "to the market the remaining incremental transmission capability on the three northern interfaces on a uniform basis with adjustments based on interface impact."²⁶³ After

²⁶² SCS IB at 47.

²⁶³ *Id.*

additional capacity on an interface is purchased, Southern “account[s] for that new reservation and then, based on the quantity and location of the new reservation, reallocate[s] the remaining available incremental transmission capability on a uniform basis across the interfaces and post[s] revised values on OASIS.”²⁶⁴ These iterations occur “on a periodic basis” according to “the frequency of sales of transmission service and allow the market to determine the relative participation of each of the first-tier control areas.”²⁶⁵ According to Southern, this allocation methodology is “very different from an ‘optimization’ study, which would seek to model the system to obtain the highest possible level of imports[.]”²⁶⁶

*Shell and Staff’s Area Participation Factors Ignore
Southern’s Historical Practices and the Realities of the
Market.*

131. Southern then criticizes Shell and Staff’s opposition to Southern’s participation factors.²⁶⁷ Southern disagrees with Staff’s assertion that it “should have relied on participation factors from a 2004 VASTE study.”²⁶⁸ Southern argues that the VASTE study is not a “reasonable source for participation factors” because it only evaluates “transfer capabilities between pairs of control areas or pairs of sub-regions on a non-simultaneous basis[.]” while the SIC concentrates on simultaneous participation.²⁶⁹ Southern also disagrees with Staff’s recommendation to use VACAR participation factors because they were developed for a Virginia Carolina Reliability Group (VACAR) sub-region to evaluate non-simultaneous power transfers from one sub-region to another sub-region.²⁷⁰ Finally, the VACAR “values incorporate transfers from utilities such as Progress Energy Carolinas and Dominion” both of which are not among the first-tier importers to the Southern Control Area.²⁷¹

132. After dismissing Staff’s recommendation to use VACAR and VASTE studies, Southern rejects Shell’s approach to allocating import participation among the northern interfaces.²⁷² According to Southern, Shell rigidly allocated participation on the northern interfaces between VACAR, TVA and Entergy on a

²⁶⁴ *Id.*

²⁶⁵ *Id.*

²⁶⁶ *Id.* at 47 – 48.

²⁶⁷ *Id.* at 48.

²⁶⁸ *Id.* “VASTE” is comprised of the Virginia Carolina Reliability Group (VACAR”), AEP, Southern Companies, and Entergy.

²⁶⁹ *Id.*

²⁷⁰ *Id.*

²⁷¹ *Id.*

²⁷² *Id.*

“one-third, one-third, one-third” approach.²⁷³ Southern disagrees with this approach because it ignores historical practice and systematically eliminates the market forces that are central to the “actual participation of each of the individual northern interfaces.”²⁷⁴ For support, Southern relies on the fact that the results of Shell’s study “differ substantially from the actual results determined in 2004 by Southern Companies using the same power flow cases.”²⁷⁵ If Shell’s participation factors do not reflect Southern’s historical practices, Southern argues that they cannot be relied upon to give a true account of the Southern Control Area’s import capability in the 2004 study year.²⁷⁶

Southern Disagrees with Staff’s Interpretation of Commission Precedent.

133. Southern also disagrees with Staff’s reliance on *Pinnacle West*.²⁷⁷ According to Southern, *Pinnacle West* involved modeling of peak loads well above actual historic practice.²⁷⁸ But Southern claims to have used actual 2004 load levels, negating any relevance *Pinnacle West* might have on this issue.²⁷⁹ Furthermore, Southern contends that Staff’s references to precedent controlling modeling peak loads have no place in a discussion of participation factors.

Staff has Failed to Prove the Impact of Southern’s Approach.

Finally, Southern dismisses Staff’s claims that Southern’s approach has the “net effect” of increasing SIC values, because, according to Southern, Staff has failed to produce evidence of or quantify this “net effect.”²⁸⁰

Shell

Southern’s Area Participation Factors are not the Ones That Were Used to Calculate TTC Values.

134. Shell disagrees with Southern’s claims of historical accuracy, claiming instead that Southern’s area participation factors *are not* those that were used for

²⁷³ *Id.*

²⁷⁴ *Id.* at 48 - 49.

²⁷⁵ *Id.* at 49.

²⁷⁶ *See id.*

²⁷⁷ SCS RB at 39.

²⁷⁸ *See id.*

²⁷⁹ *See id.*

²⁸⁰ *See id.*

its monthly TTCs.²⁸¹ Shell begins by acknowledging that it, like Southern, “defined monitored elements to include all transmission facilities 99kV and above, and contingency elements to include all transmission facilities 115kV and above.”²⁸² Shell then explains that it set generation participation factors in the first tier Super Area to be “proportional to the difference between the maximum and current output levels while “generation participation factors in the study area were set proportional to the difference between the current and minimum output levels.”²⁸³ In its load shift model, Shell “set the load participation factors in both the exporting Super Area and the Southern control area to be proportional to the size of the load.”²⁸⁴ Finally, “the area participation factors in the exporting Super Area were fixed so that the Entergy, TVA, and VACAR control areas would each carry 1/3 of the total import capability.”²⁸⁵ According to Shell, this is the allocation method that Southern uses in the calculation of its TTC values.²⁸⁶ On the other hand, Southern “departed from what [it] has described as actual historical conditions in favor of a hypothesized, engineering-driven estimate that looked at the level of available economic capacity (AEC) in first-tier control areas and then back-engineered area participation factors based on that AEC.”²⁸⁷

The Purpose of Area Participation Factors and Commission Precedent Require Southern to Mirror the Procedures Used to Calculate TTC Values.

135. Shell disagrees with Southern’s characterization of the purpose of the area participation factors.²⁸⁸ “According to Southern, ‘[b]ecause numerous possible combinations of interface participation exist that can lead to widely varying feasible and reliable simultaneous import capability values, the relevant participation factors must reasonably reflect *potential uses* of the interfaces by the market.’”²⁸⁹ Shell claims that Commission precedent requires Southern to use the “participation factors [that] actually were used by Southern to establish the posted monthly TTCs during the relevant period.”²⁹⁰ Specifically, Appendix E prohibits the use of “best import case” scenarios and requires the reflection of actual

²⁸¹ Shell IB at 83.

²⁸² *Id.*

²⁸³ *Id.* at 83.

²⁸⁴ *Id.* at 106. Shell performed a generation shift and a load shift power transfer and then averaged the resulting SIC values of the two studies. *See id.*

²⁸⁵ *Id.*

²⁸⁶ *Id.* at 88.

²⁸⁷ Shell RB at 17 (criticizing the “iterative” process).

²⁸⁸ *Id.* at 15.

²⁸⁹ *Id.* at 14 (quoting Southern IB at 37) (alteration in original).

²⁹⁰ *Id.* at 14-15.

historical conditions.²⁹¹

Shell Rejects Southern's Critical Comparison of Posted TTC Values and Shell's SIC Values.

136. Finally, Shell dismisses Southern's argument that because Shell's study results "differ substantially from the actual results determined in 2004 by the Southern Companies using the same power flow cases," it must not have properly adhered to Southern's historical practices.²⁹² That the two values are not the same is "hardly surprising given the differences between the calculation of monthly TTCs and SIC."²⁹³ For example, "Southern does not account for external transmission constraints when calculating monthly TTCs; Shell Trading's SIC analysis does, as required by the Commission's SIC guidance."²⁹⁴ Furthermore, Shell, again, finds it odd that Southern has launched an attack on its SIC based on a failure to comport with TTC values when Southern claims that the two cannot be compared and when Southern's proffered SIC values far exceed those same TTC values.²⁹⁵

Staff

Commission Precedent Requires Applicants to use the Same Area Participations Factors That Were Used to Calculate TTC Values.

137. Staff agrees with Shell that the Commission requires applicants to use the same area participation factors that were used to calculate TTC values.²⁹⁶ Staff first claims that *Pinnacle West* requires applicants to model power transfers in accordance with their historical TTC posting practices.²⁹⁷ Demonstrating the importance of the methods used in calculating TTC values, the Commission announced "that any supporting documentation regarding the use of the power flow models should include information regarding the OASIS TTC posting during each seasonal peak."²⁹⁸

²⁹¹ *Id.* (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 354).

²⁹² *Id.* at 19 (quoting Southern IB at 49).

²⁹³ *Id.*

²⁹⁴ *Id.*

²⁹⁵ *See id.*

²⁹⁶ *See* Staff IB at 47 – 49.

²⁹⁷ *Id.* at 47 – 48.

²⁹⁸ *Id.* at 48.

Southern's Area Participation Factors Deviate Substantially From Those Used to Calculate TTC Values, Which Substantially Inflates Simultaneous Import Capability Beyond Historical Reality.

138. According to Staff, Southern has historically divided its total import capability on a pro rata basis, assigning equal 1/3 shares to the Entergy, TVA and VACAR interfaces after it allotted transmission to reservations on the system (*i.e.* an iteration process).²⁹⁹ In contrast, “Southern used APFs based upon its 2004 TTC postings,” but adjusted those values to account for the simultaneous use of the available import capability by market participants with available economic capacity.³⁰⁰ Staff argues that Southern’s “adjustment” inflates the participation values to the point that they fail to reflect the actual use of Southern’s grid or how generation was dispatched.³⁰¹ Staff claims that this disconnect between the area participation factors used in Southern’s SIC study and those that were used to calculate TTCs has artificially increased SIC values far above what was made available to remote resources.³⁰²

139. Southern also claims that its iteration/optimization allocation methodology “is a more accurate reflection of its historical practices because it allocates on a uniform basis and then allows the market to determine the relative participation of each of the first-tier control areas.”³⁰³ Shell argues that if this were true, “there would be a significant difference between the monthly posted TTC values and the hourly posted TTC values because the hourly posted TTC values reflect all iterations that have taken place prior to real time.”³⁰⁴ But in reality, there is little difference between allocation of the hourly TTC values and the monthly TTC values.³⁰⁵ Thus, it is clear that Southern’s participation factors are out of touch with reality and overstate the amount of SIC in the Southern Control Area.³⁰⁶

Southern's Criticisms of Staff's Area Participation Factors Are Disingenuous.

140. Southern has also attacked Staff’s reliance on the VASTE studies “because

²⁹⁹ See Staff RB at 13.

³⁰⁰ Staff IB at 48-49.

³⁰¹ See *id.* at 49.

³⁰² See *id.*

³⁰³ Staff RB at 14-15.

³⁰⁴ *Id.* at 15.

³⁰⁵ See *id.*

³⁰⁶ See *id.*

they are performed on a “non-simultaneous basis.”³⁰⁷ In response, Staff contends that Southern knows but is not willing to admit that the VACAR is a collection of “control areas and as a group, its participation factors are implicitly studied using a simultaneous analysis.”³⁰⁸ Accordingly, either Southern doesn’t understand the VASTE study or is attempting to mislead the Commission about its methodologies.³⁰⁹

141. Regardless, “Staff is willing to support any method that calculates APFs in a reasonable and unbiased manner, such as one based on pre-transfer generation levels or the uniform method used historically on Southern’s system.”³¹⁰ But Staff does not support Southern’s current allocation of SIC which seeks to optimize participation in an effort to over-inflate its SIC values.³¹¹ The obvious practical effect of this maximization is an understatement of Southern market share in the Southern Control Area.³¹²

Discussion and Findings

142. Southern maintains that its proffered methodology is consistent with its historical practice; however, a review of the record, including the methodology used by Southern in its previously approved 2002 SIC study, indicates otherwise. Rather, the record reflects that Southern’s historical practice is to first account for existing service reservations and then allocate the remaining transmission capability among the three northern interfaces (*i.e.*, Entergy Services, Inc (Entergy), Tennessee Valley Authority (TVA) and VACAR) on a uniform basis *i.e.*, one-third being allocated for each interface (*a.k.a. the uniform process*).³¹³ Periodically, Southern updates the allocation of capability by accounting for new reservations and again allocating the remaining capability on a uniform basis, one-third being allocated for each interface, among its northern interfaces (*a.k.a. the iterative process*).³¹⁴

143. Southern did not follow this process in the calculation of the Area Participation Factors (APFs) in the subject SIC study. Southern used a methodology for the allocation of its APFs based upon its 2004 TTC postings, but “with adjustment to reflect potential simultaneous utilization of available import

³⁰⁷ *Id.* at 18 (quoting Southern IB at 48).

³⁰⁸ *Id.*

³⁰⁹ *Id.*

³¹⁰ *Id.* at 17.

³¹¹ *Id.*

³¹² *Id.*

³¹³ Exh. SCS-50 at 13-14.

³¹⁴ *Id.*

capability by external market participants with available economic capacity.”³¹⁵ Staff argues persuasively that this “adjustment” artificially inflates Southern’s values to where they are “unrelated to the actual use of the transmission system and actual dispatch of generation.”³¹⁶ The calculation of the APFs in this manner maximizes imports into the SCA. As Staff witness Ballard explains, Southern’s methodology “maximizes the SIC by weighting the participation of the first tier control areas so that the imports to the system are precisely balanced and as a result the highest amount of economic generation external to Southern can gain access.”³¹⁷ This is contrary to the manner in which Southern historically allocated available capacity, and it is also contrary to Commission policy and precedent.

144. The Commission has consistently maintained that the SIC study should comport with actual dispatch and operating conditions.³¹⁸ Indeed, in Order No. 697, the Commission reiterated that the SIC is “‘intended to provide a reasonable simulation of historical conditions’ and is not ‘a theoretical maximum import capability or best import case scenario.’”³¹⁹

145. Therefore, in accordance with Commission precedent, it is the method historically used by Southern, and the method which Shell now advances, which should be the methodology adopted here. As Shell and Staff have demonstrated, this is also the method historically used by Southern to calculate its monthly posted TTCs. The undersigned concurs with Staff’s observation that Southern’s newly proffered methodology produces improper area participation factors which have inflated its SIC values far beyond what was offered to remote resources.

Treatment of Peninsular Florida

Summary of Parties’ Positions

146. Southern included Peninsular Florida in the aggregated first-tier control area. According to Southern’s interpretation of Appendix E, Peninsular Florida must be included in the aggregated first-tier control area because it is directly connected to the Southern Control Area. Furthermore, Southern disagrees with Shell’s argument that Florida’s import capability must be separately calculated using the posted TTC values minus transmission reliability margin (TRM) or if it is included in the first-tier exporting super area, then base exports from the Southern Control Area must be deducted. Southern claims that the SIC values

³¹⁵ Staff IB at 48-49 (quoting Exh. S-25).

³¹⁶ *Id.* at 49 (quoting Exh. Shell-21 at 48:11-13).

³¹⁷ Exh. S-51 at 11.

³¹⁸ *Pinnacle West II*, 117 FERC ¶ 61,316 at P 6.

³¹⁹ *Order No. 697*, 119 FERC ¶ 61,295 at P 354.

should not be reduced by base exports because base export exclusions are only proper where the exports create counterflows that relieve limiting elements and cannot be relied upon to flow as needed, neither of which is present here. Shell and Staff counter Southern's argument, claiming that Southern's approach lacks balance because it deducts base exports from the northern interfaces in the aggregated first-tier control area but it does not deduct base exports to Florida. Both Shell and Staff contend that this logical inconsistency has resulted in a dilution effect whereby the amount of power traveling over the northern interface has been reduced, which reduces the possibility that one of the grid's limiting elements, all of which are on the northern interfaces, would be reached. According to Shell and Staff, this dilution effect has artificially increased the relevant SIC values. Furthermore, Shell and Staff argue that the inclusion of Peninsular Florida into the aggregated first-tier control area is inconsistent with Southern's historical practices which usually sets Florida's participation factor at 0% when calculating TTC values.

147. Southern also consolidated all of the Florida Reliability Coordinating Council (FRCC) utilities into a single control area. Southern argues that neither Shell nor Staff has provided evidence that this consolidation artificially increased SIC values. Without evidence of the practical impact of this decision, it finds no merit in their various criticisms and no reason to respond. Shell and Staff contend that the FRCC utilities should not be consolidated because to do so would include utilities in the aggregated first-tier control area that are not directly interconnected with the Southern Control Area in contradiction of Commission precedent.

Positions of the Parties

Southern

The Commission Requires Peninsular Florida to be Included in the Aggregated First-Tier Control Area.

148. According to Southern, Appendix E requires the inclusion of Peninsular Florida in the aggregated first-tier control area.³²⁰ Southern relies on the following quote from Appendix E for support:

The TP [transmission provider] applicant is required to treat the TP control area as a single area (study area) and treat the first-tier markets (single aggregated control area) as a single area (representing the surrounding/available control areas to import power from).³²¹

³²⁰ SCS IB at 49.

³²¹ *Id.* (quoting J-2, p. 1).

149. Applying this instruction, Southern included all interconnected control areas in the aggregate exporting first-tier control area, which Southern contends includes Florida.³²² Conversely, Southern criticizes Shell’s separate treatment of Peninsular Florida as violating this “clear” precedent.³²³

Shell’s “Dilution Effect” Does not Justify its Exclusion of Peninsular Florida.

150. According to Southern, Shell excludes Peninsular Florida because its inclusion results in a “dilution effect,” whereby any increase in the number of participants in the first-tier control area concurrently decreases the level of participation for each entity across the board.³²⁴ The increased number of market participants “makes it less likely that a limiting element will be reached until a ‘much higher SIC value’ is realized as part of a power transfer from other first-tier control areas into the Southern Control Area.”³²⁵

151. Southern rejects the “dilution effect” theory as being “misleading” because “[a]t best, it represents the mathematical effect of compliance with Appendix E’s directive that all first-tier control areas be combined into a single external control area.”³²⁶ In Southern’s opinion, this mathematical reality is “another example that the analysis required by Appendix E ‘is what it is.’”³²⁷

Shell’s Criticism Conspicuously Lacks Certain Key Arguments.

152. Southern then claims that Shell’s critique conspicuously leaves out key arguments.³²⁸ First, Southern asserts that Shell does not “quantify the impact of its argument on Southern Companies’ SIC study[,]” which leaves the critique too speculative to be the basis for rejecting Southern’s SIC analysis.³²⁹ Second, Southern finds it telling that Shell “does not allege that the location of any relevant limiting element would change as a result of including Florida in the first tier control area market in accordance with Appendix E.”³³⁰ Southern notes that Shell

³²² *Id.*

³²³ *Id.*

³²⁴ *Id.*

³²⁵ *Id.* (quoting Shell-21, 42-45).

³²⁶ *Id.* 49 – 50.

³²⁷ *Id.* at 50 (quoting Shell-54, 80)

³²⁸ *Id.*

³²⁹ *See id.*

³³⁰ *Id.*

admits that it has not conducted an analysis to determine if this would occur.³³¹ Therefore, Southern argues that none of the parties have properly challenged its claim that “the inclusion of Florida had no impact on the location of the limiting elements.”³³²

Shell’s “Dilution Effect” is Illogical, Unsubstantiated and Irrelevant.

153. Besides being unsupported, Southern also challenges the logical underpinnings of Shell’s “dilution effect” principle.³³³ Southern maintains that a limiting element is not changed by the addition of a market participant because that number is fixed.³³⁴ For example “[i]f a line becomes fully loaded at 1,000 MW, that same physical limit will be reached at the same point without regard to whether Florida is included in the first-tier control area.”³³⁵ Shell has not provided any evidence that inclusion of Peninsular Florida will “inflate” the total “import capability for the Southern Control Area.”³³⁶ In fact, Southern claims that it tested Shell’s theory of separate treatment and discovered that it actually results in “higher SIC values.”³³⁷ Therefore, Southern claims that the “dilution effect” is an irrelevant observation.³³⁸

Florida’s Import Capability Should not be Calculated Using TTC Values Less TRM and Should not be Reduced by Exports from the Southern Control Area.

154. Southern also disagrees with how Shell has proposed to include Peninsular Florida, if it is to be included at all. Shell contends that Florida’s import capability should be calculated either by using the posted TTC values for the Florida interface less TRM or if an SIC value is calculated, base exports from the Southern Control area should be deducted.³³⁹

155. Southern rejects either approach because the connection with Peninsular Florida is radial in nature and in 2004 “long-term transmission service agreements provide[d] Florida utilities power produced by approximately 2,200 MW of low-

³³¹ *Id.*

³³² *Id.* at 50 – 51.

³³³ *Id.* at 51.

³³⁴ *See id.*

³³⁵ *Id.*

³³⁶ *Id.*

³³⁷ SCS RB at 42.

³³⁸ *See id.*

³³⁹ SCS IB at 52.

cost coal-fired generation, [which] these utilities [owned] or [controlled] but which [was] located in the Southern Control area.”³⁴⁰ Furthermore, a Coordination Agreement between the Southern Control Area and the Florida Reliability Coordinating Council (FRCC), which did not subtract base transfers from the incremental transfer value, governed the treatment of these exports.³⁴¹ In fact to deduct base exports, as Shell suggests, would result in “a negative TTC for Peninsular Florida, a value that is inaccurate and which would present significant operational problems for all parties.”³⁴² According to Southern, reductions for base exports are only appropriate “in those cases where the exports create counterflows that relieve the limiting element and also cannot be depended upon to flow as needed.”³⁴³ But here, neither Shell nor Staff disagree that all the limiting elements are on the Northern interface “and the flows are stable and predictable.”³⁴⁴ Thus, Southern believes that adopting either of Shell’s approaches would ignore historical practice and Commission precedent.³⁴⁵

The FRCC Utilities Should be Consolidated Into the Exporting First-Tier Super Area.

156. In addition to challenging the propriety of including Peninsular Florida in the first-tier control area, Shell argues that Southern violated Appendix E by “consolidating all of the FRCC utilities into a single control area.”³⁴⁶ Southern dismisses this challenge because neither Shell nor Staff provided any proof that this consolidation “artificially” inflated SIC values.³⁴⁷ Furthermore, on cross examination, Shell’s expert witness, Dr. Yang, “conceded that these claims were baseless.”³⁴⁸ Given this lack of evidence to the contrary, Southern claims that its consolidation of the FRCC utilities into one control area did not improperly inflate SIC values.³⁴⁹

³⁴⁰ *Id.*

³⁴¹ *See id.*

³⁴² *Id.* at 53.

³⁴³ *Id.*

³⁴⁴ *Id.* See also SCS RB at 44-45.

³⁴⁵ See SCS IB at 52-53.

³⁴⁶ SCS IB at 51.

³⁴⁷ *Id.*

³⁴⁸ *Id.*

³⁴⁹ *See id.*

Shell

Southern's Treatment of Peninsular Florida's Exports is Inconsistent With its Treatment of the Other Participating Control Areas.

157. Shell challenges Southern's inclusion of Peninsular Florida in the first-tier exporting "Super Area" without subtracting significant base transfers flowing from Southern into Peninsular Florida from the total transfer capability on that interface.³⁵⁰ Shell claims that Southern's failure to subtract base transfers is logically inconsistent with its treatment of the other participants in the "Super Area" (aggregate exporting first-tier control area).³⁵¹ Peninsular Florida should either be included in the Super Area with its base transfers subtracted from the total import capability or it should be excluded and considered separately.³⁵² Southern's current treatment of Florida artificially increases the SIC values for the Southern Control Area.³⁵³

The Inclusion of Peninsular Florida is Substantially Inconsistent With Southern's Historical Practices.

158. Shell also maintains that Southern's treatment of Peninsular Florida is contrary to its historical practices.³⁵⁴ Southern admits that it "does not aggregate Florida into other exporting control areas in calculating posted TTC values."³⁵⁵ Shell claims that "Southern's historical approach to calculating posted TTC values assigns equal [area participation factors] to the Entergy, TVA and VACAR control areas."³⁵⁶ Historically, Southern has separately estimated "the Florida-Southern TTC amount because of the radial nature of its interconnection[.]" and the result is that "Entergy, TVA and VACAR . . . each carry 1/3 of the total import capability, while Florida [area participation factors] are set to zero."³⁵⁷

159. Shell contends that this radical departure from historical practices has resulted in "APFs that differ significantly from those produced by Southern's

³⁵⁰ Shell IB at 63.

³⁵¹ *Id.* at 64 – 65.

³⁵² *Id.* at 65.

³⁵³ *Id.*

³⁵⁴ Shell IB at 65.

³⁵⁵ *Id.*

³⁵⁶ *Id.*

³⁵⁷ *Id.* at 65 – 66.

historical approach to calculating posted TTC values.”³⁵⁸ Specifically, TVA and Entergy’s area participation factors are lower than their historical levels in all ten periods, and VACAR and Florida are assigned significantly more of the transmission capability than history would otherwise suggest they should have, effectively “absorbing” the “excess” area participation factors.³⁵⁹ Whereas Southern has traditionally assigned Florida a 0% share of the area participation factors, it has assigned Southern 10% or higher share in each of the ten DPT periods.³⁶⁰

The Improper Inclusion of Peninsular Florida has a Significant Dilution Effect on SIC Values.

160. Southern’s inclusion of Peninsular Florida in the “Super Area” “dilutes” the pool of participants which reduces the likelihood that a limiting element will be met.³⁶¹ Adding Peninsular Florida to the Super Area disperses the flow of energy across the Southern Control Area transmission grid.³⁶² The result of this is less power flowing to each limiting element, which increases the total amount of power that can be simultaneously imported into the Southern Control Area before overloading a limiting element.³⁶³ Shell does not dispute Southern’s claim that all of the limiting elements are on the Northern Interface.³⁶⁴ This fact actually *supports* Shell’s dilution effect theory because the full participation of the Florida utilities, without any regard to interconnection status, TTCs or base transfers, greatly increases their portion of the SIC “pie,” which expands the number of northern participants that can export power to the Southern Control Area without reaching those limiting elements.³⁶⁵ The result of this dilution effect is an SIC value that is artificially high.³⁶⁶

If Peninsular Florida Must be Included in the Super Area Then Base Exports Must be Subtracted From Southern’s SIC Values.

If Southern is to be considered part of the exporting “Super Area,” Shell argues

³⁵⁸ *Id.* at 66. “Specifically, the APFs assigned by Mr. McLaughlin’s SIC analysis to TVA and Entergy are consistently lower than those under Southern’s historical approach in all ten periods.” *Id.*

³⁵⁹ *Id.*

³⁶⁰ *Id.*

³⁶¹ *Id.*

³⁶² *See id.*

³⁶³ *See id.*

³⁶⁴ Shell RB at 24.

³⁶⁵ *See id.*

³⁶⁶ Shell IB at 65.

that base exports from the Southern Control Area to Peninsular Florida should be subtracted from the total import capability.³⁶⁷ Southern defends its decision to not reduce total import capability, claiming “that because (1) the Southern to Florida base transfers do not provide counterflows on the limiting elements, and (2) [because] the export transfers to Peninsular Florida are likely to flow in real time, a base transfer reduction to [its] SIC values is inappropriate for the Florida interface.”³⁶⁸ Shell disagrees and argues that “the amount of base transfers over the Florida interface has a significant impact on the amount of exports from other first-tier control areas into the Southern control area (*i.e.*, the power flow must balance at all times).”³⁶⁹ Therefore, “the base transfers over the Southern-to-Florida interface and Florida’s participation in a power transfer must be considered together in calculating the resulting SIC for the Southern control area.”³⁷⁰ Thus, Peninsular Florida must both be excluded from the exporting super area and treated separately, or Southern may include it in the exporting super area but then must deduct base transfers on the Peninsular Florida interface from the total import capability so as to maintain consistency and compliance with Appendix E.³⁷¹

Shell Disagrees with Southern’s Inclusion of all the FRCC Utilities in the Super Area.

161. In addition to generally challenging the inclusion of Peninsular Florida, Shell challenges Southern’s definition of “Peninsular Florida[,]” which includes control areas that are not directly interconnected with the Southern control area.³⁷² In fact, Southern’s first tier control area aggregates all control areas in the FRCC, most of which are not directly interconnected to the Southern Control Area.³⁷³ According to Shell, this ignores the Commission’s SIC guidance that the first-tier control area is limited to utilities that are directly interconnected to the study area.³⁷⁴ The practical effect of this aggregation is another artificial inflation of Southern’s SIC values “because a power transfer through the Florida interface would be distributed more widely, even to generators not located in Florida first-

³⁶⁷ *Id.*

³⁶⁸ *Id.* at 66.

³⁶⁹ *Id.* at 66 – 67.

³⁷⁰ *Id.* at 67.

³⁷¹ *See id.*

³⁷² *See id.*

³⁷³ *See id.* at 67 – 68.

³⁷⁴ *See id.* at 68. Shell notes that “Southern’s original SIC study, which the Commission accepted in its December 17, 2004 Order, complied with this requirement by excluding all Florida control areas not directly interconnected to the Southern control area.” *Id.*

tier control areas.”³⁷⁵ Shell argues that this is another example of the “dilution effect” discussed above because the wider distribution significantly reduces the likelihood of overloading any one limiting element.³⁷⁶ Shell concludes that Southern’s improper treatment of Peninsular Florida “renders [its] SIC values inappropriate for use in a DPT analysis of the Southern control area.”³⁷⁷

Staff

Southern is not Required to Include the Florida Utilities in the First-Tier Exporting Super Area.

162. Southern claims that it included the Florida utilities because Appendix E requires it, but Staff disagrees.³⁷⁸ According to Staff, Appendix E only permits the inclusion of utilities that are directly interconnected.³⁷⁹ Most of the Florida utilities are not directly interconnected with the northern control areas.³⁸⁰ In fact, “Southern has historically treated them separately,” and in this proceeding, it has even described the Florida interface as a radial connection without loop flows with the northern control areas.³⁸¹ Therefore, the Commission does not require their inclusion.³⁸²

The Inclusion of the Florida Peninsular Region Without the Proper Deductions Violates Commission Requirements and has Significantly Inflated the Amount of Available Import Capability.

163. Appendix E requires applicants to treat all first-tier markets “as a single aggregated control area” and to treat “all first-tier control areas in the exporting super area . . . equally.”³⁸³ Staff observes that Southern’s 2002 study “included the first-tier Florida control area [in] the aggregated first-tier super area (which included the Northern Interface imports)[,]” and it “deducted the Florida imports from the calculation of the first-contingency total transfer capability (‘FCTTC’).”³⁸⁴ But in Southern’s current 2004 study, it failed to deduct these

³⁷⁵ *Id.*

³⁷⁶ *See id.* at 68 – 69.

³⁷⁷ *Id.* at 69.

³⁷⁸ Staff RB at 19.

³⁷⁹ *See id.*

³⁸⁰ *Id.*

³⁸¹ *Id.*

³⁸² *See id.*

³⁸³ Staff IB at 52.

³⁸⁴ *Id.*

imports as it does for the other participating control areas.³⁸⁵ This violates the Commission's demand for consistency.³⁸⁶

164. Despite its claims to the contrary, Southern's methodology has distorting effects on its SIC analysis.³⁸⁷ It decreases the participation on the northern interface, which increases the SIC values.³⁸⁸ This was described above by Shell and termed the "dilution effect."³⁸⁹

Southern claims to have debunked this "dilution effect."³⁹⁰ According to Southern, it excluded the Florida utilities and the SIC values actually increased, which contradicts Shell and Staff's implicit contention that SIC values would decrease.³⁹¹ Not persuaded by Southern's analysis, Staff explains that this is the result of Southern applying its erroneous optimization methodology, which is discussed above.³⁹² Shell "corrected" Southern's errors in the analysis and determined that including Florida without any adjustment for base transfers "artificially inflated SIC results."³⁹³

165. In addition to the dilution effect, Southern "failed to deduct the Florida base transfers, as was done in its 2002 SIC study."³⁹⁴ If Florida is to be included in the super area, then Staff argues that this failure to deduct base transfers, "results in artificially high SIC (*i.e.* FCTTC) values[.]" which is a major reason that Southern's SIC values exceed their TTC values.³⁹⁵ Therefore, Staff argues that the dilution effect and Southern's failure to deduct Florida's imports substantially overstates Southern's import capability.³⁹⁶

166. According to Staff, the issue is not whether the Florida Interface is included "in the first-tier aggregated control areas when conducting an SIC study," but rather whether the proper adjustment is made when they are included.³⁹⁷ Staff supports either an inclusion of Peninsular Florida that accounts for the base

³⁸⁵ *Id.*

³⁸⁶ *See id.*

³⁸⁷ Staff RB at 20.

³⁸⁸ *Id.*

³⁸⁹ *See id.*

³⁹⁰ *See id.* at 20-21.

³⁹¹ *Id.*

³⁹² *Id.* at 21.

³⁹³ *Id.*

³⁹⁴ Staff IB at 52 – 53.

³⁹⁵ *Id.* at 53.

³⁹⁶ *See id.*

³⁹⁷ *Id.*

transfers or a completely separate treatment of the Florida Interface with the same adjustments made for the calculation of TTC values posted to OASIS.³⁹⁸

Staff Also Disagrees with Southern's Inclusion of All the FRCC Utilities in the Super Area.

167. Finally, Staff disagrees with Southern's inclusion of all of the FRCC utilities in the super area.³⁹⁹ According to Staff, "[t]he Commission has consistently maintained that the SIC study should only include 'directly interconnected first-tier control areas' when conducting the study."⁴⁰⁰ Most of the FRCC Utilities are not directly connected to the Southern Control Area; therefore, Staff argues that the Commission requires their exclusion from the first-tier exporting super-area.⁴⁰¹

Discussion and Findings

168. As Staff has explained,⁴⁰² the Florida-to-Southern Control Area (SCA) interconnection differs from the interconnections with other first-tier control areas because it consists of a radial interconnection providing no loop flows with the northern control areas.⁴⁰³ In other words, Florida is electrically interconnected to the rest of the Eastern Interconnect *only* through the SCA.

169. Because of the radial nature of the Florida interconnection, Southern has historically and appropriately treated it separately by, among other things, setting Florida's area participation factors to zero in calculating posted TTC values. Shell has demonstrated that Southern's historical approach to calculating posted TTC values is to first account for existing service reservations and then to allocate the remaining transmission capability among the three northern interfaces, Entergy Services, Inc (Entergy), Tennessee Valley Authority (TVA) and VACAR, on a uniform 1/3 basis.⁴⁰⁴ As a result of this allocation methodology, Southern historically sets Peninsular Florida's participation factors to zero.⁴⁰⁵

Thus, based on historical practices, there is a strong argument that Peninsular Florida should be excluded from the "Super Area" and considered

³⁹⁸ *Id.* at 53 – 54.

³⁹⁹ *Id.* at 54.

⁴⁰⁰ *Id.* (quoting *AEP I*, 107 FERC ¶ 61,018 at App. E).

⁴⁰¹ *Id.*

⁴⁰² Staff IB at 51-52; Staff RB at 19-21

⁴⁰³ Tr. 496.

⁴⁰⁴ Shell IB at 65.

⁴⁰⁵ *Id.* at 65 – 66.

separately. However, Southern contends that the plain language of Appendix E requires the inclusion of Peninsular Florida in the aggregated first-tier control area, quoting as follows:

The TP [transmission provider] applicant is required to treat the TP control area as a single area (study area) and treat the first-tier markets (single aggregated control area) as a single area (representing the surrounding/available control areas to import power from).⁴⁰⁶

170. While Southern may be correct in concluding that the plain language of Appendix E requires Peninsular Florida to be included in the aggregated first-tier control area in so far as it is directly connected to the Southern Control Area (SCA), Southern has not established that to do so requires it to deviate from its historical practices.

171. Shell and Staff both challenge Southern's inclusion of Peninsular Florida in the first-tier exporting "Super Area" without subtracting significant base transfers flowing from Southern into Peninsular Florida from the total transfer capability on that interface.⁴⁰⁷ Shell asserts that Southern's failure to subtract base transfers is logically inconsistent with its treatment of the other participants in the "Super Area" (aggregate exporting first-tier control area),⁴⁰⁸ and urges that Peninsular Florida should either be included in the Super Area with its base transfers subtracted from the total import capability or it should be excluded and considered separately.⁴⁰⁹

172. While the undersigned concurs with Southern's position that the plain language of Appendix E requires Peninsular Florida to be included in the aggregated first-tier control area in so far as it is directly connected to the SCA, the undersigned also concurs with Shell and Staff's position that if Peninsular Florida is included in the "Super Area" its base transfers must be subtracted from the total import capability. In other words, the issue is not whether the Florida interface should be included in the aggregated first-tier control area, but rather whether the appropriate corresponding adjustment is made when the Florida imports are included.⁴¹⁰

173. Staff observes that Southern's 2002 SIC study included the first-tier Florida control area in the aggregated first-tier super area (which included the northern

⁴⁰⁶ SCS IB at 49. (quoting J-2, p. 1).

⁴⁰⁷ Shell IB at 63.

⁴⁰⁸ *Id.* at 64 – 65.

⁴⁰⁹ *Id.* at 65.

⁴¹⁰ Staff IB at 53.

interface imports) and that Southern deducted the Florida imports from the calculation of the First-contingency Total Transfer Capability (FCTTC).⁴¹¹ But in Southern's current 2004 study, it failed to deduct these imports as it does for the other participating control areas.⁴¹² The undersigned concurs with the position of Shell and Staff that nothing in Appendix E or prior Commission precedent supports such a radical and unbalanced departure from Southern's historical practices.

174. While Staff supports either including Peninsular Florida in the exporting super area and subtracting base transfers from the resulting First Contingency Incremental Transfer Capability (FCITC), or treating the Florida interface separately, making the same adjustments that Southern performed in calculating its posted TTC values,⁴¹³ the undersigned is persuaded that adherence to Commission precedent and Southern's historical practices requires including Peninsular Florida in the exporting "Super Area" but then subtracting base transfers from the resulting FCITC. Further, the undersigned finds that Southern's failure to make this required adjustment grossly inflated its SIC values rendering them inappropriate for use in a DPT analysis of the Southern Control Area.

175. As both Shell and Staff point out, Appendix E and Commission precedent only permit the inclusion of utilities that are directly interconnected first-tier control areas. Southern does not dispute that most of the FRCC utilities are not directly connected to the Southern Control Area. Therefore, Southern's attempt to consolidate all of the FRCC utilities into a single control area must be rejected. In point of fact, Shell notes that Southern's original SIC study, which the Commission accepted in its December 17, 2004 Order, complied with Commission precedent by excluding all Florida control areas not directly interconnected to the Southern control area.⁴¹⁴

Treatment of Transmission Reliability Margin (TRM)

Summary of Parties' Positions

Southern did not reduce its SIC values by Transmission Reliability Margin (TRM) values. Southern claims that it makes TRM available to the market on a non-firm basis, which under Commission precedent, means that it does not have to reduce its SIC analysis by these values. Shell disagrees with this statement, arguing that Commission precedent requires that SIC values be reduced by TRM

⁴¹¹ *Id.*

⁴¹² *Id.*

⁴¹³ *Id.* at 53 – 54.

⁴¹⁴ *See* Shell IB at 68.

even if it is made available to the market on a non-firm basis. Furthermore, Shell argues that Southern has not provided any evidence that it makes TRM available to the market on a non-firm basis. Staff agrees with Southern that it should not reduce its SIC by its TRM, but it reaches this conclusion because it believes that what Southern posts as its TRM on OASIS is actually its CBM, and under existing regulations and orders, the Commission does not subtract CBM from SIC values. Staff offers no opinion on whether the SIC should ignore TRM values that are made available to the market.

Positions of the Parties

Southern

Southern did not Reduce its SIC by its TRM Values Because it Made Such Capacity available to the Non-Firm Market.

176. Southern did not reduce its SIC values by its TRM.⁴¹⁵ “TRM is defined in the Southern Companies OATT as ‘that amount of transmission transfer capability necessary to ensure that the interconnected transmission network is secure under a reasonable range of uncertainties in system conditions.’”⁴¹⁶ Though Southern withholds TRM from the firm market, it claims to have historically offered “such transmission capacity to the market on a non-firm basis.”⁴¹⁷ Commission precedent “only requires reducing SIC by TRM if that applicant does not make TRM available to the market on a non-firm basis.”⁴¹⁸ Though Shell argues that Southern has not provided any evidence that its “consistent practice is to make the full amount of TRM available to the market on a non-firm basis[,]” Southern notes that Shell has not supported this insinuation with any evidence to the contrary.⁴¹⁹

Shell Incorrectly Asserts That SIC Must Always be Reduced by TRM.

Southern rebuts Shell’s claim that Commission precedent requires “TRM to be deducted even if [it] is made available to the market on a non-firm basis[.]”⁴²⁰ Southern argues that Shell relies only on a few “select (and out-of-context) passages of the *AEP II* Order” to support its position.⁴²¹ Southern recognizes that

⁴¹⁵ SCS IB at 54.

⁴¹⁶ *Id.*

⁴¹⁷ *Id.* at 54 -55.

⁴¹⁸ *Id.* at 54.

⁴¹⁹ SCS RB at 47.

⁴²⁰ SCS IB at 56.

⁴²¹ *Id.*

the *AEP II* Order requires applicants to not “ignore” TRM, but “the Order also states that

[i]f TRM is reserved by the transmission-providing utility applicant on any flowgate or path, the lines associated with such flowgate or path should be de-rated to reflect the reliability margin that is not available to transmission customers for non-firm transmission reservations during recent seasonal peaks.⁴²²

177. The rest of the Order indicates that TRM should not be deducted if the applicant makes it available on a non-firm basis.⁴²³ Besides being consistent with the Commission’s requirement that TRM not be ignored, this language also instructs applicants to use the same methodologies found in the transmission provider’s OATT tariff.⁴²⁴ According to Southern, Shell simply ignores the part of the opinion instructing case-by-case treatment of TRM and latches on to the earlier language in the opinion that it claims establishes a bright line rule of SIC reduction.⁴²⁵ Therefore, Southern claims that its treatment of TRM is in compliance with historical practices and the Commission’s precedent.⁴²⁶

Shell

The Commission Prohibits the Deduction of TRM.

Shell opposes Southern’s failure to deduct TRM values from its SIC calculations. Shell claims that the deduction of TRM incorrectly “increases [its] base case values during 2004 seasonal peaks at four major interfaces by approximately 900 MW.”⁴²⁷ According to Shell, Southern’s treatment of TRM “runs directly counter to the Commission’s SIC guidance.”⁴²⁸

We reject EEI and Southern Companies’ proposal that the simultaneous transmission import capability measure should include TRM. In other words, EEI and Southern Companies propose to ignore TRM in the base case, thus making a larger amount of simultaneous transmission import capability available to competing generators. TRM is controlled by the transmission-providing utility and should not be ignored. Therefore, base

⁴²² *Id.* (citing *AEP II*, 108 FERC ¶ 61,026 at P 47)

⁴²³ *Id.*

⁴²⁴ *Id.*

⁴²⁵ SCS RB at 47-48.

⁴²⁶ *See id.*

⁴²⁷ Shell IB at 69.

⁴²⁸ *Id.* at 70.

cases should include TRM on appropriate flowgates. TRM is a margin prescribed by the North American Electric Reliability Council (NERC) to insure that grid reliability remains a priority.⁴²⁹

178. Comparatively, “the Commission required only a qualified deduction to SIC values to reflect [Capacity Benefit Margin] CBM ‘to the extent that CBM transmission margins were utilized for system reliability during recent seasonal peaks.’”⁴³⁰ If CBM were made available to customers on a non-firm basis, then “it could be properly included in SIC values.”⁴³¹ Where the Commission wanted to permit the inclusion of reserve “margins” it did so in clear language.⁴³²

Southern Badly Misconstrued Commission Precedent.

179. Next, Shell claims that Southern “badly misconstrues” sub-paragraph 51(a) from *AEP II*, which it allegedly relies upon.⁴³³ Shell points to the prefatory statement to Paragraph 51, claiming that it clearly indicates the purpose of the paragraph is to discuss implementation of, “not modification to, its earlier guidance regarding TRM and CBM.”⁴³⁴

*With regard to requests for guidance in modeling or making adjustments to the base case for TRM, and portions of CBM not available to firm and non-firm transactions, we clarify that:*⁴³⁵

180. After which the Commission then provides the following “guidance on how to properly reflect TRM and portions of CBM not made available in a non-firm market.”⁴³⁶

If TRM is reserved by the transmission-providing utility applicant on any flowgate or path, the lines associated with such flowgate or path should be de-rated to reflect the reliability margin that is not available to transmission customers for non-firm transmission reservations during recent seasonal peaks;

⁴²⁹ *Id.* at 70 – 71 (quoting *AEP II*, 108 FERC ¶ 61,026 at P 47) (alteration in original).

⁴³⁰ *Id.* at 71 (quoting *AEP II*, 108 FERC ¶ 61,026 at P 48).

⁴³¹ *Id.*

⁴³² *See id.*

⁴³³ *Id.* at 71.

⁴³⁴ *Id.*

⁴³⁵ *Id.* (quoting *AEP II*, 108 FERC ¶ 61,026 at P 51) (alteration in original).

⁴³⁶ *Id.* at 72.

If CBM is not made available, in whole or in part, to non-firm markets, the base case should reflect the reliability margin by modeling generation outage and path de-ratings that simulate the CBM not available to unaffiliated transmission customers in non-firm transmission markets (modeled as inputs in the base case);⁴³⁷

181. Shell claims that Southern's argument hinges on the phrase, "to reflect the reliability margin that is not available to transmission customers for non-firm transmission reservations during recent seasonal peaks."⁴³⁸ According to Shell, Southern misinterprets this phrase to extend CBM treatment to TRM, but Paragraph 47 of the same opinion recognizes that TRM is required by NERC to ensure grid reliability, and as such *must* be subtracted from SIC values "to reflect the reliability margin that is not available to transmission customers for non-firm transmission reservations during recent seasonal peaks."⁴³⁹ Shell claims that if the Commission were to accept Southern's interpretation of *AEP II* it would completely obviate the otherwise clear distinction between CBM and TRM that is drawn in the above quotations.⁴⁴⁰

182. Shell then clarifies that the distinction between CBM and TRM is rooted in the different functions they each serve.⁴⁴¹ "TRM is the amount of transmission transfer capability necessary to ensure that the interconnected transmission network will be secure under a reasonable range of uncertainties in system conditions."⁴⁴² But "CBM is the amount of firm transmission transfer capability reserved by the transmission provider so that load serving entities, whose loads are located on the transmission provider's system, can access remote reserve generation from interconnected systems."⁴⁴³ Therefore, "TRM is a reliability margin [that exists] for the benefit of the entire transmission grid[.]" but "only portions of CBM may be used for the grid reliability, and then only to benefit load serving entities."⁴⁴⁴

Southern has Failed to Produce any Evidence That it Makes TRM Available to the Non-Firm Market.

183. Additionally, Shell argues that regardless of whose interpretation of *AEP II*

⁴³⁷ *Id.* (quoting *AEP II*, 108 FERC ¶ 61,026 at P 51).

⁴³⁸ *Id.*

⁴³⁹ *Id.*

⁴⁴⁰ *Id.* at 72 – 73.

⁴⁴¹ *Id.* at 73.

⁴⁴² *Id.*

⁴⁴³ *Id.*

⁴⁴⁴ *Id.*

is correct, “Southern has not provided any evidence demonstrating that it has made TRM fully available to the market on a non-firm basis.”⁴⁴⁵ Shell claims that the sparse evidence provided by Southern actually suggests that it “may not have made TRM and CBM fully available to the market on a non-firm basis.”⁴⁴⁶

Southern and Staff do not Really Agree on This Issue.

184. Shell also takes issue with Southern’s attempt to “wrap itself in agreement with Trial Staff.”⁴⁴⁷ The only reason that Staff “did not contest Southern’s treatment of TRM [is] because, in [Staff’s] view, what Southern actually posts on its OASIS as ‘TRM’ is, in fact, CBM, which may be included in SIC values under certain circumstances.”⁴⁴⁸ In contrast to Staff’s belief, “Southern’s historical operating practices for determining ATC reflect the separate calculation and posting of TRM and CBM values, and demonstrate that Southern considers its posted TTC values to contain separate amounts of TRM and CBM-related capacity.”⁴⁴⁹ Therefore, Southern’s own practices repudiate the only grounds on which it could find agreement between itself and Staff on the issue of TRM adjustments.⁴⁵⁰

Staff

Southern’s TRM is Actually CBM.

185. Staff agrees with Southern that its SIC values should not be reduced to account for either the CBM or the TRM, but it does so for different reasons.⁴⁵¹ Staff begins by noting that the Commission has recognized “that SIC results need not be reduced by CBM because it is common industry practice for transmission providers to make CBM available to the non-firm market.”⁴⁵² Staff then argues, “that no deduction is needed, because despite the fact that Southern posts what it claims is ‘TRM’ on its OASIS, its actual TRM is and always has been zero.”⁴⁵³ According to Staff the problem is that the values “Southern posts on its OASIS as TRM are actually CBM, as that term is understood in the industry.”⁴⁵⁴

⁴⁴⁵ *Id.*

⁴⁴⁶ *Id.* at 73 – 74.

⁴⁴⁷ Shell RB at 25.

⁴⁴⁸ *Id.* at 25-26.

⁴⁴⁹ *Id.* at 26.

⁴⁵⁰ *See id.*

⁴⁵¹ Staff IB at 54.

⁴⁵² *Id.* at 55.

⁴⁵³ *Id.*

⁴⁵⁴ *Id.* at 56.

186. Staff goes on to explain why it believes that Southern is incorrectly posting CBM as TRM. According to Staff, a comparison of the various components of Southern's "TRM" with the four components of the TRM in the SCA shows that "[o]f the four components, only one has any MWs associated with it: the fourth component entitled: 'Short Term Operator Response/System Response/Operating Reserves – 900 MW.'"⁴⁵⁵ This fourth component of TRM is described as follows:

Following a contingency, system operators take immediate actions, either individually or in concert with other operators, to maintain the reliability of the transmission system. Transmission capacity must remain available to allow for operator flexibility immediately following such a contingency. The need for a transfer margin to ensure the reliability of the transmission system across the Southern Control Area is determined for imports into the Southern Control Area for all major interfaces. Southern Control Area's TRM component for "Short Term Operator Response / System Response" is 900 MW for imports and zero for exports.⁴⁵⁶

187. As opposed to TRM, which is "a margin for error that is typically built into ATC that accounts for unknown or unknowable factors[,]" Staff asserts that this is actually a description of CBM, which can be included in SIC if it is made available to the market.⁴⁵⁷ This means that Southern's TRM is actually set to zero.⁴⁵⁸

Staff Offers no Opinion as to Whether TRM Should be Subtracted from SIC When it is Made Available to the Non-Firm Market.

188. Though Shell contends that TRM should not be ignored in a SIC analysis regardless of whether it is made available on the non-firm market, Staff offers no opinion on this issue because it believes that Southern's "TRMs" are actually "CBMs" and Southern's TRMs are actually zero, effectively mooting this issue.⁴⁵⁹

Discussion and Findings

189. Southern acknowledges that it did not reduce its SIC values by TRM values but argues that while the *AEP II* Order instructs applicants to not "ignore" TRM, the rest of the Order indicates that TRM should not be deducted if the applicant

⁴⁵⁵ *Id.*

⁴⁵⁶ *Id.* at 56 – 57.

⁴⁵⁷ *See id.*

⁴⁵⁸ *See id.* at 57.

⁴⁵⁹ *Id.*

makes it available on a non-firm basis.⁴⁶⁰ Southern points out that “the Order also states that

[i]f TRM is reserved by the transmission-providing utility applicant on any flowgate or path, the lines associated with such flowgate or path should be de-rated to reflect the reliability margin that is not available to transmission customers for non-firm transmission reservations during recent seasonal peaks.⁴⁶¹

190. Thus, Southern argues that this language is consistent with its requirement that TRM not be “ignored” and that SIC development “should use the methodologies outlined in [the transmission provider’s] Commission-approved OATT tariff.”⁴⁶² Therefore, Southern claims that its treatment of TRM is in compliance with historical practices and the Commission’s precedent.⁴⁶³

191. As outlined supra, Shell strongly disagrees with Southern’s position that TRM should not be deducted if the applicant makes it available on a non-firm basis and attempts to rebut Southern’s arguments in this regard on several fronts. However, after careful consideration of the record and the arguments of the parties on this issue, it is the determination of the undersigned that Shell has failed to meet its burden of proof to establish that Southern’s treatment of TRM does not comply with historical practices and/or the Commission’s precedent. Accordingly, Southern’s position is adopted on this issue.

Total Transfer Capability as a cap on SIC values

Summary of Parties’ Positions

192. Some of Southern’s SIC values exceed their monthly posted TTC values. Southern rejects Shell and Staff’s argument that TTC values should serve as a “cap” on SIC values. Southern maintains that any comparison between TTC values and SIC values will be inherently flawed and meritless because the two employ different methodologies. According to Southern, using TTC values as a cap on SIC values illogically assumes that there is one “correct” TTC value despite the fact that it posts hundreds of such values per month. Furthermore, Southern finds no supporting precedent in the Commission’s regulations or orders. Shell and Staff disagree with Southern and read Commission precedent to require SIC values to always be less than TTC values. Shell flatly rejects Southern’s

⁴⁶⁰ SCS IB at 56.

⁴⁶¹ *Id.* (citing *AEP II*, 108 FERC ¶ 61,026 at P 47)

⁴⁶² *Id.*

⁴⁶³ SCS RB at 47-48

criticisms of the cap as being based purely in the realm of engineering when all that is relevant here is the guidance and requirements of Commission precedent. Staff recognizes that its use of TTC values as a substitute for SIC values is a conservative methodology, but it recommends that if the Presiding Judge declines to use them as such, she should at least use the TTC values as a “cap” on the SIC values produced by Southern and Shell.

Positions of the Parties

Southern

TTC Values Should not Serve as a Cap on SIC Values Because They are not Comparable Data Sets.

193. Southern rejects any contention that TTCs should serve as a cap on SIC values computed for the DPT study.⁴⁶⁴ Southern argues that the methodological differences between the calculation of TTCs and SIC renders any comparison of the two meritless.⁴⁶⁵

First, the SIC value . . . is a seasonal value while TTC values are calculated and posted on a monthly, weekly, daily and hourly basis with routine updates conducted to reflect the process of rolling in new transmission reservations as they are made.”⁴⁶⁶

194. Southern claims that Shell and Staff attempt to mask these differences by averaging monthly TTCs in a given season to derive a value to compare with Southern’s SIC values, and the practical result is a likely lowering of the true peak TTC values in that season.⁴⁶⁷ Second, “a single control-area-wide SIC value, calculated in accordance with Appendix E relies on different data and methodology than path-specific TTC values posted on OASIS.”⁴⁶⁸ Third, a comparison illogically suggests that there is only one “correct” set of TTC values to represent all of 2004.⁴⁶⁹ In reality, Southern posts hundreds of TTC values per month while Shell and Staff’s values are the product of “averages of only twelve such values.”⁴⁷⁰ Each of these TTC calculations incorporates different

⁴⁶⁴ SCS IB at 62.

⁴⁶⁵ *Id.* at 77 – 78.

⁴⁶⁶ *Id.* at 78.

⁴⁶⁷ *See id.*

⁴⁶⁸ SCS RB at 14.

⁴⁶⁹ SCS IB at 78.

⁴⁷⁰ *Id.*

“underlying power flow cases [representing] different study conditions.”⁴⁷¹ Consequently, this comparison “lacks principled foundation and ignores the relative merits of each study.”⁴⁷²

Shell’s Capping Theory Lacks Credibility Because Shell’s SIC Values Exceed Posted TTC Values in Some Periods.

195. Southern argues that Shell’s “capping” theory is undermined by the very fact that Shell’s SIC values also “exceed Southern Companies’ posted TTCs in several periods.”⁴⁷³ Shell originally claimed that Southern’s excessive SIC values (*i.e.* wherever Southern’s SIC exceed the Posted TTC) must be the product of “a significant flaw in either the base power flows or the methodology[.]”⁴⁷⁴ But Shell’s SIC values also exceed Southern’s posted TTCs in several months.⁴⁷⁵ Shell attempted to explain this contradiction, claiming that its “SIC analysis methodology uses certain assumptions and procedures that are different from the assumptions and procedures used in calculating TTC.”⁴⁷⁶ But Southern argues that “[i]t is precisely because SICs and TTCs are different studies conducted using different parameters for different periods of time that the two studies will inevitably yield different results” and do not provide adequate grounds for comparison.⁴⁷⁷

Commission Precedent Does not Require SIC Values to be Lower Than Posted Simultaneous TTC Values.

196. Southern also rejects Shell and Staff’s claim that the Commission requires SIC values to be less than posted TTC values.⁴⁷⁸ Staff and Shell consistently rely on the Commission’s claims “that TTC values ‘may overstate’ import capability as evidence TTCs should cap Appendix E SIC values” to support their belief that TTC values are the “ceiling” for SIC calculations.⁴⁷⁹ Southern argues that Shell and Staff are ignoring the basis for these decisions, which has led them to an errant interpretation.⁴⁸⁰

⁴⁷¹ *Id.*

⁴⁷² *Id.*

⁴⁷³ *Id.* at 79.

⁴⁷⁴ *Id.* (quoting Shell -21, p. 34).

⁴⁷⁵ *Id.*

⁴⁷⁶ *Id.* (quoting Shell -21, at 60).

⁴⁷⁷ *Id.*

⁴⁷⁸ *Id.* at 80.

⁴⁷⁹ *Id.*

⁴⁸⁰ *Id.*

197. According to Southern, the precedent that speaks about TTCs being the upper limit or inherently greater than SIC values was based on the notion that TTCs were not measuring simultaneous flows.⁴⁸¹ But Southern's TTC values account for simultaneous importation over the various interfaces.⁴⁸² It's simply a truism that non-simultaneous TTCs will be greater than SIC values, but there is no logical reason to extend this precedent to Southern's simultaneous TTCs.⁴⁸³

198. Furthermore, Shell's reliance on Order No. 697 is misplaced.⁴⁸⁴ "Nowhere in the cited passage does the Commission mention TTCs."⁴⁸⁵ Rather, the Commission requires the applicant to adhere to its historical practices when it performs the SIC analysis, which is an instruction that Southern claims it has followed while Shell and Staff have not.⁴⁸⁶

Though Southern Admitted to not Recalling Another SIC Study Where SIC Values Exceeded TTC Values, This is Only Because There Have not Been any Other Comparisons of the Two.

199. Southern claims that Shell "misrepresents" Southern's witness, Dr. Hieronymus', statement "that he did not recall any prior SIC studies in which SIC exceeded TTC values."⁴⁸⁷ As opposed to being evidence of a flaw in Southern's methodology, Southern claims that this really reflects the lack of TTC and SIC comparisons in past cases.⁴⁸⁸ According to Southern, neither Shell nor Staff has pointed "to one single case in which an applicant's SIC values were impeached by comparison to corresponding TTC values."⁴⁸⁹

Southern Defends Staff's Attempt to Substitute TTC Values for SIC Values.

200. Though it disagrees with Staff's application of the TTC "cap," it defends Staff's substitution of TTC for SIC against Shell's criticisms.⁴⁹⁰ Shell's criticizes the substitution of TTC's because they "do not account for external transmission

⁴⁸¹ *Id.*

⁴⁸² *Id.* at 80 – 81.

⁴⁸³ *Id.* at 81.

⁴⁸⁴ SCS RB at 20.

⁴⁸⁵ *Id.*

⁴⁸⁶ *Id.*

⁴⁸⁷ *Id.* at 17.

⁴⁸⁸ *Id.*

⁴⁸⁹ *Id.*

⁴⁹⁰ *Id.* at 20.

limitations.”⁴⁹¹ But this ignores the fact that *all* of the studies performed in this proceeding have accounted for internal limitations but ignored external limitations.⁴⁹² Also, Shell cannot “retroactively apply a rule from Order No. 697 in an effort to condemn analysis [(i.e. substituting TTC values for SIC values)] performed before the rule’s promulgation.”⁴⁹³ Finally, “not a single party in this case has disputed the fact that Southern Companies’ TTC value are, as a point of fact, simultaneous in nature.” According to Southern, this collectively means that Shell “presents no compelling attack” on Staff’s decision to substitute TTCs for SICs.⁴⁹⁴

If TTC Values Have any Relationship With SIC Values it Should be as a Floor Instead of a Ceiling.

201. Southern then argues that if TTC values are relevant to the SIC, then they should be regarded as a floor instead of a ceiling.⁴⁹⁵ Southern contends that SIC values significantly below posted TTC values should cause more concern than SIC values greater than TTC values.⁴⁹⁶ According to Southern this “would suggest that actual import capability was less than shown under prior calculations made in accordance with Southern Companies’ actual historical practices.”⁴⁹⁷ Shell “presents SIC values that it claims are dramatically lower than those posted TTC values[,]” but it fails to explain why the actual import capability should be substantially lower than the TTC values posted on OASIS.⁴⁹⁸ Specifically, Staff “offers no explanation for the fact that Southern Companies posted over 10,400 MW of transmission import capability in December of 2004, yet [it] estimates Southern Companies’ SIC for the Winter season to be approximately half of that value at 5,338 MW.”⁴⁹⁹ This would suggest that Southern posted TTC values that were far in excess of its actual import capability, which is clearly an illogical proposition.⁵⁰⁰

Neither Shell nor Staff Have Demonstrated that Southern’s SIC Values are Greater Than TTC Values in the Same Period.

⁴⁹¹ *Id.*

⁴⁹² *See id.*

⁴⁹³ *Id.* at 21.

⁴⁹⁴ *Id.*

⁴⁹⁵ *Id.*

⁴⁹⁶ *Id.*

⁴⁹⁷ *Id.*

⁴⁹⁸ *See id.* at 21-22.

⁴⁹⁹ *Id.* at 22.

⁵⁰⁰ *See id.* at 21-23.

202. Finally, even if TTC values are used to “cap” SIC values, Southern claims that neither Shell nor Staff has proved that Southern’s SIC values actually exceed the posted TTCs because “the record in this case does not include a period-by-period analysis of TTC values and SIC values sufficient to determine the relationship between the two values in each relevant period.”⁵⁰¹ Rather, Shell and Staff have employed seasonal averages “that disguise and distort the more granular values from which these averages are derived.”⁵⁰² According to Southern, Staff and Shell have avoided such a “granular” comparison because it would contradict their theory “that posted TTCs will in all cases exceed SIC values.”⁵⁰³

Shell

The Commission Requires SIC Values to be Less Than or Equal to Posted TTC Values.

203. Shell argues that the Commission has clearly instructed applicants that Appendix E studies should not produce results greater than TTCs.⁵⁰⁴ Shell claims that *AEP I* chose to use SIC in lieu of TTC because it is not possible to simultaneously import the amount of generation that is found in the TTC values posted to OASIS.⁵⁰⁵ Additionally, Shell cites Order 697 for the proposition that an SIC study should reflect transmission capability “no greater than the capability measures that were historically shown on the OASIS or that were historically used to measure transmission capability into markets.”⁵⁰⁶

Southern’s SIC Values Significantly Exceed Posted TTC Values.

204. Southern’s SIC analysis ignores this precedent because it produces values that considerably exceed the TTC values that were posted to OASIS in 2004.⁵⁰⁷ According to Shell, Southern does not deny this fact.⁵⁰⁸ Rather, Southern claims that the two values cannot be compared and denies that the Commission has established TTCs as an upper limit for SIC values.⁵⁰⁹

⁵⁰¹ *Id.* at 16.

⁵⁰² *Id.*

⁵⁰³ *Id.*

⁵⁰⁴ Shell IB at 43.

⁵⁰⁵ *Id.*

⁵⁰⁶ *Id.*

⁵⁰⁷ *Id.* at 50.

⁵⁰⁸ *Id.* at 51.

⁵⁰⁹ *Id.*

Despite Engineering Differences, the Commission has Clearly Announced SIC Values Should not Exceed Posted TTCs.

205. The very purpose of the SIC mandates that TTC values serve as their cap.⁵¹⁰ Though Southern may be right that there is no “engineering basis for limiting SIC by TTCs, that contention holds no weight here because SIC studies are not supposed to reflect “a theoretical maximum import capability or a best case scenario.”⁵¹¹ Rather, the SIC is “intended to provide a reasonable simulation of historical conditions.”⁵¹²

206. Furthermore, Southern contradicted itself when its witness, Dr. Hieronymus, recognized at the hearing that TTC and SIC are related for DPT purposes.⁵¹³ According to Shell, Dr. Hieronymus “analogized TTC to the amount of ‘pipe’ that could be used to bring generation into the control area under review.”⁵¹⁴ Not only does this imply a relationship between TTC values and the import capability, but it is also an implied admission that the TTC values are the *maximum* amount of energy that can be carried into the Southern Control Area.⁵¹⁵ Additionally, none of Southern’s witnesses could recall a DPT study in which SIC values exceeded posted TTC values.⁵¹⁶

207. Furthermore, Southern is “simply wrong in asserting that the Commission has not established posted TTC values as an upper limit on SIC values; it has in unambiguous terms.”⁵¹⁷ In fact, Shell notes that the July 2005 Order in this case rejected Southern’s proposal to rely on monthly TTC values, which Southern claimed were based on simultaneous imports, solely because those values *overstated* the amount of import capability into the Southern Control Area.⁵¹⁸ In *AEP II*, the Commission rejected the use of TTC values that reflected simultaneous imports because they overstated generation capability.⁵¹⁹ Furthermore, “Order 697 unequivocally states that an SIC study must reflect transmission capability ‘no greater than the capability measures that were historically shown on the OASIS or that were historically used to measure

⁵¹⁰ *See id.* at 51-52.

⁵¹¹ *Id.*

⁵¹² *Id.* at 52.

⁵¹³ *Id.* at 54 (citing Tr. At 529).

⁵¹⁴ *Id.* at 55.

⁵¹⁵ *See id.*

⁵¹⁶ *See id.*

⁵¹⁷ *Id.* at 52.

⁵¹⁸ *See id.* at 52 – 53.

⁵¹⁹ Shell RB at 7.

transmission capability into markets.”⁵²⁰ According to Shell, this clearly rebuts the distinction that Southern attempted to draw by claiming that its TTCs represented simultaneous capability.⁵²¹

Shell's SIC Results are not Impeached by the Fact That They Exceed Southern's Posted TTC Values in Some Periods.

208. Finally, Shell confronts “Southern’s desperate attempt to impeach this Commission policy through reference to Dr. Yang’s monthly SIC values [which] conveniently overlooks the fact that the *seasonal* SIC values actually proposed by Dr. Yang do not exceed the corresponding, TTC-based seasonal values.”⁵²² Furthermore, as one of the parties advocating the use of TTC values as a cap on SIC, Shell has no problem with capping the few of its DPT periods where it’s SIC values exceed the posted TTC values.⁵²³ But the existence of these periods does not provide any grounds to ignore or overturn the Commission’s rule setting TTC values as the cap on SIC values.⁵²⁴

Staff

TTC Values Should be Used as a Conservative Substitute for SIC or at Least as a Cap on SIC Values.

209. Staff argues that Southern’s posted TTCs are the upper limit for SIC values in a proper DPT analysis and proposes using them as a conservative substitute for an SIC analysis.⁵²⁵ Staff recognizes the Commission’s preference for SIC analysis but claims that it was not able to produce such a study with the information provided by Southern.⁵²⁶

210. Staff notes that the Commission previously rejected Southern’s use of TTCs instead of SIC solely because it could not prove that they accounted for simultaneous limits.⁵²⁷ However, Staff claims to have confirmed that Southern’s TTCs were calculated on a simultaneous basis, and as such comply with the intent of Appendix E.⁵²⁸ Order 697 “clarified what demonstrations were needed for

⁵²⁰ Shell IB at 53 (citing *Order No. 697*, 119 FERC ¶ 61,295 at P 356).

⁵²¹ *Id.*

⁵²² Shell RB at 8.

⁵²³ *See id.*

⁵²⁴ *See id.*

⁵²⁵ Staff IB at 26.

⁵²⁶ *Id.*

⁵²⁷ *Id.* at 27.

⁵²⁸ *Id.* at 26 - 27.

TTCs to be used as a proxy for SIC values in a DPT.”⁵²⁹

Sellers submitting simultaneous TTC values must provide evidence that these values account for simultaneity, account for all internal transmission limitations, account for all external transmission limitations existing in first-tier areas, account for all transmission reliability margins, and are used in operating the transmission system and posting availability on OASIS.⁵³⁰

211. Staff contends that the evidentiary record in this case clearly demonstrates that Southern’s TTC values account for: “1) simultaneity, 2) all internal transmission limitations, and 3) all transmission reliability margins, as well as the fact that they are used in operating the transmission system and posting availability on Southern’s OASIS.”⁵³¹ Staff admits that Southern’s TTCs do not account for external limitations in the first-tier control areas, but it claims that if these limitations were added to the calculation, the import capability could only be reduced.⁵³² Therefore, the TTC values that Staff uses in lieu of a SIC analysis are conservative, and should be used as a substitute for or at least as a cap on import capability available in the DPT analysis.⁵³³

Southern’s SIC Values Must be Inherently Flawed Because They Exceed Posted TTC Values.

212. Staff rejects Southern’s SIC values because they exceed posted TTC values.⁵³⁴ According to Staff, this shows that Southern’s SIC analysis is inherently “flawed.”⁵³⁵ “A properly-constructed SIC analysis under the Commission’s Appendix E framework should not result in SIC values that exceed historically posted TTC values[.]”⁵³⁶ Furthermore, the Commission has consistently held that TTCs represent the upper limit for SIC values because TTCs assume an “unrealistically high degree of transmission access for competitors.”⁵³⁷ Staff also relies on the following language from the recently issued Order No. 697,

The Commission agrees with Montana Counsel and clarifies for PPL Companies that a [SIC] study must reflect transmission capability *no*

⁵²⁹ *Id.* at 27.

⁵³⁰ *Id.* (quoting S-51 at 41:1-4).

⁵³¹ *Id.* at 28.

⁵³² *Id.*

⁵³³ *Id.*

⁵³⁴ *Id.* at 28.

⁵³⁵ *Id.* at 28 – 29.

⁵³⁶ *Id.* at 29.

⁵³⁷ *Id.* at 29 (quoting *Hearing Order*, 112 FERC ¶ 61,054 at P 51).

*greater than the capability measures that were historically shown on the OASIS or that were historically used to measure transmission capability into markets unless there is a demonstrated change in transmission capability, and account for the actual practice of posting ATC to OASIS in order to capture a realistic approximation of first-tier generation access to the seller's market.*⁵³⁸

213. Given that Southern's SIC values clearly exceed the limits established by the Commission, they must be inherently flawed or distort the truth about Southern's import capability.⁵³⁹

Despite its Criticisms, Southern Often Employs Averaged Data in Its SIC Calculations.

214. Southern attacks Shell and Staff's SIC studies because of their use of averaging techniques.⁵⁴⁰ Staff turns the table on Southern by noting that "most of the data that Southern uses reflect[s] averaging."⁵⁴¹ For example, Southern's "load values, de-ratings for forced and unforced outages, unit running costs and operating reserves all reflect averages across DPT periods."⁵⁴² Similarly, Southern has actually *supports* the use of a five-year average derating methodology for the calculation of hydroelectric capacity.⁵⁴³

Shell Disagrees with Southern's Claim That the SIC and TTC Values Cannot be Compared.

215. Southern defends its SIC values by claiming that Commission precedent does not require TTC values to serve as an upper limit for SIC values.⁵⁴⁴ Southern discredits comparisons of TTC and SIC because: "1) different underlying assumptions and methodologies are used; 2) there is no single simultaneous TTC value to compare with SIC values because Southern posts hundreds of thousands of TTC values each year; and 3) no direct, predictable correlation exists between SIC and TTC values."⁵⁴⁵ Staff systematically rebuts each of these claims.⁵⁴⁶

⁵³⁸ *Id.* (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 356) (alteration in original).

⁵³⁹ *See id.*

⁵⁴⁰ *See* Staff RB at 29.

⁵⁴¹ *Id.*

⁵⁴² *Id.*

⁵⁴³ *See id.*

⁵⁴⁴ Staff IB at 29.

⁵⁴⁵ *Id.* at 29 – 30.

⁵⁴⁶ *See id.* at 30 – 34.

216. Southern's first defense regarding different methodologies, clearly ignores the Commission's guidance "that the SIC analysis *should* be based on the same 'operational practices historically used' to estimate "the simultaneous imports that could have historically been utilized by remote resources."⁵⁴⁷ Thus, Southern's first defense correctly captures the problem with its SIC analysis, which is that it fails to follow the Commission's guidance and apply the same methodologies that were used to calculate the total import capability made available to customers.⁵⁴⁸ The Commission has consistently made it clear that the SIC is a calculation that should "provide a *reasonable simulation of historical conditions*' and is *not* 'a *theoretical maximum import capability or best case scenario*.'"⁵⁴⁹ According to Staff, Southern's SIC analysis incorporates different methodologies because it ignores the Commission's desire to have an SIC that reflects reality as opposed to best case scenarios.⁵⁵⁰

217. Southern's second defense is equally without merit.⁵⁵¹ Though Staff recognizes that Southern posts many TTC values throughout the year for different periods, it believes that the "last updated 2004 monthly TTC values that were posted on the OASIS provide the most appropriate set of TTC values for use in this case."⁵⁵² Furthermore, Staff proved that these values and SIC values can be successfully compared because that is precisely what it did when it concluded that Southern's SIC values exceeded its "last updated 2004 monthly TTC values."⁵⁵³

218. Finally, Southern's third defense disturbs Staff.⁵⁵⁴ Southern's TTC values are *supposed* to represent the total transmission capability that it could have made available to the market.⁵⁵⁵ If Southern's SIC values also measure import capability, "it is difficult to understand how a properly-calculated DPT analysis could be predicated on an import capability analysis that assumes imports in excess of what was actually made available to the market."⁵⁵⁶ "In other words, how would a potential supplier request capacity above what is posted on the

⁵⁴⁷ *Id.* at 30.

⁵⁴⁸ *See id.* at 30 – 31.

⁵⁴⁹ *Id.* at 30 (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 354) (alteration in original).

⁵⁵⁰ *See id.* at 31.

⁵⁵¹ *Id.*

⁵⁵² *Id.*

⁵⁵³ *Id.*

⁵⁵⁴ *Id.*

⁵⁵⁵ *Id.*

⁵⁵⁶ *Id.* at 31 – 32.

OASIS?”⁵⁵⁷ This is critical because if the transmission capability was not made available to other market participants, then there was no way for their energy to discipline Southern’s potential monopolist pricing behavior, which is the primary concern of the DPT.⁵⁵⁸ Therefore, Southern’s claim that the two calculations have no correlation is either indicative of another problem or is a misrepresentation of reality.⁵⁵⁹

219. Southern responds to Staff last criticism by claiming that it posts conservative TTC values and makes additional capacity available on the market according to demand; therefore, it should not be limited by TTC values.⁵⁶⁰ But Staff again argues that “Southern should be posting all of its available transmission capacity on each interface and allowing market participants to decide where to take service.”⁵⁶¹ That Southern appears to admit that it makes more capacity available than what it posts to OASIS suggests that it is “purposefully and systematically” underreporting “its available transmission capacity.”⁵⁶² If this is true, then it should give the Commission cause for concern.⁵⁶³

Southern’s Attempt to Distinguish Itself From Commission Precedent is Irrelevant Because the Commission Also Rejects the Use of Simultaneous TTC Values.

220. Southern also attempts to distinguish itself from the Commission’s precedent by noting that its TTCs account for simultaneous imports.⁵⁶⁴ This fact is irrelevant because the Commission has previously rejected proposals to use simultaneous TTC values.⁵⁶⁵ The issue is not whether Southern’s TTC values account for simultaneity, “but rather whether the SIC values exceed what Southern posts on its OASIS and what it makes available to the market.”⁵⁶⁶ Thus, Staff argues for the rejection of any SIC values that exceed Southern’s TTC values posted to OASIS.⁵⁶⁷

⁵⁵⁷ *Id.* at 32.

⁵⁵⁸ *Id.*

⁵⁵⁹ *See id.*

⁵⁶⁰ *Id.* at 32 – 33.

⁵⁶¹ *Id.* at 33.

⁵⁶² *Id.*

⁵⁶³ *See id.*

⁵⁶⁴ *Id.*

⁵⁶⁵ *See id.* at 33 - 34 (citing *AEP II*, 108 FERC ¶ 61,026 at P 46).

⁵⁶⁶ *Id.* at 34.

⁵⁶⁷ *Id.*

Discussion and Findings

221. Southern acknowledges that the Commission requires the applicant to follow historical practices in performing the SIC analysis; however, Southern maintains that it has followed this instruction while Shell and Staff have not.⁵⁶⁸ Southern argues that the Commission precedent cited by Shell and Staff that speaks about TTCs being the upper limit or inherently greater than SIC values was based on the notion that TTCs were not measuring simultaneous flows.⁵⁶⁹ While Southern admits that non-simultaneous TTCs will be greater than SIC values, Southern argues that its TTC values are calculated based on simultaneous importation over the various interfaces and that there is no logical reason to extend this precedent to Southern's simultaneous TTCs.⁵⁷⁰

222. The undersigned concurs with Shell's position that Southern is simply wrong in its effort to distinguish away Commission precedent establishing posted TTC values as an upper limit on SIC values based on its assertion that this precedent only applies to non-simultaneous TTCs. As noted by Shell, "(I)n this very case, the Commission's July 2005 Order rejected Southern's proposed reliance on actual posted monthly TTC values – which Southern claimed represented simultaneous TTC values – because those values *overstated* the amount of non-Southern generation that could be imported into the Southern control area."⁵⁷¹ Even assuming that the Commission previously rejected Southern's use of TTCs instead of SIC solely because Southern could not prove that they accounted for simultaneous limits, in *AEP II* the Commission specifically "rejected the use of simultaneous TTC values" because they overstated generation capability.⁵⁷² Thus, the fact that Southern's TTC values account for simultaneous imports does not distinguish away Commission precedent establishing posted TTC values as an upper limit on SIC values.

223. While, a review of this same precedent underscores the Commission's preference for an appropriate SIC study verses simply adopting an applicant's TTC values, the Commission has clearly instructed applicants that Appendix E studies should not produce results greater than TTCs.⁵⁷³ In *AEP I*, the Commission chose to use SIC in lieu of TTC because "it is impossible for this amount of generation [(i.e. TTC values)] to be simultaneously imported into an

⁵⁶⁸ SCS RB at 20.

⁵⁶⁹ SCS IB at 80-81.

⁵⁷⁰ *Id.* at 81.

⁵⁷¹ *Id.* at 52 – 53 (emphasis added).

⁵⁷² Shell RB at 7.

⁵⁷³ Shell IB at 43.

applicant's control area."⁵⁷⁴ Additionally, Order 697 unequivocally states that an SIC study must reflect transmission capability no greater than the capability measures that were historically shown on the OASIS or that were historically used to measure transmission capability into markets as clearly evidenced by the following language:

The Commission agrees with Montana Counsel and clarifies for PPL Companies that a [SIC] study must reflect transmission capability *no greater than the capability measures that were historically shown on the OASIS* or that were historically used to measure transmission capability into markets unless there is a demonstrated change in transmission capability, and *account for the actual practice of posting ATC to OASIS in order to capture a realistic approximation of first-tier generation access to the seller's market.*⁵⁷⁵

224. Despite this precedent, Southern's "SIC study produces SIC values that significantly exceed the posted monthly TTC values for the Southern control area during 2004."⁵⁷⁶ Accordingly, Staff rejects Southern's SIC values and persuasively argues that Southern's SIC analysis is clearly "flawed."⁵⁷⁷ As is apparent from earlier findings made in this Initial Decision, an analysis of Southern's SIC study reveals that it is indeed "flawed" in several material aspects and therefore may not be useful in conducting a DPT analysis as presently filed. However, the undersigned has also found cause for concern with several aspects of the SIC study submitted by Shell and the fact is that Staff has not submitted its own SIC study here. Given all of this, it is the recommendation of the undersigned that, rather than continue with the already prolonged litigation of this matter by yet again attempting to have Southern file an SIC study which does fully comport with historical practices and Commission precedent, Southern's posted TTC values should be considered as an upper limit "cap" or "ceiling" on SIC values. The undersigned concurs with the position advocated by Staff that, although Southern posts many TTC values throughout the year for different periods, the "last updated 2004 monthly TTC values that were posted on the OASIS provide the most appropriate set of TTC values for use in this case."⁵⁷⁸ Accordingly, using Southern's last updated 2004 monthly TTC values that were posted on the OASIS as an upper limit "cap" or "ceiling" on SIC values may provide the Commission with the best available information in this record which "approximates first-tier generation access to the seller's market" even if it is known that these TTC values

⁵⁷⁴ *Id.*

⁵⁷⁵ *Id.* (quoting *Order No. 697*, 119 FERC ¶ 61,295 at 356) (alteration in original).

⁵⁷⁶ *Id.* at 50.

⁵⁷⁷ Staff IB at 28 – 29.

⁵⁷⁸ *Id.* at 31.

overstate the amount of non-Southern generation that could be imported into the Southern control area.

III. Voltage and Stability Studies

Summary of Parties' Positions

225. Southern does not believe that voltage and stability studies are required in this case because the thermal limits, which it has studied, occur at much lower levels than either voltage or stability limits. Furthermore, Southern argues that the bounded stability limits are included in the power flow cases. Southern also rejects Shell and Staff's contention that Commission precedent requires voltage and stability studies from all applicants. However, Southern claims to have conducted a voltage study, which confirms its beliefs that Southern is well within the limits. Shell and Staff disagree with Southern and argue that Commission precedent requires *every* applicant to submit voltage and stability studies. Furthermore, Shell and Staff criticize Southern's proffered study for being too brief and for not providing supporting materials.

Positions of the Parties

Southern

Voltage and Stability Studies are not Necessary in This Case

226. Southern contends that "[t]hermal limits have been found to occur at significantly lower transfer levels than voltage or stability limits, rendering the performance of a separate voltage or stability studies in connection with transfer analysis generally unnecessary."⁵⁷⁹ Southern also claims that "bounded stability limits are incorporated into the power flow cases[,]" and that the majority of the generation "utilized in the SIC study" was "on-line generation operated within the bounded stability limits provided by the respective transmission system operators."⁵⁸⁰ Given this reality, neither Southern nor VASTE conduct these "complex, time consuming stability studies as part of [its] transfer studies."⁵⁸¹

Southern's Voltage Study, Which Stands Unchallenged, Confirms the Stability of Its Model.

227. Southern eventually performed a voltage study consistent with VASTE's

⁵⁷⁹ SCS IB at 58.

⁵⁸⁰ *Id.*

⁵⁸¹ *Id.*

methodology.⁵⁸² According to Southern, this study “confirmed [its] previous conclusion that voltage limits would have no effect on Southern Companies’ SIC study’s results.”⁵⁸³

228. Southern also notes that neither Shell nor Staff prepared a competing voltage or stability study.⁵⁸⁴ According to Southern, Shell has admitted that it has not explored preparing its own studies, “despite its ability to do so if it had wanted.”⁵⁸⁵ Furthermore, Southern argues that Shell and Staff have no basis to shift the burden to Southern because Southern has produced a voltage study in combination with its expert’s imminently qualified opinion regarding thermal limits being lower than voltage and stability limits while neither Shell nor Staff has produced any contradicting or impeaching evidence.⁵⁸⁶ Finally, Shell and Staff are capable of reviewing its studies, and their claims to the contrary only “reflect an attempt to discredit a study without actually addressing its merits.”⁵⁸⁷

Regardless, the Commission Does not Require All Applicants to Perform Voltage and Stability Analyses.

229. Finally, Southern addresses Shell’s claims that “the Commission requires *all* applicants in *all* cases to perform complex and expensive voltage and stability studies even when, as is the case here, thermal limits will be reached well ahead of voltage or stability limits.”⁵⁸⁸ First, neither Shell nor Staff has referenced a Commission regulation that supports this contention.⁵⁸⁹ Furthermore, Southern argues that the case cited by Shell, *Pinnacle West*, actually instructs applicants to provide “all *relevant* thermal, voltage, and stability limits.”⁵⁹⁰ Seizing upon the word, “relevant,” Southern contends that this is not “an edict to prepare such studies absent a prior showing that such limits are relevant to the SIC study.”⁵⁹¹

⁵⁸² *Id.*

⁵⁸³ *Id.* Furthermore, Southern notes that neither Shell nor Staff prepared a voltage or stability study. *See id.* Nor did either of them “identify any instance in which a voltage or stability limit was reached in advance of a thermal limit.” *Id.* Thus, their claims are entirely speculative and do nothing to challenge Southern’s SIC study. *See id.*

⁵⁸⁴ SCS RB at 49.

⁵⁸⁵ *Id.*

⁵⁸⁶ *See id.*

⁵⁸⁷ *Id.*

⁵⁸⁸ *Id.* at 50.

⁵⁸⁹ *See id.*

⁵⁹⁰ *Id.* (quoting *Pinnacle West II*, 117 FERC ¶ 61,316 at 9 (2006)) (alteration in original).

⁵⁹¹ *Id.*

Finally, Southern asserts that the “October 29, 2004 letter requests voltage and stability information with regard to first-tier control area markets, but does not require such data be provided for the Southern Control Area market.”⁵⁹²

Therefore, Southern concludes that there could be situations in which the voltage and stability limits are relevant, but that “there is no evidence to show that such limits are relevant to the SIC study at issue here” where thermal limits are reached far before voltage and stability limits.⁵⁹³

Shell

The Commission Requires Applicants to Prepare Voltage and Stability Studies.

230. Southern claims that “transmission providers typically address stability issues through the use of ‘bounded operating limits,’ and that it is not Southern’s historic practice to conduct stability studies in conjunction with power transfer analyses.”⁵⁹⁴ Furthermore, Southern contends “that thermal limits occur at significantly lower levels of transfers than would be constrained by stability considerations.”⁵⁹⁵ Thus, Southern perceived no reason to conduct a stability study as a part of its SIC.⁵⁹⁶

However, Shell argues that Southern is ignoring clear and controlling Commission guidance.⁵⁹⁷ According to Shell, *Pinnacle West II* declared that:

231. Pinnacle must include in its filing text readable files showing contingencies facilities, monitored lines, area to area transactions, all internal/external firm/network/ grandfathered transmission commitments, *and all relevant thermal, voltage, and stability limits.*⁵⁹⁸

232. According to Shell, the Commission also “issued a deficiency notice to Southern on October 29, 2004 because, among other things, Southern did not perform a stability transfer analysis in conjunction with its SIC study.”⁵⁹⁹ Thus, Shell argues that the Commission’s precedent and the record in this case “requires

⁵⁹² *Id.*

⁵⁹³ *Id.*

⁵⁹⁴ Shell IB at 78.

⁵⁹⁵ *Id.* at 78 – 79.

⁵⁹⁶ *See id.* at 79.

⁵⁹⁷ *Id.*

⁵⁹⁸ *Id.* (quoting *Pinnacle West II*, 117 FERC ¶ 61,316 at 9 (2006)) (alteration in original).

⁵⁹⁹ *Id.*

Southern to perform a stability transfer analysis in conjunction with its SIC study.”⁶⁰⁰

The study prepared by Southern is Unsupported and Too Brief to Properly Review.

233. Shell then criticizes Southern’s brief and unsupported thermal and voltage studies.⁶⁰¹ First, Shell criticizes Southern for not providing “supporting evidence or analysis to verify its assertion that thermal limits occur at significantly lower levels of transfer than would be constrained by stability considerations.”⁶⁰² This leaves its claims of thermal stability unsupported and particularly questionable due to “the fact that both the Northwest and Southwest Quadrants of the Southern control area suffer internal stability constraints.”⁶⁰³ Similarly, Shell criticizes Southern’s voltage study as “minimal,” which makes it nearly “impossible” to confirm its veracity.⁶⁰⁴ According to Shell, the only evidentiary support provided by Southern is a “meaningless five-page ‘core dump’ of [its] voltage study results, without adequate explanation.”⁶⁰⁵ Consequently, Shell was not able to duplicate Southern’s voltage study, which is a problem that it was not able to cure with subsequent discovery.⁶⁰⁶

234. Regardless, Shell was able to notice “certain anomalies” in the voltage analysis.⁶⁰⁷ For example, Southern uniformly scales down its generation to facilitate imports.⁶⁰⁸ This results in a scaling down of baseload generation units, like nuclear and base load coal units.⁶⁰⁹ “This approach is not only inconsistent with how Southern historically has granted transmission service to non-affiliate resources, by it also severely compromises the reliability of Southern’s power system.”⁶¹⁰ In addition it is clearly counter to Appendix E and the methodology used in its thermal SIC analysis.⁶¹¹

⁶⁰⁰ *Id.*

⁶⁰¹ *Id.* at 79 – 80.

⁶⁰² *Id.* at 79.

⁶⁰³ *Id.* at 80.

⁶⁰⁴ *Id.*

⁶⁰⁵ *Id.*

⁶⁰⁶ *Id.*

⁶⁰⁷ *Id.*

⁶⁰⁸ *Id.* at 81.

⁶⁰⁹ *Id.* at 80.

⁶¹⁰ *Id.*

⁶¹¹ *Id.* at 80 – 81.

Shell is not Able and not Required to Perform an Independent Voltage and Stability Study.

235. According to Shell, “these types of studies typically are beyond the ability of interveners initially to provide[,]” so they are left to rely on applicants to provide the technical data for review.⁶¹² In recognition of this difficulty, the Commission requires *applicants* and not interveners “to provide voltage and stability studies initially.”⁶¹³ Therefore, Southern’s unwillingness to provide a stability study or to provide an “adequate” voltage study leaves its SIC study “deficient” and unreliable for use in a DPT analysis.⁶¹⁴

Staff

Southern is Required to Provide Voltage and Stability Studies, and Staff has not yet Reviewed What Southern Finally Provided.

236. Like Shell, Staff argues that Southern is required to provide voltage and stability studies.⁶¹⁵ According to Staff, the Commission requires applicants to include studies of “any other limits (such as stability and voltage) as defined in the tariff and that existed during each seasonal peak.”⁶¹⁶ Despite Southern’s claims that these studies were unnecessary, it eventually performed a voltage study that it claims “identified no voltage limits that would reduce the results of [its] SIC analysis.”⁶¹⁷ Though Staff does not agree that these studies are unnecessary, it has not yet had sufficient time to complete an analysis of Southern’s results.

Discussion and Findings

237. Southern initially refused to produce a study of the voltage and stability limits, arguing that they were not relevant in this case because thermal limits would be reached far before voltage and stability limits. Southern has not adequately explained why the voltage and stability requirements were relevant in *Pinnacle West* but not relevant here. Both of the utilities are applicants for market rate, which means they are both subject to the same requirements of Appendix E. Both are required to account for all contingencies as part of their reliability

⁶¹² *Id.* at 81.

⁶¹³ *Id.*

⁶¹⁴ *Id.*

⁶¹⁵ Staff IB at 57 – 58.

⁶¹⁶ *Id.* at 57 (citing *AEP I*, 107 FERC ¶ 61,018 at 84).

⁶¹⁷ *Id.* at 58 – 59.

mandates. Accordingly, Southern, like Pinnacle West, is required to produce all relevant voltage and stability limits.

238. Further, as pointed out by Shell, the Commission also “issued a deficiency notice to Southern on October 29, 2004 because, among other things, Southern did not perform a stability transfer analysis in conjunction with its SIC study.” Thus, Shell is correct in arguing that the Commission’s precedent and the record in this case require Southern to perform a stability transfer analysis in conjunction with its SIC study. While Southern finally acquiesced to Shell and Staff’s requests and performed a voltage study consistent with VASTE’s methodology, Shell and Staff assert that Southern did so at such a late date that they have not had sufficient time to fully review it and, therefore, to properly respond to it. Accordingly, the study has not been useful to the undersigned in assessing Southern’s SIC analysis. Nevertheless, Southern’s study is included in the record of this proceeding should the Commission decide further review is appropriate.

IV. Treatment of hydroelectric capacity

Summary of Parties’ Positions

239. All of the parties agree that hydroelectric resources are inherently energy-limited, but they don’t all agree about how to account for that fact. Southern and Staff both claim that hydroelectric capacity should be measured by averaging the generation output over the past five years. Shell claims that this approach is incorrect because it is inconsistent with the other capacity measurements found in the DPT, which are all focused squarely on data from 2004. Shell also adds to its single year output study a certain amount of “unscheduled hydro,” which Shell defines as hydroelectric capacity that was available to Southern but was not used. Southern disagrees with this position and claims that it uses *all* available hydroelectric capacity it is the cheapest generation on the grid.

Positions of the Parties

Southern

240. Southern begins its argument by noting that all of the parties agree that “hydroelectric resources are energy-limited resources.”⁶¹⁸ Also, Southern and Staff agree “that hydroelectric capacity should be derated, or adjusted, on the basis of a five-year historical capacity factor[.]”⁶¹⁹ Shell is conspicuously absent from

⁶¹⁸ SCS IB at 89.

⁶¹⁹ *Id.*

this group because it believes that the study of hydroelectric resources should focus on data from 2004 only and be less concerned with production and more concerned with capacity.⁶²⁰

Hydroelectric Capacity Should be Measured Using a Five-Year Derating Methodology.

241. Southern bolsters its argument in favor of five year derating with Commission precedent.⁶²¹ According to Southern, the Commission recognized the danger of overstating an applicant's ability to produce hydroelectric power when it instructed applicants to "de-rate their hydroelectric capacity based on historical capacity factors," and to "use a five year average capacity factor and a sensitivity test using the lowest capacity factor in the previous five years[.]"⁶²² Southern also finds support in *PPL Montana* and Order No. 697, which it claims affirmed *AEP I*'s instructions on the calculation of hydroelectric capacity.⁶²³

Southern's Treatment of Hydroelectric Capacity Complies With the Commission's Guidance.

242. Southern then details how it complied with Commission precedent by properly derating its hydroelectric resources over the prescribed five-year period.⁶²⁴ "Specifically, Southern Companies determined the hourly output of each hydroelectric generator in the Southern Control Area during the five-year 2000-2004 time period, a period that included the 2004 test year the parties agreed upon as part of the Joint Stipulation and consistent with Commission instruction."⁶²⁵ Southern "then combined the hours by DPT period (*e.g.*, Summer 1, Winter 2) and determined average output levels for each hydroelectric generator for each DPT period for the 2000-2004 time period."⁶²⁶ These values "were then used as inputs in the DPT analysis."⁶²⁷

243. Then, Southern conducted "a sensitivity analysis in accordance with *AEP I* that used the average values from the year in the 2000-2004 time period when

⁶²⁰ *See id.*

⁶²¹ *See id.* at 89 – 90.

⁶²² *Id.* at 90 (quoting *AEP I*, 107 FERC ¶ 61,018 at 126).

⁶²³ *Id.* at 91 (citing *PPL Montana, LLC*, 115 FERC ¶ 61,204, at P 50 & n.60 (2006) (*PPL Montana*) & Order No. 697, 119 FERC ¶ 61,295 at P 344).

⁶²⁴ *See id.*

⁶²⁵ *Id.*

⁶²⁶ *Id.*

⁶²⁷ *Id.*

hydroelectric output was lowest.”⁶²⁸ The results of this analysis demonstrated that Southern’s “market shares average 2.3 percent across the 10 season and load level combinations and never rise above 13.5 percent.”⁶²⁹ Additionally, the analysis yielded market HHIs averaging 703 and ranging between 542 and 948.⁶³⁰ Southern also “presented sensitivities of [its] pivotal supplier analysis using the low water year.”⁶³¹ “Similar to the base case results, the low-water year sensitivity confirmed that Southern Companies are not pivotal, as there is sufficient non-Southern Companies’ Available Economic Capacity to serve uncovered wholesale load by between five and 14 times.”⁶³²

According to Southern, Staff approves of this methodology, noting that it fully complied with Commission precedent.⁶³³ After concluding that the “2000-2004 average hydroelectric usage [was] a reasonable measure of hydroelectric capacity, Staff incorporated it into its DPT analysis.”⁶³⁴

Shell’s Single Study Year Approach Should be Rejected

244. First, Shell “contends that use of a five-year average is inappropriate, because it ‘does not reflect the level of output that would be consistent with 2004 [i.e., the DPT test year] prices alone.’”⁶³⁵ Shell reasons that a measurement of hydroelectric capacity should only account for the 2004 calendar year because the rest of the DPT is limited to that year.⁶³⁶ Shell also claims that the Commission has “allowed” but not “mandated” applicants to use the five-year derating method and that the method was designed for issues facing the Western hydroelectric generators, issues which are not present here.⁶³⁷

245. According to Southern, Shell’s incongruity argument “is refuted by the very facts of *PPL Montana*.”⁶³⁸ There, the PPL Companies submitted a DPT using “2004 test year data [to assess] PPL Companies’ market shares, pivotal supplier status and control area HHIs.”⁶³⁹ Regardless, “the Commission accepted

⁶²⁸ *Id.* at 92.

⁶²⁹ *Id.*

⁶³⁰ *Id.*

⁶³¹ *Id.*

⁶³² *Id.*

⁶³³ *See id.*

⁶³⁴ *Id.*

⁶³⁵ *Id.* at 94 (quoting Shell-28, at 21, lines 16-17).

⁶³⁶ *Id.* at 94.

⁶³⁷ SCS RB at 76.

⁶³⁸ *Id.* at 78

⁶³⁹ *Id.* (quoting *PPL Montana*, 115 FERC ¶ 61,204 at P 38) (alteration in original).

PPL Companies' use of a five-year seasonal historical capacity factor to derate hydroelectric resources."⁶⁴⁰ The Commission referred to this method as the one "adopted by the Commission for derating hydroelectric capacity"⁶⁴¹ because it "more accurately capture[s] hydroelectric availability."⁶⁴²

246. Second, Southern recognizes that the Commission used words like "allow" and "permit" in its orders referring to the five-year derating method, but Shell's selective recitation of the relevant precedent has blurred the truth.⁶⁴³ According to Southern *AEP I* instructs applicants that choose to derate their hydroelectric capacity to "use a five-year average capacity factor and a sensitivity test using the lower capacity factor in the previous five years in order to more accurately capture hydroelectric availability."⁶⁴⁴ Therefore, once an applicant chooses to derate its hydroelectric capacity the Commission expects it to use a five-year average.⁶⁴⁵

247. Third, the Commission never held in "*AEP I* or *PPL Montana* that use of a five-year hydroelectric derate was limited to Western markets."⁶⁴⁶ In fact, Southern claims that the Commission flatly rejected such a limitation when it announced in Order No. 697, "the same principle regarding water availability applies to all electricity markets, and we will permit all sellers to derate hydroelectric capacity in the analysis."⁶⁴⁷

Shell's Addition of Unscheduled Hydro Should be Rejected.

248. In addition to analyzing only the 2004 calendar year, Shell has also incorrectly added an amount of "unscheduled hydro" to Southern's historical output.⁶⁴⁸ Southern explains that "unscheduled hydro" represents "water behind the dam" that Shell claims is present and mostly available for delivery.⁶⁴⁹ Shell's addition of this "unscheduled hydro" substantially increases "the amount of

⁶⁴⁰ *Id.*

⁶⁴¹ *Id.* at 79 (quoting *PPL Montana*, 115 FERC ¶ 61,204 at P 50) (alteration in original).

⁶⁴² *Id.* (quoting *PPL Montana*, 115 FERC ¶ 61,204 at 50 n. P 60) (alteration in original).

⁶⁴³ *Id.* at 77.

⁶⁴⁴ *Id.* (quoting *AEP I*, 107 FERC ¶ 61,018 at P 126) (alteration in original)

⁶⁴⁵ *See id.*

⁶⁴⁶ *Id.*

⁶⁴⁷ *Id.* at 78 (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 344 n. 345) (emphasis in original).

⁶⁴⁸ SCS IB at 94.

⁶⁴⁹ *Id.*

hydroelectric capacity assigned to Southern Companies.”⁶⁵⁰ In fact Shell’s figures presume that Southern’s hydroelectric resources are producing at between 63 and 83 percent of nameplate capacity, which is a far cry from the 10 to 30 percent capacity that Southern claims the units actually operate at during the year.⁶⁵¹

249. Not only does this approach distort reality but it is unsupported by Commission precedent.⁶⁵² This is not surprising because “[u]nscheduled hydro in the Southern Control Area represents the difference between what actually was scheduled using all available water and what, theoretically, could have been scheduled if there were no water limits and other non-power uses for the water.”⁶⁵³ Southern goes on to explain, “unscheduled hydro can serve certain reliability functions by temporarily responding in emergency conditions, but it cannot be used to pursue wholesale market opportunities or for wholesale competitive purposes.”⁶⁵⁴ But this emergency use continues only until unlimited energy resources can be brought on-line.⁶⁵⁵ “Any hydroelectric capacity not dispatched—and retained as ‘unscheduled hydro’—reflects Southern Companies’ consideration of water availability issues attributable to inflows, non-power uses and demands, prospective conditions, or reliability considerations that physically or practically prevent its usage, as well as the fundamental energy-limited nature of hydroelectric generation resources.”⁶⁵⁶ Given the low cost of hydroelectric generation, it clearly would have been against Southern’s economic interest to not produce as much of it as possible.⁶⁵⁷

250. According to Southern, “every use of unscheduled hydro at any given point in time necessarily reduces the amount of water that can be used to generate electricity at a future point in time.”⁶⁵⁸ Therefore, Shell’s attempt to include “unscheduled hydro” in Southern’s actual output for DPT purposes “represents the inclusion of ‘phantom’ capacity that is not available for sale in wholesale electricity markets.”⁶⁵⁹

251. Finally, Shell specifically claims that Southern has a 650 MW Contingency Reserves-Supplemental obligation and that it uses unscheduled hydro to satisfy

⁶⁵⁰ *Id.*

⁶⁵¹ *Id.* 95.

⁶⁵² *Id.* at 96.

⁶⁵³ *Id.*

⁶⁵⁴ *Id.*

⁶⁵⁵ SCS RB at 81-82.

⁶⁵⁶ *Id.* at 81.

⁶⁵⁷ SCS IB at 96.

⁶⁵⁸ SCS RB at 82.

⁶⁵⁹ *Id.*

part of that obligation.⁶⁶⁰ But Southern dismisses this argument as irrelevant because its DPT does not include Contingency Reserves-Supplemental.⁶⁶¹

Shell

Southern's Hydroelectric Capacity Should be Measured Using only 2004 Data.

252. Shell argues that Southern's hydroelectric capacity should be derated based only on data from the 2004 calendar year, which is the method it used in its DPT analysis.⁶⁶² According to Shell, the Commission has never mandated the use the five-year derating method used by Southern, which actually understates available hydroelectric capacity.⁶⁶³

253. First, Shell interprets *AEP I* as simply *permitting* the "applicants to derate their hydroelectric capacity using five-year historical data in the context of the Commission's *indicative screens* for market power."⁶⁶⁴ Additionally, Shell claims that this decision was spurred by comments from "parties in the Western U.S. where hydroelectric capacity constitutes a greater percentage of the generation portfolio and hydrological cycles are more erratic than in other parts of the country."⁶⁶⁵ Though the Commission never limited "the applicability of hydroelectric derating to the West, it also did not mandate any specific derating approach for DPT purposes[.]"⁶⁶⁶ Thus, Shell argues that the background behind *AEP I* should caution against application to the drastically different situation found in the Southern Control Area.⁶⁶⁷

254. Second, though the Commission did approve "a five-year historical derating approach for hydroelectric capacity in *PPL Montana, LLC*[,] it did so only because the protesting interveners failed to present an alternative method or evidence that the approach understated the applicant's "share of generation capacity in the relevant market."⁶⁶⁸ Once again, the Commission "*allowed, but did not mandate, the five-year derating method.*"⁶⁶⁹

⁶⁶⁰ *Id.* at 83.

⁶⁶¹ *See id.*

⁶⁶² *See* Shell IB at 132.

⁶⁶³ *Id.* at 133.

⁶⁶⁴ *Id.* (emphasis added).

⁶⁶⁵ *Id.* at 133 – 34.

⁶⁶⁶ *Id.* at 134.

⁶⁶⁷ *See id.*

⁶⁶⁸ *Id.* (quoting *PPL Montana*, 115 FERC ¶ 61,204 at 50).

⁶⁶⁹ *Id.* (emphasis added).

255. Third, Order No. 697 is instructive on the issue of hydroelectric derating, but it “does not greatly alter the landscape on this issue.”⁶⁷⁰ Order No. 697 specifically says “that the Commission will ‘allow [hydroelectric and wind] resources to provide an analysis based on historical capacity factors reflecting the use of a five-year average capacity factor.’”⁶⁷¹ The Commission clearly does not require the use of the derating method where it would be inappropriate.⁶⁷² Additionally, Order No. 697 requires “a sensitivity analysis based on a low-water year” as well as one based on “a high-water year,” the latter of which Southern has failed to perform.⁶⁷³

256. Shell then asserts that any derating of hydroelectric capacity in this case must closely parallel Southern’s actual capacity.⁶⁷⁴ According to Shell, its method “is consistent with this objective” because it focuses only on data from the stipulated study year, 2004.⁶⁷⁵ But Southern’s five-year average approach fails to account for the fact that dispatch decisions in years prior to 2004 “may not have applied in 2004.”⁶⁷⁶ Using only “2004-based hydroelectric output data achieves consistency with other capacity data used in this proceeding.”⁶⁷⁷ Therefore, Southern’s hydroelectric capacity data is unreliable and should be rejected in favor of Shell’s.

*Southern’s Hydroelectric Capacity Should Reflect
Unscheduled Hydroelectric Capacity.*

257. Shell criticizes Southern’s calculation of hydroelectric capacity because it only accounts for “output” as opposed to the “capacity” that the DPT is intended to measure.⁶⁷⁸ Shell focuses on capacity by measuring the output in the 2004 year but then adding “unscheduled hydroelectric capacity” to that amount to reflect the “economic capacity that Southern could sell into its home control area during test year 2004.”⁶⁷⁹ According to Shell, Southern ignores this excess capacity, which Shell has calculated to be within 474 MW and 1,632 MW, depending upon the

⁶⁷⁰ *Id.*

⁶⁷¹ *Id.* at 134 – 35 (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 344).

⁶⁷² *See id.*

⁶⁷³ *See id.* at 135.

⁶⁷⁴ *Id.*

⁶⁷⁵ *Id.*

⁶⁷⁶ *Id.* at 136

⁶⁷⁷ *Id.*

⁶⁷⁸ *Id.* at 137.

⁶⁷⁹ *Id.*

DPT period at issue.⁶⁸⁰ After adding the unscheduled hydro, Shell claims that Southern's DPT analysis only accounts for about twelve to fifty-eight percent of its full hydroelectric capacity.⁶⁸¹

258. Shell supports its focus on capacity by noting that Southern uses its unscheduled hydroelectric capacity to provide "650 MW of Contingency Reserves-Supplemental,"⁶⁸² and that the only capacity recognized as qualifying as Contingency Reserves-Supplemental in 2004 was unscheduled hydroelectric capacity."⁶⁸³ Also, this excess capacity is "typically on line and synchronized to the system."⁶⁸⁴ Given this information, Southern has no basis to claim that "unscheduled hydroelectric capacity is "phantom capacity" unless it is admitting to being in "violation of its reliability requirements."⁶⁸⁵

Shell's Calculation of Unscheduled Hydro is Conservative but Still Accurate.

259. Shell then explains how it derived the purported unscheduled hydroelectric capacity.⁶⁸⁶ Shell claims that all of its data was "provided by Southern, which it used to develop "a conservative estimate of unscheduled hydroelectric capacity available during a season's top 'super peak' period (when hydroelectric capacity would be in greatest demand to serve Southern's native load) [to use] as a proxy for maximum unscheduled hydroelectric capacity available during other DPT periods in a given season."⁶⁸⁷ According to Shell, this is a "conservative estimate" because it only includes "about 535 megawatts of that [unscheduled hydroelectric capacity] if averaged across all the DPT periods, which is less than the [650 MW] operating reserve requirements" that Southern "confirmed was available from unscheduled hydro in 2004."⁶⁸⁸ Shell explains that this "provides a more complete depiction of Southern's available hydroelectric capacity" than Southern's "output-only approach."⁶⁸⁹

⁶⁸⁰ *Id.*

⁶⁸¹ *Id.* at 137 – 38.

⁶⁸² *Id.* at 138 (quoting Tr. at 214, 274, 284).

⁶⁸³ *Id.* (quoting Tr. at 176, 178).

⁶⁸⁴ *Id.* (quoting Tr. at 177).

⁶⁸⁵ *Id.*

⁶⁸⁶ *Id.* at 139.

⁶⁸⁷ *Id.*

⁶⁸⁸ *Id.* at 140.

⁶⁸⁹ *Id.*

Southern's Criticisms of the Inclusion of Unscheduled Hydro Lack Merit.

260. First, Southern criticized Shell's methodology for not reflecting operational circumstances that affect the availability of hydroelectric capacity.⁶⁹⁰ Shell responds that the DPT is intended to measure capacity and the operational concerns have little to do with "Southern's ability to generate additional power from hydroelectric resources."⁶⁹¹

261. Second, Southern claims that Shell does not understand the meaning of "unscheduled hydroelectric capacity."⁶⁹² Shell counters that it is actually Southern who does not understand the meaning of the term, "considering that Southern relied upon unscheduled hydroelectric generation for supplemental reserves in 2004."⁶⁹³ "By definition, to qualify as reserves, such generation must be physically capable of producing energy in the event it is dispatched to respond to a contingency."⁶⁹⁴ Therefore, as explained in subsection 2, it cannot be "phantom energy."⁶⁹⁵

262. Southern also argues that Shell's derating method was not conservative because it attributed more output than Southern had historically produced.⁶⁹⁶ Shell answers this claim by once again noting that the DPT is intended to measure capacity and not output, leaving Southern's criticism devoid of merit.⁶⁹⁷

263. Southern then asserts that Shell's analysis double-counts hydroelectric capacity because Shell examines Southern's hydroelectric capacity in each DPT period without decreasing the volume of water for each successive period.⁶⁹⁸ According to Southern, capacity used in one DPT period cannot be used again in another because hydroelectric power is limited by the volume of water above the dam.⁶⁹⁹ According to Shell, this argument again misses the point of the DPT analysis, which is to account for economic capacity in *each* of the 10 DPT periods.⁷⁰⁰ The Commission uses the DPT to determine if the applicant has the

⁶⁹⁰ *Id.* at 141.

⁶⁹¹ *Id.*

⁶⁹² *Id.*

⁶⁹³ *Id.*

⁶⁹⁴ *Id.*

⁶⁹⁵ *See id.*

⁶⁹⁶ *Id.* at 142.

⁶⁹⁷ *Id.*

⁶⁹⁸ *See id.* at 143.

⁶⁹⁹ *See id.*

⁷⁰⁰ *Id.* at 144

power to charge monopoly rates in the wholesale market in any of the ten DPT periods, which means that the full amount of economic capacity available to Southern in *each period* should be reflected.⁷⁰¹

264. Finally, Southern attempts to justify its derating method based on the fact that it “uses its hydroelectric resources to benefit native load.”⁷⁰² Shell explains that this is irrelevant because using hydroelectric capacity to serve its native load only frees up other energy to be sold on the wholesale market.⁷⁰³ The net impact remains the same.⁷⁰⁴ Thus, Shell’s DPT is the only one in this case that reflects unscheduled hydroelectricity capacity that could be used to monopolize the wholesale market.⁷⁰⁵

Staff

Staff Does Not Challenge Southern’s Five-Year Derating Method, but it Finds Shell’s Proffered Methodology and Logic Interesting.

265. Staff does not challenge Southern’s derating of its hydroelectric capacity through a five-year average of 2000-2004 hydroelectric output.⁷⁰⁶ As noted above, Shell challenges Southern’s methodology as significantly understating “the amount of Southern’s available hydroelectric capacity that can be economically supplied to the SCA.”⁷⁰⁷ Shell performed its own adjustment to Southern’s hydroelectric capacity, focusing only on data from the 2004 calendar year because this “ensures consistency between the hydroelectric generation data and the other data inputs used in the DPT analysis.”⁷⁰⁸ Shell then adds “unscheduled hydroelectric capacity” that it believes “qualifies as ‘economic’ capacity under the DPT analysis.”⁷⁰⁹ Staff thinks that “Shell raises an interesting issue regarding whether to include the unscheduled, but on-line and synchronized hydro capacity when performing a DPT analysis.” Staff concludes by noting that this is “not an issue that the Commission has ever considered, but it does have some appeal because the hydro capacity is on-line and synchronized to the grid.”⁷¹⁰

⁷⁰¹ *Id.*

⁷⁰² *Id.*

⁷⁰³ *See id.*

⁷⁰⁴ *See id.*

⁷⁰⁵ *See id.* at 145.

⁷⁰⁶ *See* Staff IB at 62.

⁷⁰⁷ *Id.*

⁷⁰⁸ *Id.*

⁷⁰⁹ *Id.* at 63.

⁷¹⁰ *Id.*

Discussion and Findings

266. All of the parties agree that “hydroelectric resources are energy-limited resources,” but the parties do not all agree as to how that energy should be accounted for. Southern and Staff agree “that hydroelectric capacity should be derated, or adjusted, on the basis of a five-year historical capacity factor[.]” As noted above, however, Shell challenges Southern’s methodology as significantly understating “the amount of Southern’s available hydroelectric capacity that can be economically supplied to the SCA.” Shell performed its own adjustment to Southern’s hydroelectric capacity, focusing only on data from the 2004 calendar year because this “ensures consistency between the hydroelectric generation data and the other data inputs used in the DPT analysis.” Shell then adds “unscheduled hydroelectric capacity” that it believes “qualifies as ‘economic’ capacity under the DPT analysis.”

267. The undersigned adopts Southern’s five-year derating methodology because it complies with Commission precedent. In *AEP I*, the Commission instructed applicants to derate their hydroelectric capacity using historical output values averaged over five years. Further, Order No. 697 specifically says “that the Commission will ‘allow [hydroelectric and wind] resources to provide an analysis based on historical capacity factors reflecting the use of a five-year average capacity factor.’” Moreover, Staff concurs with Southern’s approach and has adopted it in their DPT analysis. Conversely, Shell’s derating method ignores Commission precedent on this issue. First, it ignores the Commission’s five-year derating requirement by only using data from 2004. Second, it ignores the Commission’s historical practices instruction by adding a certain amount of unscheduled hydro to this amount, which is the amount of hydroelectric power that Shell alleges Southern could have dispatched but did not. Shell’s “unscheduled hydro” incorrectly focuses on what Southern “could have done” as opposed to what “it historically did.”

V. *Treatment of Southern Companies’ control area reliability obligations*

Summary of the Parties’ Positions

268. The parties also agree that Southern is required to maintain operating reserves, but like hydroelectric capacity, the parties disagree over how to account for that capacity. Southern argues that the Commission permit, if not requires, operating reserves to be deducted from economic capacity, just like native load. Furthermore, Southern argues that it cannot sell capacity held for operating reserves on the market and that it has consistently met its operating reserves requirements using economic capacity, a fact which was ensured by the dispatch

control computer program, Automatic Generation Control (AGC). Therefore, Southern contends that the total amounts of each of its three types of operating reserves, as calculated by Southern, must be deducted from economic capacity.

269. Shell claims that the Commission has never permitted an adjustment to the DPT for operating reserves. Furthermore, Shell argues that such an adjustment effectively double-counts outages on Southern's grid because the Joint Stipulation requires the parties to account for outages, which will be served by the operating reserves, through an adjustment to economic capacity. Finally, Shell systematically refutes Southern's claims of Commission support for its operating reserve adjustment.

270. Staff agrees with Shell's criticisms of Southern's operating reserve adjustment, but it also disagrees with Southern's calculation of the operating reserves, arguing that they are over-inflated. Additionally, Staff claims that Southern did not meet its reserve obligations as frequently as it claims. In sum, both Shell and Staff believe that Southern has over-inflated its reserve obligations and improperly deducted these reserves from its economic capacity.

Positions of the Parties

Southern

According to the Commission, a Proper DPT Should Account for the Applicant's Operating Reserves.

271. The parties do not dispute that Southern is obligated to maintain operating reserves, but they do disagree about how these reserves should be accounted for in the DPT analysis. According to Southern it is required to maintain operating reserves, which it defines as "generation resources that account for events such as generation loss, errors in load forecasting, regulating requirements and transmission unavailability."⁷¹¹ Southern claims that this generation cannot be sold on the wholesale market.⁷¹² Thus, a proper DPT should account for these reserves.⁷¹³

272. Southern argues that the Commission has clearly held that "a properly constructed DPT may include an adjustment for Operating Reserves."⁷¹⁴ As support for this argument, Southern relies on the following language from Order

⁷¹¹ SCS IB at 99.

⁷¹² *Id.*

⁷¹³ *Id.*

⁷¹⁴ *Id.*

No. 642:

Another adjustment discussed in the NOPR that may be needed to accurately represent a supplier's ability to sell into markets is to adjust for reserve requirements for reliability or other reasons. Generation capacity that must be held in reserve is not available to be sold into markets on a firm basis to respond to price increases, and therefore should not be attributed to the supplier in the competitive analysis screen.⁷¹⁵

Southern then claims that *AEP I* built on Order No. 642, explaining that:

[c]apacity reductions as a result of operating reserve requirements should be no higher than State and Regional Reliability Council operating requirements for reliability (*i.e.*, operating reserves). Any proposed amounts that are higher than such requirements must be fully supported and will be considered on a case-by-case basis.... However, we emphasize that we expect each utility to meet its NERC and regional reliability council reserve requirements, and that absent a clear showing to the contrary by an intervenor, the required operating reserve requirement is what we will use as the deduction in the market-based rate calculation.⁷¹⁶

273. Southern maintains that these instructions were presented “as part of its larger discussion of how to determine uncommitted capacity, both with respect to the pivotal supplier and wholesale market share screens.”⁷¹⁷

274. For additional support, Southern cites Order No. 697, which held that “[c]apacity reductions as a result of operating reserve requirements should be no higher than State and Regional Reliability Council operating requirements for reliability (*i.e.* operating reserves).”⁷¹⁸ According to Southern, Order No. 697 clarified that operating reserves adjustments are appropriate for the calculation of uncommitted capacity for “both market share and pivotal supplier measures.”⁷¹⁹

⁷¹⁵ *Id.* at 99 – 100 (quoting *Order No. 642*, 93 FERC ¶ 61,164, FERC Stats. & Regs. ¶ 31,111 (2000), *order on reh'g*, Order No. 642-A, 94 FERC ¶ 61,289 (2001) (*Order No. 642*)).

⁷¹⁶ *Id.* at 100 (quoting *AEP I*, 107 FERC ¶ 61,018 at 96).

⁷¹⁷ *Id.* (citing *AEP I*, 107 FERC ¶ 61,018 at P 100 (We will use uncommitted capacity amounts, as defined in connection with the pivotal supplier analysis, with the following variations [a change in the operating reserve deduction not being among the variations]’’)).

⁷¹⁸ *Id.* (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 39; *cf. AEP I*, 107 FERC ¶ 61,018 at P 96).

⁷¹⁹ *Id.* (citing *Order No. 697*, 119 FERC ¶ 61,295 at P 90; *cf. AEP I*, 107 FERC ¶

275. Finally, Southern claims that the July 27, 2007 rehearing order in *PPL Montana*, clearly rejected an argument *against* deducting operating reserves when it observed that if long-term commitment supply had been used to serve “native load or operating reserve obligations[,]” then it could have been properly deducted “because it was committed to serving native load.”⁷²⁰ Therefore, Southern argues that once the operating reserves have been established and authoritatively quantified, the Commission requires that they be subtracted from the economic capacity just like native load.⁷²¹

Southern’s Operating Reserves are Mandatory and not Available for Wholesale.

276. Southern first claims that its operating reserves cannot logically be dispatched to the wholesale market any more than its native load committed capacity could be dispatched.⁷²² According to Southern, it and Staff have both recognized “the importance of Operating Reserves in the service of native load.”⁷²³ Indeed, the purpose of Operating Reserves is to ensure that native load is “served reliably and economically.”⁷²⁴ Therefore, capacity committed to providing Operating Reserves, like capacity committed to serving native load, “cannot be sold in the wholesale market” anymore than capacity committed to serving native load.⁷²⁵

277. Furthermore, Southern’s mandatory operating reserves are set by NERC

61,018 at P 100).

⁷²⁰ *Id.* at 101 (quoting *PPL Montana, LLC*, 120 FERC ¶ 61,096 at P 60 (2007) (*PPL Montana Rehearing Request*)) (alteration in original). Southern also cites 18 C.F.R. § 33.3(c)(4)(i)(B) for the proposition that “[a]vailable economic capacity means the amount of generating capacity meeting the definition of economic capacity less the amount of generating capacity needed to serve the potential supplier’s native load commitments, as described in paragraph (d)(4)(i) of this section.’ (emphasis added).” *Id.* Furthermore, Southern cites 18 C.F.R. § 33.3(d)(4)(i) – for the definition of native load commitments: “[n]ative load commitments are commitments to serve wholesale and retail power customers on whose behalf the potential supplier, by statute, franchise, regulatory requirement, or contract, has undertaken an obligation to construct and operate its system to meet their reliable electricity needs.’ (emphasis added)” SCS IB at 102.

⁷²¹ *Id.*; see also SCS RB at 91.

⁷²² *Id.* at 102.

⁷²³ *Id.*

⁷²⁴ *Id.*

⁷²⁵ *Id.* at 102 – 03.

and implemented by the Southern Balancing Authority.⁷²⁶ NERC polices require that “[t]he Control Area shall operate generation or have the necessary contracts to operate generation to ... [m]eet its area instantaneous demand, Interchange Schedule, Operating Reserve, and Reactive resource requirements.”⁷²⁷ The NERC Policy 1 states that

[e]ach Control Area shall have access to and/or operate resources to provide for a level of Operating Reserve sufficient to account for frequency support, errors in load forecasting, generation loss, transmission unavailability, and regulating requirements. Sufficient Operating Reserves is defined as the capacity required to meet the Control Performance Standard (Section A), Disturbance Control Standard (Section B), and Frequency Response Standard (Section C) of this Policy.⁷²⁸

Southern Properly Quantified its Operating Reserves

278. Southern then explains that its DPT breaks “Operating Reserves” down into three categories: Regulation, Load Following and Contingency Reserves-Spinning.⁷²⁹ These reserves vary in nature according to the following definitions and distinctions:

- Regulation – a control process necessary to provide for the continuous balancing of resources (generation and net interchange) with load; accomplished through deployment of on-line generation using AGC to follow the moment-to-moment changes in generation output and load levels in the control area so to maintain system balance;
- Load Following – generation and load response capability—including capacity, energy, and maneuverability—dispatched within a scheduling period from on-line generation using AGC as required by the Southern Balancing Authority in order to serve Southern Companies’ peak instantaneous load in each hour;
- Contingency Reserves-Spinning – standby firm generating capacity typically from on-line generation using AGC dedicated to meet the unexpected failure or outage of a system component and return resources and demand to a balanced state (or at least to the same level of imbalance as

⁷²⁶ *Id.* at 103.

⁷²⁷ *Id.* at 103 – 04.

⁷²⁸ *Id.* at 104.

⁷²⁹ *Id.*

the pre-contingency state) within ten minutes following a contingency.⁷³⁰

279. Having explained the differences, Southern then argues that it has properly quantified each category of its Operating Reserves for DPT purposes.⁷³¹ Using data from the 2004 study year, Southern quantified capacity used to serve Operating Reserve Requirements as follows:

- For Regulation, that quantification of the minimum required amount of capacity equaled 250 MW across each hour of the 10 DPT season/load combinations.
- For Contingency Reserves-Spinning, that quantification of capacity equaled the greater of: (i) the 650 MW minimum value required by the Southern Balancing Authority⁷³² or (ii) 1,250 MW (the minimum value required for all Contingency Reserves) less the actual amount of unscheduled hydro in an hour (the only generating resource that qualified as being able to provide Contingency Reserves-Supplemental in 2004). The calculations were performed on an integrated (average) hourly basis and the resulting values were averaged for the 10 DPT season/load combinations.
- For Load Following, the quantification of capacity equaled the difference between Southern Companies' maximum instantaneous load levels in a given hour (*i.e.*, the highest load for such an hour) and the integrated load levels (the average load for the same hour).⁷³³ The difference between the

⁷³⁰ *Id.* at 104-05.

⁷³¹ *Id.*

⁷³² “The 650 MW amount of Contingency Reserves-Spinning is based on the size of single largest generating unit in the Southern Control Area.” *Id.* at 106 n.347, “Additionally, that amount includes a 50 MW alarm/adjustment buffer to lessen the possibility of Contingency Reserves-Spinning inadvertently falling below 600 MW amount.” *Id.* “The portion of the Southern Balancing Authority ‘Operating Procedures’ document that Trial Staff refers to in its testimony specifically states that the ‘magnitude of Contingency Reserves-Spinning must be at least fifty percent (50%) of the single largest supply side contingency in the control area.’” *Id.* “That document further states that ‘[r]esources classified as both spinning and supplemental reserves must be allocated with a realistic understanding of operational practices and uncertainties. Uncertainties in load forecasts may require additional spinning or supplemental reserves’” *Id.*

⁷³³ “This metric was a reasonable albeit conservative metric, the latter because the instantaneous portion within each hour will be, by definition, higher than that integrated value.” *Id.* at 106 n.349. “Moreover, because the data used to quantify this amount was 10-minute snapshots.” *Id.* “The intra-hour load following needed

maximum instantaneous load and the integrated load for the hour was determined by using 10-minute load level snapshots and assuming linear interpolations between such 10-minute values. The resulting values were expressed as a percentage of the computed integrated load in the hour, and then were averaged for the 10 DPT season/load combinations.⁷³⁴

Applying these values, the total Operating Reserves in the DPT range from 1,229 MW to 1,612 MW, which is between 3 and 4 percent of Southern's peak load.⁷³⁵

These Operating Reserves Were Consistently Met and Served From Economic Capacity.

280. Having explained how it quantified the reserves, Southern maintains that in 2004 it almost always met its operating reserves requirements.⁷³⁶ Southern relies on its internal procedures and record of compliance because they show “that [Southern's] Load Following requirement was met 100 percent of the time; that [its] minimum Regulation requirement was met 99.9 percent of the time; and that [its] minimum Contingency Reserves-Spinning requirement was met 90.6 percent of the time.”⁷³⁷

281. Southern also claims that its internal operational procedures prove that it met operating reserve requirements with economic capacity. Southern uses Automatic Generation Control to dispatch its resources across the Southern Control area, and this system “responds to variations in system frequency; maintains the correct value of interchange power between control areas; and maintains each unit's generation at the *optimum economic level of output* for the system.”⁷³⁸ AGC maintains optimum economic output levels through “economic dispatch,” which chooses which generators to bring on line and/or dispatch “using the most economical resource available” “to meet an incremental need for (or reduction in) generator output.”⁷³⁹ To accomplish this task, AGC relies “on the area control error (ACE) logic module to perform the necessary calculations to allow . . . economic dispatch . . . based on marginal costs.”⁷⁴⁰ In other words, this

to maintain a balance between supply and demand thus requires an additional amount of capacity.” *Id.*

⁷³⁴ *Id.* at 106.

⁷³⁵ *Id.* at 107.

⁷³⁶ *Id.*

⁷³⁷ *Id.* at 107 – 08.

⁷³⁸ *Id.* at 108 (emphasis added).

⁷³⁹ *Id.*

⁷⁴⁰ *Id.*

system responds in real time to changes in system conditions with the most economic generation available, which ensures that operating reserves were met with economic capacity.⁷⁴¹

282. Furthermore, Southern argues that its Form 714 system lambda filings demonstrate that it satisfies operating reserves from economic capacity.⁷⁴² According to Southern, the lambda filings, which calculate incremental cost, employ a “top of stack” value, which means that the most economical resources are dispatched first.⁷⁴³ Consequently, because the Form 714 calculations for system lambda *begin* with a deduction for Operating Reserves, Southern argues that it must be using the least costly resources to satisfy this initial deduction, which means that it is using economic capacity.⁷⁴⁴ According to Southern, the 714 filings and the AGC dispatch system demonstrate that Southern satisfies its Operating Reserves requirements from economic capacity.⁷⁴⁵

In Fact, Southern is Required to Serve Operating Reserves From Economic Capacity.

283. In addition to its internal procedures and record of compliance, Southern argues that it is statutorily and contractually required to provide its Operating Reserves from economic capacity.⁷⁴⁶ Specifically, Southern is required to provide its customers with electricity “in an efficient and economical manner.”⁷⁴⁷ Southern then cites “the Commission-approved IIC, which provides:

- Section 3.2 – It is recognized that reliability of service and economy of operation require that the energy supply to the system be controlled from a centralized dispatching office and that this will require adequate communication facilities and the provision of economic dispatch computer facilities and automatic controls of generation.
- Section 3.3 – It is recognized that the IIC provides for the retention of lowest cost energy resources by each Operating Company for its own customers.
- Section 3.5 – It is recognized by the Operating Companies that coordinated

⁷⁴¹ *See id.*

⁷⁴² *See id.* at 108-09

⁷⁴³ *See id.*

⁷⁴⁴ *See id.* at 109.

⁷⁴⁵ *Id.*

⁷⁴⁶ *See id.* at 110.

⁷⁴⁷ *Id.*

electric operation contemplates minimum cost of power supply upon the interconnected system at all times, consistent with service requirements and other operating limitations.⁷⁴⁸

Therefore, Southern maintains that it has no choice but to provide Operating Reserves from economic capacity lest it violate statutory and regulatory requirements.⁷⁴⁹

Southern Systematically Refutes Shell and Staff's Criticisms of an Adjustment for Operating Reserves.

284. Southern first explains why it cannot logically or systematically satisfy Operating Reserves through intra-hour purchases or recallable non-firm sales.⁷⁵⁰ “[A]t the start of each individual hour, Southern Companies must hold sufficient Operating Reserves to meet, for the entire hour, their Regulation and anticipated Load Following Requirements (the latter being instantaneous control area load for that hour), as well as their Contingency Reserves-Spinning requirement.”⁷⁵¹ Southern argues that if it tried to satisfy its Operating Reserve requirements through intra-hour purchases, it would be “shirking” its duties under the instructions of the Southern Balancing Authority.⁷⁵² In fact, “the only anticipatory actions that can be taken are those that provide ‘headroom’ for a subsequent hour or hours.”⁷⁵³

285. According to Southern, Shell also claims that an adjustment for Operating Reserves would bias the DPT in favor of transmission-owning utilities.⁷⁵⁴ Southern dismisses this claim because the adjustment merely accounts for reality.⁷⁵⁵ The fact that it lowers Available Economic Capacity only for transmission-owning utilities is not surprising because *only* transmission-owning utilities carry Operating Reserves.⁷⁵⁶ “Certainly, if Shell Trading had such obligations, it would be proper to take them into account in quantifying Shell Trading’s Available Economic Capacity.”⁷⁵⁷ There is no more bias created by

⁷⁴⁸ *Id.*

⁷⁴⁹ *See id.*

⁷⁵⁰ *Id.* at 111.

⁷⁵¹ *Id.*

⁷⁵² *See id.*

⁷⁵³ *Id.*

⁷⁵⁴ *Id.* at 112.

⁷⁵⁵ *Id.*

⁷⁵⁶ *Id.*

⁷⁵⁷ *Id.*

adjusting for Operating Reserves than is created by adjusting for native load.⁷⁵⁸ In fact, if Shell's argument were carried to its logical conclusion, Southern would not be allowed to adjust for its native load because only transmission owning utilities serve native load.⁷⁵⁹

286. Shell argues that Southern's approach misses the critical distinction between "an adjustment to generation capacity" and an adjustment to native load.⁷⁶⁰ In response, Southern contends that Shell's argument is rooted only in a portion of Order No. 642, which Shell reads in isolation from the directives found in *AEP I* or *PPL Montana*.⁷⁶¹ Taken as a whole, Southern argues that Commission precedent treats operating reserve adjustments like native load adjustments.⁷⁶²

287. Shell also claims that "Operating Reserves are already taken into account as part of the DPT, insofar as Regulation and Load Following reserves are effectively included in the native load deducted as part of the Available Economic Capacity measure."⁷⁶³ Southern maintains that this is factually wrong.⁷⁶⁴ "The Commission found in Order No. 642 that Operating Reserves may be accounted for in quantifying available capacity"⁷⁶⁵ The Commission did not temper this by distinguishing between the different types of reserves, which is logical because each of the three different types of reserves are "separate and distinct obligations that require capacity above and beyond that required to serve . . . native load."⁷⁶⁶

288. Southern also disagrees with Shell's claim that Southern is deducting Operating Reserves and then reflecting unit outages in its DPT analysis despite the fact that the Operating Reserves are used to respond to those outages, effectively double counting the energy dispatched to address the outage.⁷⁶⁷ For support, Shell relies on the fact that "neither [the market share nor pivotal supplier screen account for forced outages] – presumably because forced outages are already accounted for via operating reserves."⁷⁶⁸ First, Southern contends that Shell's argument ignores the fact that generating capacity "that is on forced or scheduled outages, by definition, cannot provide any service[.]" which includes Regulation,

⁷⁵⁸ *Id.*

⁷⁵⁹ *Id.*

⁷⁶⁰ SCS RB at 90 (quoting Shell IB at 150).

⁷⁶¹ *Id.*

⁷⁶² *See id.*

⁷⁶³ SCS IB at 113.

⁷⁶⁴ *Id.*

⁷⁶⁵ *Id.*

⁷⁶⁶ *Id.*

⁷⁶⁷ *Id.* at 114

⁷⁶⁸ SCS RB at 107 (quoting SCS IB at 153).

Load Following and Contingency Reserves-Spinning.⁷⁶⁹ Southern further asserts that it is physically impossible for capacity used to serve outages to simultaneous also exist as Operating Reserves.⁷⁷⁰ Furthermore, Southern argues that this position does not comport with the Commission's guidance in Order No. 697, which explained that:

[a]llowing deduction of forced outages will generally not change indicative screen results, because all sellers will be able to deduct forced outages, offsetting each other. In the unlikely event that forced outage numbers were not completely offsetting, allowing forced outages in the indicative screens would benefit owners of relatively unreliable fleets at the expense of owners of relatively reliable fleets.⁷⁷¹

This strongly suggests that “the Commission does not consider forced outages and Operating Reserves as overlapping or subsuming one another.”⁷⁷² According to Southern, the Commission has announced that when the “analysis shifts from the screens to the more robust DPT, the analysis broadens to include planned and forced outages⁷⁷³ and Operating Reserves.”⁷⁷⁴

The Three Different Reserves Serve Different Purposes and Require the Dedication of Separate Capacity.

289. Southern rejects Shell and Staff's claim that the three different reserves, Regulation, Load Following and Contingency Reserves-Spinning overlap and serve “double-duty.”⁷⁷⁵ Despite Shell's claims to the contrary,

Load Following values quantified for any given hour do not include the reserve capacity that satisfied Southern Companies' Regulation requirement. Rather, these quantified values reflect the instantaneous load level (*i.e.*, the highest load) in a given hour and the integrated load levels (*i.e.*, the average load) for that same hour,

⁷⁶⁹ SCS IB at 115.

⁷⁷⁰ *Id.*

⁷⁷¹ SCS RB at 108 (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 79).

⁷⁷² *Id.*

⁷⁷³ See 18 C.F.R. § 33.3(d)(1)(vi) (Generation capacity. For each generating plant or unit owned or controlled by each potential supplier, the applicant must provide ... [s]ummer and winter capacity adjusted to reflect planned and forced outages and other factors, such as fuel supply and environmental restrictions.”). The Joint Stipulation includes a provision addressing this requirement. See J-1, p. 4.

⁷⁷⁴ *Id.* (citing *PPL Montana*, 115 FERC ¶ 61,204, at P 60).

⁷⁷⁵ See SCS IB at 115.

with the Load Following quantification being the difference between the two.⁷⁷⁶

290. The capacity that served Regulation reserves did not “factor into either of these calculations,” which should come as no surprise as the “250 MW margin must be at all times maintained in addition to instantaneous load.”⁷⁷⁷

291. Similarly, Staff’s claims lack factual grounding.⁷⁷⁸ Staff claims that the Southern Balancing Authority’s “Operational Procedures” document “explicitly permit[s] the concurrent use of on-line generation capacity to satisfy both the Contingency Reserves-Spinning and the Regulation components of Operating Reserves.”⁷⁷⁹ Southern refutes this claim, noting that the document defines contingency reserve-spinning resources as “those resources which meet all the requirements for spinning reserves and which are allocated specifically to respond to supply side contingencies.”⁷⁸⁰ According to Southern, this distinction expressly forbids the concurrent use of capacity to serve Regulation and Contingency Reserves-Spinning reserve requirements.⁷⁸¹

Southern Companies is not permitted to Serve Operating Reserves from Uneconomic Capacity, and There is no Basis from Which to Argue That it Should.

292. Next, Shell and Staff both claim that Operating Reserves should be reduced by a certain amount of “uneconomic capacity” that hypothetically should have been used to serve reliability obligations.⁷⁸² Southern characterizes this argument as a “collateral attack on the DPT.”⁷⁸³ According to Southern, the Commission has instructed applicants “to consider Operating Reserves as part of the Available Economic Capacity measure.”⁷⁸⁴ Furthermore, this “uneconomic utilization” theory is wholly reliant on hypothetical operating scenarios that are not in line with the way the DPT or with Southern’s operating procedures.⁷⁸⁵ Specifically, this theory assumes that Southern’s customers would benefit if Southern “relied upon ‘uneconomic capacity’ to provide their Operating Reserves” because

⁷⁷⁶ *Id.* at 116.

⁷⁷⁷ *Id.*

⁷⁷⁸ *Id.*

⁷⁷⁹ *Id.* at 116 – 17 (quoting S-51, p. 38, line 20 through p. 39, line 2).

⁷⁸⁰ *Id.* at 117 (quoting S-27, at page 3 of 4 (emphasis added)).

⁷⁸¹ *Id.*

⁷⁸² *Id.* at 118.

⁷⁸³ *Id.*

⁷⁸⁴ *Id.*

⁷⁸⁵ *Id.*

Southern would then be permitted to sell its economic capacity at a greater profit, essentially hedging against an “improbable” contingency.⁷⁸⁶ This argument ignores the fact that “only Contingency Reserves-Spinning relate to the occurrence of contingencies[,] while Regulation and Load Following” respond to changes in load levels, requiring their constant maintenance. Shell and Staff’s endorsement of serving Operating Reserves from uneconomic capacity stems from a mistaken belief that economic and uneconomic capacity are fungible.⁷⁸⁷ According to Southern, this would defy its statutory⁷⁸⁸ and contractual duties and cost the customers *more* in the long run, through the passage of the cost of the risk and the cost of replacement energy on the open market that would eventually be needed to serve the reserves.⁷⁸⁹

293. In support of its position, Southern relies on Order No. 642, *AEP I*, and *PPL Montana*, noting that the Commission has consistently held that Operating Reserves should be deducted from a proper DPT analysis and has never even suggested that these reserves should be satisfied with capacity assigned “out-of-merit” (uneconomic capacity).⁷⁹⁰ Rather, the Commission has held that “generation stacking” is the sole technique to be employed when conducting DPT analysis.⁷⁹¹

294. Additionally, Shell and Staff’s proposal to use uneconomic capacity to satisfy Operating Reserves would unfairly skew the assumptions of the DPT.⁷⁹² The DPT assumes that all economic generation is on-line regardless of the reality of system conditions.⁷⁹³ This inevitably overstates the amount of economic

⁷⁸⁶ *See id.* “Trial Staff conducted no analysis to support its speculative claim that Southern Companies’ customers would be ‘better off’ if Southern Companies sold all off their economic capacity and served Operating Reserves out of uneconomic capacity.” *Id.* at 121 “Indeed, as revealed during the hearing, Trial Staff’s argument was premised solely on the notion that Southern Companies suffered no major reliability events in 2004 and that, in theory, Southern Companies might come out ahead in the long run if they made enough sales from economic capacity to offset the losses that would occur as uneconomic capacity was called upon to meet the Operating Reserves requirements.” *Id.*

⁷⁸⁷ *See SCS RB* at 97-100.

⁷⁸⁸ *See id.* at 103 (noting that if it sold Contingency Reserves-Spinning, betting against the occurrence of a contingency, NERC would penalize Southern and require it to maintain extra reserves).

⁷⁸⁹ *See SCS IB* at 118.

⁷⁹⁰ *See id.* at 119.

⁷⁹¹ *See id.*

⁷⁹² *See id.* at 120.

⁷⁹³ *See id.*

generation that Southern actually possess, but it is a necessary simplification to make the DPT work.⁷⁹⁴ Shell and Staff's proposal would unfairly leave this assumption intact while eliminating the corresponding assumption that uneconomic capacity is not used to serve native load commitments.⁷⁹⁵ "The consequence of this selective modification of the DPT would attribute to Southern Companies 100 percent of the capacity that is determined to be economic under the DPT's stacking approach, and then add another increment to reflect capacity that is uneconomic under the DPT construct."⁷⁹⁶ Thus, this methodology is clearly biased and should be rejected.⁷⁹⁷

*Staff Miscalculated Regulation and Contingency Reserves-
Spinning Operating Reserves.*

295. In addition to Staff's other methodological flaws, Southern argues that it also miscalculated Regulation and Contingency Reserves-Spinning.⁷⁹⁸ "Staff claims that Regulation should be 90 MW and that Contingency Reserves-Spinning should be 486 MW (assuming it is not capable of being supplied by uneconomic capacity)."⁷⁹⁹

296. Staff's 90 MW quantification of Regulation reserves stems from "its interpretation of one of the two NERC Control Performance Standards, CPS2."⁸⁰⁰ The CPS2 metric requires that the average ACE be within a specific limit "for at least 90% of clock-ten-minute periods (6 non-overlapping periods per hour) during a calendar month[.]"⁸⁰¹ Staff contends that Southern's 95% compliance constitutes "imprudent operation" because it *over-complies* by 5%.⁸⁰² Southern rejects this theory because CPS2 "measures performance based upon data accumulated *after the fact*" and "does not include any Operating Reserve component [or] instruct Southern Companies as to what amount of capacity [it] must carry to support their Regulation requirement." Rather, this instruction comes from the Southern Balancing Authority, and in 2004, the minimum amount of capacity for Regulation was 250 MW.⁸⁰³ "[G]oing into a given hour, Southern

⁷⁹⁴ *See id.*

⁷⁹⁵ *Id.*

⁷⁹⁶ *Id.*

⁷⁹⁷ *Id.* at 121.

⁷⁹⁸ *Id.* at 122.

⁷⁹⁹ *Id.*

⁸⁰⁰ *Id.*

⁸⁰¹ *Id.* at 122-23.

⁸⁰² *Id.* at 123.

⁸⁰³ *Id.* In its Reply Brief Southern refutes Staff's claim that by Southern's admission its Regulation reserves are only 125 MW. SCS RB at 111. Southern

Companies must follow this instruction, and this instruction alone, for purposes of its Regulation requirement.”⁸⁰⁴ Also, this “90 percent threshold is a minimum, not a target.”⁸⁰⁵ NERC documents make this clear, noting that CPS2 compliance of 90% is “a minimum.”⁸⁰⁶ Therefore, Staff’s claim that “over-compliance” constitutes “imprudent operation,” is not sustainable.⁸⁰⁷ In contrast, Southern’s calculation of Regulation reserves accurately reflects the 250 MW Regulation requirement imposed by the Southern Balancing Authority.⁸⁰⁸

297. Southern then challenges Staff’s calculation of the Contingency Reserves-Spinning requirement.⁸⁰⁹ According to Staff, “the required amount of Contingency Reserves-Spinning is 486 MW, not the 650 MW required by the Southern Balancing Authority.”⁸¹⁰ Staff reasons that “(a) Regulation reserves can simultaneously serve as Contingency Reserves-Spinning, and (b) the actual Contingency Reserves-Spinning requirement is 576 MW, not 650 MW.”⁸¹¹ Staff supports its first argument with a reference to the Southern Balancing Authority’s Operational Procedures document, which “explicitly permit[s] the concurrent use of on-line generation capacity to satisfy both the Contingency Reserves-Spinning and the Regulation components of Operating Reserves.”⁸¹² As explained in subsection seven, Southern denies that this representation can be found in the Operational Procedures document.⁸¹³ Rather, Southern contends that “the document expressly states that ‘resources which classify as contingency reserves-spinning resources are those resources which meet all the requirements for spinning reserves and which are allocated specifically to respond to supply side contingencies.’”⁸¹⁴ Southern interprets this instruction to exclude Regulation reserves from the resources that may serve Contingency Reserves-Spinning, which explains why Staff grossly miscalculated the amount of Contingency Reserves-

recognizes that its expert originally estimated Regulation reserves at 125 MW, but attributes this to a “conservative estimate” that was based in the mistaken belief that the Southern Balancing Authority permitted such deviations.” *Id.* at 110-11. Southern claims that its witness adjusted his figures to reflect the total 250 MW when he learned of this error. *Id.* at 111.

⁸⁰⁴ SCS IB at 123.

⁸⁰⁵ *Id.*

⁸⁰⁶ *Id.*

⁸⁰⁷ *Id.* at 124.

⁸⁰⁸ *See id.*

⁸⁰⁹ *See id.* at 124-25.

⁸¹⁰ *Id.* at 124.

⁸¹¹ *Id.* at 125.

⁸¹² *Id.* (quoting S-51, at 38, line 20 - 39, line 2).

⁸¹³ *Id.*

⁸¹⁴ *Id.* (quoting S-27, 3 of 4).

Spinning that Southern is required to carry.⁸¹⁵

298. Southern also challenges Staff's second justification for its claim that the actual Contingency-Reserves Spinning requirement is 576 MW.⁸¹⁶ Southern explains that the "Operational Procedures document and NERC Policy 1 make clear [that] the amount of capacity carried for Contingency Reserves-Spinning is a minimum amount."⁸¹⁷ According to the Operational Procedures document, that minimum amount is "at least fifty percent (50%) of the single largest supply side contingency in the control area."⁸¹⁸ Staff and Southern both agree that "the single largest contingency is the loss of one of two generation unit at the Vogtle Nuclear Plant, each with a rating of approximately 12,000 MW."⁸¹⁹ Under NERC guidelines this would require 600 MW of Contingency Reserves-Spinning, but the Southern Balancing Authority requires an additional 50 MW of Contingency Reserves-Spinning to provide an "alarm/adjustment buffer[.]"⁸²⁰ Thus, the required amount of Contingency Reserves-Spinning in 2004 was 650 MW.⁸²¹

Shell

Southern's Operating Reserve Adjustment to its DPT Load Incorrectly Extends the Methodology from Pivotal Supplier Test to the Market Power DPT Studies, Which is Inconsistent With the DPT's Purpose.

299. Shell recognizes Southern's "obligation to provide operating reserves[.]" but it rejects Southern's inclusion of "operating reserves as a load adjustment in the DPT analysis."⁸²² Though "the Commission permits a reliability reserve adjustment to destination market load in applying the pivotal supplier test[.] [it] has never applied that adjustment or anything like it more broadly, either to other market power measures under the EC prong or to any market power measures under the AEC form of the DPT."⁸²³ "Furthermore . . . the Commission-authorized adjustment to the EC pivotal supplier . . . does not in any way increase or decrease the level of generation attributed to a particular supplier[.]" which makes it *more* likely that an applicant will be found to be pivotal because "the

⁸¹⁵ *See id.*

⁸¹⁶ *See id.* at 125 – 26.

⁸¹⁷ *See id.*

⁸¹⁸ *Id.* (quoting S-27, at 3).

⁸¹⁹ *Id.* at 126.

⁸²⁰ *Id.*

⁸²¹ *See id.*

⁸²² Shell IB at 146.

⁸²³ *Id.*

lesser the sum of load plus reliability reserves the more likely an applicant's capacity will prove 'pivotal' in meeting that demand[.]”⁸²⁴ But Southern's operating reserve adjustment makes it *less* likely that an applicant will be found pivotal because it subtracts “economic capacity from the applicant.”⁸²⁵

300. Besides being technically wrong, Southern's adjustment violates the purpose of the DPT analysis.⁸²⁶ The purpose of the DPT is to measure the applicant's total “capacity to make wholesale sales at given market price levels applicable during the ten well-defined seasons/load periods.”⁸²⁷ According to Shell, Southern's adjustment ignores this purpose by trying to reflect how it dispatches its capacity as opposed to just how much capacity it has.⁸²⁸ “Southern's ‘scheduling limitations’ reflect how much load Southern is actually committed to serving in a given hour, which in turn is a function of how much energy it actually sold in the market (as well as its actual outage experience), not how much capacity it had to sell into the wholesale market prior to dispatch.”⁸²⁹ The product market at issue here is the short-term, non-firm product market, and these transactions are not “limited to those made within the scheduling hour.”⁸³⁰ Thus, Shell argues that Southern logistically could offer its capacity to the wholesale market “long before the hour in which units are actually dispatched.”⁸³¹

Southern's Adjustment Unjustly Biases the DPT in Favor of Vertically Integrated Transmission Owners.

301. Furthermore, Southern's adjustment creates a bias in favor of vertically integrated transmission owners that runs counter to the “Commission's long-standing concerns” about such utilities exercising market power.⁸³² Southern's adjustment would permit transmission owning applicants to reduce generating capacity by operating reserves *and* “planned outages, forced outages, and native load[.]” Presumably, this is why Southern's operating reserve adjustment is not supported by “*AEP I*, *AEP II*, [or] Order No. 592.”⁸³³ According to Shell, this adjustment would abandon the careful balance the Commission has created between recognition of the “vertically integrated utilities' native load

⁸²⁴ *Id.* at 146-47.

⁸²⁵ *Id.*

⁸²⁶ *Id.*

⁸²⁷ *Id.*

⁸²⁸ *See id.*

⁸²⁹ *Id.*

⁸³⁰ *Id.*

⁸³¹ *Id.* at 147-48.

⁸³² *Id.* at 148.

⁸³³ *Id.*

requirements” and “its recognition that such utilities control a portfolio of generation resources with which they also compete in wholesale markets.”⁸³⁴

Southern Critically Misinterpreted Order No. 642.

302. Shell then claims that Southern has misread Order No. 642 and as such its position on this issue is unsupported.⁸³⁵ The passage that Southern allegedly misinterpreted reads as follows:

Another adjustment discussed in the NOPR that may be needed to accurately represent a supplier’s ability to sell into markets is to adjust for reserve requirements for reliability or other reasons. Generation capacity that must be held in reserve is not available to be sold into markets on a firm basis to respond to price increases, and therefore should not be attributed to the supplier in the competitive analysis screen.⁸³⁶

303. Shell argues that this passage only demonstrates “a willingness to consider a decrease to a supplier’s *economic capacity* for DPT purposes based on an operating reserve obligation, not an increase to the *native load* deducted to calculate AEC.”⁸³⁷ Shell then explains that the distinction between adjusting generation capacity instead of adjusting native load is “critical” because if generation, or economic capacity, is to be adjusted, Southern first must demonstrate that operating reserves represent economic capacity.⁸³⁸ According to Shell, Southern has provided no evidence that its reserves are served from “economic capacity.”⁸³⁹ Rather, it has attempted to “side-step” this problem by recasting the adjustment as “an increase to native load[,]” but, as noted above, the Commission has never made such an adjustment to native load.⁸⁴⁰

⁸³⁴ *Id.* at 148-49. (citing as example *AEP I*, 107 FERC ¶ 61,018 at P 87-89). Even Southern’s witnesses acknowledge that this adjustment is not standard in most DPT analysis with Dr. Hieronymus admitting that he “has never used such an adjustment in any of the hundreds of DPT analyses he has performed over the years. *Id.* at 149.

⁸³⁵ *Id.* at 149.

⁸³⁶ *Id.* at 150 (quoting *Order No. 642*, FERC Stats. & Regs. ¶ 31,111 at p. 31,889).

⁸³⁷ *Id.*

⁸³⁸ *Id.*

⁸³⁹ *Id.* at 150-51.

⁸⁴⁰ *Id.* at 151.

Any Adjustment for Operating Reserves is Duplicitous Because the DPT Already Accounts for Outages.

304. Next, Shell claims that Southern's adjustment to operating reserves "effectively double counts for outages on the Southern system."⁸⁴¹ Shell explains that the Joint Stipulation requires the derating of economic capacity to "account for outage-related absence of generation during some hours of the DPT periods."⁸⁴² But then Southern's proposed operating reserves adjustment for operating reserves decreases capacity a second time; this time from the load side of the AEC equation.⁸⁴³ In other words, Southern first decreases its economic capacity by accounting for outages and then uses those same outages under the guise of operating reserves to increase its native load, which is finally subtracted from economic capacity to yield AEC.⁸⁴⁴ "In addition, Southern's average outage derating of approximately 3,789 MW is much larger than its average operating reserve adjustment of approximately 1,308 MW."⁸⁴⁵ According to Shell, "the fact that the DPT analysis already accounts for such a significant amount of derated capacity indicates that it should not be further derated to account for any portion of Southern's operating reserves."⁸⁴⁶

Shell's Suggested Operating Reserve Adjustment Lacks Support.

305. Shell disputes Southern's belief that *AEP I* supports its accounting of reserves.⁸⁴⁷ Shell presents Southern's argument as:

the Commission allowed consideration of operating reserves in computing the indicative screens, and (2) the Commission referred to the AEC form of the DPT as the DPT's 'analog to uncommitted capacity,' therefore (3) the DPT 'analog' should incorporate the same capacity adjustment as the indicative screens."⁸⁴⁸

306. Shell disagrees with this interpretation because it "fails to acknowledge that the DPT – which predates *AEP I* – has *never* been adjusted to account for

⁸⁴¹ *Id.*

⁸⁴² *Id.*

⁸⁴³ *Id.*

⁸⁴⁴ *Id.*

⁸⁴⁵ *Id.*

⁸⁴⁶ *Id.* at 151-52.

⁸⁴⁷ *Id.* at 152.

⁸⁴⁸ *Id.*

operating reserves.”⁸⁴⁹ Shell refuses to accept that *AEP I* substantially altered the standard DPT practice with a single word, “analog.”⁸⁵⁰ According to Shell, Southern’s interpretation “ignores the context of the discussion in *AEP I* on which [it] relies.”⁸⁵¹ First, *AEP I* explains that “the EC form of the DPT is the ‘analog’ to the indicative screen’s ‘installed capacity.’” Immediately thereafter, the Commission “references AEC as the ‘analog’ to the indicative screen’s ‘uncommitted capacity’ – not because the capacity measured under the AEC and uncommitted capacity need be *identical*, but simply because both AEC and uncommitted capacity are the ‘net’ result of native load adjustments to EC and installed capacity, respectively.”⁸⁵²

307. Furthermore, Southern’s seizure upon the term, “analog,” in *AEP I* ignores the difference between the purpose of the indicative screens and the purpose of the DPT as well as the differences between the two tests’ methodologies.⁸⁵³ First, “[t]he Commission intended the indicative screens to be a quick check to rule out applicants who clearly do not possess market power, while the DPT was designed to be a more thorough and robust analysis.”⁸⁵⁴ Second, the indicative screens “evaluate the potential for market power in *peak load* periods[,]” and they “do not adjust capacity for planned outages, forced outages, *and* operating reserves.”⁸⁵⁵ Rather, “[t]he capacity measure used in the pivotal supplier indicative screen only accounts for operating reserves, while the market share indicative screen accounts for operating reserves and planned outages, but *neither* account for forced outages – presumably because forced outages are already accounted for via operating reserves.”⁸⁵⁶ Here, all of the DPT analyses “reduce Southern’s capacity for both planned and forced outages, and thus no further reduction to its capacity to account for operating reserves is necessary or appropriate.”⁸⁵⁷

308. Next, Shell discredits Southern’s interpretation Paragraph 90 of Order No. 697, which Southern presents as support for its adjustment.⁸⁵⁸ According to Shell, “[t]hat portion of Order No. 697 addresses only the Commission’s market share indicative screen for market power, not the more detailed DPT analysis.”⁸⁵⁹

⁸⁴⁹ *Id.*

⁸⁵⁰ *Id.*

⁸⁵¹ *Id.* at 153.

⁸⁵² *Id.*

⁸⁵³ *Id.*

⁸⁵⁴ Shell RB at 61.

⁸⁵⁵ Shell IB at 153.

⁸⁵⁶ *Id.*

⁸⁵⁷ *Id.* at 154.

⁸⁵⁸ *See id.*

⁸⁵⁹ *Id.*

“Moreover, the Commission there *rejects* calls to modify the existing market share indicative screen.”⁸⁶⁰ Shell concludes that Southern misrepresents the impact of Paragraph 90 on the proper accounting of operating reserves in the DPT.⁸⁶¹

309. Shell also rejects Southern’s reliance on *PPL Montana* as support for its operating reserves adjustment.⁸⁶² Shell claims that *PPL Montana* “did not address the propriety of an operating reserves adjustment to native load under the AEC prong of the DPT like the one proposed by Southern in the instant proceeding.”⁸⁶³ All that *PPL Montana* said was that “the commitment of such long-term, firm resources by a vertically-integrated utility to serve operating reserve obligations would justify deducting those resources from a calculation of uncommitted capacity.”⁸⁶⁴ According to Shell, this merely repeats the instruction provided by the Commission in both Order No. 642 and its regulations.⁸⁶⁵ Southern’s interpretation is actually a request for the Presiding Judge to make the inappropriate analytical leap to increase native load by Operating Reserves.⁸⁶⁶

310. Finally, Shell claims that Southern misinterpreted 18 C.F.R. § 33.3(c)(4)(i)(A) (2007).⁸⁶⁷ According to Shell, the quoted language from the regulation does not contain even a reference to adjustments for operating reserves.⁸⁶⁸ “Instead, Southern merely quotes the Commission’s definitions of economic and available economic capacity and the Commission’s generic definition of native load, emphasizing language stating that native load involves ‘an obligation to construct and *operate its system to meet their reliability electricity needs.*’”⁸⁶⁹ Shell interprets this language to merely be a “generic characterization of the obligations imposed by statute and regulations on load-serving utilities, rather than any attempt to endorse a native load adjustment for operating reserves under the AEC prong of the DPT.”⁸⁷⁰

⁸⁶⁰ *Id.*

⁸⁶¹ *Id.*

⁸⁶² Shell RB at 62 (citing SCS IB at 101).

⁸⁶³ *Id.*

⁸⁶⁴ *Id.* (citing *PPL Montana* 115 FERC ¶ 61,204 at P 60).

⁸⁶⁵ *Id.*

⁸⁶⁶ *Id.*

⁸⁶⁷ *See id.* at 62.

⁸⁶⁸ *See id.* at 62-63.

⁸⁶⁹ *Id.* at 63 (quoting SCS IB at 101-02).

⁸⁷⁰ *Id.*

Southern has Failed to Provide Support for its Belief That it Serves Operating Reserves From Economic Capacity.

311. Southern's claim that it serves Operating Reserves from economic capacity confuses "economic" dispatch capacity with "economic capacity" as that term is understood in relation to the DPT.⁸⁷¹ Southern claims that it provides its operating reserves from economic capacity.⁸⁷² But just because capacity is "economic" for DPT purposes and is controlled by Automatic Generation Control, does not mean that the same capacity is presumed to be economic for purposes of the DPT.⁸⁷³ Therefore, Shell concludes that the record does not support Southern's claim that it served operating reserves from "economic capacity" as that term is used in the DPT precedent.⁸⁷⁴

Staff

Contrary to Southern's position, the Commission Has Not Consistently Recognized Operating Reserves as an Appropriate Element for Consideration in the DPT.

312. Staff asserts that Southern's argument that the Commission has "clearly and consistently" recognized an adjustment for operating reserves in a properly constructed DPT cites several Commission decisions in support,⁸⁷⁵ but the claim is simply not true.⁸⁷⁶ The Commission has neither "clearly nor consistently" indicated that operating reserves should be included with native load and deducted from economic capacity to compute available economic capacity in either the market share or market concentration tests of the DPT.⁸⁷⁷ Staff asserts that "...the most that can be said is that the Commission has never squarely addressed (and certainly never when the subject was in dispute) the treatment of operating reserves in a DPT." Staff points to, among other things, the fact that Southern's own witness, Mr. Frame candidly acknowledges, "I do not believe that the Commission has previously addressed how control area obligations should be

⁸⁷¹ See *id.* at 65.

⁸⁷² See *id.*

⁸⁷³ See *id.*

⁸⁷⁴ *Id.* at 66.

⁸⁷⁵ Southern IB at 99-102.

⁸⁷⁶ Staff IB at 83-86 and Staff RB at 33-40.

⁸⁷⁷ The only exception explicitly stated by the Commission is the DPT pivotal supplier test, and in particular, the EC portion of that test. Only with respect to that limited portion of the DPT has the Commission consistently recognized an adjustment for operating reserves. *AEP I* at P 108; Order No. 697 at P 108.

reflected in DPT analyses.”⁸⁷⁸ Rather, Staff argues that “... Commission precedent, such as it exists today, can easily and reasonably be interpreted to suggest that an adjustment for operating reserves is improper when measuring market share or market concentration in a DPT analysis.”⁸⁷⁹

Miscalculations of Operating Reserves Have Profound Effects on the DPT’s Results.

313. Strictly in the alternative, Staff argues that if operating reserves are to be added to Southern’s native load, than they need to be correctly computed. Staff explains that adjustments in the DPT to account for operating reserves can “have a significant impact on the DPT results.”⁸⁸⁰ This impact is seen in Staff’s three price sensitivities “in which all variables (*i.e.*, market price and import capability) except operating reserves are held constant: Exhibits S-45, S-46 and S-50.”⁸⁸¹ “In Exhibit S-45, operating reserves were not considered in the DPT analysis at all.”⁸⁸² In that study, Southern’s market share was “above 20 percent in seven DPT load/season periods.”⁸⁸³ “In Exhibit S-46, operating reserves were considered but offset by uneconomic reserves and generation.”⁸⁸⁴ There, “Southern had a market share above 20 percent in five DPT load/season periods.”⁸⁸⁵ “Finally, in Exhibit S-50, Southern’s own total operating reserve adjustment was reflected in the DPT[.]” which “showed Southern with a market share above 20 percent in only three load/season periods.”⁸⁸⁶ These drastic variances in DPT results prove that the choice of operating reserve adjustment methodology can have a substantial impact on whether an applicant is granted market rate authority.⁸⁸⁷

Staff Recognizes Southern’s Duty to Maintain Operating Reserves as Well as the Differences Between the Different Categories of Those Reserves.

314. Staff recognizes that NERC and the Southern Balancing Authority require Southern to maintain operating reserves.⁸⁸⁸ The three types of operating reserves

⁸⁷⁸ Exh. SCS-32 at 49. Mr. Frame’s view is directly contrary to Southern’s claims with respect to the consistency of Commission precedent.

⁸⁷⁹ Staff IB at 83-86; Staff RB at 33-40.

⁸⁸⁰ Staff IB at 64.

⁸⁸¹ *Id.*

⁸⁸² *Id.*

⁸⁸³ *Id.* at 64-65.

⁸⁸⁴ *Id.* at 65.

⁸⁸⁵ *Id.*

⁸⁸⁶ *Id.*

⁸⁸⁷ *See id.*

⁸⁸⁸ *See id.* at 65-66.

at issue here are Regulation, Load Following Services and Contingency Reserves-Spinning.⁸⁸⁹ “Regulation reserves and Load Following reserves require similar capacity capabilities and both provide for real-time balancing of load and generation in the control area.”⁸⁹⁰ “The difference between them is that Regulation reserves provide resource and demand balancing within seconds or minutes while Load Following reserves provide resource and demand balancing over a longer time horizon (*i.e.*, these resources follow load changes within minutes or hours).”⁸⁹¹ “The amount of required Load Following, unlike that for Regulation and Contingency Reserve-Spinning, is not a fixed quantity but changes in response to hourly changes in load.”⁸⁹² “Contingency Reserve-Spinning reserves are held specifically to respond to supply contingencies (*e.g.*, the unexpected loss of some or all of a generator or transmission line) and must be able to be deployed within about ten minutes.”⁸⁹³

Staff Explains its Calculation of Southern’s Operating Reserves.

315. Staff claims that its calculation of Southern’s operating reserves requirement is the most accurate in this proceeding.⁸⁹⁴ According to Staff, “adding any operating reserves to the load used in the DPT is improper so long as there exists uneconomic capacity in amounts equal to or exceeding the operating reserve requirements at the given market price.”⁸⁹⁵ Regardless of whether they are added to load or not, Staff claims that Southern miscalculated its reserve

⁸⁸⁹ *See id.* at 66.

⁸⁹⁰ *Id.*

⁸⁹¹ *Id.* “Staff witness Ballard disagrees with the view of Southern witness Moore that Regulation and Load Following capacity is held for the purpose of meeting instantaneous peak load every hour.” *Id.* at 67 n. 173. “Mr. Ballard explains that Southern’s generation cannot physically respond the moment a change in demand occurs.” *Id.* “Rather, Frequency Response supplied out of all on-line generators (both Southern and non-Southern) can be deployed to respond to moment to moment changes in demand.” *Id.*

⁸⁹² *Id.*

⁸⁹³ *Id.* at 66-67. “There are two types of Contingency reserves – Supplemental and Spinning. NERC specifies that 50 percent of Contingency reserves should be Contingency Reserve-Spinning. *Id.* at 67 n.175. “No one in this proceeding claims that the capacity providing Contingency Reserve-Supplemental should be reflected in the DPT analysis and therefore Contingency Reserve-Supplemental is not at issue.” *Id.*

⁸⁹⁴ *Id.* at 67

⁸⁹⁵ *Id.* at 68.

obligations in the first instance.⁸⁹⁶ In reaching this conclusion, Staff does not dispute Southern's Load Following quantity, but it does dispute Southern's Regulation and Contingency Reserves-Spinning quantifications.⁸⁹⁷

Southern Miscalculated its Operating Reserves.

316. Staff contends "that the total Contingency Reserve-Spinning requirement was no more than 600 MW during 2004 based upon Southern's discovery response showing its own unit commitment reports and next-day calculator reports for 2004."⁸⁹⁸ Specifically, the documentation provided by Southern shows "that the target Contingency Reserve-Spinning for the next day was 600 MW, not 650 MW as claimed by Southern."⁸⁹⁹ In fact none of Southern's operating policy documents supports "the 650 MW value."⁹⁰⁰

317. Southern's OATT and the Southern Balancing Authority require Southern's "Contingency Reserve-Spinning obligation [to be] based on one-half of Southern's largest contingency."⁹⁰¹ Examining Southern's 2004 Form 1, Staff "found that Vogtle Unit 1 was the largest contingency with a net demonstrated capability of 1,152 MW (4 MW higher than Vogtle Unit 2 in 2004)." Given this information, Staff "calculated that the actual Contingency Reserve-Spinning for 2004 was 576 MW (1,152 MW ÷ 2)."⁹⁰² According to Staff, this proves that Southern's 650 MW is incorrect.⁹⁰³

318. Similarly, Staff claims that Southern's "quantification of Regulation reserves is wrong."⁹⁰⁴ Staff asserts that it performed a "more refined calculation" and "determined that Southern maintained no more than 90 MW of Regulation in 2004, rather than the 250 MW continuous requirement" that it now claims.⁹⁰⁵ Staff contends that the wide discrepancy stems from Southern's "misunderstanding of the nature of Regulation reserves and how Automatic Generation Control (AGC) equipped units provide Regulation services."⁹⁰⁶ According to Staff, Southern "incorrectly assumes that [it] needs to have

⁸⁹⁶ *Id.* at 68-69.

⁸⁹⁷ *Id.* at 69.

⁸⁹⁸ *Id.*

⁸⁹⁹ *Id.*

⁹⁰⁰ *Id.*

⁹⁰¹ *Id.*

⁹⁰² *Id.* at 69-70.

⁹⁰³ *Id.* at 70.

⁹⁰⁴ *Id.*

⁹⁰⁵ *Id.*

⁹⁰⁶ *Id.*

unloaded, AGC capacity capable of responding to instantaneous demand changes.”⁹⁰⁷ But according to Staff, “it is impractical and impossible for Southern’s AGC generation units to provide an instantaneous service response.”⁹⁰⁸

319. Staff “explains that by the time an electronic pulse is sent by Southern’s System Control (typically every six seconds) that a change in demand has occurred, the demand change that initiated the pulse has already come and gone and a new demand change has occurred.”⁹⁰⁹ According to Staff, “the six second pulses nudge the AGC generators up or down so that over a ten minute period the Regulation and Load Following needs of Southern are met within a NERC-required range 90 percent of the time.”⁹¹⁰ Therefore, “[a]ny instantaneous (nearly instantaneous) response must come through frequency response from units belonging to Southern and other generation units connected to Southern, not from Regulation reserves.”⁹¹¹

320. Additionally, Southern contends that Staff’s 90 MW calculation ignores NERC’s control performance standard.⁹¹² In its reply brief, Staff explains that Southern is missing the point.⁹¹³ The DPT does not measure control standards.⁹¹⁴ It measures the capacity held at different points during a selected study year.⁹¹⁵ Therefore, Staff supports its 90 MW calculation as reflecting Southern’s 90% compliance with NERC’s control performance standard.⁹¹⁶ When Staff “performed a correct analysis of the ten-minute load data Southern generated for 2004,” it “found that Southern only needed to maintain 90 MW of Regulation in order to meet the NERC 90 percent performance requirement.”⁹¹⁷

321. Staff also claims that “both the Load Following and Regulation obligations of Southern can be met under NERC performance requirements from capacity having the same capabilities[,]” and because “Southern has sufficient Load Following capacity[,]” it can use that to satisfy its Regulation reserve requirement.⁹¹⁸

⁹⁰⁷ *Id.* at 70-71.

⁹⁰⁸ *Id.* at 71.

⁹⁰⁹ *Id.*

⁹¹⁰ *Id.*

⁹¹¹ *Id.*

⁹¹² Staff RB at 61.

⁹¹³ *Id.*

⁹¹⁴ *See id.*

⁹¹⁵ *See id.*

⁹¹⁶ *See id.*

⁹¹⁷ Staff IB at 72.

⁹¹⁸ *Id.*

322. Finally, “in determining [its] operating reserve values [Southern] not only incorrectly adds [its] full amount of 250 MW of Regulation reserves to the full amount of Load Following reserves but incorrectly adds [its] 250 MW of Regulation reserves to [its] 650 MW of Contingency Reserve-Spinning reserves for a combined 900 MW.”⁹¹⁹ This is unnecessary because Staff claims that “the AGC-equipped capacity that provides Regulation (*i.e.*, Regulation Reserve-Spinning) can be the same capacity that provides Contingency Reserve-Spinning services[]” because “[t]he DPT is an economic model and not a model that follows system operations.”⁹²⁰ Therefore, “Southern should not reduce marketable capacity in the DPT for Regulation reserve in addition to Contingency-Reserve Spinning.”⁹²¹ “The capacity that provides Regulation is subsumed in the capacity that provides Contingency Reserve-Spinning services,” and “[e]ven if on an operational basis Regulation is not fully subsumed in Contingency Reserve-Spinning, so long as Regulation and Contingency Reserve-Spinning could be (as opposed to must be) served by the same capacity, the combined reserve values should not be reflected in the DPT.”⁹²²

323. Staff then applies this logic, and properly calculates the total amount of Contingency Reserves Spinning to be no greater than 576 MW, which Staff supports with Southern’s own operational records.⁹²³ According to Staff, these records state “that Regulation and Contingency Reserve-Spinning both require synchronized capacity, and explicitly permit the concurrent use of on-line capacity to satisfy both the Regulation and Contingency Reserve-Spinning components of operating reserves.”⁹²⁴ “The 1,200 MW represents the approximate total of operating reserves during the daily hourly peaks, including both Contingency-Supplemental and Contingency-Spinning, and therefore does not also encompass Load Following capacity.”⁹²⁵

Staff Presents Three Sensitivity Analyses That Confirm the Reliability of its Treatment of Operating Reserves.

324. Staff presents the results of three sensitivity analyses comparing its values against Southern’s “to determine which . . . reserve value was most often met in

⁹¹⁹ *Id.*

⁹²⁰ *Id.* at 72-74.

⁹²¹ *Id.* at 73-74.

⁹²² *Id.* at 74.

⁹²³ *Id.*

⁹²⁴ *Id.*

⁹²⁵ *Id.*

Southern's actual performance in 2004."⁹²⁶ "In the first analysis, [Staff] analyzed the ten-minute reserve data used by [Southern] along with ten-minute load data provided by Southern[,] which showed "that Southern failed to meet [its] claimed Regulation and Contingency Reserve-Spinning requirement of 900 MW 15 percent of the time while the data showed that [Staff's] 576 MW failed only 8 percent of the time."⁹²⁷ Staff then "converted the 10-minute data used by Mr. Moore into hourly data."⁹²⁸ This analysis showed that Southern's "claimed Regulation and Contingency Reserve-Spinning requirement of 900 MW was not met 17 percent of the time[,] but Staff's "Regulation and Contingency Reserve-Spinning requirement of 576 MW was not met only 9 percent of the time."⁹²⁹ Finally, Staff "reduced the hourly observations in the preceding analysis to the peak hour each day[,] and this test showed that Southern's proffered "900 MW value failed 27 percent of the time while Mr. Ballard's 576 MW value failed only 10 percent of the time."⁹³⁰ Given Southern's higher rate of compliance, it appears that Staff's calculations of reserves more accurately reflect Southern's historical practices.

Southern's Explanations are Irrelevant Because They Either Fail to Balance the Equation or Reflect Self-Imposed Burdens.

325. In its Reply Brief, Southern attempted to explain that it was mistaken, claiming "that deviations from operating reserve requirements do not relate to Regulation but rather relate to the Contingency Reserve-Spinning requirement."⁹³¹ Therefore, Southern asserts that Regulation reserves must be reset to 250 MW.⁹³² Whether this is correct or not, Staff notes that "while [Southern] made an upward 125 MW adjustment to [its] Regulation value, [it] did not then follow [its] rationale and make a corresponding downward adjustment to [its] 650 MW Contingency Reserve-Spinning value."⁹³³

326. Staff also argues that Southern's Contingency Reserve-Spinning value should not include the 50MW buffer because that is a buffer imposed solely by Southern's own judgment.⁹³⁴ Staff argues that only obligations imposed by NERC

⁹²⁶ *Id.*

⁹²⁷ *Id.*

⁹²⁸ *Id.*

⁹²⁹ *Id.*

⁹³⁰ *Id.* at 75.

⁹³¹ Staff RB at 41.

⁹³² *Id.*

⁹³³ *Id.*

⁹³⁴ *See id.*

or other regulatory bodies should be recognized in DPT analyses.⁹³⁵

Southern has not Provided Sufficient Evidence to Support its High Operating Reserve Compliance Figures.

327. Staff next rejects Southern's claims that it met its proffered reserve obligations over 90% of the time.⁹³⁶ According to Staff, Southern's "data set did not in fact reflect hourly instantaneous peak data because Load Following amounts were included as if Load Following was not fully deployed during the hour."⁹³⁷ Staff contends that the problem lies in the fact that Southern used "hourly integrated (simple average) values," as opposed to "instantaneous values."⁹³⁸ The values used by Southern reflect "the Load Following reserves for the peak hour each day, not the instantaneous peak."⁹³⁹ Staff claims that the practical effect is reserve values higher than they otherwise should have been which in turn leads to higher reported percentages of compliance.⁹⁴⁰

Operating Reserves Should be Served From Uneconomic Capacity to the Greatest Extent Possible.

328. Staff then argues that these reserves should not be deducted from available economic capacity as long as uneconomic generation and uneconomic reserves are available to satisfy these reserve obligations.⁹⁴¹ This argument flatly rejects Southern's claim that operating reserves must be satisfied using economic capacity, which has the effect of reducing available economic capacity and reducing Southern's apparent market power.⁹⁴²

329. First, Staff argues "that Southern has no policy or requirement to maintain Contingency Reserve-Spinning capacity that is economic (*i.e.*, has incremental costs less than any particular market price)."⁹⁴³ "Indeed, capacity that provides Contingency Reserve-Spinning need not be subject to automatic control under AGC and certainly may well be on-line and uneconomic."⁹⁴⁴ "Staff claims that even uneconomic, unloaded units operating at minimum run conditions qualify as

⁹³⁵ *See id.*

⁹³⁶ *See id.* at 42.

⁹³⁷ *Id.* at 43.

⁹³⁸ *Id.*

⁹³⁹ *Id.* at 43.

⁹⁴⁰ *Id.*

⁹⁴¹ Staff IB at 75.

⁹⁴² *See id.* at 76.

⁹⁴³ *Id.*

⁹⁴⁴ *Id.*

Contingency Reserve-Spinning.”⁹⁴⁵ In other words, the “unloaded capacity” held in reserve has inherently “not been dispatched and cannot in any sense be in economic dispatch” until it is actually dispatched.⁹⁴⁶

330. Additionally, Staff rejects Southern’s suggestion that operating reserves are an “input into the calculation of 714 system lambda” values, which means that they must be served from economic capacity.⁹⁴⁷ According to Staff, this suggestion is inherently false because capacity held in reserve remains “unloaded,” which in turn means that it cannot have an “incremental cost.”⁹⁴⁸ Because system lambda only calculates incremental cost, it is therefore impossible for operating reserves to be an “input.”⁹⁴⁹ Staff also relies on the fact that the wholesale rates “billed by Southern for its ancillary operating reserve services” are fixed.⁹⁵⁰

While these . . . wholesale rates and reserve services are not separately stated in retail rates, nonetheless the costs of reserve services are fixed and must be allocated on a fixed cost basis between jurisdictions. Otherwise Southern would be over-or under-recovering its overall cost of service resulting in cross-subsidies between wholesale and retail jurisdictions. As the service involves a reservation of capacity, it stands to reason that any charges would be established as fixed, average cost charges and not variable or incremental charges.⁹⁵¹

This means that from a billing perspective, even Southern does not view operating reserves as having an incremental cost and thus does not include them as an input in their 714 lambda filings.⁹⁵²

331. Staff recognizes that “Regulation reserves come from units that are equipped with AGC, which assures that Regulation service is provided by the most economic generation that is available.”⁹⁵³ But Staff argues that “the Regulation requirement should not result in a reduction to available economic capacity so long as uneconomic, synchronized and unloaded AGC-equipped

⁹⁴⁵ *Id.* at 76-77

⁹⁴⁶ Staff RB at 47.

⁹⁴⁷ *Id.*

⁹⁴⁸ *Id.*

⁹⁴⁹ *See id.* at 48.

⁹⁵⁰ *Id.*

⁹⁵¹ *Id.* at 48-49.

⁹⁵² *See id.*

⁹⁵³ Staff IB at 77.

capacity is available to provide the service.”⁹⁵⁴ The fact that Southern’s dispatch methodology claims to satisfy Regulation reserves from the *least* costly resource does not mean that Regulation reserves are satisfied with “economic capacity” for DPT purposes.⁹⁵⁵

332. “With respect to Load Following,” Staff contends that “Southern can also rely on uneconomic capacity to meet those obligations.”⁹⁵⁶ First, the Commission has not released a regulation or order to the contrary.⁹⁵⁷ Second, Staff postulates that “capacity that provides Load Following services could be made available to the non-firm wholesale market, up to the time that it is actually called into service.”⁹⁵⁸ In fact, “[a]s long as Southern has enough capacity to meet its reliability obligations and is being compensated for at least its incremental costs, it is to Southern’s advantage to make Load Following capacity available to the non-firm market.”⁹⁵⁹

Serving Operating Reserves From Uneconomic Capacity is Logical Because it Will Actually Free up Economic Capacity for Opportunity Sales.

333. Because none of Southern’s operating reserve requirements must be satisfied from economic capacity, the DPT should only account for such reserves “to the extent that Southern does not have sufficient on-line, synchronized capacity to satisfy its reliability obligations from units that have a higher incremental cost than the prevailing wholesale market price.”⁹⁶⁰ Staff argues that this is actually the most cost effective approach because it frees up economic capacity for “opportunity sales” in wholesale markets.⁹⁶¹ The profits made from these “opportunity sales” can then be passed through to Southern’s customers.⁹⁶²

334. Furthermore, “absent a contingency there are no additional costs associated with relying on uneconomic capacity for reserves and Southern has the

⁹⁵⁴ *Id.*

⁹⁵⁵ *See id.*

⁹⁵⁶ *Id.*

⁹⁵⁷ *Id.*

⁹⁵⁸ *Id.*

⁹⁵⁹ *Id.*

⁹⁶⁰ *Id.* When staff calculated Southern’s total amount of available uneconomic capacity, it conservatively included only “Southern’s on-line, uneconomic AGC-equipped units[,]” leaving out other uneconomic units that Staff believes could be used for Contingency Reserve-Spinning and Load Following. *See id.* at 78.

⁹⁶¹ *Id.* at 77.

⁹⁶² *Id.* at 77-78.

opportunity to profit from the sale of its economic capacity.”⁹⁶³ If such a contingency were to occur, these “non-firm, opportunity sale[s] could be curtailed, thereby avoiding or mitigating the incurrence of higher costs.”⁹⁶⁴ “Southern simply has to assess the chance of a contingency when making a sale in the market.”⁹⁶⁵

335. The DPT should assume that Southern operates at the lowest costs to maximize benefits for ratepayers and shareholders, which means that it should not assume that operating reserve obligations are served from economic capacity.⁹⁶⁶ Thus, “Southern should meet its native load obligation with the cheapest available capacity, sell the next most economical capacity to the extent it can, and then meet its reserve obligations with the most economical capacity left whether or not it qualifies as economic capacity for purposes of the DPT.”⁹⁶⁷

Southern’s Discovery Responses and Hearing Testimony Support Shell’s “Opportunity Sales” Theory.

336. Staff claims that Southern’s discovery responses and the testimony of Southern’s witness, Mr. Moore lend credence to the theory that using uneconomic capacity to serve operating reserve obligations can free up economic capacity for lucrative opportunity sales.⁹⁶⁸ According to Staff, Southern admitted in discovery that it would “engage in purchases, commit additional units such as combustion turbines (which are generally higher cost units), curtail non-firm sales or dispatch hydro resources” if the “operating reserves should ever approach unacceptably low levels.”⁹⁶⁹ Southern explained that “such actions have the effect of displacing AGC resources so that additional capacity is available to provide Operating Reserves.”⁹⁷⁰ “In addition, at hearing, Mr. Moore admitted that Southern’s purchases of power can free up AGC units (*i.e.*, AGC units are backed down, creating operating reserves as purchases come into the system).”⁹⁷¹ “Furthermore, Mr. Moore confirmed that Southern’s must run units, when operating out of economic order (*i.e.*, above where they would otherwise be economic), displace cheaper resources on the system.”⁹⁷² Therefore, Staff argues that Southern has

⁹⁶³ *Id.* at 81.

⁹⁶⁴ *Id.*

⁹⁶⁵ *Id.*

⁹⁶⁶ *See id.* at 78.

⁹⁶⁷ Staff RB at 58-59.

⁹⁶⁸ Staff IB at 79.

⁹⁶⁹ *Id.*

⁹⁷⁰ *Id.*

⁹⁷¹ *Id.* at 79-80.

⁹⁷² *Id.* at 80.

conceded “that uneconomic capacity can displace or free up AGC capacity to provide operating reserves.”⁹⁷³

Southern’s Criticisms of Shell’s “Opportunity Sales” Theory are Without Merit.

337. Staff rejects Southern’s claim “that using uneconomic generation and uneconomic reserves to offset operating reserves increases Southern’s EC and AEC and improperly combines the DPT generator stacking technique with information from actual system operations that tends to overstate the amount of capacity that Southern can sell in the wholesale market.”⁹⁷⁴ Rather, Staff’s “offset of operating reserves simply reduces the amount of load . . . that is deducted from EC to determine AEC.”⁹⁷⁵ Southern’s second criticism, that Shell’s use of uneconomic capacity overstates Southern’s capacity, again “fails to recognize that the key question in a DPT analysis is the amount of capacity that a supplier could potentially sell to the market” as opposed to how much capacity the supplier has *traditionally* sold to the market.⁹⁷⁶ Under Staff’s approach, Southern’s uneconomic capacity actually serves a purpose by serving operating reserves and freeing up economic resources for sale to the wholesale market.⁹⁷⁷

Neither Logic nor the Commission Supports Southern’s Treatment of Operating Reserves.

338. Staff also maintains that Commission precedent runs counter to Southern’s treatment of operating reserves.⁹⁷⁸ Though Southern correctly “states that *AEP I* allows applicants to deduct operating reserve requirements from uncommitted capacity when performing indicative screens,” it “then mistakenly conjectures that because available economic capacity is the DPT’s ‘analog’ of uncommitted capacity, operating reserves should likewise be deducted in the DPT.”⁹⁷⁹ Staff recognizes that *AEP I* permits applicants to add operating reserves to their load levels when performing the pivotal supplier test for the DPT. But it claims that *AEP I* is “silent as to how operating reserves should be taken into account in the DPT market share and market concentration tests, thereby leaving the distinct impression that operating reserves should not be added to load in those DPT

⁹⁷³ *Id.* at 79.

⁹⁷⁴ *Id.* at 82.

⁹⁷⁵ *Id.*

⁹⁷⁶ *Id.*

⁹⁷⁷ *See id.* at 83.

⁹⁷⁸ *See id.*

⁹⁷⁹ *Id.* (internal quotations added)

tests.”⁹⁸⁰ Staff then clarifies that “the most that can be said is that the Commission has never squarely addressed . . . the treatment of operating reserves in a DPT.”⁹⁸¹

339. Moreover, this methodological distinction between the pivotal supplier test and the market power tests makes logical sense.⁹⁸² An applicant is pivotal if the load level is greater than the competing total economic capacity.⁹⁸³ If operating reserves are added to load levels, then it renders the test more conservative because it is more likely that an applicant will be found to be pivotal.⁹⁸⁴ In contrast, if operating reserves are added to load levels in the market power tests, the applicant’s market share and the market concentration (HHI) are reduced, which runs counter to the Commission’s overriding concern to protect customers from a potential monopolist.⁹⁸⁵ Therefore, incorporating the operating reserve adjustment to the DPT market power analyses would eviscerate the Commission’s careful balance between the pivotal supplier analyses and the market power analyses, which should be primarily focused at diffusing market power.

340. Staff also rejects Southern’s claim that paragraph 90 of Order No. 697 requires “an operating reserve adjustment [to] be made not only in the pivotal supplier test but also in the market share test of the DPT.”⁹⁸⁶ Staff argues that this section of Order No. 697 “falls under the indicative screen portion of the order and addresses solely the pivotal supplier and market share indicative screen tests, not the DPT tests.”⁹⁸⁷ Additionally, “there is nothing new in Order No. 697 on this subject.”⁹⁸⁸ Just as it was in *AEP I*, the only mention in Order No. 697 of an operating reserve adjustment for the DPT “is in the pivotal supplier test for EC portion of the DPT.”⁹⁸⁹

341. Additionally, Staff disagrees with Southern’s interpretation of Order No. 642.⁹⁹⁰ According to Staff, Order 642 explains that the Commission prohibits the sale of operating reserve capacity in the *firm* energy market, which is not at issue here.⁹⁹¹ The relevant product market in this case is short-term, non-firm energy,

⁹⁸⁰ *Id.*

⁹⁸¹ Staff RB at 33.

⁹⁸² Staff IB at 84.

⁹⁸³ *Id.*

⁹⁸⁴ *Id.*

⁹⁸⁵ *Id.*

⁹⁸⁶ *Id.* at 85.

⁹⁸⁷ *Id.*

⁹⁸⁸ *Id.*

⁹⁸⁹ *Id.* at 86.

⁹⁹⁰ See Staff RB at 35.

⁹⁹¹ See *id.*

which does not leave room for a discussion of firm energy.⁹⁹²

342. Contrary to Southern's claims, Staff believes that its treatment of operating reserves fully complies with *PPL Montana*.⁹⁹³ According to Southern, *PPL Montana* held that "operating reserves should be deducted in a DPT in conjunction with the native load obligation."⁹⁹⁴ Staff acknowledges that *PPL Montana* said as much, though Staff argues that it was said in passing while dealing with another issue and should not control the issue here.⁹⁹⁵ Regardless, Staff claims that its approach actually complies with *PPL Montana* because it does adjust for operating reserves. Staff simply accounted "for operating reserves to the extent the reserve requirement could not be met from *uneconomic* capacity."⁹⁹⁶ *PPL Montana* did not address whether operating reserves should be satisfied from economic or uneconomic capacity.⁹⁹⁷ Staff asserts that is an issue of first impression before the Presiding Judge.⁹⁹⁸

343. Finally, Staff takes issue with Southern's broad interpretation of 18 C.F.R. § 33.3(d)(4)(i).⁹⁹⁹ Southern interprets 18 C.F.R. § 33.3(d)(4)(i) to mean that operating reserves should be treated like native load for DPT purposes.¹⁰⁰⁰ According to Staff, this section of the Regulations says nothing about DPT criteria.¹⁰⁰¹ When the Commission has previously referred to the proper treatment of native load and operating reserves, it has always done so separately.¹⁰⁰² Given that the cited Regulation does not directly address the issue, Staff finds no reason to believe that it disturbed the Commission's prior implied separate treatment.¹⁰⁰³

Discussion and Findings

344. Southern's argument that that the Commission has "clearly and consistently" recognized an adjustment for operating reserves in a properly constructed DPT is simply not supported by the Commission precedent it seeks to

⁹⁹² *See id.*

⁹⁹³ *See id.* at 39.

⁹⁹⁴ *Id.*

⁹⁹⁵ *See id.*

⁹⁹⁶ *Id.*

⁹⁹⁷ *Id.*

⁹⁹⁸ *See id.*

⁹⁹⁹ 18 C.F.R. § 33.3(d)(4)(i) (2007).

¹⁰⁰⁰ *See* Staff RB at 40.

¹⁰⁰¹ *Id.*

¹⁰⁰² *See id.*

¹⁰⁰³ *See id.*

offer in support of its position on this issue.¹⁰⁰⁴ In point of fact, with the limited exception articulated by the Commission regarding an adjustment for operating reserves applicable to the EC portion of the pivotal supplier test, it appears that the Commission has never directly addressed the treatment of operating reserves in a DPT.¹⁰⁰⁵ Rather, as explained by Staff,¹⁰⁰⁶ a conservative view of the limited Commission precedent applicable to this issue supports a finding that an adjustment for operating reserves is improper when measuring market share or market concentration in a DPT analysis.¹⁰⁰⁷

345. The first authority cited by Southern in support of its position that an operating reserve adjustment is warranted is Order No. 642, the order delineating the filing requirements for mergers.¹⁰⁰⁸ Southern quotes just two sentences of Order No. 642:

346. Another adjustment discussed in the NOPR that may be needed to accurately represent a supplier's ability to sell into markets is to adjust for reserve requirements for reliability or other reasons. Generation capacity that must be held in reserve is not available to be sold into markets on a firm basis to respond to price increases, and therefore should not be attributed to the supplier in the competitive analysis screen.¹⁰⁰⁹

347. As pointed out by Staff, the quoted passage, however, is inapposite and certainly not applicable to a non-firm DPT analysis. The cited language in Order No. 642 deals solely with firm market sales. By contrast, the relevant product in this proceeding is short-term, non-firm energy. In other words, while the Commission recognizes that capacity held in reserve is unavailable to sell in the market on a firm basis, the Commission makes no such statement with regard to non-firm sales. Order No. 642 only precludes sales of firm capacity that must be held as operating reserves. This DPT proceeding, however, involves the availability of capacity to be sold in the much larger non-firm market.

348. Southern also points to *AEP I* to support its contention that the Commission

¹⁰⁰⁴ Southern IB at 99-102.

¹⁰⁰⁵ The only exception explicitly stated by the Commission is the DPT pivotal supplier test, and in particular, the EC portion of that test. Only with respect to that limited portion of the DPT has the Commission consistently recognized an adjustment for operating reserves. *AEP I*, 107 FERC ¶ 61,018 at P 108; *Order No. 697*, 119 FERC ¶ 61,295 at P 108.

¹⁰⁰⁶ Staff IB at 83-86 & Staff RB at 34

¹⁰⁰⁷ Staff IB at 83-86.

¹⁰⁰⁸ Southern IB at 99-100.

¹⁰⁰⁹ *Order No. 642*, FERC Stats. & Regs. ¶ 31,111 at 31,889.

favors an operating reserve adjustment to available economic capacity in the DPT. Southern cites *AEP I* at Paragraphs 96 and 100.¹⁰¹⁰ Paragraph 96 solely concerns the pivotal supplier indicative screen, while Paragraph 100 solely concerns the market share indicative screen. *AEP I* says nothing about making an adjustment for operating reserves in the DPT market share or market concentration tests. *AEP I* only addresses operating reserves in the context of the indicative screens¹⁰¹¹ and the EC prong of the pivotal supplier test of the DPT, and only in those specific contexts does the Commission state that operating reserves should be added to native load. Indeed, the *AEP I* passages quoted by Southern pertain solely to the pivotal supplier and market share indicative screens, not any aspect of the DPT analysis.¹⁰¹²

349. Indicative screens are not definitive tests of generation market power. Failure of any indicative screen merely establishes a rebuttable presumption of market power which the supplier may rebut by presenting the more definitive and thorough DPT analysis. As Staff points out, Southern has already failed the pivotal supplier and market share indicative screens which were the subject of the *AEP I* passages quoted by Southern, and has elected to proceed with the more thorough DPT analysis to support its application for market based rates.¹⁰¹³ Indeed, although the Commission stated in *AEP I* that operating reserves should be added to load levels in the Economic Capacity (EC) portion of the pivotal supplier

¹⁰¹⁰ Southern IB at 100.

¹⁰¹¹ Staff IB at 83-84. Indicative screens are not definitive tests of generation market power. Failure of any indicative screen merely establishes a rebuttable presumption of market power which the supplier may rebut by presenting the more definitive and thorough DPT analysis. *AEP I* at P 6, 36-37, 71. *See also Order No. 697*, 119 FERC ¶ 61,295 at P 13, 63, 77, 80.

¹⁰¹² Southern cites *AEP I*, 107 FERC ¶ 61,018 at P 96 and 100. Paragraph 96 solely concerns the pivotal supplier indicative screen, while Paragraph 100 solely concerns the market share indicative screen. With respect to the pivotal supplier initial screen discussed in paragraph 96, the Commission refers to that pivotal supplier analysis as one of its “two new screens” and states that a failure of that screen “creates a rebuttable presumption of market power.” *AEP I*, 107 FERC ¶ 61,018 at P 95, 99. With respect to the market share initial screen discussed in paragraph 100, the Commission states: “The market share analysis is designed to serve as a screen For those utilities with market shares that raise generation market power concerns, other procedural options are available, including submitting a more rigorous market power analysis (*i.e.*, the Delivered Price Test).” *AEP I*, 107 FERC ¶ 61,018 at P 101. By contrast, the Commission’s discussion in *AEP I* of the DPT is found in paragraphs 105 through 117.

¹⁰¹³ *See* Staff IB at 84.

DPT,¹⁰¹⁴ it has never applied that adjustment or anything like it either to other market power measures under the EC prong or to any market power measures under the Available Economic Capacity (AEC) form of the DPT.¹⁰¹⁵ Furthermore, as Shell points out, the Commission-authorized adjustment to the EC pivotal supplier test is additive to, rather than a part of, load level, and does not in any way increase or decrease the level of generation attributed to a particular supplier.¹⁰¹⁶ This makes it *more* likely that an applicant will be found to be pivotal because the lesser the sum of load plus reliability reserves the more likely an applicant's capacity will prove 'pivotal' in meeting that demand.¹⁰¹⁷ In sharp contrast, adding operating reserves to the applicant's load in the AEC market share and concentration (HHI) analyses tends to reduce both market share and market concentration making it more difficult to assess potential monopoly market power issues.

350. Thus, the difference between the purpose of the indicative screens and the purpose of the DPT as well as the differences between the two tests' methodologies support a more conservative interpretation of Commission precedent than urged by Southern. Further, and perhaps more importantly, given the fact that the Commission has never applied a reliability reserve adjustment or anything like it either to other market power measures under the EC prong or to any market power measures under the AEC form of the DPT, and given the fact that the DPT predates *AEP I*, it is difficult to accept Southern's argument that *AEP I* substantially altered the Commission's long standing DPT practice in this regard with a single word, "analog," without any further clarification or elucidation of such an important policy issue.¹⁰¹⁸

351. Likewise, the undersigned fails to find Southern's interpretation Paragraph 90 of Order No. 697 persuasive on this issue. Each of Southern's citations to Order No. 697 addresses the pivotal supplier and market share initial screens and not the DPT.¹⁰¹⁹ Once again, Southern fails to distinguish between the indicative

¹⁰¹⁴ *Id.*; *AEP I*, 107 FERC ¶ 61,018 at P 108.

¹⁰¹⁵ Shell IB at 146

¹⁰¹⁶ *Id.* at 146-47.

¹⁰¹⁷ *Id.* at 147.

¹⁰¹⁸ *Id.* at 152.

¹⁰¹⁹ Southern cites to paragraph 39 of Order No. 697. That paragraph, however, clearly does not pertain to the DPT. The paragraph is part of the discussion under the heading in section IV.A.1. captioned: "Whether to Retain the Indicative Screens." Likewise, paragraph 90 referenced by Southern concerns only the indicative screens. That paragraph is contained in section IV.A.2. of the order specifically addressing the indicative screens. By contrast, the DPT is discussed in paragraphs 96-117 of the order.

screens and the DPT. Order No. 697 does not change existing law or policy with regard to the treatment of operating reserves in a DPT and does not support an adjustment for operating reserves in a DPT. In point of fact, Order No. 697 never discusses any adjustment for operating reserves in connection with the DPT market share and market concentration analyses.

352. The record also supports a finding that Southern has misinterpreted 18 C.F.R. § 33.3(c)(4)(i)(A) (2007).¹⁰²⁰ The quoted language from the regulation does not even reference adjustments for operating reserves; much less endorse a native load adjustment for operating reserves under the AEC prong of the DPT.¹⁰²¹ Rather, these provisions address native load commitments and merely state the obvious in providing that the supplier's obligation to serve native load is "an obligation to construct and operate its system to meet their reliable electricity needs."¹⁰²² Thus, the regulatory language cited by Southern does not provide evidence of any intent by the Commission to include operating reserves within native load for purposes of DPT calculations.

353. Perhaps Southern's most compelling argument in support of its position that operating reserves should be added to native load for purposes of the DPT calculation is found in its analysis of the language of *PPL Montana*.¹⁰²³ Southern asserts that the Commission's July 27, 2007 rehearing order in *PPL Montana*, clearly *rejected* an argument *against* deducting operating reserves when it observed that if long-term commitment supply had been used to serve "native load or operating reserve obligations[.]" then it could have been properly deducted "because it was committed to serving native load."¹⁰²⁴

¹⁰²⁰ See Shell RB at 62.

¹⁰²¹ *Id.* at 62-63.

¹⁰²² Southern IB at 102; 18 C.F.R. § 33.3(d)(4)(i) (2007).

¹⁰²³ Southern IB at 101; *PPL Montana Rehearing Request*, 120 FERC ¶ 61,096 (2007).

¹⁰²⁴ *Id.* at 101 (quoting *PPL Montana Rehearing Request*, 120 FERC ¶ 61,096, at P 60 (2007)) (alteration in original). Southern also cites 18 C.F.R. § 33.3(c)(4)(i)(B) for the proposition that "[a]vailable economic capacity means the amount of generating capacity meeting the definition of economic capacity less the amount of generating capacity needed to serve the potential supplier's native load commitments, as described in paragraph (d)(4)(i) of this section." (emphasis added)." *Id.* Furthermore, Southern cites 18 C.F.R. § 33.3(d)(4)(i) – for the definition of native load commitments: "[n]ative load commitments are commitments to serve wholesale and retail power customers on whose behalf the potential supplier, by statute, franchise, regulatory requirement, or contract, has undertaken an obligation to construct and operate its system to meet their reliable electricity needs." (emphasis added)" *Id.* at 102.

354. In *PPL Montana*, the issue was whether long-term contracts under the operation and control of the utility should be deducted from available capacity. In ruling that long-term contracts should be deducted from available capacity, the Commission noted that if generation owned by a vertically integrated Montana Power was to be used to serve “native load or operating reserve obligations,” it would also properly be deducted in a DPT,¹⁰²⁵ thus breathing life into Southern’s argument that the Commission has recognized an adjustment for operating reserves in a DPT. However, a more conservative reading of *PPL Montana* supports an argument that it provides precedent for nothing more than the proposition that “the commitment of such long-term, firm resources by a vertically-integrated utility to serve operating reserve obligations would justify deducting those resources from a calculation of uncommitted capacity.”¹⁰²⁶

355. While Southern’s legal team has done an excellent job in this proceeding of advancing the argument that the Commission has recognized an adjustment for operating reserves in a properly constructed DPT, to say that the Commission has done so “clearly and consistently” is simply not supported.¹⁰²⁷ Rather, it appears that the Commission has never *directly* addressed the treatment of operating reserves in a DPT.¹⁰²⁸ Given that the DPT is the final analysis on which the Commission will make a determination of Southern’s market power as it pertains to the application for market based rate, the undersigned concurs with Staff’s position that a conservative view of the limited Commission precedent applicable to this issue is warranted.¹⁰²⁹ Where, as here, the applicant has already failed the pivotal supplier and market share indicative screens, the Commission’s consumer protection obligations support a conservative approach when awarding market-based rates; therefore, any ambiguity or lack of clarity on this issue must be resolved in favor of not adding operating reserves to native load in the AEC market share and market concentration DPT analyses absent clear and compelling Commission instruction to the contrary, which the undersigned finds is lacking here.

356. Southern contends that it appropriately quantified the operating reserves

¹⁰²⁵ *PPL Montana Rehearing Request*, 120 FERC ¶ 61,096 at P 60.

¹⁰²⁶ *Id.* (citing *PPL Montana*, 115 FERC ¶ 61,204 at 60).

¹⁰²⁷ Southern IB at 99-102.

¹⁰²⁸ The only exception explicitly stated by the Commission is the DPT pivotal supplier test, and in particular, the EC portion of that test. Only with respect to that limited portion of the DPT has the Commission consistently recognized an adjustment for operating reserves. *AEP I*, 107 FERC ¶ 61,018 at P 108; *Order No. 697*, 119 FERC ¶ 61,295 at P 108.

¹⁰²⁹ Staff IB at 83-86 and Staff RB at 34

amounts reflected in its DPT using 2004 data.¹⁰³⁰ Staff strongly disagrees. Although, as discussed *supra*, Staff believes that Commission precedent does not support a deduction of operating reserves from available economic capacity in a market share and market concentration DPT, in “an over-abundance of caution,” Staff adjusted for both native load and operating reserves in its DPT. However, Staff only adjusted for operating reserves to the extent that the reserve requirement could not be met from *uneconomic* capacity asserting that whether operating reserves should consist of economic or uneconomic capacity for purposes of the DPT was not addressed in *PPL Montana* and is in fact an issue of first impression. Having ruled that Southern should not be permitted to add its operating reserves to native load for the purpose of reducing its available economic capacity in the market share and market concentration DPT analyses which are the focus of the instant proceedings, the undersigned does not reach the issue of how such a reduction would be quantified, although it is clear that such a reduction must not be any higher than State and Regional Reliability Council operating requirements for reliability.¹⁰³¹

VI. *The development of appropriate sensitivity analyses*

Summary of the Parties’ Positions

357. All parties agree that the applicant is required to provide the Commission with sensitivity analyses to prove the reliability and robustness of its DPT results, but they disagree on how these sensitivity analyses should be conducted. Southern’s argues that the Commission requires such analyses to be based on small variations in market prices, which it interprets to be within ten to twenty percent. Consequently, it adjusted the proxy for market price, system lambda, by ten percent in both directions. Southern claims that its results did not substantially change and that therefore, they are reliable and robust. Shell and Staff disagree with Southern’s interpretation of the results of its sensitivity analyses. They claim that when Southern lowered the market price by ten percent, its market share fell to zero, which they claim to be absurd for a utility like Southern and evidence of system lambda’s unreliability.

358. Regardless, they both contend that the Commission prefers sensitivity analysis to be based on historic market prices. To that end, they both used EQR data to formulate substitute prices that they then insert into the DPT. They both conclude that their sensitivity analysis confirm the reliability and robustness of

¹⁰³⁰ Southern IB at 105-07.

¹⁰³¹ *Id.* at 100 and 103 (quoting *AEP I*, 107 FERC ¶ 61,018 at 96). Southern’s mandatory operating reserves are set by NERC and implemented by the Southern Balancing Authority.

their DPT results. Southern disagrees with the use of EQR data because it is woefully incomplete and flawed, making it an unreliable proxy for market price. In addition, Southern believes its use violates the Joint Stipulation. Shell and Staff recognize that EQR data is not a perfect reflection of market price, but they contend that it is a viable tool for sensitivity analyses and is a better reflection of market price than system lambda is. Finally, they both maintain that the Presiding Judge has already ruled that EQR-based sensitivity analyses do not violate the Joint Stipulation.

Positions of the Parties

Southern

Southern's DPT Analyses Conforms to the Commission and Joint Stipulation's Requirements and Prove that Southern's DPT Results are Reliable and Robust.

359. Southern “performed a sensitivity analysis of its base case DPT results by conducting two separate price sensitivity analysis: (a) a 10 percent increase in the proxy values for the competitive prices; and (b) a 10 percent decrease in those same proxy values.”¹⁰³² It claims that this approach is supported by Commission precedent because “Part 33 of the Commission’s regulations (adopted by Order No. 642)¹⁰³³ provides that ‘[a]pplicants must demonstrate that the results of the analysis do not vary significantly in response to small variations in actual and/or estimated prices.’”¹⁰³⁴ Southern also argues that “the requirement that a proper sensitivity gauge whether DPT results ‘vary significantly’ in response to ‘small variations’ in the price variable was confirmed in both the July 8 Order establishing this hearing and in the June 2007 Order on rehearing.”¹⁰³⁵ According to Southern, its 10 percent price sensitivity analyses conform to the Commission’s “small variation” requirement.

360. In addition, Southern claims that its approach conforms to the Joint Stipulation.¹⁰³⁶ Southern contends that the parties agreed in the Joint Stipulation “that any such sensitivities ‘should pertain only to market price,’ with the option to

¹⁰³² SCS IB at 129-30.

¹⁰³³ *Id.* at 128 (citing June 2007 Order, at 25 (noting that “Order No. 642 adopts the current provisions of Part 33 of the Commission’s regulations that describe the information requirements necessary to support the DPT.”)).

¹⁰³⁴ *Id.* (quoting 18 C.F.R. § 33.3(d)(6)) (alteration in original).

¹⁰³⁵ *Id.* at 128-29.

¹⁰³⁶ *Id.* at 129.

oppose ‘the sensitivities submitted by the other Parties.’”¹⁰³⁷ The Joint Stipulation established that “Southern Companies’ 2004 system lambda values, as filed in FERC form 714” were to be the “proxy for competitive market-clearing prices” for the DPT analysis.¹⁰³⁸ Therefore, Southern argues that the Joint Stipulation restricts price sensitivities to those based on system lambda, which is “market price” in this proceeding.¹⁰³⁹

361. After adjusting the prices up and down ten percent, Southern concluded that its “DPT results did not vary significantly due to these slight variations in the assumed price levels.”¹⁰⁴⁰ Therefore, Southern maintains that its sensitivity analyses complied with the Joint Stipulation by using the agreed upon “market price” and that these market price based sensitivity analyses prove that its DPT results are reliable.¹⁰⁴¹

Shell’s Sensitivity Analyses Ignore the Commission’s and Joint Stipulation’s Instructions on Proper Sensitivity Analysis Construction.

362. Southern argues that Shell is trying to redefine the purpose of sensitivity analyses to be an examination of “the sensitivity of the DPT results to the use of other reasonable measures of price in a given control area.”¹⁰⁴² According to Southern, the Joint Stipulation defines the purpose of the DPT to be an examination of “whether base case DPT results change substantially in response to slight changes in price assumptions (however one might implement that analysis).”¹⁰⁴³ In other words, the sensitivity analysis is looking for proportionality or disproportionality, with disproportional results being evidence of an unreliable base case.¹⁰⁴⁴

363. Besides being an attempt to redefine the purpose of the sensitivity analysis, Shell and Staff’s sensitivity analyses amount to a “collateral attack” on the Joint Stipulation because they use price data other than that derived from lambda.¹⁰⁴⁵ As opposed to using the agreed upon proxy for market price, Shell and Staff developed an “EQR-based price series” that it uses to compare to DPT results

¹⁰³⁷ *Id.* (quoting J-1, at 5).

¹⁰³⁸ *Id.*

¹⁰³⁹ *See id.*

¹⁰⁴⁰ *Id.*

¹⁰⁴¹ *Id.* at 130.

¹⁰⁴² SCS RB at 125 (quoting Shell IB at 174).

¹⁰⁴³ *Id.* at 126.

¹⁰⁴⁴ *See id.*

¹⁰⁴⁵ *See id.* at 130.

produced using system lambda.¹⁰⁴⁶ Shell and Staff irrelevantly assert that the differences between EQR-based results and system lambda-based results means that EQR data is more reliable as a proxy for market price.¹⁰⁴⁷ These sensitivity analyses provide little useful information about the sensitivity of lambda to slight variations in price because they are rooted in the alternate methodologies of the EQR data.¹⁰⁴⁸ According to Southern, these sensitivity analysis do not reveal whether the base case analysis is reliable and robust; rather, all they prove is the obvious notion that the “DPT analysis changes in response to different assumed price levels.”¹⁰⁴⁹ Essentially, Shell and Staff have not produced a proper sensitivity analysis as required by the Commission and the Joint Stipulation.¹⁰⁵⁰

364. Specifically, Southern’s attacks the EQR-based sensitivity analyses because they do not use “small variations in the assumed competitive price [(i.e. system lambda)]” to test the reliability of the lambda-based DPT results.¹⁰⁵¹ According to Southern, Part 33 of the Commission’s Regulations requires that sensitivity analyses should only test “small variations” from the assumed competitive price.¹⁰⁵² Southern defines “small variations” as “variations of up to 10 to 20 percent—not up to and more than 40 percent (Shell Trading prices for S4, W1, W2, for example, and Trial Staff prices for W1 and W2).”¹⁰⁵³ Southern contrasts this with Shell and Staff’s sensitivity analyses, which “vary wildly between 102 percent to more than 146 percent of system lambda,” which is neither “slight” nor “small” by any measure.¹⁰⁵⁴ Given these substantial variations in price, Southern argues that these are not really sensitivity analyses.¹⁰⁵⁵ Rather, they are intended to be the foundation for an argument to scrap system lambda and use EQR-based prices as a proxy for market price in this proceeding.¹⁰⁵⁶ Therefore, Southern is not surprised by the fact that the DPT results varied significantly from these alleged “sensitivity analyses.”¹⁰⁵⁷

¹⁰⁴⁶ *Id.*

¹⁰⁴⁷ *See* SCS RB at 127.

¹⁰⁴⁸ *See* SCS IB at 130.

¹⁰⁴⁹ *Id.* at 130-31.

¹⁰⁵⁰ *See id.* at 131.

¹⁰⁵¹ *Id.*

¹⁰⁵² *Id.*

¹⁰⁵³ *Id.* at 131-32.

¹⁰⁵⁴ *Id.* at 132.

¹⁰⁵⁵ *See id.*

¹⁰⁵⁶ *See id.*

¹⁰⁵⁷ *See id.*

The Commission Does not Require the Use of EQR Data.

365. Southern rejects Shell and Staff's claim that the Commission requires the use of EQR data in a price series.¹⁰⁵⁸ Shell and Staff "attempt to justify their use of 'alternative' price series in connection with their "sensitivity" analyses by pointing to the Commission's order in *Duke Power*, 111 FERC ¶ 61,506 at P 31 (2005)."¹⁰⁵⁹ According to Shell, "the Commission in *Duke Power* 'only accepted the DPT results using EQR prices, even though Duke Power used both system lambda and EQR prices as alternative proxies for the market price in its DPT analyses.'"¹⁰⁶⁰ Southern asserts that this interpretation of *Duke Power* is mistaken because "the analysis accepted by the Commission in *Duke Power* was *not* based on EQR prices."¹⁰⁶¹ In fact, Southern contends that both Staff and Shell's witnesses admitted in their testimony that this interpretation of *Duke Power* is incorrect.¹⁰⁶²

366. According to Southern, *Duke Power* involved "two competing price series, neither of which was based on EQR data."¹⁰⁶³ One of the price series was based on system lambda; while "the other was based on a range of market prices developed by a Duke Power witness."¹⁰⁶⁴ Duke Power submitted these market price estimates as an alternative to its system lambda values, because the "range of [system lambda] prices [across the 10 season/load periods] would have been very limited."¹⁰⁶⁵ The restricted range of these prices was attributable to the manner in which Duke Power calculated its system lambda prices.¹⁰⁶⁶ "Specifically, those values did not reflect the actual incremental cost of serving the last of Duke Power's load-related obligations, but rather the marginal cost of steam generation units used to regulate frequency levels on the Duke Power system."¹⁰⁶⁷ The Commission concluded that the range of market prices "better reflected market conditions than Duke Power's system lambda values" because the range of market prices "showed greater variability depending on season and load conditions" than the system lambda values, "which were relatively flat over the ten season/load

¹⁰⁵⁸ *Id.*

¹⁰⁵⁹ *Id.*

¹⁰⁶⁰ *Id.* (quoting Shell-1, p. 51, lines 16-18).

¹⁰⁶¹ *Id.* at 132-33 (emphasis added).

¹⁰⁶² *See id.* at 133.

¹⁰⁶³ *Id.* (citing *Duke Power, a division of Duke Energy Corporation*, 111 FERC ¶ 61,506, at 30 (2005) (*Duke Power*)).

¹⁰⁶⁴ *Id.* (citing *Duke Power*, 111 FERC ¶ 61,506, at 30).

¹⁰⁶⁵ *Id.*

¹⁰⁶⁶ *Id.*

¹⁰⁶⁷ *Id.*

periods.”¹⁰⁶⁸

367. According to Southern, *Duke Power* “does not justify abandonment of this proceeding’s jointly stipulated agreement as to the proper surrogate for hourly market prices in this case.”¹⁰⁶⁹ “First and foremost, the Duke Power system lambda values measured fundamentally different costs than Southern Companies’ Form 714 system lambda values.”¹⁰⁷⁰ As alluded to above, “Duke Power’s system lambda values reflected ‘infra-marginal’ values, while Southern Companies’ reported system lambdas are ‘top of stack’ values.”¹⁰⁷¹ Duke Power’s “system lambda values tracked the incremental cost of the particular set of generating units used to manage frequency levels on the . . . bulk power system.”¹⁰⁷² Whereas, Southern’s top of stack lambda “reflects the incremental cost of serving the next increment of demand after consideration” of Southern’s various obligations, and it “includes the effects of all of [Southern Companies’] wholesale transactional activities (both sales and purchases) in each hour.”¹⁰⁷³ Thus, Southern’s system lambda reflects a wide range of prices, which means that the Commission’s criticisms or concerns regarding Duke Power’s system lambda are not applicable here.¹⁰⁷⁴

368. Furthermore, “top of stack lambdas . . . have long been recognized by the Commission as a reasonable ‘surrogate’ of market prices.”¹⁰⁷⁵ In Appendix A to Order No. 592, the Commission recognized the imprecision of market clearing prices obtained from market institutions and permitted applicants to use surrogates like a buyer’s system lambda.¹⁰⁷⁶ The Commission reasoned that “a buyer is not likely to purchase from a supplier that is more costly than its own costs of production at specific times [(i.e. incremental cost)][,]” which is generally measured using system lambda.¹⁰⁷⁷ Additionally, because “[t]he Southern Control Area market does not include institutions or clearinghouses that produce product specific hourly market clearing price data[.]” Southern argues that it is necessary

¹⁰⁶⁸ *Id.* at 134.

¹⁰⁶⁹ *Id.*

¹⁰⁷⁰ *Id.*

¹⁰⁷¹ *Id.* at 134.

¹⁰⁷² *Id.*

¹⁰⁷³ *Id.* at 134-35.

¹⁰⁷⁴ *Id.* at 135.

¹⁰⁷⁵ *Id.*

¹⁰⁷⁶ *Id.*

¹⁰⁷⁷ *Id.* (quoting *Gexa Energy L.L.C.*, FERC Stats. & Regs. ¶ 31,044 at 30,131 (App. A) (1996), *reconsideration denied*, Order No. 592-A, 62 Fed. Reg. 33,341 (1997), 79 FERC ¶ 61,321 (1997) (*Order No. 592*)).

to use a proxy like system lambda.¹⁰⁷⁸

EQR Data is Too Imprecise and Incomplete to use as a Proxy for Market Price.

369. Having shown that system lambda should not be abandoned as a market price proxy, Southern explains why EQR data is too unreliable to be used as a proxy for market price in a DPT.¹⁰⁷⁹ Southern briefly lists some of these problems:

- EQR data are incomplete because non-jurisdictional sellers are not required to report their transactions.
- EQR data often fail to provide any observations in particular hours, requiring the imputation of hypothetical prices based on averaging or other methods.
- Many EQR filings are of poor quality and are prepared in inconsistent ways by the different reporting entities.
- Many key terms used to identify attributes of transactions, such as the definition of “Firm” as opposed to “Non-Firm,” are not defined and there is no accepted industry standard as to what constitutes a firm, as opposed to non-firm, product.
- Use of EQR data requires that the flaws be ignored or that the data be pruned, in either case requiring the application of subjective judgments.
- EQR data often fail to distinguish outbound sales delivered to a system border from true “in market” sales, which will inflate price data by including the cost of transmitting power to the border and imputing market dynamics associated with other destination markets.¹⁰⁸⁰

According to Southern, Staff concedes most of these criticisms of EQR data.¹⁰⁸¹ For example, Southern quotes Staff’s testimonial admission that “EQR data are by

¹⁰⁷⁸ *Id.*

¹⁰⁷⁹ *Id.* at 136.

¹⁰⁸⁰ *Id.* at 136-37.

¹⁰⁸¹ *Id.* According to Southern, Staff’s position should be contrasted with Shell’s, which still maintains that “the EQR has no material limitations affecting anything important, that a lack of data can be overcome by averaging, and that exports delivered to the system border should be treated no differently than sales sinking within the southern Control area destination market.” SCS RB at 128.

no means trouble free” and that it is “problematic to allocate multi-hour EQR transactions into individual hours.”¹⁰⁸² Staff also admitted that experts can “prune” EQR data in such a manner that the result is “significantly different prices.”¹⁰⁸³ “Indeed, Trial Staff and Shell Trading (despite their alignment in this case) came to very different results in their analysis and translation of EQR data to 10 prices corresponding to the 10 DPT season/load periods.”¹⁰⁸⁴ Southern claims that this discrepancy implicitly demonstrates that the EQR based DPT studies are not “robust and reliable” because similar product markets should yield similar prices in the same DPT period.¹⁰⁸⁵

The EQR Data Also Lacks Sufficient Indicia of Reliability.

370. In addition, Southern argues that Shell and Staff’s EQR-based DPT results lack sufficient indicia of reliability because:

- The prices derived by Trial Staff and Shell Trading from the EQR database for individual transactions in particular hours frequently range between far above and far below the weighted and simple average prices for the hour or period.
- There is a substantial dispersion and average deviations in hourly transaction prices from the EQR database (as indicated by the magnitude of the differences between the maximum and minimum prices each hour) even after the filtering process employed by Trial Staff.
- The dispersions and deviations in EQR-based hourly prices cannot be overcome by averaging individual transaction prices in each hour (or across hours in a DPT period) because improperly included transactions will still skew the average.
- The market prices derived by Shell Trading from EQRs are inconsistent with actual unit operation (*i.e.*, if Shell Trading’s values were accurate, many of Southern Companies’ higher cost generators would be in merit and dispatched far more frequently than was actually the case in 2004).¹⁰⁸⁶

371. These wild deviations between prices for similar products in the same period as well as deviations from Southern’s actual operations mean that the EQR

¹⁰⁸² SCS IB at 137 (quoting S-1, p. 20, line 9 through p. 21, line 10).

¹⁰⁸³ *Id.* at 138 (quoting S-1, p. 14, lines 17-21).

¹⁰⁸⁴ *Id.*

¹⁰⁸⁵ *Id.*

¹⁰⁸⁶ *Id.* at 139-40.

data lacks reliability.¹⁰⁸⁷ Southern argues that this should be contrasted with system lambda which has been proven to be reliable and accepted by the Commission as such.¹⁰⁸⁸

Southern Rejects Staff's Defense of EQR Data and its Screening Methods.

372. Southern then systematically refutes Staff's attempts to minimize EQR's deficiencies as a proxy for market price.¹⁰⁸⁹ In response to Southern's criticisms regarding the absence of non-jurisdictional sellers and observations for a given hour, Staff admits that "more complete data is better and [it] would prefer to have many observed sales in each hour."¹⁰⁹⁰ But then it claims that this difficulty does not render the EQR data useless.¹⁰⁹¹ Southern notes that not being "useless" is far from a "ringing endorsement" of the data's reliability and robustness.¹⁰⁹²

373. Staff's justifies its screening methods based on the fact that it "performed [its] EQR analysis using both the database supplied by and the screening procedures described by *Southern Companies*."¹⁰⁹³ Staff's defense fails to recognize that Southern's EQR data and the screens used to sort that data were designed and used to "identify all short-term transactions for the limited purpose of preparing a historical data analysis for short-term product market shares."¹⁰⁹⁴ The screens involved here are "substantially different than that necessary to identify hourly prices for deliveries into a particular destination market."¹⁰⁹⁵ Consequently, Staff's claimed reliance on this data and screens is "unavailing."¹⁰⁹⁶

Staff's Alternative EQR-Based Sensitivity Analyses Failed to Account for Non-Jurisdictional Market Participants and Outbound Transactions.

374. Staff's surrebuttal testimony proffered "a new computation of hourly EQR-prices that purported to address some of the problems identified above."¹⁰⁹⁷

¹⁰⁸⁷ *See id.*

¹⁰⁸⁸ *See id.*

¹⁰⁸⁹ *Id.*

¹⁰⁹⁰ *Id.*

¹⁰⁹¹ *Id.* at 140.

¹⁰⁹² *Id.*

¹⁰⁹³ *Id.* at 141 (quoting S-31, p. 16, lines 17-19) (emphasis added).

¹⁰⁹⁴ *Id.*

¹⁰⁹⁵ *Id.*

¹⁰⁹⁶ *Id.*

¹⁰⁹⁷ *Id.*

Southern reviewed this data and found “two glaring omissions: (i) they did not address the absence of non-jurisdictional sales data; and (ii) they did not address the problem of improperly commingling sales delivered in the Southern Control Area and export sales delivered at the border between the Southern Control Area and adjacent control areas.”¹⁰⁹⁸ Southern claims that these are “major issues that cannot be ignored” and their “pervasiveness . . . underscores the error in attempting to extract hourly prices from EQR data and using such prices in lieu of a lambda-based sensitivity analysis.”¹⁰⁹⁹

*Southern’s Improved EQR-Based Analyses Demonstrates that
Lambda Based DPT Prices are Reliable and Robust.*

375. Despite EQR’s many flaws as a tool to evaluate or estimate hourly market prices, Southern developed its own EQR-based price, using screens that greatly improved the reliability of the results.¹¹⁰⁰ Southern explains that it “took Trial Staff’s EQR price series results and improved them by: (a) removing Southern Companies ‘outbound’ border sales;¹¹⁰¹ (b) removing all transactions coded as not involving hourly sales; (c) removing standard products (which are not hourly energy sales) to the extent they could be identified; and (d) correcting a time zone adjustment error.”¹¹⁰² Southern’s “partially corrected EQR-based prices are ‘lower than those used by [Staff] in [its] sensitivity analysis in seven of the 10 DPT periods, in some cases (*i.e.*, Summer 1, Summer 3, Summer 4, Winter 2 and Spring/Fall 3) noticeably so.’”¹¹⁰³ Southern then used this “cleaner” data to prepare a DPT analysis for Available Economic Capacity.¹¹⁰⁴

376. Following Staff’s instructions, Southern “compare[ed] the actual results of the DPT analyses.”¹¹⁰⁵ “[U]nder the ‘cleaner’ EQR-based sensitivity . . . , Southern Companies’ market shares exceed 20 percent only in Summer 3, and

¹⁰⁹⁸ *Id.* at 141-42.

¹⁰⁹⁹ *Id.* at 142.

¹¹⁰⁰ *Id.*

¹¹⁰¹ “[T]he Commission recently confirmed that export sales delivered at control area boundaries are an important attribute of liquid wholesale markets.” SCS RB at 130 (citing Order No. 697, 119 FERC ¶ 61,295 at 820). “The Commission likewise acknowledged that transaction records can be used to identify border exports from sales within a particular control area destination market.” *Id.* (citing Order No. 697, 119 FERC ¶ 61,295 at P 820).

¹¹⁰² SCS IB at 143.

¹¹⁰³ *Id.*

¹¹⁰⁴ *Id.* at 144.

¹¹⁰⁵ *Id.* (quoting S-1, p. 16, line 4 through p. 17, line 2).

then only slightly.”¹¹⁰⁶ “The similarity of the results between the ‘cleaner’ EQR-based price sensitivity and [Southern’s] traditional 10 percent price sensitivity of the stipulated base case confirms that the base case DPT for Available Economic Capacity is stable when considered in light of slight increases in assumed price levels.”¹¹⁰⁷

377. Southern then addresses some of the criticisms of this “cleaner” EQR-based analysis. Shell argued in its Initial Brief that permitting only Southern to exclude its “exports” from the EQR data simply exacerbates the problem by limiting their market share while maintaining the market shares of every other exporting generator in the Southern Control Area.¹¹⁰⁸ Southern does not deny that it has not similarly adjusted the EQR data for other exporting generators.¹¹⁰⁹ Rather, Southern argues that these exports use transmission service and thus, *increase* the EQR based prices because of the embedded transmission costs in the delivered price.¹¹¹⁰ Consequently, including these higher cost outbound transactions in the group of prices that reflect in-market prices actually raises the average in-market price, which according to Shell and Staff, raises Southern’s market share.¹¹¹¹ Thus, Southern argues that Shell’s “concern” about the exclusion of other outbound transactions is at best irrelevant and at worst disingenuous.¹¹¹²

Staff’s Recharacterization of its Gross Margin Over Lambda Price Series is Untimely, and the Test Remains Unreliable.

378. Furthermore, Southern criticizes Staff’s attempt to rehabilitate its “gross margin over lambda” price series.¹¹¹³ According to Southern, Staff conceded in its Initial Brief that the “gross margin over lambda” value “is not a *market* price proxy.”¹¹¹⁴ Now, Staff characterizes this sensitivity analyses “as a test of the accuracy and dependability of its EQR based DPT model” as opposed to a test of the dependability of Southern’s lambda based values.¹¹¹⁵ According to Southern, this restatement of purpose should be given little weight because it is made after the record has closed and is not consistent with Staff’s previous characterizations

¹¹⁰⁶ *Id.*

¹¹⁰⁷ *Id.*

¹¹⁰⁸ *See* SCS RB at 130.

¹¹⁰⁹ *See id.*

¹¹¹⁰ *See id.*

¹¹¹¹ *Id.* at 131.

¹¹¹² *See id.*

¹¹¹³ *Id.* at 133.

¹¹¹⁴ *Id.* at 134 (quoting Staff IB at 102).

¹¹¹⁵ *Id.* (quoting Staff IB at 102).

of this test.¹¹¹⁶

379. Moreover, Southern disagrees with Staff's claim that this gross margin over lambda price series is reliable. All that Staff did is raise prices to a level that is "high enough (in the range between their EQR-based prices and their gross-margin prices) [that] the DPT results cease to vary when the other DPT inputs (namely, Operating Reserves) are changed."¹¹¹⁷ In other words, this analysis sets prices so high that they have overwhelmed "the ability of the DPT to react to other major inputs."¹¹¹⁸ According to Southern, this is clearly "inconsistent with the whole purpose of a price sensitivity, which is to determine whether the DPT results fluctuate disproportionately based on *small* changes in assumed price levels."¹¹¹⁹

Shell

System Lambda Produces Prices Well Below Market Rate, Which Downwardly Distorts Southern's Market Share.

380. First, Shell claims that system lambda inherently imparts a downward bias to market prices.¹¹²⁰ Consequently, "some units that appear to be 'uneconomic' in the DPT based on system lambda may . . . actually run with significantly higher capacity factors, which thereby underestimates Southern's actual market share."¹¹²¹ For example, Shell claims to have "identified ten Southern units with total summer capacity of about 2,400 MW, which ran relatively extensively during summer in 2004, even though the units are considered 'uneconomic' for a significant portion of the time using system lambda as the DPT price assumption."¹¹²² Thus, Shell argues that the EQR-based price index is an essential tool because it is actually rooted in true market prices.¹¹²³ Essentially, it provides a "reality check" on system lambda, which shares no connection with actual market prices.

Even Southern's Lambda-Based Sensitivity Analyses Demonstrate that System Lambda is not a Reliable or Robust Market Price Proxy.

381. Second, Shell examines the results of Southern's sensitivity analyses and

¹¹¹⁶ *See id.*

¹¹¹⁷ *Id.* at 135.

¹¹¹⁸ *Id.*

¹¹¹⁹ *Id.* (emphasis in original).

¹¹²⁰ Shell IB at 165-66.

¹¹²¹ *Id.* at 166.

¹¹²² *Id.* at 166-67.

¹¹²³ *Id.* at 167.

explains that they are not as benign as Southern claims.¹¹²⁴ Shell explains that Southern “tests [its] DPT results by performing two price sensitivity analyses, increasing and decreasing [its] market proxy price by 10%.”¹¹²⁵ When Southern increased the market price by ten percent, its “AEC-based market share exceeds the Commission’s 20% threshold in the Summer 3 period.”¹¹²⁶ What is even more telling is that when Southern decreases the market price by ten percent, its “AEC-based market shares are zero” in every period.¹¹²⁷ “Indeed, after subtracting native load, [Southern’s] results suggest that [it] is capacity short, by as much as 13,000 MW, in every DPT period.” Shell argues that “[t]hese results strongly suggest that [Southern’s] DPT analysis is unreliable” because “system lambda is not a realistic wholesale market proxy price; [Southern] is overestimating [its] load; or [Southern’s] operating reserve adjustment is unrealistic.”¹¹²⁸

Southern’s Hydroelectric Sensitivity Analyses are Worthless.

382. Southern also “offers a third sensitivity analysis involving [its] hydroelectric capacity analysis, which derates Southern’s hydroelectric capacity based on the ‘low water’ year among his five-year sample.”¹¹²⁹ “Predictably, Mr. Frame’s hydroelectric capacity sensitivity analysis results are similar to his base case DPT results as well, with Southern having zero AEC-based market shares in eight out of ten DPT periods.”¹¹³⁰ Shell contends that if Southern “wanted to show that [its] DPT results were a conservative measure of Southern’s ability to exercise market power, [it] should have performed a hydroelectric sensitivity analysis using the *highest* hydroelectric capacity year among his five-year test period, not the lowest.”¹¹³¹

Southern Failed to Perform EQR-Based Sensitivity Analyses, Which Show That it Wields Considerable Market Power in Several of the DPT Periods.

383. Third, Shell criticizes Southern for failing to perform an EQR-based sensitivity analysis, claiming that this failure “leaves a gaping hole in [its] sensitivity analysis.”¹¹³² According to Shell, “the DPT methodology can be highly

¹¹²⁴ *See id.*

¹¹²⁵ *Id.*

¹¹²⁶ *Id.*

¹¹²⁷ *Id.* at 168.

¹¹²⁸ *Id.*

¹¹²⁹ *Id.*

¹¹³⁰ *Id.* at 167-68.

¹¹³¹ *Id.*

¹¹³² *Id.*

sensitive to market price assumptions” and “system lambda does not represent a ‘market price,’ but instead is merely a calculated number (*i.e.*, system incremental fuel cost associated with the least-cost dispatch of thermal units located in a control area).”¹¹³³ According to Shell, EQR data more accurately reflects actual market prices and is a better tool to test the reliability of DPT results, and in this case, the wide variance between EQR and system lambda makes it especially useful.¹¹³⁴

384. Shell claims that if EQR data is used, Southern’s DPT would reveal that its “market share exceed[s] the 20% threshold during five out of the ten periods under study.”¹¹³⁵ Specifically, Shell contends that “in the summer on-peak and off-peak periods (*i.e.*, Summer 3 and Summer 4), Southern’s market share would exceed 22% and 33%, respectively.”¹¹³⁶ Furthermore, “[i]n the winter on-peak as well as winter off-peak periods (*i.e.*, Winter 2 and Winter 3), Southern’s market share would exceed 30%.”¹¹³⁷ Similarly, “Southern’s market share would exceed 26% in the shoulder peak period (*i.e.*, Shoulder 2).”¹¹³⁸ Finally, “the use of EQR prices eliminates the negative AEC results from [Southern’s] analysis in all but the summer and shoulder super peak periods.”¹¹³⁹ According to Shell, this wide discrepancy between lambda-based and EQR-based DPT results proves that Southern’s lambda-based DPT results are highly sensitive to alternative market prices and as such are unreliable.¹¹⁴⁰

Shell’s Sensitivity Analyses Demonstrate That its DPT Results are Reliable and Robust.

385. Fourth, Shell argues that its sensitivity analyses confirm the reliability of its DPT results.¹¹⁴¹ Shell claims that its calculation of Southern’s market share in the four DPT periods when it is over 20% does “not change when tested against a

¹¹³³ *Id.* at 168-69.

¹¹³⁴ *Id.* at 169. Shell asserts that “these values range from less than \$2/MWh in Summer 1 to more than \$20/MWh in Winter 1.” *Id.* at 169-70. Shell also notes that EQR data is especially useful for sensitivity analysis here because Southern’s system lambda sensitivity analysis show “that Southern has *zero* market share in eight out of ten DPT periods.” *Id.* at 170.

¹¹³⁵ *Id.* at 170.

¹¹³⁶ *Id.*

¹¹³⁷ *Id.*

¹¹³⁸ *Id.*

¹¹³⁹ *Id.*

¹¹⁴⁰ *Id.*

¹¹⁴¹ *Id.* at 171.

20% decrease in Southern's AEC."¹¹⁴² Shell also claims that those same "market share conclusions change in only one DPT period" when tested "against a 50% increase in firm SIC" and when Southern's hydroelectric derating method is applied.¹¹⁴³

386. Shell also performed sensitivity analyses using EQR prices as opposed to system lambda.¹¹⁴⁴ According to Shell, "Southern's market share under this sensitivity analysis exceeds 20% in seven periods."¹¹⁴⁵ In fact, "Southern's market share exceeds 25%, ranging from 27% to over 50%" in all but "the summer and shoulder super peak periods."¹¹⁴⁶ Specifically, Shell claims that "Southern's market share exceeds 26% for all of the winter periods, ranging from 27% to 40%."¹¹⁴⁷ While in "the summer peak and off-peak periods, Southern's market share exceeds 36%, ranging from 37% to 47%."¹¹⁴⁸ Finally, "[f]or the shoulder peak and off-peak periods, Southern's market share exceeds 40%, ranging from 44% to over 50%."¹¹⁴⁹ Shell concludes that the consistency between its DPT results and its EQR-based sensitivity analyses proves that its non-firm DPT is robust and reliable.

Shell Defends the use of EQR-Based Sensitivity Analyses.

387. Shell first argues that its use of EQR data is consistent with the Joint Stipulation and the Commission's regulations.¹¹⁵⁰ According to Shell, the Presiding Judge "has already ruled that an EQR-based price sensitivity analysis does not contravene the Joint Stipulation."¹¹⁵¹ Shell also claims that the Commission has expressed a preference, "both in its regulations and DPT-related guidance, for actual market prices in performing the DPT analysis." According to Shell, none of the parties seriously disputes that EQR data reflects "actual market prices."¹¹⁵²

¹¹⁴² *Id.*

¹¹⁴³ *Id.*

¹¹⁴⁴ *Id.*

¹¹⁴⁵ *Id.*

¹¹⁴⁶ *Id.*

¹¹⁴⁷ *Id.* at 171-72.

¹¹⁴⁸ *Id.* at 172.

¹¹⁴⁹ *Id.*

¹¹⁵⁰ *Id.* at 173.

¹¹⁵¹ *Id.* (citing *Southern Company Energy Marketing, Inc.*, "Order Granting In Part and Denying In Part Motion to Strike," Docket No. EL04-124-000 (Dec. 28, 2006)).

¹¹⁵² *Id.*

388. Shell also disagrees with Southern's claim "that sensitivity analyses are not 'meaningful' here because the parties have stipulated to the use of system lambda, therefore no 'ambiguity' or 'imprecision' exists regarding market-clearing prices."¹¹⁵³ Shell argues that "[i]t is indisputable. . . that the parties to the Joint Stipulation agreed to perform a price sensitivity, and that the Commission's July 2005 Order in this proceeding requires the performance of a meaningful price sensitivity analysis."¹¹⁵⁴ The parties' agreement "to use a particular proxy for market clearing prices to construct a non-firm 'base case' does not remove any 'ambiguity' or 'imprecision' associated with that proxy."¹¹⁵⁵ The proxy is simply an estimate, which by nature is "subject to some degree of uncertainty and potential error."¹¹⁵⁶ The sensitivity analysis examines "whether a reasonable alternative proxy significantly changes the results of the DPT."¹¹⁵⁷ Shell argues that "[i]t is hard to characterize as 'unreasonable' a sensitivity analysis that uses *actual* market prices (as provided by the EQR data) as a check on DPT results obtained from using a *proxy* for market prices (system lambda)."¹¹⁵⁸

389. Conversely, Shell suggests that it is actually system lambda that does not comply with the requirement of a "market price" based sensitivity analysis.¹¹⁵⁹ According to Shell, system lambda "is not a market, nor is it's a 'transaction price' but rather it is merely a 'computation made by the utility and filed with the Commission.'"¹¹⁶⁰ Therefore, if "market price" is the benchmark for a proper sensitivity analysis, then one based on system lambda, by Southern's own admission, must be deficient.¹¹⁶¹

390. Shell then refutes Southern's claim that the great difference between EQR-based market prices and system lambda makes EQR-based prices inappropriate given the Commission's requirement that "price sensitivities reflect only 'small' variations in market clearing prices."¹¹⁶² Shell argues that Southern "completely misses the fact that the Commission's guidance refers to variations in *market-clearing prices*, and thus assumes that the DPT analysis at issue uses actual market-clearing prices."¹¹⁶³ According to Shell, market-clearing prices were not

¹¹⁵³ *Id.*

¹¹⁵⁴ *Id.* (citing July 2005 Order at 61).

¹¹⁵⁵ *Id.* at 174.

¹¹⁵⁶ *Id.*

¹¹⁵⁷ *Id.*

¹¹⁵⁸ *Id.*

¹¹⁵⁹ Shell RB at 78.

¹¹⁶⁰ *Id.* (quoting Tr at 542-43, 563).

¹¹⁶¹ *See id.*

¹¹⁶² Shell IB at 174.

¹¹⁶³ *Id.*

used here.¹¹⁶⁴ Therefore, Shell argues that the sensitivity analyses should adhere to the spirit of the DPT by using the most reasonable measure of prices in a given control area, which in this case is EQR prices because they are “the *only* hourly market prices publicly available for the Southern control area.”¹¹⁶⁵

Shell Rejects Southern’s Claims that EQR Data is Inherently Flawed, Making it Unreliable as a Market Proxy.

391. Next, Shell systematically refutes Southern’s six criticisms of EQR data’s limitations. According to Southern, EQR data is unreliable because

(1) EQR filings do not reflect non-jurisdictional supplier transactions; (2) most transactions in the EQR database do not have prices that can be “directly and unambiguously incorporated into DPT analyses;” (3) the EQR database is “sparse” after multi-hour transactions are removed; (4) there are “a number of hours” in which there are zero or relatively few qualifying transactions after the database has been filtered; (5) the EQR data do not distinguish between deliveries to a busbar location within the Southern control area versus “outbound” transactions of electricity generated in the Southern control area and delivered at the boundary between the Southern control area and an adjacent control area; and (6) in many hours with multiple qualifying transactions, there exists a relatively large spread in the observed prices for individual transactions.¹¹⁶⁶

392. First, the fact “that EQR data provides partial coverage of wholesale sales in the Southern control area, has no relevance to determining whether the prices derived from the EQR provide a reasonable estimate of market-clearing prices.”¹¹⁶⁷ Shell claims that Southern’s point is irrelevant because the sample group remains sufficiently large enough to be statistically reliable, even after removing non-jurisdictional sellers.¹¹⁶⁸ “After removing multi-hour transactions and unusable data (*e.g.*, transactions with zero reported prices or quantities), there are still 71,149 hourly transactions remaining.”¹¹⁶⁹ Shell notes “that this is more than eight times the amount of corresponding data used in developing the system lambda market price proxy.”¹¹⁷⁰ Shell concludes that if system lambda’s relatively

¹¹⁶⁴ *See id.*

¹¹⁶⁵ *Id.* at 174-75.

¹¹⁶⁶ *Id.* at 175.

¹¹⁶⁷ *Id.*

¹¹⁶⁸ *Id.* at 175-76.

¹¹⁶⁹ *Id.* at 176.

¹¹⁷⁰ *Id.*

sparse number of transactions is statistically sufficient, then EQR data must also be reliable.¹¹⁷¹

393. Similarly, Southern's "second criticism suggests that there are many multi-hour transactions that cannot be mapped into a single hour."¹¹⁷² Shell again claims that there are sufficient hourly transactions to provide reliable estimates.¹¹⁷³ "As described above, there are 71,150 hourly transactions remaining after removing multi-hour transactions."¹¹⁷⁴ "These hourly transactions can be classified into 8,784 hours, and these hours (and their associated transactions) can then be mapped into the ten DPT periods."¹¹⁷⁵ "This 'mapping' procedure is identical to the way in which hourly system lambda values were used to estimate market price proxies for the DPT periods."¹¹⁷⁶ Shell reasons that if this mapping methodology was appropriate for system lambda, then there is no reason to believe it is inappropriate for EQR data.¹¹⁷⁷

394. Shell discounts Southern's third criticism as also being irrelevant.¹¹⁷⁸ First, "EQR price analysis reflects more than 70,000 hourly EQR transactions, a clearly sufficient number to develop a reliable market price estimate."¹¹⁷⁹ "Moreover, the proportion of total MWh attributable to multi-hour vs. single hour transactions has no relevance for developing a reliable estimate of EQR-based market-clearing prices, as long as there are sufficient hourly transactions, and as long as excluding multi-hour transactions is appropriate and does not bias the results."¹¹⁸⁰

395. Shell contends that Southern's fourth criticism, regarding hours without transactions, "reflects a misunderstanding of an interim data processing step that was used by [Shell] to convert the data from one program into another."¹¹⁸¹ Shell explains that "there are no transactions in 1% of the hours (115 of 8,784 hours), and there are five or less transactions in 32% of the hours (2,843 hours)."¹¹⁸² Furthermore, "[a]ll transactions within a given DPT period are used to compute the average market price in that period, regardless of the specific hour in which

¹¹⁷¹ *See id.*

¹¹⁷² *Id.*

¹¹⁷³ *See id.*

¹¹⁷⁴ *Id.*

¹¹⁷⁵ *Id.*

¹¹⁷⁶ *Id.*

¹¹⁷⁷ *See id.*

¹¹⁷⁸ *Id.*

¹¹⁷⁹ *Id.*

¹¹⁸⁰ *Id.* at 176-77.

¹¹⁸¹ *Id.* at 177.

¹¹⁸² *Id.*

that transaction occurs.”¹¹⁸³ Thus, these figures demonstrate that “the number of EQR transactions used to estimate market prices far exceeds the number of observations for system lambda used as a proxy for market prices.”¹¹⁸⁴ Therefore, Shell again concludes that if system lambda has enough transactions to be viable, then EQR’s alleged “sparseness” should not be an issue in this proceeding.¹¹⁸⁵

396. Shell claims that Southern’s fifth criticism regarding disguised outbound sales has little practical effect.¹¹⁸⁶ Shell demonstrates this “by computing market prices using EQR data both including and excluding such transactions.”¹¹⁸⁷ Shell claims that “removing the EQR ‘outbound’ sales from the market price computations decreases prices by a relatively small amount in seven of the ten DPT periods, and it increases prices by a relatively small amount in three of the ten DPT periods.”¹¹⁸⁸ The change has no practical effect because “Southern’s market share still exceeds the 20% threshold for seven out of ten DPT periods.”¹¹⁸⁹

397. Southern’s sixth criticism regarding the dispersion of prices during the hour is useless because it never “specifies what constitutes an unacceptably ‘large’ spread or dispersion in prices.”¹¹⁹⁰ Shell argues that significant dispersions should be expected in a market like the Southern Control Area which lacks a “uniform market-clearing price auction.”¹¹⁹¹ Moreover, “the DPT analysis does not require the use of a single price (or subset of prices) for a given hour.”¹¹⁹² Shell finds it ironic that Southern argues in one breathe that there are not enough transactions and then in the next it argues that there are too many from which to choose the “correct” ones.¹¹⁹³

Shell Refutes Southern’s Criticism of its Averaging Methodology.

398. Finally, Southern criticizes “the averaging convention applied by [Shell] to the EQR price data.”¹¹⁹⁴ Shell argues that Southern’s position is inconsistent with its willingness to average other data in the DPT (*i.e.* hydroelectric capacity

¹¹⁸³ *Id.*

¹¹⁸⁴ *Id.* at 177-78.

¹¹⁸⁵ *Id.* at 178.

¹¹⁸⁶ *Id.*

¹¹⁸⁷ *Id.*

¹¹⁸⁸ *Id.* at 179.

¹¹⁸⁹ *Id.*

¹¹⁹⁰ *Id.*

¹¹⁹¹ *Id.*

¹¹⁹² *Id.*

¹¹⁹³ *Id.*

¹¹⁹⁴ *Id.*

data).¹¹⁹⁵ Furthermore, Shell notes that “since the regulations require the use of ‘market-clearing prices,’ a reasonable argument could be made that the appropriate price to use is the *maximum* observed price” because “at any price less than the maximum observed price, there would still be unmet demand in the market, and the market would not have ‘cleared.’”¹¹⁹⁶ That some customers were able to buy at a price lower than the maximum observed price is irrelevant.¹¹⁹⁷ If the maximum price were used instead of averaging, Shell claims that the DPT results would show that Southern wielded even greater market power in a larger number of periods.¹¹⁹⁸

Staff

Staff is Permitted and Encouraged to Perform EQR-Based Sensitivity Analyses.

399. Staff recognizes that the parties have “agreed to use Southern’s 2004 system lambda as the proxy for market price in the Base Case DPT[.]” but it claims that the Joint Stipulation also permits the parties to develop sensitivity analyses based on other proxies for market price.¹¹⁹⁹ Staff claims that “the Presiding Judge found, ‘Item 5 supports Trial Staff’s use of EQR data because all parties agree that EQR data is market price data.’”¹²⁰⁰ “Further, in that order, the Presiding Judge held that, ‘an agreement to use system lambda as a proxy for market price in the DPT in no way limits the type of data that can be used by the participants in performing their sensitivity analyses.’”¹²⁰¹ Finally, Staff contends that Section 33.3(d)(6), the very section cited by Southern for its “small variations” argument, “requires that a DPT analysis use ‘market prices’”¹²⁰² and that proxies for market prices may be used *only if actual market prices are not available*.¹²⁰³ Here, market prices are clearly available in the form of EQR

¹¹⁹⁵ *Id.*

¹¹⁹⁶ *Id.* at 180.

¹¹⁹⁷ *See id.*

¹¹⁹⁸ *See id.*

¹¹⁹⁹ Staff IB at 87. “Specifically, Item 5 in Part II of the Joint Stipulation explicitly provides, ‘[t]he Parties reserve the right to oppose the sensitivities submitted by the other parties’ and ‘any such sensitivities should pertain only to market price.’” *Id.*

¹²⁰⁰ *Id.* (quoting Order On Southern’s Motion To Strike at 23).

¹²⁰¹ *Id.* (quoting Order On Southern’s Motion To Strike at 24).

¹²⁰² Staff RB at 66 (quoting 18 C.F.R. § 33.3(d) (6) (2007)).

¹²⁰³ *Id.* (emphasis in original). *See also Duke Power*, 111 FERC ¶ 61,506 at P 31 (2005) (permitting the use of system lambda in support of the Delivered Price test “if actual prices are unavailable”).

data.¹²⁰⁴

Staff Explains how it Developed and Performed its EQR-Based Sensitivity Analyses.

400. First, Staff explains how it developed its EQR-price data.¹²⁰⁵ Staff only included sales that: “(i) were delivered to the SCA; (ii) had a term of one year or less; (iii) were sales of energy or booked-out power; and (iv) were not firm sales or billing adjustments.”¹²⁰⁶ Staff “also eliminated all transactions with durations longer than one hour to eliminate the possibility of allocating multi-hour transactions to individual hours.”¹²⁰⁷ Staff then adjusted the start and end times for certain “transactions to ensure a common time zone.”¹²⁰⁸ It eliminated all transactions “above \$150 MWh or below \$15 per MWh[,]” and used system lambda values “only when EQR data was not available.”¹²⁰⁹ “Finally, [it] adjusted the prices in [its] sensitivity analysis in each DPT season, limiting prices to generation costs of wholesale customers in the SCA.”¹²¹⁰ This adjustment reflects the fact that “the amount that wholesale customers are willing to pay for short-term, non-firm power is limited by the running costs of their own available generation.”¹²¹¹

System Lambda is Plagued With Deficiencies That Make it a Poor Market Price Proxy.

401. Staff then points out the deficiencies inherent in using system lambda for a sensitivity analysis.¹²¹² First, system lambda may not truly report market prices because it is based on production costs as opposed to sales prices.¹²¹³ For example, “during the Summer 1 period, which represents peak demand in the SCA, Southern’s maximum system lambda, of approximately \$73 per MWh, was at least \$10 per MWh *lower* than its maximum system lambda for *any* of the other DPT periods.”¹²¹⁴ If system lambda correctly reflected market prices, it is

¹²⁰⁴ *See id.*

¹²⁰⁵ Staff IB at 88.

¹²⁰⁶ *Id.*

¹²⁰⁷ *Id.*

¹²⁰⁸ *Id.*

¹²⁰⁹ *Id.*

¹²¹⁰ *Id.*

¹²¹¹ *Id.* at 88-89.

¹²¹² *Id.* at 89.

¹²¹³ *Id.*

¹²¹⁴ *Id.* According to Staff, Southern mischaracterizes this argument as a claim of disbelief that system lambda’s Summer 2 period is higher than the super-peak

reasonable to expect that its maximum lambda value for the Summer 1 period would be higher, instead of lower, “than the maximum system lambda in the other DPT periods.”¹²¹⁵ Staff contends that system lambda’s failure to reflect basic market conditions makes it an unreliable proxy for market price.¹²¹⁶

EQR Data is a More Accurate Proxy for Market Prices in the Southern Control Area.

402. Staff contrasts this with EQR data, which it claims “more accurately reflect[s] economic conditions and resulting market prices, because it is actual market price data.”¹²¹⁷ By definition EQR data presents “transaction information for long and short-term power sales that the Commission requires utilities and power marketers to report”¹²¹⁸ According to Staff, “[s]ellers report information concerning individual wholesale transactions, including: (i) the seller; (ii) the buyer; (iii) the delivery point of the sale; (iv) the duration of the sale; (v) the product sold; (vi) the amount sold; and (vii) the sale price.”¹²¹⁹ Thus, EQR data reflects a much wider array of information than system lambda, which makes EQR data a more accurate proxy for market prices.¹²²⁰

Staff Refutes Southern’s Criticisms of EQR Data.

403. First, Southern claims that significant intra-hour dispersions in prices distorts the “true” hourly market price as well as the “true” market clearing price.¹²²¹ Staff argues that Southern has failed to define what a reasonable dispersion would be and without such a benchmark there would be “no way to determine whether the dispersions . . . are, in fact, excessive.”¹²²² Staff also notes that significant dispersions should be expected in a control area that is not subject to an ISO or RTO (i.e. a uniform market-clearing price auction).¹²²³

Summer 1 period. See Staff RB at 75-76. Staff explains that its disbelief was directed at the counterintuitive notion that the super-peak Summer 1 period value was lower than *any* of the values from the other DPT periods. See *id.* at 76.

¹²¹⁵ Staff IB at 89.

¹²¹⁶ See *id.*

¹²¹⁷ *Id.* at 90.

¹²¹⁸ *Id.*

¹²¹⁹ *Id.*

¹²²⁰ See *id.*

¹²²¹ *Id.*

¹²²² *Id.*

¹²²³ *Id.* at 90-91.

404. Staff also claims that Southern's criticism regarding non-jurisdictional sellers is logically inconsistent with Southern's support for system lambda.¹²²⁴ Southern balks at the EQR's exclusion of some market participants, but it has no problem with system lambda, which reflects only its market prices to the exclusion of *all* other market participants, jurisdictional or otherwise.¹²²⁵ By comparison, EQR includes far more market participants, which makes it far more robust.¹²²⁶

405. Additionally, Staff contends that Southern's "outbound transaction" criticism lacks balance and Southern's attempt to discredit the need for that balance is without merit.¹²²⁷ Like Shell, Staff attacks Southern's exclusion of outbound transactions because it fails to make a similar adjustment to the outbound transactions of other utilities in the Southern Control Area.¹²²⁸ As noted above, Southern claimed that its failure to exclude the other utilities' outbound exclusions is irrelevant because those transactions, with their imbedded extra transmission costs, are higher than the traditional in-market transactions and this will ultimately raise the market prices, which in turn raises Southern's market share.¹²²⁹ Staff disagrees with Southern's position because Southern has not provided any evidence of these higher transmission costs.¹²³⁰ Furthermore, Southern admits that "with respect to other parties' sales," it "cannot distinguish between sales for export and sales for consumption within the Southern Control Area."¹²³¹ Therefore, Staff concludes that Southern's "irrelevance defense" is nothing more than conjecture as "[t]here is no basis upon which to conclude that the EQR data upwardly biases market prices within the SCA."¹²³²

406. Southern also contends that the EQR is not reliable for calculating hourly market prices.¹²³³ But Staff argues that this is irrelevant because the EQR data is being used in these tests to determine market prices for the ten DPT periods.¹²³⁴ Furthermore, after EQR data is screened to remove multi-hour transactions, Staff agrees with Shell that it is still a reliable source because it reflects over 70,000 transactions.¹²³⁵ Staff notes that these 70,000 transactions are "more than eight

¹²²⁴ *Id.* at 92.

¹²²⁵ *Id.*

¹²²⁶ *See id.*

¹²²⁷ *See id.*

¹²²⁸ *See id.*

¹²²⁹ *See id.*

¹²³⁰ *Id.* at 92-93.

¹²³¹ *Id.* at 93.

¹²³² *Id.*

¹²³³ Staff RB at 77.

¹²³⁴ *See id.*

¹²³⁵ *See id.*

times the amount of corresponding data used in developing the system lambda market price proxy.”¹²³⁶

The Commission Supports the use of EQR Data in Sensitivity Analyses in This Case.

407. According to Staff, the Commission strongly prefers actual market prices when determining “the destination market price in a DPT analysis.”¹²³⁷ Recently, the Commission held that “FERC regulations allow, ‘in support of the Delivered Price Test’ the use of system lambda as a proxy for price ‘if actual prices are unavailable.’”¹²³⁸ Moreover, “the Commission found that ‘actual energy prices are available from the EQRs.’”¹²³⁹ Finally, in that same case the Commission chose to rely on the applicant’s “DPT analysis based on ‘a range of market prices’ rather than [its] DPT analysis based on system lambda” because the range of values reflected in the market prices “were significantly wider than the comparable ranges for system lambda.”¹²⁴⁰ Thus, Staff concludes that the Commission prefers the use of EQR data to system lambda because the former reflects actual market prices while the latter is a mere proxy.¹²⁴¹

408. Applying the regulations and orders cited above, Staff argues that the Commission would support, if not require, the use of EQR data in this case.¹²⁴² Similar to the situation in *Duke Power*, “the EQR data’s ranges of average prices [in this case] are significantly wider than the comparable ranges for system lambda.”¹²⁴³ Staff explains that the “EQR data’s average hourly prices range from \$15 per MWh to \$150 per MWh; whereas system lambda’s average hourly prices vary only from \$17 per MWh to \$103 per MWh.”¹²⁴⁴ More specifically, “during the winter and shoulder DPT periods, average values for system lambda never exceed \$45 per MWh; whereas the EQR data’s average prices exceed \$63 per MWh in the winter super-peak and \$56 per MWh in the shoulder super-peak periods.”¹²⁴⁵ Just like in *Duke Power*, this system lambda’s wider dispersion of prices also makes it less reliable and robust than EQR-based prices which show

¹²³⁶ *Id.*

¹²³⁷ *Id.* (citing 18 C.F.R. § 33.3(d)(6) (2007)).

¹²³⁸ Staff IB at 94 (quoting *Duke Power*, 111 FERC ¶ 61,506 at P 31 (2005)) (alteration in original).

¹²³⁹ *Id.* (quoting *Duke Power*, 111 FERC ¶ 61,506 at P 31 (2005)).

¹²⁴⁰ *Id.*

¹²⁴¹ *Id.*

¹²⁴² *See id.*

¹²⁴³ *Id.*

¹²⁴⁴ *Id.* at 94-95.

¹²⁴⁵ *Id.* at 95.

more uniformity.¹²⁴⁶

409. Staff argues that Southern's attempt to distinguish this matter from *Duke Power* by comparing the variation in its system lambda with the one in *Duke Power* "misses the point." In *Duke Power*, the Commission "preferred alternative price data to Duke's system lambda because the alternative prices better reflected actual wholesale energy prices than did system lambda."¹²⁴⁷ According to Staff, this means that the proper comparison is between system lambda and market prices as opposed to one between the relevant system lambdas.¹²⁴⁸ Staff contends that its "sensitivity analysis is far more consistent with Commission regulations and precedent than Southern's sensitivity analysis, which relies solely on its system lambda" because "the EQR-based data that Staff used in its sensitivity analysis represents actual wholesale energy prices, has greater variability than Southern's system lambda and, across DPT periods, Southern's average system lambdas are significantly lower than the average values for the EQR-based data."¹²⁴⁹ "Thus, the relevant comparison, conveniently overlooked by Southern's witnesses, is between Southern's system lambda and market prices and *not* between *Duke's* system lambda and Southern's system lambda."¹²⁵⁰ According to Staff, a proper comparison proves that the Commission would prefer market based sensitivity analyses in this case.¹²⁵¹

410. Southern also relies on Order No. 592 for the proposition that its "'top of stack lambdas' have long been recognized by the Commission as a reasonable 'surrogate' of market prices[,]" which it cites to justify its refusal to perform EQR-based sensitivity analyses.¹²⁵² Staff explains that Southern's reliance is again misplaced because Order No. 592's recognition of the propriety of system lambda as a price surrogate was based on its use by a *buyer*, not a seller.¹²⁵³ The Commission reasoned that "a *buyer's system lambda may be used* because a buyer is not likely to purchase from a supplier that is more costly than its own production at specific times."¹²⁵⁴ But the same is not true of a seller, who is more likely to sell when the market price is *above system lambda*.¹²⁵⁵ Therefore, Order No. 592 provides little guidance regarding the propriety of seller's system lambda

¹²⁴⁶ *See id.*

¹²⁴⁷ *Id.*

¹²⁴⁸ *See id.*

¹²⁴⁹ *Id.* at 95-96.

¹²⁵⁰ Staff RB at 72.

¹²⁵¹ *See id.*

¹²⁵² *Id.* (quoting SCS IB at 135).

¹²⁵³ *See id.*

¹²⁵⁴ *Id.* at 72-73 (SCS IB at 135).

¹²⁵⁵ *See id.* at 73-74.

as a proxy for market price.¹²⁵⁶

Staff and Southern's Lambda-Based DPT Results Vary Considerably from the Historical Trade Data, and This Demonstrates the Unreliable Nature of Analyses Based Solely on System Lambda, Like Southern's.

411. Staff first details Southern's and its DPT and EQR results, which show a wide discrepancy.¹²⁵⁷ Southern's economic capacity DPT analysis shows that it is a "Pivotal Supplier in every DPT period and that [it's] market share ranges from 54.1 percent to 70.2 percent, and the SCA HHI ranges from 3,089 to 5,042."¹²⁵⁸ Staff's results from the economic capacity prong of the DPT study track Southern's, finding "that Southern is a Pivotal Supplier in every DPT period and Southern's market share ranges from 58.5 percent to 70.9 percent, and the SCA HHI ranges from 3,577 to 5,144."¹²⁵⁹ But the two parties reach different results for the available economic capacity prong of the DPT. Southern claims to not be pivotal in "in any DPT period[.]" "that [it's] market share ranges from zero percent to 16.8 percent, and [that] the SCA HHI ranges from 551 to 945." "In contrast, Staff's AEC Base Case results show that . . . Southern's market share ranges from zero percent to 30.3 percent, and *exceeds 20 percent in two periods.*"¹²⁶⁰ By comparison, Staff's EQR-based sensitivity analysis for available economic capacity shows that Southern's "market share ranges from 0.0 percent to 41.1 percent, with the SCA HHI ranging from 512 to 1,890."¹²⁶¹ Importantly, it "shows that Southern's market share exceeds the 20 percent threshold in four of the ten DPT periods."¹²⁶²

412. Staff then explains that this wide discrepancy stems from the fact that system lambda "does not accurately reflect wholesale market prices" like EQR data. In support of this point, Staff points out some of the absurdities of Southern's base case DPT analysis. Staff notes that Southern's Revised Base Case indicates "that Southern has negative AEC *in eight out of the ten DPT periods[.]*" which "exceeds 1000 MW in six DPT periods and exceeds 4000 MW in Shoulder1, Shoulder3, and Summer4 periods."¹²⁶³ Incredibly, "Southern's negative AEC of 6,825 MW in the Shoulder1 period *exceeds the total AEC*

¹²⁵⁶ *See id.*

¹²⁵⁷ Staff IB at 96.

¹²⁵⁸ *Id.*

¹²⁵⁹ *Id.*

¹²⁶⁰ *Id.* at 96-97.

¹²⁶¹ *Id.* at 97.

¹²⁶² *Id.*

¹²⁶³ *Id.*

*available from all other suppliers in that period.*¹²⁶⁴ This suspension of reality requires a belief that the Southern Control area was short of capacity at that given price.¹²⁶⁵ Clearly, the historic trade data contradicts these figures as well as those that show Southern having zero market shares.¹²⁶⁶ Therefore, “Staff’s EQR-based sensitivity analysis demonstrates that a DPT analysis based exclusively on Southern’s system lambda likely yields incorrect results, and therefore its Base Case results may not be reliable.”¹²⁶⁷

Staff Refutes Southern’s Criticisms of its Sensitivity Analyses.

413. Staff rejects Southern’s “small variations” criticism.¹²⁶⁸ Southern claims that the Commission limits acceptable sensitivity analyses to those that impose only a “small variation” of the assumed price.¹²⁶⁹ Southern goes on to quantify “small variations” as being between ten and twenty percent.¹²⁷⁰ First, Staff points out that “neither the Commission’s regulations nor its orders define ‘small variations.’”¹²⁷¹ Thus, there is nothing to support Southern’s arbitrary declaration of what constitutes a “small variation.”¹²⁷² Staff then claims that its EQR prices used in its sensitivity analysis “are *within* the twenty percent threshold assumed by Southern in *six* of the ten DPT periods.”¹²⁷³

414. Staff next turns to Southern’s claim that Staff’s variations are too random to be reliable for sensitivity analysis.¹²⁷⁴ Staff explains that its prices “are based on actual wholesale transactions from EQR data,” and that it is not surprising that the markup on these prices changes in response to supply and demand changes over the different DPT periods.¹²⁷⁵ In other words, Southern has no grounds to claim that Staff’s “price series are flawed because they show varying markups (relative to system lambda)” as this is a natural byproduct of a competitive market that lacks a central clearing house.¹²⁷⁶

¹²⁶⁴ *Id.* at 97-98.

¹²⁶⁵ *Id.* at 98.

¹²⁶⁶ *Id.*

¹²⁶⁷ *Id.*

¹²⁶⁸ Staff RB at 68.

¹²⁶⁹ *See id.*

¹²⁷⁰ *Id.*

¹²⁷¹ *Id.*

¹²⁷² *See id.*

¹²⁷³ *Id.*

¹²⁷⁴ *Id.* at 69.

¹²⁷⁵ *Id.*

¹²⁷⁶ *Id.*

Staff's Sensitivity Analyses of its Sensitivity Analyses Proves That the Former are Reliable and Robust.

415. Staff first compares its EQR-based sensitivity analyses with the historical trade data. According to Staff, the figures closely match, which proves that its EQR sensitivity analysis is robust.¹²⁷⁷ According to Staff, its EQR-based prices are “far more consistent with Southern’s historical trade data than is an analysis based on Southern’s system lambda.”¹²⁷⁸ This again suggests that system lambda is not reliable as a market price proxy in this proceeding.¹²⁷⁹

416. Staff confirmed the reliability of its sensitivity analyses by performing three other sensitivity analyses, which “‘marked up’ Southern’s system lambda using estimates of Southern’s gross wholesale margin (revenues above system lambda) on Southern’s reported wholesale sales transactions.”¹²⁸⁰ Each of these three analyses significantly varied “the parameters for operating reserves[.]”¹²⁸¹ The first of these tests excludes Southern’s operating reserves from its load, and it showed that Southern’s market share exceeds “the 20 percent threshold in *seven of the ten DPT periods*.”¹²⁸² The second one, which includes Southern’s operating reserves in its load, demonstrates that “Southern’s market share exceeds the 20 percent threshold in *five of the ten DPT periods*.”¹²⁸³ The third test, “which includes Southern’s proposed, and quite large, operating reserves in its load,” produces results that show Southern’s market share exceeds “the 20 percent threshold in *three of the ten DPT periods*.”¹²⁸⁴ Shell claims that these analyses: “(i) [are] relatively consistent with each other; (ii) [are] consistent with Staff’s

¹²⁷⁷ Staff IB at 98.

¹²⁷⁸ *Id.* at 99. Staff leaves most of this analysis to the section below dealing with historical trade data analysis.

¹²⁷⁹ *See id.*

¹²⁸⁰ *Id.*

¹²⁸¹ *Id.* “Staff’s markup analyses, like any gross margin analysis, measures the difference between the wholesale sales price of an energy transaction and its cost.” *Id.* at 101. “To perform these markup analyses, Staff . . . derived the actual sales prices from Southern’s own transaction records, and Southern’s system lambda from the same hour as the transaction.” *Id.* “To compute the percentage markup, Staff divided the actual transaction price (reported by Southern) by Southern’s system lambda from the same hour as the reported transaction.” *Id.* “The transactions were then grouped by DPT period and the markup value for each was multiplied by the appropriate average DPT-period system lambda.” *Id.*

¹²⁸² *Id.* at 99-100.

¹²⁸³ *Id.* at 100.

¹²⁸⁴ *Id.*

EQR-based sensitivity analysis; and (iii) differ markedly from Staff's Base Case analyses and Southern's Base Case analyses, [both] of which rely on Southern's system lambda as the market price proxy."¹²⁸⁵ Because "Staff's sensitivity analyses results . . . confirm that [its] EQR-based sensitivity analysis is both accurate and reliable[,] [they] provide a properly constructed DPT on which results the Commission can rely in this case."¹²⁸⁶

Staff Defends its "Mark Up" Sensitivity Analyses.

417. In its Reply Brief, Southern contends that Staff's "mark up" sensitivity analyses produce upwardly biased results because they do not include Southern's purchases and they do not include "sales by other jurisdictional entities in the SCA (Southern Control Area)."¹²⁸⁷ Staff defends its analysis by noting that it is a market price proxy, and the "margin analysis is based on Southern's *own* wholesale sales prices." Given that the purpose of these analyses is to determine "Southern's gross margin as a wholesale seller, it would be inappropriate to include Southern's purchase transaction data in this analysis."¹²⁸⁸ Staff claims that if it included Southern's purchase data, that "would eliminate the informational value of knowing Southern's actual wholesale prices."¹²⁸⁹ This is because "the question of whether Southern *could* increase wholesale prices in the SCA is

¹²⁸⁵ *Id.*

¹²⁸⁶ *Id.* at 100-01. "On July 19, 2007, the last day of the hearing in this proceeding, the Presiding Judge asked [Staff] . . . why [it] did not consider Southern's purchases in [its] markup analyses and why [it] considered only sales in his markup analyses." *Id.* at 101. "In this regard, Staff believes that computationally and conceptually Southern's purchases should not be included in Staff's markup analyses because Southern's purchases, by definition, are irrelevant to a markup or gross margin analysis." *Id.* "As a balance to the use of production costs (system lambda) as a proxy for market price, [Staff] used a gross-revenue based proxy." *Id.* "By definition, gross revenues include monies obtained in sales transactions." *Id.* "As such, the data set in a markup or margin analysis is not *actual* market prices but, like system lambda, a *proxy* for market price." *Id.* at 101-102. "While the margin analysis is based on actual transaction prices it is readily apparent that it is a proxy for Southern's *own* wholesale sales prices." *Id.* at 102. "It is *not* a *market* price proxy." *Id.* "Thus, it would be inappropriate to include Southern's purchase transaction data in this analysis." *Id.* "Doing so would eliminate the informational value of knowing what price Southern was actually receiving from its wholesale sales." *Id.*

¹²⁸⁷ Staff RB at 86.

¹²⁸⁸ *Id.*

¹²⁸⁹ *Id.*

determined by the prices paid by wholesale customers *other than Southern*.”¹²⁹⁰ The use of “mark up” as a proxy for market price is comparable to Southern’s use of system lambda, but given the fact that Southern’s actual mark up is around 26% above system lambda, it would appear that the “mark up” analysis better reflects actual prices.¹²⁹¹

Discussion and Findings

EQR Based Sensitivity Analyses Do Not Constitute a Collateral Attack on the Joint Stipulation and Do Not Violate Commission Regulations or Orders.

418. Southern contends that any sensitivity analysis based on EQR constitutes a collateral attack on the Joint Stipulation and violates Commission regulations and orders.¹²⁹² Southern first argues that by virtue of having agreed to use Southern’s 2004 system lambda as a proxy for market price in the Base Case DPT, any sensitivity analysis submitted for consideration in this proceeding must be based solely on system lambda or be excluded from the record as a collateral attack on the Joint Stipulation.¹²⁹³ Therefore, Southern argues, an EQR based sensitivity analysis constitutes a collateral attack on the Joint Stipulation.¹²⁹⁴ From this exclusionary position Southern then builds to its next argument that any sensitivity analysis which varies significantly in response to small variations in Southern’s 2004 system lambda is impermissible and should be excluded from the record, citing to Section 33.3(d) (6) of the Commission’s regulations, which states, in pertinent part, “[a]pplicants must demonstrate that the results of the analysis do not vary significantly in response to small variations in actual and/or estimated prices.”¹²⁹⁵

419. In continuing to press this argument despite the fact that this issue has been squarely addressed and resolved by the undersigned Presiding Judge’s order issued on December 28, 2006, granting in part and denying in part Southern’s motion to strike, Southern mischaracterizes the Joint Stipulation as well as the Commission’s regulations and case law as interpreted and applied by the subject order.¹²⁹⁶ As discussed more fully in the subject order, the undersigned specifically found that

¹²⁹⁰ *Id.* at 88

¹²⁹¹ *Id.* at 86

¹²⁹² SCS IB at 128, 130.

¹²⁹³ *Id.* at 130.

¹²⁹⁴ *Id.*

¹²⁹⁵ 18 C.F.R. § 33.3(d) (6) (2007).

¹²⁹⁶ *Southern Company Energy Marketing, Inc.*, No. EL04-124 (December 28, 2006). (Order on Southern Motion To Strike”)

the Joint Stipulation *does not* restrict the development of sensitivity analyses solely to system lambda but simply provides that any such sensitivities should pertain only to market price.¹²⁹⁷ As conceded by Southern, Item 5 in Part II of the Joint Stipulation explicitly provides, “[t]he Parties reserve the right to oppose the sensitivities submitted by the other parties” and “any such sensitivities should pertain only to market price.”¹²⁹⁸ Moreover, the undersigned specifically found that, “Item 5 (of the Joint Stipulation) supports Trial Staff’s use of EQR data because all parties agree that EQR data is market price data.”¹²⁹⁹ Further, in that same order, the undersigned Presiding Judge held that “an agreement to use system lambda as a proxy for market price in the DPT in no way limits the type of data that can be used by the participants in performing their sensitivity analyses.”¹³⁰⁰

420. Clearly uncomfortable with the implications which may be drawn from the results of an EQR sensitivity analysis, Southern continues to stubbornly argue that they must be excluded from the record; however, in doing so Southern ignores the fact that the same regulations that it cites in support of its own position state a strong preference for the use of market prices in a DPT analysis. As discussed in Staff’s Initial Brief, Section 33.3(d) (6) of the Commission’s regulations requires that a DPT analysis use “market prices”¹³⁰¹ and that proxies for market prices may be used *only if actual market prices are not available*.¹³⁰² In addition, Section 33.3(d) (6) requires that “estimated market prices or price ranges must be supported and the data and approach used to estimate the prices must be included with the application.”¹³⁰³ Furthermore, pursuant to Section 33.3(d) (6), price ranges “must be reconciled with any *actual market prices* that are supplied in the application.”¹³⁰⁴

421. Citing these regulations, the Commission recently held in *Duke Power* that “FERC regulations allow, ‘in support of the Delivered Price Test’ the use of system lambda as a proxy for price ‘*if actual prices are unavailable*.’”¹³⁰⁵ Moreover, the Commission found that “actual energy prices are available from the

¹²⁹⁷ Staff IB at 87.

¹²⁹⁸ *Id.*; See Exh. SCS-4 at 5; see also Exh. S-1 at 7; SCS IB at 129.

¹²⁹⁹ Staff IB at 87; Order On Southern’s Motion To Strike at P 23.

¹³⁰⁰ Staff IB at 87; Order On Southern’s Motion To Strike at P 24; see also, Exh. S-31 at 8-9.

¹³⁰¹ Staff IB at 92; 18 C.F.R. § 33.3(d) (6) (2007).

¹³⁰² *Id.*

¹³⁰³ *Id.*

¹³⁰⁴ *Id.*

¹³⁰⁵ Staff IB at 94; *Duke Power*, 111 FERC ¶ 61,506, at P 31 (alterations in original); see also Exh. S-31 at 22.

EQRs.”¹³⁰⁶ Therefore, both the Commission’s regulations and case law actively support the use of EQR data in a DPT analysis because EQR data consist of actual market prices.¹³⁰⁷ Thus, Southern’s position that all sensitivity analyses in this proceeding must be based solely on system lambda runs counter to both the letter and spirit of the Joint Stipulation, the undersigned Presiding Judge’s December 28 order, Section 33.3(d) (6) of the Commission’s regulations and Commission precedent.

422. Thus, Southern’s position that all sensitivity analyses in this proceeding must be based solely on system lambda is fatally flawed. Further, as Staff points out, neither the Commission’s regulations nor its orders define “small variations,” and the data provided by Southern show that Staff’s EQR prices are *within* the twenty percent threshold assumed by Southern in *six* of the ten DPT periods.¹³⁰⁸

The EQR Data is not Fatally Flawed.

423. Many of the criticisms that Southern has raised here pertain to both Shell and Staff’s EQR based sensitivity analyses as they go to Southern’s concerns with using EQR data at all for this purpose; in addition, however, Southern also criticizes the averaging convention applied by Shell to the EQR price data.¹³⁰⁹ Because the undersigned shares Southern’s concerns with this aspect of Shell’s methodology, and because many of these same issues are addressed in Staff’s use of EQR data for sensitivity analyses, the following discussion will focus on Southern’s objections to using Staff’s EQR data for sensitivity analyses. Southern makes the following principal objections to using Staff’s EQR data for sensitivity analyses: (i) Staff’s EQR data is unreliable; (ii) Staff’s EQR data suffers from various technical problems; (iii) Staff’s EQR data is too widely dispersed; (iv) Staff’s EQR data does not include non-jurisdictional sellers; and (v) Staff’s EQR data does not account for exports out of the SCA.

424. First Southern contends that Staff’s EQR data are unreliable for determining hourly market prices.¹³¹⁰ As Staff point out however, the relevant issue is whether the EQR data are reliable for determining market prices for the *ten DPT season/load periods*.¹³¹¹ After screening the EQR data to remove multi-

¹³⁰⁶ Staff IB at 94; *Duke Power*, 111 FERC ¶ 61,506, at P 31 (2005); *see also* Exh. S-1 at 7.

¹³⁰⁷ Staff IB at 94.

¹³⁰⁸ *See* SCS IB at 131. Staff’s EQR prices as a percentage of system lambda are under 120 percent in DPT periods S1, S2, S4, Sh2, Sh3, and W3.

¹³⁰⁹ Shell IB at 179

¹³¹⁰ SCS IB at 136.

¹³¹¹ *See id.*

hour transactions and unusable data there are over 70,000 transactions remaining. Staff notes that these 70,000 transactions are more than eight times the amount of corresponding data used in developing the system lambda market price proxy.¹³¹² The undersigned agrees with Dr. DeRamus' determination that this is a more than adequate database from which to derive reasonable and *reliable* estimates of market prices.¹³¹³

425. Second, Southern contends that Staff's EQR data suffer from various problems, including incompleteness, inconsistency, and subjective interpretation.¹³¹⁴ Southern argues that "[a] robust and reliable data set should be able to produce consistent and predictable results, particularly by analyses (and analysts) working toward a common goal."¹³¹⁵ Staff responds by pointing out that although Staff and Shell have generally consistent positions with respect to the development of EQR-based sensitivity analysis, the various sets of EQR prices, including those developed by Southern, and related sensitivity analyses were separately and independently developed by each participant in this proceeding. Therefore, one would not expect that the results would exactly match.

426. Southern also argues that its "cleaner" set of DPT prices, developed by Mr. Frame from Staff's EQR data, differs substantially from the EQR-based DPT prices developed by Staff witness Siskind.¹³¹⁶ However, contrary to Southern's arguments, the record supports a finding that the differences that result from these so-called "cleaner" prices are relatively minor. Aside from the Summer1 period, (in which Mr. Siskind adjusted his EQR-based price upwards to account for Oglethorpe's avoided costs but Mr. Frame did not),¹³¹⁷ Staff's EQR-based prices and Mr. Frame's so-called "cleaner" prices differ by as much as five percent in only one DPT period.¹³¹⁸ Indeed, of the remaining nine DPT periods Mr. Frame's prices are higher in three periods, while Mr. Siskind's are higher in five periods, with one period having identical prices.¹³¹⁹ In addition, as Staff witness Siskind notes in his Surrebuttal Testimony, he adjusted his original EQR price series to account for many of Southern's concerns and found that the resulting "corrected" EQR price series was quite similar to the original.¹³²⁰ Indeed, even assuming that all of Southern's concerns are valid, the differences between the original and

¹³¹² *Id.*

¹³¹³ Shell IB at 176 [Emphasis added].

¹³¹⁴ SCS IB at 136-38.

¹³¹⁵ *Id.* at 138.

¹³¹⁶ *Id.* at 143-44.

¹³¹⁷ Exh. S-1 at 25-26; Exh. SCS-32 at 104.

¹³¹⁸ See Exh. S-8 (column 4); Exh. SCS-47 (corrected).

¹³¹⁹ *Id.*

¹³²⁰ Staff IB at 17:6-20; see also Revised Exh. S-35, page 2 of 2.

“corrected” price series across DPT periods are less than three percent in all but the Summer4 and Shoulder1 periods.¹³²¹ Similarly, as set forth in Mr. Siskind’s Surrebuttal Testimony, the differences across DPT periods between Southern’s so-called “cleaner” EQR prices and Staff’s “corrected” EQR prices are less than 3.2 percent in all periods.¹³²²

427. Third, Southern contends that the price dispersion of Staff’s EQR data “calls into question the reliability of the EQR data for developing reliable market price proxies.”¹³²³ However, as discussed in Staff’s Initial Brief, Southern witnesses Frame and Hieronymous do not provide an objective measure of typical or expected intra-hour price variation. Without such a benchmark there is no way to determine whether the dispersions that Southern’s witnesses computed for Staff’s EQR data are excessive.¹³²⁴ Fourth, Southern argues that Staff’s EQR data are incomplete because non-jurisdictional sellers are not required to report their transactions. Southern has not demonstrated that the absence of non-jurisdictional transaction data has any material effect on the EQR based prices used by Staff in its sensitivity analysis. In addition, the fact that Southern was the sole possessor of the transaction data for the 2004 test year, which includes the non-jurisdictional transaction data, strongly supports Staff’s reasonable decision to assume that sales made by non-jurisdictional entities were priced similarly to those reported by jurisdictional entities. This assumption mitigates the unavailability of the non-jurisdictional price data. Moreover, Southern’s criticism that Staff’s sensitivity analysis excludes FERC non-jurisdictional sellers is logically inconsistent with its position that *only* its system lambda should be used in a sensitivity analysis because system lambda only reflects only its market prices to the exclusion of *all* other market participants, jurisdictional or otherwise.¹³²⁵ By comparison, Staff points out that EQR includes far more market participants.¹³²⁶

428. Lastly, Southern contends that EQR is fatally flawed because EQR data often fails to distinguish outbound sales delivered to a system border from true “in market” sales, which will inflate price data by including the cost of transmitting power to the border and imputing market dynamics associated with other

¹³²¹ Revised Exh. S-35, page 2. The Summer4 original price is 6.0 percent higher than the “corrected” price; the Shoulder1 original price is 7.4 percent lower than the “corrected” price.

¹³²² Exh. S-35, page 1, column [2] and Revised Exh. S-35, page 2 (column “Siskind Updated EQR Price”).

¹³²³ SCS IB at 138 [Citations omitted].

¹³²⁴ Staff IB at 90; *see* Exh. S-31 at 19.

¹³²⁵ *Id.*

¹³²⁶ *See id.*

destination markets.¹³²⁷ Like Shell, Staff attacks Southern's exclusion of outbound transactions because it fails to make a similar adjustment to the outbound transactions of other utilities in the Southern Control Area.¹³²⁸ Further, as Staff witness Siskind points out in his Surrebuttal Testimony, Southern's witnesses did not provide any record evidence or otherwise demonstrate that the EQR data for such sales actually include additional transmission costs.¹³²⁹ Moreover, as noted by Mr. Siskind, with respect to other parties' sales, Southern's witnesses "admit that they cannot distinguish between sales for export and sales for consumption within the Southern Control Area."¹³³⁰ Therefore, Southern has failed to establish that the EQR data upwardly biases market prices within the SCA.

The Propriety of Using Staff's EQR-Based Sensitivity Analysis Over System Lambda with Regard to the Available Economic Capacity Prong of the DPT.

429. Southern's economic capacity DPT analysis shows that it is a "Pivotal Supplier in every DPT period and that [it's] market share ranges from 54.1 percent to 70.2 percent, and the SCA HHI ranges from 3,089 to 5,042."¹³³¹ Staff's results from the economic capacity prong of the DPT study track Southern's, finding "that Southern is a Pivotal Supplier in every DPT period and Southern's market share ranges from 58.5 percent to 70.9 percent, and the SCA HHI ranges from 3,577 to 5,144."¹³³²

430. While Staff's results for the economic capacity prong of the DPT study track Southern's, the two parties reach different results for the available economic capacity prong of the DPT. Southern claims to not be pivotal in "in any DPT period, . . . that [it's] market share ranges from zero percent to 16.8 percent, and [that] the SCA HHI ranges from 551 to 945." In contrast, Staff's AEC Base Case results show that . . . Southern's market share ranges from zero percent to 30.3 percent, and *exceeds 20 percent in two periods*.¹³³³ Moreover, Staff's EQR-based sensitivity analysis for available economic capacity shows that Southern's "market share ranges from 0.0 percent to 41.1 percent, with the SCA HHI ranging from

¹³²⁷ SCS IB at 137.

¹³²⁸ See Staff IB at 92.

¹³²⁹ *Id.* 92-93; see also, Exh. S-31 at 12.

¹³³⁰ Staff IB at 93; see also Exh. S-3 at 13; see also Exhs. SCS-64 at 41, 50-51; SCS-52 at 75-76.

¹³³¹ Staff IB at 96.

¹³³² *Id.*

¹³³³ *Id.* at 96-97.

512 to 1,890.”¹³³⁴ Importantly, it “shows that Southern’s market share exceeds the 20 percent threshold in four of the ten DPT periods.”¹³³⁵

431. Staff asserts that its EQR-based sensitivity analysis demonstrates that a DPT analysis based exclusively on Southern’s system lambda likely yields widely disparate results, and therefore its Base Case results may not be reliable.”¹³³⁶ Staff explains that this stems from the fact that system lambda “does not accurately reflect wholesale market prices” like EQR data. Staff points out, however, that both the EQR data and the results of Staff’s analyses based on EQR data have been demonstrated to be consistent with Southern’s historical trade data, which Commission regulations require in support of a DPT analysis.¹³³⁷

432. To further underscore the propriety of using its EQR-based sensitivity analysis over system lambda, Staff prepared three “markup” sensitivity analyses. However, Southern charges that Staff’s markup analyses are also deficient because those analyses: (i) include only Southern’s sales and do not include its purchases; and (ii) do not include sales by other jurisdictional entities in the SCA.¹³³⁸ Staff responds that its “markup” analyses, like any gross margin analysis, measures the difference between the wholesale sales price of an energy transaction and its cost.¹³³⁹ Thus, the results of a markup or margin analysis are not *actual* market prices but, like system lambda, are a *proxy* for market price based solely on a subset of market transactions.¹³⁴⁰ The margin analysis is based on Southern’s own wholesale sales prices.

433. Staff observes that for the purpose of determining Southern’s gross margin as a wholesale seller, it would be inappropriate to include Southern’s purchase transaction data in this analysis.¹³⁴¹ The price series calculated using Southern’s own wholesale markup above system lambda do not represent actual market prices but, like Southern’s system lambda, are a proxy for market price. System lambda represents only Southern’s production costs and *does not include its wholesale sales prices*. In contrast, Staff’s markup price series includes *both* Southern’s wholesale sales prices and its production costs.

¹³³⁴ *Id.* at 97.

¹³³⁵ *Id.*

¹³³⁶ *Id.*

¹³³⁷ Staff IB Sections III. D. 4. and IV. B. and Staff RB Sections II. D. 4. & II D. 6. See also, 18 C.F.R § 33.3(d) (11) (2007).

¹³³⁸ SCS IB at 150.

¹³³⁹ Staff IB at 101.

¹³⁴⁰ *Id.* at 101-102.

¹³⁴¹ *See id.* at 102.

434. Staff disagrees with Southern's contention that "Mr. Siskind failed to consider data reflecting sales by other sellers in the Southern Control Area (including sales made by other jurisdictional entities), even though such information was reasonably available to him." Staff disagrees for two reasons. First, appropriate system lambda for other sellers is not available in this case and to compute a wholesale margin using Southern's system lambda for anyone other than Southern is methodologically unsound. Second, Staff maintains that the "data reflecting sales by other sellers" that is available to Staff is the EQR data.

435. The undersigned finds Staff's proffered "mark up" sensitivity analyses to be of limited value in making a recommendation to the Commission regarding the propriety of using Staff's EQR-based sensitivity analysis over system lambda with regard to the available economic capacity prong of the DPT. Staff has explained that its "markup" analyses measures the difference between the wholesale sales price of an energy transaction and its cost; thus, the results are not *actual* market prices but, like system lambda, are a *proxy* for market price based solely on a subset of market transactions.¹³⁴² However, the undersigned considers Staff's most compelling argument for the use of EQR data over system lambda to be the very fact that system lambda is a *proxy* and as such "does not accurately reflect wholesale market prices" like EQR data. That is, system lambda does not represent a 'market price,' but instead is merely a calculated number (*i.e.*, system incremental fuel cost associated with the least-cost dispatch of thermal units located in a control area).¹³⁴³ In contrast, Staff persuasively argues that EQR data "more accurately reflect[s] economic conditions and resulting market prices, because it *is* actual market price data."¹³⁴⁴

436. Given that Staff acknowledges that the "data reflecting sales by other sellers" that is available to Staff is the EQR data, it is the propriety of the use of the EQR data itself which the undersigned believes must be weighed and considered by the Commission, not a "battle of the proxies." By definition EQR data presents "transaction information for long and short-term power sales that the Commission requires utilities and power marketers to report"¹³⁴⁵ According to Staff, "[s]ellers report information concerning individual wholesale transactions, including: (i) the seller; (ii) the buyer; (iii) the delivery point of the sale; (iv) the duration of the sale; (v) the product sold; (vi) the amount sold; and (vii) the sale price."¹³⁴⁶ Moreover, Staff has persuasively argued that the Commission prefers the use of EQR data to system lambda because the former reflects actual market

¹³⁴² *Id.* at 101-102.

¹³⁴³ *Id.* at 168-69.

¹³⁴⁴ Staff IB at 90.

¹³⁴⁵ Staff RB at 89.

¹³⁴⁶ Staff IB at 90.

prices while the latter is a mere proxy.¹³⁴⁷

437. Further, one of Staff's most compelling arguments in support of the propriety of using its EQR-based sensitivity analyses is the fact that its EQR-based prices closely match historical trade data.¹³⁴⁸ According to Staff, its EQR-based prices are "far more consistent with Southern's historical trade data than is an analysis based on Southern's system lambda."¹³⁴⁹

438. The undersigned concurs with Shell's observation that "[i]t is hard to characterize as 'unreasonable' a sensitivity analysis that uses *actual* market prices (as provided by the EQR data) as a check on DPT results obtained from using a *proxy* for market prices (system lambda)."¹³⁵⁰ Further, as previously discussed, the Commission strongly prefers actual market prices when determining "the destination market price in a DPT analysis."¹³⁵¹ In considering the Commission's precedent on this issue, the undersigned concurs with Staff's position that the Commission would support, if not require, the use of EQR data in this case.

VII. *The appropriateness of separate DPT analyses for short-term, firm products and/or long-term, firm products*

Summary of Parties' Positions

439. Southern argues that a second DPT analysis for the short-term, firm product market is contrary to the Commission's precedent. In addition, Southern believes that it amounts to a collateral attack on the DPT because the DPT anticipates a single analysis applicable to the short-term, firm and non-firm markets. Regardless, Southern concludes that Shell's purported "short-term, firm" DPT fails to even measure the short-term, firm market. Shell disagrees, arguing that the Commission precedent and record demonstrate that the short-term firm and non-firm markets are usually considered separately in market rate application cases. Shell contends that it is specifically important that both are considered here because Southern is applying for market rate authority in both the short-term, firm and non-firm markets. Though Staff does not officially support Shell's separate DPT analyses, it does suggest that if the Commission decides that such analyses are necessary, then it should use Shell's. Finally, Dalton argues that there are no grounds for the Commission to consider a long-term DPT analysis.

¹³⁴⁷ Staff RB at 77.

¹³⁴⁸ Staff IB at 98.

¹³⁴⁹ *Id.* at 99. Staff leaves most of this analysis to the section below dealing with historical trade data analysis.

¹³⁵⁰ Shell IB at 174.

¹³⁵¹ Staff RB at 77 (citing 18 C.F.R. § 33.3(d)(6) (2007)).

Positions of the Parties

Southern

The Commission Generally Grants Blanket Market Rate Authority Based Only on a Single DPT.

440. Shell contends that “a firm DPT analysis is necessary for the Commission to grant Southern market-based rate authority,”¹³⁵² Southern disagrees and claims that “the Commission routinely grants blanket market-based rate authority—for both non-firm and firm products—to entities that rebutted the presumption of generation market power with a single DPT.”¹³⁵³ Furthermore, Shell’s own witness Dr. Deramus recognized that “[a]s a general matter, applicants for market-based rate authority typically perform a single DPT analysis applicable to all energy products, with no explicit distinction between separate firm and non-firm (or even short-term and long-term) product markets.”¹³⁵⁴ Given the lack precedent for a separate DPT study, Southern is not surprised that Staff “does not advocate for the inclusion of a separate firm DPT.”¹³⁵⁵

Shell’s Second DPT is Actually a Collateral Attack on the Commission’s DPT Methodology, which Anticipates Only one Study.

441. Furthermore, Southern argues that this “second” DPT is nothing more than a collateral attack on Commission’s DPT methodology, which is inappropriate here.¹³⁵⁶ Shell claims that the “DPT in this case has been limited or narrowed by the Joint Stipulation, which it claims represents the parties’ agreement to *exclude* long-term firm products from the base case analysis.”¹³⁵⁷ Conversely, Southern believes that the descriptive phrase “short-term non-firm,” which is found in the Joint Stipulation “merely reflects the fundamental nature of the DPT process.”¹³⁵⁸ According to Southern, labels are inconsequential because “the parties are bound to follow the formulation set forth in the Commission’s regulations.”¹³⁵⁹ The Joint Stipulation’s “separate DPT analyses” issue “merely sets forth a placeholder for what turned out to be Shell Trading’s precedent-deviating argument that separate

¹³⁵² SCS IB at 153 (quoting Shell-1, p. 62).

¹³⁵³ *Id.* at 154.

¹³⁵⁴ *Id.* (quoting Shell-1, p. 63).

¹³⁵⁵ *Id.* at 155.

¹³⁵⁶ *See id.*

¹³⁵⁷ *Id.*

¹³⁵⁸ *Id.*

¹³⁵⁹ *Id.*

DPT analyses of such products was due, and that its so-called firm DPT represented a proper analysis in that regard.”¹³⁶⁰ Put another way, the DPT is a “single analysis used to derive quantifications of Economic Capacity and Available Economic Capacity[,]” and the Joint Stipulation’s “characterization of the base case DPT . . . as an analysis of short-term non-firm products does not (nor was it intended to) somehow narrow or limit” its applicability to the short-term, non-firm market.¹³⁶¹ Thus, Southern’s DPT covers the same product market “as every other DPT submitted to and relied on by the Commission in granting market-based rate authority.”¹³⁶² According to Southern, the Commission reviews the results “as part of its market power assessment, without regard to whether that applicant wished to sell firm or non-firm products or short-term or long-term products.”¹³⁶³

442. Shell attempts to rebut Southern’s position, relying on the following quotation from Appendix A of Order No. 592:

In the past, the Commission has analyzed three products: non-firm energy, short-term capacity (firm energy), and long-term capacity. These remain reasonable products under the prevailing institutional arrangements, and applicants should recognize such products in their analysis.¹³⁶⁴

In Southern’s view, this only shows that the Commission requires all of these markets to be recognized.¹³⁶⁵ It does not mean that the Commission requires a separate DPT analysis for each one.¹³⁶⁶ Southern supports this view with the following language from Order No. 592:

The first step is to identify one or more products sold by the merging entities. Products may be grouped together when they are good substitutes for each other from the buyer’s perspective. If two products are not good substitutes, an entity with market power can raise the price of one product and buyers would have a limited ability to shift their purchases to other products. In the past, the Commission has analyzed three products: non-firm energy, short-term capacity (firm energy), and long-term capacity. These remain

¹³⁶⁰ *Id.* at 155-56.

¹³⁶¹ *Id.* at 156.

¹³⁶² *Id.* (emphasis in original).

¹³⁶³ *Id.*

¹³⁶⁴ SCS RB at 137 (quoting *Order No. 592*, 61 Fed Reg. 68595, 68607 (1996)).

¹³⁶⁵ *Id.*

¹³⁶⁶ *Id.*

reasonable products under the prevailing institutional arrangements, and applicants should recognize such products in their analysis.¹³⁶⁷

Applying this language, Southern claims that short-term, firm and non-firm energy are substitute products in the Southern Control Area, with little to definitively distinguish the two.¹³⁶⁸ Consequently, the Commission has consistently used only one DPT analysis to account for both the short-term, firm and non-firm markets.¹³⁶⁹ Thus, Southern believes that a separate short-term firm analysis is not justified and is part of the DPT analyses currently before the Presiding Judge.¹³⁷⁰

The Commission Has Rejected Theories Similar to Shell's "Separate DPT" Theory.

443. According to Southern, the Commission has considered and rejected arguments like Shell's in the past.¹³⁷¹ "For example, in Order No. 697, more than one party alleged that the DPT was deficient because it was not capable of evaluating long-term markets."¹³⁷² The Commission found that the DPT provides the best snapshot of market conditions despite "any methodological limitations."¹³⁷³ According to Southern, "in that same order, the Commission expressly rejected the notion that applicants should submit a separate DPT analysis for each product they wish to sell at market-based rates."¹³⁷⁴ In response to requests for various methodological changes to the DPT, the Commission stated:

[B]y determining whether a seller has capacity that can compete in the market under various season and load conditions, the DPT provides an accurate picture of market conditions. Examining market conditions allows the Commission to determine whether a seller has market power. The DPT does this by examining short-term energy markets and, in particular, sellers' available generation capacity.¹³⁷⁵

Southern argues that "[n]owhere in that order does the Commission suggest that a

¹³⁶⁷ *Id.* at 137-38 (citing *Order No. 592*, 61 Fed Reg. at 68607) (alterations in original).

¹³⁶⁸ *See id.* at 138-39.

¹³⁶⁹ *See id.* at 139.

¹³⁷⁰ *See id.*

¹³⁷¹ SCS IB at 156.

¹³⁷² *Id.* at 156-57 (citing *Order No. 697*, 119 FERC ¶ 61,295 at P 120).

¹³⁷³ *Id.* at 157.

¹³⁷⁴ *Id.* (citing *Order No. 697*, 119 FERC ¶ 61,295 at P 114).

¹³⁷⁵ *Id.* (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 114).

two-DPT approach is necessary or appropriate.”¹³⁷⁶

444. Southern notes that the DPT has been measuring market power in the energy market for more than ten years and the Commission has never claimed that a “properly-constructed DPT should analyze “firm” energy, “non-firm” energy, or somehow both markets.” Southern claims that Shell uses “this silence to argue that the Commission has not relied solely on a non-firm DPT analysis by an applicant for market-based rate authority.” But, according to Southern, Shell’s theory is a thinly veiled attack on the DPT itself, which the Presiding Judge has warned the parties against doing.¹³⁷⁷

[T]he Commission has instructed myself as the presiding judge and the parties to provide the Commission with a properly constructed DPT on whose results the Commission can in turn rely, not to create a new DPT, not to challenge the DPT, but to prepare a properly constructed DPT on whose results the Commission can, in turn, rely.¹³⁷⁸

445. Shell’s suggested “firm” DPT challenges the “adequacy of the Commission-prescribed DPT[,]” and completely ignores the Presiding Judge’s clear instructions.

Even if the Commission Were to Require a Separate DPT Analysis of the Short-Term Firm Market, Shell’s Proffered Analysis Falls Short.

446. According to Southern, Shell’s “firm” DPT “has nothing to do with firm energy.”¹³⁷⁹ Shell simply took “its base case DPT and made three discrete changes, one of which was already made in a separate sensitivity.”¹³⁸⁰ “First, Shell Trading deducts Capacity Benefit Margin, or ‘CBM’, from its . . . calculation of SIC, the only effect of which is to reduce import capability for outside suppliers.”¹³⁸¹ Then, it “uses EQR-based hourly prices instead of system lambda, a change with no direct correlation to the sale of firm energy.”¹³⁸² In fact, this price set was the same price set Shell Trading used in its price sensitivity analyses of the base case “non-firm” DPT.¹³⁸³ Finally, Shell excluded unit power sales, or

¹³⁷⁶ *Id.* at 158.

¹³⁷⁷ *Id.* (quoting Tr. 884, line 22 through Tr. 885, line 3).

¹³⁷⁸ *Id.*

¹³⁷⁹ *Id.* at 159.

¹³⁸⁰ *Id.* at 159-60.

¹³⁸¹ *Id.* at 160.

¹³⁸² *Id.* In fact, this price set was the same price set Shell Trading used in its price sensitivity of the base case “non-firm” DPT. *See id.*

¹³⁸³ *Id.*

“UPS” contracts.¹³⁸⁴

447. Despite the fact that the Joint Stipulation directed the parties to treat UPS sales as load obligation of Southern Shell defends its exclusion on three grounds.¹³⁸⁵ According to Southern, Shell believes that UPS sales must be removed because it is too conservative to treat this capacity as if it were in the buyer’s control when it actually remains in Southern’s control.¹³⁸⁶ Southern rejects this theory and claims that this is “a *non-sequitur* (in that the capacity used to serve the firm UPS sales is not at issue here) and irrelevant to an Available Economic Capacity analysis (in that the capacity is effectively removed from Southern Companies’ AEC irrespective of whether Southern Companies or the buyer is deemed to control it).”¹³⁸⁷ Shell also defends its exclusion of UPS contracts based on the fact that they are actually “non-firm backup sales”.¹³⁸⁸ Shell “argues that Southern Companies are not obligated to make these sales if their Economic Capacity is fully subscribed.”¹³⁸⁹ Southern dismisses this point because, “by definition, Southern Companies’ Available Economic Capacity is zero when its Economic Capacity is fully subscribed[,]” making this an irrelevant point.¹³⁹⁰ Next, Shell claims that it excluded UPS contracts because the buyers have no rights to the energy when the unit is on outage.¹³⁹¹ Shell “contends that it would be improper to ‘move’ the capacity from Southern Companies to the buyers because, in [its] view, Southern Companies retain control of the units.”¹³⁹² Southern rejects this justification because it is irrelevant.¹³⁹³ According to Southern, nearly all typical unit-contingent contracts contain such a provision.¹³⁹⁴

448. Finally, Shell’s “firm” DPT ignores the additional cost and risk associated with making firm sales that are not present in non-firm sales.¹³⁹⁵ This is problematic because the current DPT makes many assumptions regarding costs, none of which account for these extra costs and risks.¹³⁹⁶ Though it may be possible to restructure the DPT to reflect these extra “costs,” Shell’s so-called

¹³⁸⁴ *Id.*

¹³⁸⁵ *Id.* at 161.

¹³⁸⁶ *See id.*

¹³⁸⁷ *Id.*

¹³⁸⁸ *Id.*

¹³⁸⁹ *Id.*

¹³⁹⁰ *Id.*

¹³⁹¹ *See id.*

¹³⁹² *Id.*

¹³⁹³ *See id.*

¹³⁹⁴ *Id.*

¹³⁹⁵ *Id.*

¹³⁹⁶ *See id.*

“firm” DPT clearly does not.¹³⁹⁷ Therefore, Southern concludes that Shell’s “firm” DPT is fundamentally flawed and should be rejected.¹³⁹⁸

Shell

The Commission Usually Considers Both the Short-Term Firm and Non-Firm Markets Before it Grants Blanket Market Rate Authority.

449. Shell disagrees with Southern’s claim that the Commission’s precedent and the record in this proceeding limit the DPT analysis to the short-term, non-firm market.¹³⁹⁹ On the contrary, Shell argues that they both demonstrate that the DPT *usually* analyzes both non-firm and short-term energy markets.¹⁴⁰⁰ “[R]eaching back to Appendix A to Order No. 592[,]” the Commission has clearly held “that short-term firm energy is among the relevant products for consideration in a properly constructed DPT analysis.”¹⁴⁰¹ Shell relies on the following language from Appendix A to Order No. 592:

In the past, the Commission has analyzed three products: non-firm energy, short-term capacity (firm energy), and long-term capacity. These remain reasonable products under the prevailing institutional arrangements, *and applicants should recognize such products in their analysis.*¹⁴⁰²

“Appendix A’s description of the relevant products for a DPT analysis was confirmed in Order No. 642,¹⁴⁰³ and explicitly incorporated by reference into the DPT analysis outlined in Appendix F of *AEP I*.”¹⁴⁰⁴ Though the Commission “has indicated that, absent barriers to entry, long-term capacity markets are ‘inherently competitive’” and don’t usually require horizontal product market analysis, Shell maintains that the Commission has been conspicuously silent on the issue of short-term firm energy. Despite the fact that Southern noted several examples where the Commission routinely granted blanket market rate authority based solely on a non-firm DPT analysis, Shell claims that its careful review of those cases indicates that none expressly limited its DPT analysis to the short-term non-firm market.¹⁴⁰⁵

¹³⁹⁷ *See id.* at 162-63.

¹³⁹⁸ *See id.* at 163.

¹³⁹⁹ Shell IB at 155.

¹⁴⁰⁰ *Id.*

¹⁴⁰¹ *Id.* at 155-56.

¹⁴⁰² *Id.* at 156 (quoting *Order No. 592*, 61 Fed Reg. at 68607) (alteration in original).

¹⁴⁰³ *Id.* (citing *Order No. 592*, 61 Fed Reg. at 68607).

¹⁴⁰⁴ *Id.* (citing *AEP I*, 107 FERC ¶ 61,018 at Appx. F) (alterations in original).

¹⁴⁰⁵ *Id.* at 157-58.

450. Shell further claims that the record in this proceeding “confirms that application of the Commission’s DPT framework typically considers both short-term, firm and non-firm energy markets.”¹⁴⁰⁶ Shell’s witness testified that applicant’s usually “perform a single DPT analysis applicable to all energy products, with no explicit distinction between separate firm and non-firm product markets,” which makes sense because the DPT is a test of capacity as opposed to actual sales.¹⁴⁰⁷ In fact, even Southern’s witnesses confirmed that applicants generally consider both short-term firm and non-firm in their DPT analyses.¹⁴⁰⁸ The problem in this case is that the Joint Stipulation has expressly limited the DPT to an evaluation of the “short-term, non-firm” product market.¹⁴⁰⁹

Shell’s Separate DPT Analysis is Necessary in This Case.

451. Consequently, Shell argues that its short-term, firm DPT analysis is necessary to provide the Commission with a complete picture of Southern’s market power in the SCA.¹⁴¹⁰ Shell reiterates that it is not usually necessary to label the studies as short term, non-firm and short-term, firm because traditional DPT analysis still accounts for both.¹⁴¹¹ But “[h]ere, the parties have distinguished between firm and non-firm energy products as a means to achieve a stipulated base case DPT analysis that eliminated a previously contested issue regarding transmission constraints.”¹⁴¹² Despite the Joint Stipulation’s instruction, Shell claims that a complete DPT analysis still requires a study of the short-term, firm market, which in this case, means two studies are necessary.¹⁴¹³ According to Shell, two analyses are essential in this case because Southern is applying for market-based rates in both markets, and the Commission needs to hear “the other half of the story.”¹⁴¹⁴

Shell Explains How it Constructed its Firm DPT Analysis and its Results.

452. Shell’s firm DPT operates on many of the same assumptions and computations as its non-firm DPT “with the following three modifications: (1)

¹⁴⁰⁶ *Id.* at 157.

¹⁴⁰⁷ *Id.*

¹⁴⁰⁸ *See id.*

¹⁴⁰⁹ *See id.* at 160.

¹⁴¹⁰ *Id.*

¹⁴¹¹ *See id.*

¹⁴¹² *Id.*

¹⁴¹³ *See id.*

¹⁴¹⁴ *Id.*

EQR prices, rather than system lambdas, are used as the proxy for market prices; (2) CBM is subtracted from Dr. Yang's SIC values; and (3) Southern's capacity is not reduced by its non-firm Unit Power Sales (UPS) back-up amount."¹⁴¹⁵ This analysis shows "that, on an AEC basis, Southern's market share exceeds 20% in nine of the ten DPT periods, while Southern's HHI exceeds 2,500 in three DPT periods[,]” clearly indicating that Southern possess unreasonable market power in the short-term, firm energy market.¹⁴¹⁶

453. Shell then verified the reliability of these results with several sensitivity analyses.¹⁴¹⁷ These analyses "showed that, even if [Shell] decreased Southern's AEC by 20%, or increased firm SIC by 50%, Southern's market share remains above 20% in seven DPT periods."¹⁴¹⁸ Moreover, "when Shell adopt[s] Mr. Frame's hydroelectric capacity derating methodology, Southern's market share still exceeds 20% in seven of ten DPT periods, and its HHI exceeds 2,500 in three periods."¹⁴¹⁹ Shell claims that this analysis reveals that its firm energy DPT is robust and reliable.¹⁴²⁰

Shell Disagrees with Southern's Criticisms of its Firm DPT Analysis.

454. Shell rejects several of Southern's criticisms of its firm DPT analysis. First, Southern argues that designated resources should be removed from each supplier's capacity, but Shell claims that the removal of such resources would violate Order No. 592, as well as *AEP I* and *AEP II*, which have all clearly held that the native load adjustment used to derive AEC should not include an adjustment for "designated network resources."¹⁴²¹ Regardless, Southern has not provided any evidence that these designated resources are not already reflected in the native load adjustment previously "used to derive AEC."¹⁴²² Southern also "criticizes [Shell's] use of non-firm EQR prices in [its] firm DPT analysis."¹⁴²³ Shell finds this criticism "puzzling" because firm prices are generally higher, and their use should result in even more DPT failures for Southern, whose market power increases as market price increases.¹⁴²⁴ Additionally, Southern argues that

¹⁴¹⁵ *Id.* at 161.

¹⁴¹⁶ *Id.*

¹⁴¹⁷ *Id.*

¹⁴¹⁸ *Id.*

¹⁴¹⁹ *Id.*

¹⁴²⁰ *Id.*

¹⁴²¹ *Id.* at 162.

¹⁴²² *Id.*

¹⁴²³ *Id.*

¹⁴²⁴ *See id.*

CBM should not have been removed, but according to Shell, Southern's only justification for this position is that the removal reduces the import capability from outside suppliers, which is clearly a self-serving, useless justification.¹⁴²⁵

Furthermore, Shell finds no merit in Southern's general criticism of its use of EQR-based prices, as there is no real dispute that these figures represent actual transactions that account for the cost of risk and other additional costs.¹⁴²⁶

455. Next, Shell specifically defends its treatment of non-firm UPS backup sales.¹⁴²⁷ Southern claims that they should not be included in the DPT analysis because they are pre-existing contractual obligations to dispatch generation.¹⁴²⁸ Shell rejects Southern's claim because "[u]nder the UPS contracts, Southern has substantial discretion regarding the amount of energy it is contractually obligated to deliver to its UPS customers, the relative priority of its various capacity and energy commitments to its UPS customers relative to Southern's other customers, and the pricing of the energy provided under the contracts."¹⁴²⁹ According to Shell, the capacity does not "move" from the seller to the buyer until the buyer has assumed operational control.¹⁴³⁰ Furthermore, Shell claims that these UPS sales are really "non-firm backup sales" because Southern is not even obligated to fulfill them if its "economic capacity is fully subscribed by other firm purchasers."¹⁴³¹ Finally, Shell notes that under these UPS contracts, Southern is relieved from performance if "the units at issue . . . are on outage for any reason, whether due to a scheduled outage, forced outage, or some other non-discretionary reason."¹⁴³² In fact, these UPS contracts explicitly state that other "commitments can take precedence over these 'Supplemental' sales, including 'firm power interchange sales.'"¹⁴³³ Given Southern's control over whether and how it fulfills these "contracts," Shell claims that they represent discretionary energy and should be included in Southern's available capacity.¹⁴³⁴

456. Finally, Shell addresses Southern's "double count" criticism.¹⁴³⁵ Southern contends that Shell's firm AEC analysis is "skewed" because it counts the capacity

¹⁴²⁵ Shell RB at 74.

¹⁴²⁶ *Id.*

¹⁴²⁷ *See* Shell IB at 163.

¹⁴²⁸ Shell IB at 163.

¹⁴²⁹ *Id.*

¹⁴³⁰ *Id.*

¹⁴³¹ *Id.* at 163-64.

¹⁴³² *Id.* at 164.

¹⁴³³ *Id.*

¹⁴³⁴ *Id.*

¹⁴³⁵ *Id.* at 165.

“from Southern’s Scherer 3 unit” twice.¹⁴³⁶ Shell admits that it may have incorrectly double counted this capacity but claims that if it did, the results are negligible and would not relieve Southern from its numerous market power failures.¹⁴³⁷

Staff

Staff Does not Officially Support a Separate Firm DPT Analysis, but if the Commission Determines That One is Necessary, Staff Endorses Shell’s.

457. Staff recognizes that the Commission accepts analyses of separate markets where it is necessary.¹⁴³⁸ Staff supports this with the following language from Order No. 592, Appendix A:

[i]n the past, the Commission has analyzed three products: non-firm energy, short-term capacity (firm energy), and long-term capacity. These remain reasonable products under the prevailing institutional arrangements, and applicants should recognize such products in their analysis.¹⁴³⁹

According to Staff, the Commission permits these “products” to be grouped into a single analysis when, “they are good substitutes for each other from the buyer’s perspective.”¹⁴⁴⁰ But two products will not be “good substitutes” if “an entity with market power can raise the price of one product and buyers would have a limited ability to shift their purchases to other products.”¹⁴⁴¹ Therefore, the Commission “encourages parties to propose even more precise definitions of relevant products where appropriate.”¹⁴⁴²

458. Shell does “not believe that it [is] appropriate to rely solely on a non-firm analysis to determine whether to grant Southern market-based rate authority and therefore [it] performed a separate DPT analysis for a short-term firm product.”¹⁴⁴³ If the Commission finds that an analysis of the short-term, non-firm market is

¹⁴³⁶ *Id.*

¹⁴³⁷ *See id.*

¹⁴³⁸ *See* Staff Brief at 103-04.

¹⁴³⁹ *Id.* at 103 (quoting *Order No. 592*, 61 Fed Reg. 68595, 68607) (alteration in original).

¹⁴⁴⁰ *Id.* (quoting *Order No. 592*, 61 Fed Reg. at 68607) (alteration in original).

¹⁴⁴¹ *Id.* (quoting *Order No. 592*, 61 Fed Reg. at 68607) (alteration in original).

¹⁴⁴² *Id.* (quoting *Order No. 592*, 61 Fed Reg. at 68607) (alteration in original).

¹⁴⁴³ *Id.*

insufficient to ascertain Southern's market power in the Southern Control Area, then Staff urges it to look to Shell's short-term, firm DPT as an aide.¹⁴⁴⁴

Dalton

The Presiding Judge Should not Permit a Long-Term Firm DPT Analysis to be a Part of This Proceeding.

459. According to Dalton, Shell relies on Order No. 642's statement, "the DPT applies not only to peak and off-peak periods, but also to non-firm energy short-term, firm energy (or capacity) and long-term capacity products[,]" to support its theory that a firm DPT analysis is required by the Commission.¹⁴⁴⁵ Dalton claims that Order No. 697 expressly refused to require market-rate applicants to "provide a separate DPT analysis for firm power arrangements."¹⁴⁴⁶

460. But even if such an analysis was required, Dalton argues that the record in this proceeding does not contain sufficient evidence to permit the ALJ to formulate a proper long-term firm DPT analysis for the Commission.¹⁴⁴⁷ Finally, Dalton argues that Order No. 697 established that "absent entry barriers, long-term markets are inherently competitive[,]" and that since the record has established that Southern satisfies the "entry barrier standard," it would be inappropriate to provide the Commission with a "long-term" DPT analysis.¹⁴⁴⁸

Discussion and Findings

461. Shell argues that the analysis of Southern's market power in the Southern Control Area requires a DPT study of the short-term, firm market in addition to the study of the short-term, non-firm market. Shell contends that the additional DPT study is required in this case because Southern is applying for market power in both the short-term, firm and non-firm wholesale product markets; however, the Joint Stipulation specifically limits the product market to short-term, non-firm wholesale energy transactions. Ultimately, the Commission will either grant market rate pricing in both markets based on the submitted DPT, or it will deny market rate pricing in both markets. As such, Shell believes that a DPT study of the short-term firm market is required to give the Commission a "complete picture" before they rule.

¹⁴⁴⁴ See *id.* at 103-04.

¹⁴⁴⁵ Dalton Initial Brief at 8 (hereinafter "Dalton IB").

¹⁴⁴⁶ *Id.* at 8-9 (citing *Order No. 697*, 119 FERC ¶ 61,295 at P 122).

¹⁴⁴⁷ *Id.* at 9, 11-15.

¹⁴⁴⁸ *Id.* at 9, 19.

462. Order 592 controls this issue. It explains that the first step in testing for market power is to identify the proper product market.¹⁴⁴⁹ Moreover, where products are “good substitutes . . . from the buyer’s perspective” they may be considered part of the same product market.¹⁴⁵⁰ Products are “good substitutes” if buyers, in response to a significant inflation of the prices of one product, are able “to shift their purchases” to the other product.¹⁴⁵¹ Traditionally, “the Commission has analyzed three products: non-firm energy, short-term capacity (firm energy), and long-term capacity.”¹⁴⁵² Finally, the Commission only encourages analyses of more precise product markets where their definitions have been clearly developed by market institutions.¹⁴⁵³

463. Essentially, Shell is arguing that the short-term, non-firm wholesale energy product and the short-term, firm wholesale energy product are not “good substitutes,” and as such, they must be analyzed by separate DPT studies. Southern disagrees with this argument, claiming that there is little to distinguish the two products, which is why the Commission has traditionally only relied on one DPT analysis of the short-term market. Though Shell explained why a separate analysis is important if the two products are not “good substitutes,” it did not explain why the two products are not “good substitutes.” In fact, the Commission has always collectively analyzed the short-term, firm and non-firm markets, which implies that they are “good substitutes.” Therefore, the undersigned finds that Shell has failed to carry its burden to demonstrate the need for a separate DPT analysis of the short-term, firm wholesale product market in this proceeding.

VIII. *The presentation and interpretation of historical trade data*

Summary of the Parties’ Positions

464. Southern interprets Commission precedent and the record in this case to require the production of historical trade data for corroboration purposes only. Thus, Southern produced historical trade data chronicling short-term energy sales into the Southern Control Area, calculated its share of those sales, and then compared that percentage to the percentages produced by its DPT analysis to determine if either shows market power when the other does not or if there is a substantial discrepancy between the two figures. According to Southern, its

¹⁴⁴⁹ *Order No. 592*, 61 Fed Reg. at 68607.

¹⁴⁵⁰ *Id.*

¹⁴⁵¹ *Id.*

¹⁴⁵² *Id.*

¹⁴⁵³ *Id.*

analyses of historical trade data confirms that it does not wield an unreasonably high degree of market power in any of the DPT periods. Shell and Staff disagree. According to their analyses of the historical trade data, Southern wields substantial market power in five of the ten DPT periods. The parties attribute this discrepancy to fundamental differences in how they adjusted the historical trade data to reflect the proper product market.

Positions of the Parties

Southern

The Historical Trade Data Should Only be Used to Confirm or Rebut the DPT Results.

465. Southern claims that historical trade data is only an issue in this proceeding as it relates to a confirmation or challenge to the DPT and not as it relates to Southern's actual position in the market.¹⁴⁵⁴ Southern has submitted historical trade data, which purportedly suggests a lack of market power, but the Commission has agreed to defer action with respect to that information until it has a "properly constructed DPT."¹⁴⁵⁵ Southern interprets this as evidence that the effect of historical trade data on the ultimate issue of market power is not at issue here.¹⁴⁵⁶ But, according to Southern, Order No. 697 establishes a "secondary role" for "historical data in the context of the DPT: "As with our initial screens, sellers and interveners may present evidence such as historical wholesale sales data[.]" which "could be used to calculate market shares and market concentration and could be used to refute or support the results of the DPT."¹⁴⁵⁷ According to Southern, this proves that the Commission uses historical trade data "at two different times and for two different purposes[:]" either to measure market power or as a "reality check" on the DPT results.¹⁴⁵⁸

Southern Explains its Calculation of Historical Trade Data.

466. Southern initially "calculated [its] share of short-term wholesale sales in the Southern Control Area to be 18.6 percent."¹⁴⁵⁹ "Subsequent to this submission, it was determined that the data set used to derive the 18.6 percent share included

¹⁴⁵⁴ SCS Brief at 165-66 (citing *Order No. 697*, 119 FERC ¶ 61,295 at P 75) (alteration in original).

¹⁴⁵⁵ *Id.*

¹⁴⁵⁶ *See id.*

¹⁴⁵⁷ *See id.* at 166 (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 111).

¹⁴⁵⁸ *Id.*

¹⁴⁵⁹ *Id.* at 168.

certain outbound export sales transactions.”¹⁴⁶⁰ Southern then excluded these outbound sales from the original computations, claiming that the Commission treats such transactions as if they occurred “outside of the originating control area.”¹⁴⁶¹ After the reduction, Southern calculated its “share of total jurisdictional short-term sales in the Southern Control Area for 2004 to be 10.5 percent.”¹⁴⁶²

467. According to Southern, the parties all reach approximately the same 18.6 percent market share, if outbound sales are included.¹⁴⁶³ Therefore, Southern argues that the historical trade data corroborates its DPT as being reasonably accurate, and corroborates that Southern does not exercise an unreasonably high degree of market power in the Southern Control Area.¹⁴⁶⁴

Southern Defends its Calculation of Historical Trade Data.

468. In its Initial Brief, Shell presents a table that supposedly demonstrates that Southern has overstated outbound sales to such a point that they exceed all transactions, which is of course a logical impossibility.¹⁴⁶⁵ Southern explains that this is misleading because the table actually “compares all hourly transactions . . . with all outbound border transactions of any short-term duration (hourly, weekly, etc., as set forth in Southern Companies’ errata)[.]”¹⁴⁶⁶ This comparison is dubious because “‘all hourly’ is a smaller set to begin with.”¹⁴⁶⁷ According to Southern, this is essentially an “apples to oranges” comparison that is meant to bewilder the Commission.¹⁴⁶⁸

469. Southern then addresses Shell and Staff’s “moving target” argument. Southern maintains that the only difference affected by the errata “was a proper

¹⁴⁶⁰ *Id.*

¹⁴⁶¹ *Id.* (citing *Order 697*, 117 FERC ¶ 61,316 at P 820 (We do recognize that sales made at the metered boundary for export do lend themselves to being monitored for compliance, and the nature of these types of sales do not unduly disadvantage customers or competitors. Prohibiting market-based rate sales at these metered boundaries of the balancing authority area could prevent or adversely impact cross border sales at these unique locations and reduce market liquidity in markets where the seller does not possess market power.”)).

¹⁴⁶² *Id.*

¹⁴⁶³ *See id.* at 169. According to Southern, neither Staff nor Shell has prepared an EQR-based market share calculation excluding outbound sales.

¹⁴⁶⁴ *Id.*

¹⁴⁶⁵ *See* SCS RB at 146.

¹⁴⁶⁶ *Id.*

¹⁴⁶⁷ *Id.* at 147.

¹⁴⁶⁸ *Id.*

exclusion of Southern Companies' border exports that could not be screened through use of the EQR system alone."¹⁴⁶⁹ Other than that, Southern claims that it fully complied with the computational instructions from the stipulated equation.¹⁴⁷⁰ "Indeed, in order to provide Shell Trading and Trial Staff sufficient time to review the errata, Southern Companies agreed to a joint extension of the procedural schedule to allow Shell Trading and Trial Staff to 'understand the basis for the errata and the impact of the associated revisions', conduct 'further discovery' and hold 'an on the record discovery conference.'"¹⁴⁷¹ "Having requested and received an extension for these stated purposes," Southern argues that "Shell Trading and Trial Staff cannot seriously contend that their lack of a substantive response is in any way attributable to 'moving target' issues associated with Southern Companies' errata."¹⁴⁷²

470. Southern also disagrees with Shell and Staff's claim that it is impossible to distinguish between "sales by other suppliers that occur in the Southern Control Area [that] are for deliveries into the Southern Control Area versus sales for export."¹⁴⁷³ According to Southern, these transactions can be distinguished, and the Commission recognized as much when it clearly announced in Order No. 697 that "[o]utbound export sales delivered to a control area border" should be "treated as occurring on the other side of the border, rather than inside the exporting area."¹⁴⁷⁴ In Order No. 697, the Commission specifically held:

[W]e do recognize that sales made at the metered boundary for export do lend themselves to being monitored for compliance, and the nature of these types of sales do not unduly disadvantage customers or competitors. Prohibiting market-based rate sales at these metered boundaries of the balancing authority area could prevent or adversely impact cross border sales at these unique locations and reduce market liquidity in markets where the seller does not possess market power. Buyers taking title to power at a metered boundary for delivery to load in a balancing authority area where the seller has market-based rate authority have competitive choices and therefore are not required to transact with the seller found to have market power within the mitigated balancing authority

¹⁴⁶⁹ *Id.* at 148.

¹⁴⁷⁰ *See id.* at 147.

¹⁴⁷¹ *Id.* at 149 (quoting Unopposed Joint Motion to Modify the Procedural Schedule and Request for Expedited Ruling, p. 3, EL04-124 (filed April 19, 2007)).

¹⁴⁷² *Id.*

¹⁴⁷³ *Id.* at 150 (quoting Staff IB at 108-09).

¹⁴⁷⁴ *Id.* at 150.

area(s).¹⁴⁷⁵

In Southern's view, this language clearly shows that the Commission believes that outbound sales can be distinguished from other sales in the control area and that they should not be treated like all other transactions occurring within the control area.¹⁴⁷⁶

Comparisons of the Historical Trade Data to Southern's Eight DPT Periods of Negative AEC are Irrelevant.

471. Southern then addresses Shell and Staff's concerns about Southern's Eight DPT periods that reflect negative AEC and the historical trade data, which shows Southern actively participating in the market throughout the year.¹⁴⁷⁷ Southern dismisses the relevance of this comparison, explaining that the measure of AEC is often negative because of "a number of computations and simplifying assumptions that focus on the stacking of resources, a comparison of the incremental cost of those resources against a market price surrogate, and then a subtraction of native load and associated reliability obligations."¹⁴⁷⁸ In the real world, "transaction decisions are made on the basis of such factors as incremental heat rates (as opposed to full load heat rates assumed in the DPT), hourly variations in market price (as opposed to averaged market prices over a DPT period), and incremental fuel costs (as opposed to averaged fuel costs over a DPT period)."¹⁴⁷⁹ In fact, Shell's own witness explained: "It's really in the available economic capacity of the [SIC] form of the DPT where you're subtracting off native load, that you have this quirk in which you can have negative numbers."¹⁴⁸⁰ When AEC is negative, the DPT simply assumes this to equal zero market shares, and the Commission has "recognized and relied upon DPT results that contain zero market shares in various periods."¹⁴⁸¹ According to Southern, "[t]he fact that a supplier could, on average over an entire DPT period, have less economic capacity than required to serve average native load obligations (as determined under the Commission's DPT regulations) does not mean that the same supplier cannot have surplus capacity to sell on a periodic, transitory basis."¹⁴⁸²

472. Southern argues that Shell and Staff's abundance of concern with respect to

¹⁴⁷⁵ *Id.* at 150-51 (quoting Order No. 697, 119 FERC ¶ 61,295 at 820).

¹⁴⁷⁶ *See id.* at 151.

¹⁴⁷⁷ *See id.* at 151-52.

¹⁴⁷⁸ *Id.* at 152.

¹⁴⁷⁹ *Id.* at 155.

¹⁴⁸⁰ *Id.* (quoting Tr. 926, lines 4-7).

¹⁴⁸¹ *Id.* at 152.

¹⁴⁸² *Id.* at 154.

the eight negative DPT periods is really a reflection of their incorrect attempt to “reverse-engineer” the DPT to conform to historic trade data.¹⁴⁸³ Southern explains that “[t]he DPT itself is a *structural* model, built on historical data that determines a supplier’s Economic Capacity (EC) and Available Economic Capacity (AEC) for a given geographic market.”¹⁴⁸⁴ The DPT is designed to quantify the amount of capacity in a market during different seasons and load levels, but it is not meant to simply quantify historically based market shares.¹⁴⁸⁵ The DPT was created for merger review and as such it is forward looking tool.¹⁴⁸⁶ By attempting to reverse engineer this forward looking methodology, Shell and Staff are actually trying to change the DPT into a history lesson.¹⁴⁸⁷ Though it is true that the test year is 2004, a year in the past, the data from that year is meant to be used as inputs for the DPT analysis of Southern’s ability to control the study area (Southern Control Area) in the *future*, hence its concern with capacity as opposed to a historical analysis of Southern’s market share in 2004.¹⁴⁸⁸ Under Commission precedent, historical trade data should be used as a reality check on the number of market participants to ensure that the DPT’s filtering process did not unfairly *exclude* traditional market participants.¹⁴⁸⁹ According to Southern, Shell and Staff stand this relationship on its head by arguing that any proper DPT must produce the same results as found in the historical EQR data.¹⁴⁹⁰ Under this theory, the historical trade data ceases to be an “interpretative aid” and actually takes on the role of the DPT.¹⁴⁹¹

¹⁴⁸³ *Id.* at 163.

¹⁴⁸⁴ *Id.*

¹⁴⁸⁵ *Id.*

¹⁴⁸⁶ *See id.* at 164.

¹⁴⁸⁷ *See id.*

¹⁴⁸⁸ *See id.* at 164-65.

¹⁴⁸⁹ *Id.* at 166. Southern claims that nearly every Commission order on the subject verifies this purpose of the DPT. *Id.* at 164 (citing *Tampa Electric Co.*, 117 FERC ¶ 61,311, at P 20 (2006); *PPL Montana, LLC*, 115 FERC ¶ 61,204, at P 37 (2006); *Public Service Co. of New Mexico*, 115 FERC ¶ 61,090, P 32 (2006); *Acadia Power Partners*, 113 FERC ¶ 61,073, P 34 (2005); *Kansas City Power and Light Co.*, 113 FERC ¶ 61,074, at P 24 (2005); *Duke Power Co.*, 111 FERC ¶ 61,506, P 27 (2005)).

¹⁴⁹⁰ *Id.* at 167.

¹⁴⁹¹ *See id.* at 167. Here, Southern also notes that this last argument invites the Presiding ALJ to abandon her role as a fact finder and assume the Commission’s reserved role of interpreting the DPT results. *Id.* at 167-68.

Shell Has Failed to Demonstrate That the Stipulated List of Suppliers Contains too Many Utilities.

473. Finally, Southern rejects Shell’s argument that the list of potential suppliers agreed upon in the Joint Stipulation contains too many utilities, which leads to over-inflated import capability values.¹⁴⁹² In its briefs, Shell compared a list of “outside generators specified in the stipulation and another . . . based on [its witness’] review of EQR information,” suggesting that the stipulated list is too expansive.¹⁴⁹³ However, Southern claims that Shell admitted at hearing that this comparison is of little value because it irrelevantly shows the stipulated list of potential suppliers next to another list of jurisdictional sellers in the EQR data.¹⁴⁹⁴ Shell never explains the significance of this comparison.¹⁴⁹⁵ Moreover, the list includes marketers who sell energy for several different generators, but only the marketer’s name appears on the EQR list.¹⁴⁹⁶ Thus, the list grossly understates the number of suppliers that are servicing the Southern Control Area. Southern does not think that the comparison was useless though.¹⁴⁹⁷ Based on a cursory inspection it asserts that there may be grounds for expansion of the stipulated list to include distant control areas that, according to historical data, participated in the Southern Control Area in 2004.¹⁴⁹⁸

Shell

Southern’s Contradictory Positions on the Viability of Historical Trade Data Undermine its Credibility.

474. After first denouncing the “use of EQR data for deriving market prices, Southern does an abrupt about-face in its discussion of historical trade data, arguing with equal vigor the adequacy of EQR data for purposes of corroborating DPT results.”¹⁴⁹⁹ Shell argues that Southern should not be allowed to have its cake and eat it too.¹⁵⁰⁰ “The same flaws [Southern] claims deprive EQR data of relevance in determining market prices, such as the absence of non-jurisdictional entities and the use of differing reporting templates, would similarly seem to

¹⁴⁹² *Id.* at 160.

¹⁴⁹³ *Id.*

¹⁴⁹⁴ *Id.* at 161.

¹⁴⁹⁵ *See id.*

¹⁴⁹⁶ *See id.*

¹⁴⁹⁷ *See id.* at 162.

¹⁴⁹⁸ *See id.*

¹⁴⁹⁹ Shell RB at 81.

¹⁵⁰⁰ *See id.*

detract from the use of such data in determining market shares.”¹⁵⁰¹ According to Shell, this demonstrates the emptiness of Southern’s concerns about the reliability of EQR data.¹⁵⁰²

The Historical Trade Data Confirms Shell’s DPT Results, Which Show That Southern Wields Unreasonable Market Power in Several DPT Periods.

475. Shell explains that it used EQR data “to estimate Southern’s market share and market concentration in the Southern control area for short-term, non-firm and firm energy sales.”¹⁵⁰³ For consistency, Shell used the “same criteria” used by Southern.¹⁵⁰⁴ According to Shell, its calculations revealed that “Southern’s share of the non-firm wholesale sales in the Southern control area recorded in the EQR data exceeds 20% for five out of ten DPT periods.”¹⁵⁰⁵ Specifically, Southern’s share of non-firm wholesale sales in the Southern control area exceeds 20% in the winter season[.]”¹⁵⁰⁶ Shell performed a similar study for firm transactions and determined that “Southern’s share exceeds 20% for four out of ten DPT periods[.]”¹⁵⁰⁷ Just like its share of the non-firm market, “Southern’s share of firm wholesale sales in the Southern control area exceeds 20% in the winter season[.]”¹⁵⁰⁸

476. Shell then took its analysis further by reviewing Southern’s 10-K SEC filings, “which provided a ‘high level picture of Southern’s participation in wholesale markets.’”¹⁵⁰⁹ According to Shell, “Southern’s 10-K information disclosed that (1) approximately 20% of the kilowatt-hours generated by Southern are destined for wholesale sales, and (2) Southern’s wholesale sales far exceed the amount of its purchases, on the order of two to three times.”¹⁵¹⁰ Shell interprets these results to indicate that Southern was extensively involved in wholesale transactions in the non-firm and firm markets in 2004, which Shell claims corroborates its DPT analyses that show Southern actively participating in the wholesale market.¹⁵¹¹ Though there may be some discrepancy between the “DPT-

¹⁵⁰¹ *Id.* at 81-82.

¹⁵⁰² *Id.* at 82.

¹⁵⁰³ Shell IB at 183-84.

¹⁵⁰⁴ *Id.* at 184.

¹⁵⁰⁵ *Id.*

¹⁵⁰⁶ *Id.*

¹⁵⁰⁷ *Id.* at 185.

¹⁵⁰⁸ *Id.*

¹⁵⁰⁹ *Id.* at 186 (quoting Tr. at 1105).

¹⁵¹⁰ *Id.*

¹⁵¹¹ *See id.*

computed market shares” and the historical trade data, Shell attributes this to the fact that the former is a proxy while the latter represents actual transactions.¹⁵¹² Therefore, Shell believes that its DPT results passed the “reality check” provided by the historical trade data.¹⁵¹³

The Historical Trade Data Contradicts Southern’s DPT Results.

477. On the other hand, Shell claims that the same historical trade data deviates *considerably* from Southern’s proffered DPT results.¹⁵¹⁴ First, Southern’s “base case non-firm DPT results showed negative AEC in eight out of ten DPT periods.”¹⁵¹⁵ Specifically, Shell claims that the negative AEC ranges from “-3% in Summer 2 to -39% in Shoulder 3.”¹⁵¹⁶ As noted above, Southern’s DPT results show that in the Shoulder 1 period it “would have been unable to meet its own AEC deficit (-6,700 MW) even with all of the AEC from other suppliers, including imports (5,779 MW).”¹⁵¹⁷ Given that these negative AECs indicate that Southern lacked the capacity to satisfy its own load obligations, it also means that it lacked the capacity to participate in the wholesale market, but the historical trade data contradicts this assertion, showing that Southern participated extensively in those markets during that period.¹⁵¹⁸ This discrepancy, seriously undermines the credibility of Southern’s DPT results.¹⁵¹⁹

Southern’s Filtering of the Historical Trade Data is Critically Flawed.

478. Shell also contends that Southern’s EQR-based analysis of historical trade data for 2004 is seriously flawed.¹⁵²⁰ For example, Southern attempts to exclude outbound sales from its historical trade data analysis but then fails to exclude the outbound sales of the other market participants.¹⁵²¹ This, of course, artificially lowers Southern’s market share.¹⁵²² Southern also “assumes that none of Southern’s outbound sales were ‘swap’ transactions with counterparties located

¹⁵¹² *Id.*

¹⁵¹³ *Id.* at 189.

¹⁵¹⁴ *See id.*

¹⁵¹⁵ *Id.*

¹⁵¹⁶ *Id.*

¹⁵¹⁷ *Id.*

¹⁵¹⁸ *Id.* at 187-88.

¹⁵¹⁹ *See id.* at 188.

¹⁵²⁰ *Id.*

¹⁵²¹ *Id.* at 189.

¹⁵²² *See id.*

outside the Southern control area.”¹⁵²³ According to Shell, Southern makes no attempt to correct these errors.¹⁵²⁴

479. Shell also attacks the method by which Southern calculates the “outbound” sales that it does report.¹⁵²⁵ According to Shell, Southern calculates its market share using its “original EQR data, which contains both hourly and non-hourly sales.”¹⁵²⁶ Then it uses “a *different* set of data (*i.e.*, Southern’s total hourly/intra-day transactions data) to calculate Southern’s ‘outbound sales,’ supposedly using filtering criteria that [it] derived.”¹⁵²⁷ Southern subtracts these “outbound” sales from the original data set, mixing the intra-hourly and intra-daily methodologies. Southern compounds this problem by using the results “to derive Southern’s estimated market share of 10.5%.”¹⁵²⁸ Shell claims that this methodology is actually comparing “apples to oranges” and producing “an artificially increased denominator that, in turn, inappropriately injects a significant downward bias into [Southern’s] ultimate calculation of [its] market share.”¹⁵²⁹

480. Moreover, Shell “found additional inconsistencies . . . that serve as further ‘red flags’ concerning the reliability of [Southern’s] treatment of historical market data.”¹⁵³⁰ For example, there are instances in Southern’s errata filing where “the number of outbound transactions (and the associated energy) exceed the total number of transactions[,]” which is, of course, illogical.¹⁵³¹ Shell corrected this and other discrepancies to perform its own “processing” of the data.¹⁵³² By just correcting Southern’s errors in the application of its own methodology, Shell found that Southern’s market share increases “from 10.5% to 13.8% on an aggregate basis.”¹⁵³³

¹⁵²³ *Id.*

¹⁵²⁴ *See id.*

¹⁵²⁵ *See id.* Shell also argues that it is inappropriate to exclude these transactions because the DPT is intended to measure available “capacity,” and by definition outbound sales are available capacity. *See id.* at 193.

¹⁵²⁶ *Id.* at 189.

¹⁵²⁷ *Id.*

¹⁵²⁸ *Id.*

¹⁵²⁹ *Id.* at 189-90.

¹⁵³⁰ *Id.* at 190.

¹⁵³¹ *Id.* at 192.

¹⁵³² *Id.*

¹⁵³³ *Id.*

*Shell Refutes Southern's Justifications for the Discrepancies
Between its DPT Results and the Historical Trade Data.*

481. Finally, Shell refutes Southern's attempts to justify the wide divergences between its DPT results and the historical trade data for the control area.¹⁵³⁴ First, Southern claims that its negative AEC in "eight of ten DPT periods" does not necessarily mean that it was unable "to participate in wholesale markets."¹⁵³⁵ This appears to be an attempt to accept the divergence but to concurrently deny its relevance, which if accepted, would eviscerate the purpose of the historical trade data comparison.¹⁵³⁶ Such a dramatic difference between the DPT results and reality should cast serious doubt on the reliability of those DPT results as a measurement of market power.¹⁵³⁷

482. Southern also claims that its negative AEC does not mean that it is capacity short, but rather that it is short of "economic" capacity, explaining that it "can meet its load obligations" with uneconomic capacity."¹⁵³⁸ Besides being inconsistent with its position on the use of uneconomic capacity to satisfy operating reserves, Southern's theory also runs counter to its contention that its market power must be measured using AEC only as opposed to EC.¹⁵³⁹ The bottom line is that Southern's DPT results diverge significantly from the historical trade data, and it has not been able to justify this divergence or explain it away.¹⁵⁴⁰ Therefore, its DPT results are unreliable.¹⁵⁴¹

Staff

Southern's Historical Trade Data Analyses are Flawed.

483. Staff claims that Southern's analyses of the historical trade data are "flawed."¹⁵⁴² "Initially, in deriving Southern's market share using historical trade data, [Southern] used the 2004 EQR data, and the results of [its] study indicated that [it] accounted for 18.6 percent of the sales" flowing into the Southern Control

¹⁵³⁴ See *id.* at 194.

¹⁵³⁵ *Id.* at 194-95.

¹⁵³⁶ *Id.* at 195.

¹⁵³⁷ *Id.*

¹⁵³⁸ *Id.*

¹⁵³⁹ *Id.*

¹⁵⁴⁰ *Id.* at 196.

¹⁵⁴¹ See *id.*

¹⁵⁴² Staff IB at 104.

Area.¹⁵⁴³ Southern then attempted to lower this amount by reducing it for “exports.”¹⁵⁴⁴ It incorrectly excluded certain transactions and “used an hourly product rather than a short-term (less than one year) product used originally in [its] direct testimony.”¹⁵⁴⁵ After being made aware of its mistakes, Southern included the incorrectly excluded sales and its market share increased “considerably.”¹⁵⁴⁶ “In fact, [Staff] performed an analysis that includes all of Southern’s hourly non-firm wholesale sales in the SCA and [its] results show that Southern’s market share is well over 50 percent on average.”¹⁵⁴⁷

Southern’s Constant Changes to its Analyses Have Created a “Moving Target.”

484. Staff claims that all of these changes have created a “moving target,” which is a tactic that the Commission has prohibited.¹⁵⁴⁸ According to Staff, the Commission has held that changing data during a proceeding “unduly complicates the effective administration of the proceeding, and may deny parties an opportunity to fully examine and analyze the cost support upon which the proposed rates are based.”¹⁵⁴⁹ Thus, Staff argues that Southern’s dubious litigations tactics should result in its historical trade analyses being rejected or at least given little weight.¹⁵⁵⁰

Southern’s Exclusion of Outbound Sales Artificially Reduces its Market Share, and it is not Supported by Commission Precedent.

485. First, Staff claims that “there is no way to determine with any degree of certainty which sales made by *other* suppliers that occur in the SCA are for export.”¹⁵⁵¹ Staff then argues that by only excluding Southern’s “export” sales while not accounting for the other market participant’s “exports,” Southern is artificially reducing its market share.¹⁵⁵² According to Staff, if there is no way to determine which sales are for export, then no adjustment should be made because

¹⁵⁴³ *Id.* This data was screened for transactions of one year or less. *Id.*

¹⁵⁴⁴ *Id.* at 105. These “exports” are the ones Southern refers to as “outbound sales.”

¹⁵⁴⁵ *Id.*

¹⁵⁴⁶ *Id.*

¹⁵⁴⁷ *Id.*

¹⁵⁴⁸ *See id.* at 106 (citing *Jersey Central Power & Light Co.*, 20 FERC ¶ 61,083, at 61,182 (1982)) (alteration in original).

¹⁵⁴⁹ *See id.* at 106-07 (quoting *Pacific Gas and Electric Co.*, 53 FERC ¶ 61,146, at 61,520 (1990)).

¹⁵⁵⁰ *Id.* at 107.

¹⁵⁵¹ *Id.* at 108-09 (alteration in original).

¹⁵⁵² *See id.* at 109.

to do otherwise would “set the stage for a significant understatement of its supply in the market[,]” which is the exact situation that the Commission has crafted the DPT to avoid.¹⁵⁵³

486. Second, this distinction between exports and imports is “contrary to Commission precedent” as announced in *CP&L*.¹⁵⁵⁴

CP&L's proposal would improperly limit mitigation to certain sales in the CP&L control area, namely, only those sales that sunk (i.e., served end-use customers) in the CP&L control area during the period at issue. Such a limitation would improperly exclude from the mitigation proposal sales by CP&L within its control area during the period at issue to any entities that do not serve end-use customers in the CP&L control area. We note that in the November Order the Commission described CP&L's market-based rate tariff as prohibiting CP&L from "making market-based rate sales that sink in the CP&L control area." The Commission clarifies herein that, in accepting CP&L's market-based rate tariff, it intended that this prohibition *apply to any sales made in the CP&L control area*. Indeed, CP&L's revised market-based rate tariff, as accepted in the November 4 Order, does not limit the restriction to sales that "sink" in the CP&L control area. Rather, the tariff provides that service under the tariff is only available outside of the CP&L control area. Therefore, the Commission accepts the mitigation proposal on the condition that it applies to any sales made by CP&L in its control area between July 19 and August 5, 2005, not just sales that "sunk" in the CP&L control area.¹⁵⁵⁵

487. Staff interprets this passage as prohibiting Southern's proffered distinction between inbound and outbound sales in the Southern Control Area.¹⁵⁵⁶ Furthermore, Staff disagrees with Southern's claim that Order No. 697 supports its exclusion of all sales occurring at the border.¹⁵⁵⁷ According to Staff, Order No. 697 simply “expressed concern about adequate monitoring of the actual destination market for these sales.”¹⁵⁵⁸ Order No. 697 clearly did not instruct applicants to blindly exclude all sales at the border as if they are all export sales,

¹⁵⁵³ Staff RB at 91.

¹⁵⁵⁴ Staff IB at 109.

¹⁵⁵⁵ *Id.* (quoting *Carolina Power & Light Co.*, 114 FERC ¶ 61,294, at P 9 (2006)) (alteration in original).

¹⁵⁵⁶ *Id.*

¹⁵⁵⁷ Staff RB at 91.

¹⁵⁵⁸ *Id.*

as Southern's filtering process does.¹⁵⁵⁹

The Historical Trade Data Undermines Staff's Lambda-Based DPT Results, but it Confirms Staff's EQR-Based DPT Results.

488. On the other hand, Staff claims that it has provided "accurate and transparently prepared data analysis."¹⁵⁶⁰ Staff admits that its base case does not compare any better than Shell's to historical data, but it claims that its EQR-based sensitivity "analysis produces results fully consistent with, albeit not identical to, the historic trade data analysis."¹⁵⁶¹ "For example, compare Southern's historic market share during the peak season of 20.4 percent to Staff's Base Case estimate, 10.1 percent, and its EQR-based sensitivity analysis estimate, 26.3 percent."¹⁵⁶² "On an annual average basis (treating all DPT periods and seasons equally), Staff's Base Case market share estimate is more than 10 percent lower than Southern's historic market share while Staff's EQR-based sensitivity analysis estimate is slightly more than one percent lower than the historic benchmark."¹⁵⁶³ Staff attributes these discrepancies to the fact that the EQR data is derived from actual transactions while the system lambda prices only reflect incremental cost.

Staff Addresses Southern's Miscellaneous Concerns.

489. Staff concludes by addressing a few of Southern's criticisms of Staff's analysis of the historical trade data.¹⁵⁶⁴ The first of these is "that [Staff] made a mistake in converting certain transactions to a standard time; and [the second is] that [it] did not include certain EQR transactions that appear to represent sales into the SCA."¹⁵⁶⁵ Staff claims to have "corrected both of these errors and updated [its] analysis[.]"¹⁵⁶⁶ These changes had little substantive impact, and Staff's historic trade data analysis remains intact and reliable.¹⁵⁶⁷

¹⁵⁵⁹ *Id.*

¹⁵⁶⁰ Staff IB at 107.

¹⁵⁶¹ *Id.*

¹⁵⁶² *Id.*

¹⁵⁶³ *Id.* at 107-08.

¹⁵⁶⁴ *See id.* at 109.

¹⁵⁶⁵ *Id.* at 109-10.

¹⁵⁶⁶ *Id.* at 110.

¹⁵⁶⁷ *See id.* For example one of its market share results was changed "to 17.3 percent, rather than the 18.6 percent reflected in Mr. Siskind's Direct Testimony." *Id.* "Similarly, [Staff's] updated market shares for Southern in the summer, winter and shoulder are 9.6 percent, 26.3 percent and 18.1 percent respectively, as compared to 10.8 percent, 27.7 percent and 19.0 percent in his Direct Testimony." *Id.*

Discussion and Findings

490. The Commission's regulations and orders require the use of historical trade data to verify the results of the DPT analysis. Thus, the purpose of using historical trade data is to provide a reality check on the results of the DPT. In the Commission's regulations, it requires applicants to provide two years of historical trade data to support their DPT.¹⁵⁶⁸ In the Joint Stipulation, the parties agreed to use the short-term wholesale energy sales in the SCA for 2004 only.¹⁵⁶⁹

491. In an attempt to satisfy the requirement to submit historical trade data to corroborate its DPT results, Southern initially presented EQR data for all short-term sales (by Southern and other jurisdictional sellers) in the SCA for 2004. Based on that data, Southern calculated an 18.6 percent market share for 2004. Staff confirmed that calculation and presented additional market share estimates based on a seasonal breakdown of the historical sales data.¹⁵⁷⁰

492. Southern acknowledges that the parties all reach approximately the same 18.6 percent market share, if outbound sales are included.¹⁵⁷¹ However, Southern subsequently made an adjustment to the historical data by excluding outbound sales thereby revising its market share to 10.5 percent.¹⁵⁷² Southern contends that it did so because its initial submission erroneously included certain outbound export sales transactions, thus inadvertently inflating its 2004 market share.¹⁵⁷³ Southern then states:

Accordingly, and consistent with the Commission's recognition that outbound export sales delivered to a metered border may be treated as occurring outside of the originating control area, [citing Order No. 697] Southern Companies on Rebuttal excluded such outbound border sales from their original computations.¹⁵⁷⁴

493. Shell and Staff both contend that Southern's revised presentation of its historical trade data is seriously flawed. Staff points out that Order No. 697 was

¹⁵⁶⁸ 18 C.F.R §33(d) (2006).

¹⁵⁶⁹ Exh. J-1.

¹⁵⁷⁰ Exh. S-1 at 35-36; Exh. S-19.

¹⁵⁷¹ *See id* at 169. According to Southern, neither Staff nor Shell has prepared an EQR-based market share calculation excluding outbound sales.

¹⁵⁷² Southern repeatedly changed the parameters of its analysis, as the Staff explained in detail on pages 104-06 of its Initial Brief.

¹⁵⁷³ Southern IB at 167-68.

¹⁵⁷⁴ *Id.*

not even issued until nearly four months after Southern filed its rebuttal testimony in this case. Moreover, Staff persuasively argues that Southern's reliance on Order No. 697 is misplaced. In Order No. 697, the Commission did not specifically indicate such an adjustment should be made to the historical trade data used in the market share analysis. Rather, in addressing the issue of market power mitigation, the Commission simply expressed a concern about adequate monitoring of the actual destination market for these sales. The same holds true here. Indeed, it is difficult, if not impossible, to determine with any degree of certainty whether the sales made at the border are actually "for export." Nevertheless, Southern excludes all border sales as if they all are "for export," thereby setting the stage for a significant understatement of its supply in the market.

494. Even more troubling is the fact that Southern only excluded its own border sales, and not the border sales of other competing suppliers. This is particularly egregious when one considers the level of the disparity that exists. Southern excludes almost 50 percent of its own sales on the grounds that they represent export transactions, while simultaneously assuming that none of the competing suppliers' sales are for export. The result is that Southern effectively understates its market share by overstating the amount of competing supply.

495. The undersigned concurs with Staff's position on this issue and finds that if Southern's export sales are excluded, then a similar adjustment must be made for the competing suppliers' export sales. Yet, Southern claims it did not make this corresponding adjustment because there was no way to determine which sales by other suppliers were for export.¹⁵⁷⁵ If a determination cannot be made regarding what portion of the competing suppliers' sales are for export, then no adjustment should be made for Southern's export sales either.

496. Concerns with Southern's methodology were also raised, including assertions that Southern incorrectly excluded certain transactions and used an hourly product rather than a short-term (less than one year) product used originally in its direct testimony."¹⁵⁷⁶ In April of 2007, Southern filed an errata explaining that Mr. Moore had made a mistake by inadvertently excluding certain exports. Mr. Moore also simultaneously changed the parameters of his analysis and, instead of using hourly sales, used sales of one year or less.¹⁵⁷⁷

497. Shell also attacks the method by which Southern calculates the "outbound"

¹⁵⁷⁵ Exh. S-31 at 49.

¹⁵⁷⁶ *Id.*

¹⁵⁷⁷ Tr. 252:21-23.

sales that it does report.¹⁵⁷⁸ By just correcting Southern's errors in the application of its own methodology, Shell contends that Southern's market share increases "from 10.5% to 13.8% on an aggregate basis."¹⁵⁷⁹

498. Staff also updated its analysis to address a few of Southern's criticisms of Staff's analysis of the historical trade data.¹⁵⁸⁰ The first of these is "that [Staff] made a mistake in converting certain transactions to a standard time; and [the second is] that [it] did not include certain EQR transactions that appear to represent sales into the SCA."¹⁵⁸¹ Staff has corrected both of these errors and updated its analysis accordingly.¹⁵⁸² However, the record reflects that these changes had little substantive impact; accordingly, the undersigned finds that Staff's historic trade data analysis remains intact and reliable.¹⁵⁸³

499. One other issue raised by the parties in this section concerns Shell's criticism of the list of potential suppliers agreed upon in the Joint Stipulation. The undersigned concurs with Southern's position that Shell has failed to meet its burden to demonstrate that the list of potential suppliers agreed upon in the Joint Stipulation contains too many utilities; accordingly, Shell's argument on this issue is rejected.¹⁵⁸⁴

IX. The appropriate computation of the pivotal supplier test under the available economic capacity prong of the DPT analysis

Summary of Parties' Positions

500. Southern claims that the pivotal supplier test should be based only on available economic capacity, which requires an accounting for the "uncovered load" held by other generators in the Southern Control Area. To that end,

¹⁵⁷⁸ *See id.* Shell also argues that it is inappropriate to exclude these transactions because the DPT is intended to measure available "capacity," and by definition outbound sales are available capacity. *See id.* at 193.

¹⁵⁷⁹ *Id.*

¹⁵⁸⁰ *See id.* at 109.

¹⁵⁸¹ *Id.* at 109-10.

¹⁵⁸² *Id.* at 110.

¹⁵⁸³ *See id.* For example one of its market share results was changed "to 17.3 percent, rather than the 18.6 percent reflected in Mr. Siskind's Direct Testimony." *Id.* "Similarly, [Staff's] updated market shares for Southern in the summer, winter and shoulder are 9.6 percent, 26.3 percent and 18.1 percent respectively, as compared to 10.8 percent, 27.7 percent and 19.0 percent in his Direct Testimony." *Id.*

¹⁵⁸⁴ *Id.* at 160.

Southern subtracts the amount of the load that can be served from the generator's own economic resources. Staff agrees with the general proposition, but attacks the problem from the other end. Staff included the other generators' entire load but then added their economic capacity to the AEC of the "competing suppliers," which ultimately produced the same results as Southern. By contrast, Shell's pivotal supplier test includes the other generators' entire load but does not account for any of their economic capacity. Shell defends its approach as being in compliance with Commission precedent and also claims that the issue is moot because neither of the two generators at issue had any available economic capacity. According to Shell's analyses, Southern is a pivotal supplier in at least five of ten DPT periods.

Positions of the Parties

Southern

The Pivotal Supplier Test Must Account for All Available Economic Capacity in the Southern Control Area.

501. Southern argues that the pivotal supplier test should be calculated using all available economic capacity in the Southern Control Area.¹⁵⁸⁵ According to Southern, the purpose of the pivotal supplier prong of the DPT is to calculate whether "the wholesale loads of the Municipal Electric Authority of Georgia (MEAG) and Oglethorpe Power Corporation (OPC) in the Southern Control Area can be served with AEC from competing suppliers (*i.e.*, entities other than Southern Companies)" in each of the ten DPT periods.¹⁵⁸⁶ Southern is not a "pivotal supplier" as long as there is enough AEC from other suppliers to meet that load.¹⁵⁸⁷

502. Southern asserts that the Load Serving Entities' (LSE) are among the "other suppliers," and as such, their available economic capacity must be accounted for in the pivotal supplier test.¹⁵⁸⁸ Therefore, Southern reasons that "where LSEs have both economic resources and load in or deliverable to the destination market, both must be taken into account when conducting the Pivotal Supplier analysis."¹⁵⁸⁹ Southern proposes to accomplish this by subtracting from MEAG and OPC's wholesale load the amount "that can be supplied from their own economic

¹⁵⁸⁵ SCS IB at 170.

¹⁵⁸⁶ *Id.* (citing *AEP I*, 107 FERC ¶ 61,018 at P 108).

¹⁵⁸⁷ *Id.*

¹⁵⁸⁸ *Id.* at 171.

¹⁵⁸⁹ *Id.*

resources.”¹⁵⁹⁰ Southern claims that if the LSE’s load and/or generation are ignored, the Commission will not have an accurate picture of the Southern Control Area’s ability to satisfy its load obligations, which will result in either an understatement or overstatement of AEC.¹⁵⁹¹

503. According to Southern, Staff’s concurs that the pivotal supplier test should account for all AEC in the Southern Control Area and that Southern is not pivotal in any of the DPT periods when the test is adjusted for AEC.¹⁵⁹² The difference between Southern and Staff’s tests is that Staff “used the *total* load requirements of MEAG and OPC, rather than their *net* load requirements (*i.e.* after subtracting MEAG’s and OPC’s own economic generation resources).”¹⁵⁹³ Staff then accounted for MEAG and OPC’s AEC by adding MEAG and OPC’s “economic generation resources to the AEC of the other competing supplies.”¹⁵⁹⁴ Consequently, Staff’s methodology reached approximately the same results as Southern’s.¹⁵⁹⁵

Shell Fails to Account for All Available Economic Capacity, Which Distorts its Pivotal Supplier Test Results.

504. Alternatively, Shell’s pivotal supplier test fails to account for the LSE’s generation and load, which is why Shell erroneously argues that Southern is a pivotal supplier.¹⁵⁹⁶ The problem lies in Shell’s decision to include all of MEAG and OPC’s wholesale load but then fail to account for their “economic resources” that are available to serve that load.¹⁵⁹⁷ Southern contends that this methodology “effectively double-counts MEAG’s and OPC’s wholesale load” and “causes thousands of megawatts of MEAG’s and OPC’s economic capacity to be omitted from consideration.”¹⁵⁹⁸ “In effect, MEAG’s and OPC’s own self-supply

¹⁵⁹⁰ *Id.*

¹⁵⁹¹ *Id.*

¹⁵⁹² *Id.* at 171-72.

¹⁵⁹³ *Id.* at 172.

¹⁵⁹⁴ *Id.*

¹⁵⁹⁵ *Id.* at 172-73.

¹⁵⁹⁶ *Id.* at 173.

¹⁵⁹⁷ *Id.*

¹⁵⁹⁸ *Id.* at 173. In its Initial Brief Shell claims that it does not find Available Economic Capacity for MEAG and OPC because neither utility possess any, but Southern counters this claim in its Reply Brief, arguing that this lack of available economic capacity stems from Shell’s failure to account for MEAG of OPC’s ability to serve its own load from its own generation. *See* SCS RB at 172. Southern also refutes Shell’s claim that this is a matter of interpretation beyond the scope of this proceeding. *See id.* at 173. Southern contends that

resources vanish in Shell Trading's analysis."¹⁵⁹⁹

505. Southern then claims to "correct" this error, incorporating "all of Shell Trading's computational assumptions (including other erroneous assumptions); however, the economic capacity owned by MEAG and OPC is included, not excluded, in the pivotal supplier determination."¹⁶⁰⁰ According to Southern, this "corrected" analysis results in Southern not being pivotal in any of the DPT periods.¹⁶⁰¹

Shell

Shell Explains the Pivotal Supplier Test and How the Parties' Different Methodologies Lead Them to Different Results.

506. According to Shell, the pivotal supplier test examines whether market demand "can be met without the applicant's capacity during a given time period."¹⁶⁰² To that end, the test considers both economic and available economic capacity in the study area.¹⁶⁰³ Under the economic capacity prong, all of the applicant's capacity within 105% of the prevailing market price is considered "economic" and included, while under the available economic capacity prong, the applicant's native load obligations are subtracted from that "economic capacity" that is considered "available" to be sold into the study area.¹⁶⁰⁴

507. Shell claims that "there is no disagreement that Southern fails the pivotal supplier test during all ten DPT periods under the economic capacity test."¹⁶⁰⁵ Shell further recognizes that Southern, Staff and it "all treat the loads of Oglethorpe Power Company (OPC) and the Municipal Electric Authority of Georgia (MEAG) as wholesale load."¹⁶⁰⁶ But Shell notes that the parties employ vastly different approaches to the AEC prong of this test and, not surprisingly, reach very different results.¹⁶⁰⁷ Whereas Southern and Staff show that Southern "is not pivotal during any of the DPT periods," Shell finds that it is in at least five

this is actually about the double-counting of load in the Southern Control Area, which is a factual matter that is properly before the Presiding ALJ. *See id.*

¹⁵⁹⁹ *Id.*

¹⁶⁰⁰ *Id.*

¹⁶⁰¹ *Id.*

¹⁶⁰² Shell IB at 196.

¹⁶⁰³ *Id.*

¹⁶⁰⁴ *Id.* at 197.

¹⁶⁰⁵ *Id.*

¹⁶⁰⁶ *Id.*

¹⁶⁰⁷ *Id.*

out of the ten periods.¹⁶⁰⁸

The Commission has Previously Rejected a Methodology that is Nearly Identical to Southern's Treatment of "Uncovered Load."

508. Southern defines "uncovered load" as "the portion of a wholesale customer's load that cannot be supplied by the wholesale customer's owned generation resources and any identified long-term firm purchases."¹⁶⁰⁹ Southern then compares the "customer's wholesale load with its total and economic capacity."¹⁶¹⁰ Though Southern finds no uncovered load on a total capacity basis, it does find at least 7,200 MW of competing capacity when computed on an "economic basis."¹⁶¹¹ This leads Southern to determine that it is not pivotal in any of the DPT periods.¹⁶¹²

509. But Shell claims that this method cannot be distinguished "from other proposed DPT wholesale load proxies that have been rejected by the Commission."¹⁶¹³ "In *Duke Power*, the market-based rate applicant submitted data on 'uncommitted load' – wholesale customer load that was not covered by the customer's owned generation – to contest its failure of the pivotal supplier test under the Commission's market power indicative screens."¹⁶¹⁴ The Commission found this method to be inconsistent with the DPT pivotal supplier test as outlined in *AEP I*.¹⁶¹⁵ Clearly, there is little if any difference between Duke Power's "uncommitted load" and Southern's "uncovered load."¹⁶¹⁶

510. Furthermore, the Commission has rejected the consideration of "contestable load" in any "market power-related purpose."¹⁶¹⁷ "Contestable load" is "the amount of wholesale load that is not supplied by owned or controlled generation and thus must seek supply from the wholesale market."¹⁶¹⁸ The Commission held that the "contestable load" approach does little to improve its ability to gauge whether an applicant is pivotal,¹⁶¹⁹ and specifically, it held that the "contestable

¹⁶⁰⁸ *Id.* at 198.

¹⁶⁰⁹ *Id.* (citing Ex. SCS-1 at 37-38).

¹⁶¹⁰ *Id.*

¹⁶¹¹ *Id.* at 198-99.

¹⁶¹² *Id.* at 199.

¹⁶¹³ *Id.*

¹⁶¹⁴ *Id.* (citing *Duke Power*, 111 FERC ¶ 61,506 at P 40-41).

¹⁶¹⁵ *Id.* (citing *Duke Power*, 111 FERC ¶ 61,506 at P 42).

¹⁶¹⁶ *See id.*

¹⁶¹⁷ *Id.* (citing *Order No. 697*, 119 FERC ¶ 61,295 at P 49).

¹⁶¹⁸ *Id.* (citing *Order No. 697*, 119 FERC ¶ 61,295 at P 49).

¹⁶¹⁹ *Id.* at 199-200.

load” approach “does not consider control of generation through contracts¹⁶²⁰ and fails to consider the relative price of competing supplies,¹⁶²¹ among other shortcomings.”¹⁶²² According to Shell, this holding was affirmed in Order No. 697, which claimed that “contestable load analysis” added “little useful information” to the pivotal supplier test.¹⁶²³ The Commission then extended its rejection of contestable load analysis for the indicative screen to its use for the DPT “for the same reasons.”¹⁶²⁴ Shell argues that, besides the name, there is no difference between “contestable load” and “uncovered load.”¹⁶²⁵ Therefore, it argues that Commission precedent requires the Presiding Judge to reject Southern’s “uncovered load” methodology.¹⁶²⁶

Shell Distinguishes its Approach from Southern’s “Uncovered Load” Approach and Explains its Pivotal Supplier Test Results.

511. Next, Shell explains how its test differs from Southern’s “uncovered wholesale load” approach.¹⁶²⁷ Shell claims to have carefully followed *AEP I*’s instructions by subtracting native load “from the load in each season/load period.”¹⁶²⁸ In these calculations, OPC and MEAG’s wholesale loads are similarly treated in accordance with Commission precedent.¹⁶²⁹ As a result, Shell claims that Southern is pivotal in at least five out of ten DPT periods.¹⁶³⁰

Shell Addresses Southern’s Criticisms of its Pivotal Supplier Test.

512. Southern criticizes Shell for not accounting for OPC and MEAG’s ability to self-supply their load obligations.¹⁶³¹ Shell argues that this criticism is mooted by the fact that neither OPC nor MEAG had available economic capacity in any of the DPT periods.¹⁶³² Regardless, Shell argues that these “self-supply” criticisms more accurately go to weight as opposed to whether the test was performed in

¹⁶²⁰ *Id.* at 200 (citing *Order No. 697*, 119 FERC ¶ 61,295 at P 49).

¹⁶²¹ *Id.* (citing *Order No. 697*, 119 FERC ¶ 61,295 at P 67).

¹⁶²² *Id.*

¹⁶²³ *Id.* (citing *Order No. 697*, 119 FERC ¶ 61,295 at P 66).

¹⁶²⁴ *Id.* (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 116).

¹⁶²⁵ *Id.*

¹⁶²⁶ *Id.*

¹⁶²⁷ *Id.* at 201.

¹⁶²⁸ *Id.*

¹⁶²⁹ *See id.*

¹⁶³⁰ *See id.*

¹⁶³¹ *Id.*

¹⁶³² *Id.* at 201-02.

compliance with Commission guidance.¹⁶³³ Therefore, Southern's concerns about the interpretation of the DPT results should be reserved for the Commission because this proceeding is focused solely on drafting the proper parameters for the test.¹⁶³⁴

513. Southern also challenges Shell's analysis because in three of the five periods when Southern is supposedly pivotal, it also has a negative AEC.¹⁶³⁵ Shell dismisses this criticism as being a product of system lambda.¹⁶³⁶ If a different proxy were used, like EQR data, Southern would have a positive AEC in each of those three DPT periods.¹⁶³⁷

Staff

Staff Explains How its Pivotal Supplier Test Differs From Southern's but How They Both Reach the Same Conclusions.

514. Staff begins by explaining Southern's use of "uncovered wholesale load," which is "the portion of a wholesale customer's load that cannot be supplied by its own generation resources and any identified long-term firm purchases."¹⁶³⁸ Southern compares total and economic capacity to the wholesale customer's load, finding no uncovered load under the total capacity test and 628 MW to 1,722 MW of "uncovered wholesale load" under the economic capacity test.¹⁶³⁹ Because Southern finds 7,200 MW of competing supply, it "concludes that Southern is not a pivotal supplier in any of the season/load periods considered in the AEC form of the DPT analysis."¹⁶⁴⁰

515. Staff then explains that its method is different but that it produced "very similar results."¹⁶⁴¹ Staff "defines the wholesale load proxy as the gross load requirements of MEAG and OPC rather than the net load requirements (*i.e.*, after subtracting MEAG's and OPC's own in-the-money generation resources)."¹⁶⁴² But Staff "then adds the MEAG and OPC in-the-money generation resources (*e.g.*, their economic capacity or 'EC') to the non-Southern supply," which effectively

¹⁶³³ *Id.* at 202.

¹⁶³⁴ *Id.*

¹⁶³⁵ *Id.*

¹⁶³⁶ *See id.*

¹⁶³⁷ *Id.*

¹⁶³⁸ Staff IB at 111 (quoting Exh. SCS-1 at 37:28-38:1).

¹⁶³⁹ *Id.*

¹⁶⁴⁰ *Id.*

¹⁶⁴¹ *Id.*

¹⁶⁴² *Id.* at 111-12.

makes its methodology “identical” to Southern’s.¹⁶⁴³

By Contrast, Shell’s Pivotal Supplier Test Double Counts MEAG and OPC’s Loads by not Accounting for Their Available Economic Capacity.

516. Staff contrasts this with Shell’s approach, which also “uses the gross load requirements of MEAG and OPC as [its] wholesale load proxy,” but Shell “only adds MEAG and OPC’s AEC to the non-Southern supply rather than their EC.”¹⁶⁴⁴ Staff explains that because “AEC is equal to EC minus load, [Shell] is basically double counting the load of MEAG and OPC in [its] analysis as [it] has already included MEAG and OPC’s load as [its] wholesale load proxy.”¹⁶⁴⁵ Therefore, Staff concludes that the Presiding Judge should accept either Staff or Southern’s Pivotal Supplier Test and reject Shell’s.¹⁶⁴⁶

Discussion and Findings

517. The Pivotal Supplier Test requires applicants “to compare the load in the destination market to the amount of competing supply[,]” which under the available economic capacity prong means that the native load in the study area is “subtracted from the load in each season/load period.”¹⁶⁴⁷ After subtracting native load from the load in each season/load period, the applicant is “considered pivotal if the sum of the competing suppliers’ economic capacity is less than the load level (plus a reserve requirement that is no higher than State and Regional Reliability Council operating requirements for reliability) for the relevant period.”¹⁶⁴⁸

518. The parties do not dispute that Southern fails the economic capacity prong of the pivotal supplier test in all ten DPT periods. Rather, the dispute centers around the proper calculation of the available economic capacity prong of the pivotal supplier test. More specifically, the parties disagree about how to account for the load obligations of OPC and the MEAG. Southern and Staff both permit OPC’s and the MEAG’s economic capacity to serve their load obligations. Southern subtracts OPC’s and the MEAG’s economic capacity from their wholesale loads, thereby reflecting their ability to satisfy their load obligations with their own economic resources. Staff approaches the problem from the other end. It did not subtract OPC’s and the MEAG’s economic capacity from their

¹⁶⁴³ *Id.* at 112.

¹⁶⁴⁴ *Id.*

¹⁶⁴⁵ *Id.*

¹⁶⁴⁶ *See id.*

¹⁶⁴⁷ *AEP I*, 107 FERC ¶ 61,018, at P 108.

¹⁶⁴⁸ *Id.*

wholesale loads. Rather, it added OPC's and the MEAG's economic capacity to the available economic capacity "of the other competing suppliers."¹⁶⁴⁹ Ultimately, Staff's approach reaches the same conclusion as Southern's because Staff uses the available economic capacity of the "other competing suppliers" to offset the load obligations of the Southern Control Area. The agreement of these two methodologies is evidenced by the fact that they both find that Southern is not pivotal in any of the ten DPT periods.

519. Conversely, Shell claims that the Commission has held that the pivotal supplier test does *not* account for the "other sellers'" ability to serve their own loads with their available economic capacity. However, in reaching that conclusion, the undersigned finds that Shell has misinterpreted Commission precedent. First, Shell claims that *Duke Power* rejected an approach that is indistinguishable from Southern's methodology, which is dubbed the "uncovered load" approach. In *Duke Power*, the Commission did reject Duke's "uncommitted load" methodology, but only as it applied to the DPT market power tests.¹⁶⁵⁰ In fact, the Commission chastised Duke Power's use of the "uncommitted load" methodology for being simply "an extension of the pivotal supplier analysis[.]" implying that the approach is the acceptable method for the pivotal supplier analysis.¹⁶⁵¹ Similarly, Shell has selectively quoted Order No. 697 to give the impression that the Commission has rejected the use of "contestable load," which is supposedly the same as "uncovered load." Though the Commission did reject the use of "contestable load" in the pivotal supplier screen, it did so because it was merely a variant on the method currently used in the pivotal supplier screen that analyzed "whether suppliers other than the seller can meet the demand in the relevant market."¹⁶⁵² The Commission explained that this is essentially what the pivotal supplier screen does.¹⁶⁵³ Therefore, Order No. 697 actually reiterates that the pivotal supplier screen and test are designed to determine how well the "other sellers" in the relevant market (*i.e.* Southern Control Area) can satisfy the load obligations without the applicant's capacity.¹⁶⁵⁴

520. Because Shell's computation methodology would result in a double counting of OPC's and the MEAG's wholesale loads, it must be rejected. While both Southern and Staff's approach follow the instructions and purpose of the pivotal supplier test, as well as the Commission's precedent, the undersigned adopts Southern's methodology, which subtracts OPC's and MEAG's economic

¹⁶⁴⁹ SCS IB at 172.

¹⁶⁵⁰ *Duke Power*, 111 FERC ¶ 61,506, at P 41.

¹⁶⁵¹ *Id.* at P 42.

¹⁶⁵² *Order No. 697*, 119 FERC ¶ 61,295 at P 66.

¹⁶⁵³ *See id.*

¹⁶⁵⁴ *See id.*

capacity from their wholesale load obligations upfront, simply because it appears to be a little more straightforward than the approach advocated by Staff. Southern's method clearly expresses the expectation that OPC and the MEAG would respond to Southern's withholding of capacity by first serving their wholesale load obligations with their economic capacity.

X. *The appropriate modeling of generation capacity of outside suppliers*

Summary of Parties' Positions

521. Southern claims to have used an allocation methodology that permitted importation by all utilities that could physically and economically reach the Southern Control Area. Where the external supply was greater than the SIC limits, Southern distributed the remaining import capabilities among the utilities on a pro rata basis. Southern criticizes Shell and Staff for allocating their SIC only upon a showing of aggregate control area AEC. Southern claims that Commission's regulations and orders require the parties to allocate participation based on the AEC of the individual suppliers, without speculation as to whether the suppliers will actually export energy to the Southern Control Area.

522. Alternatively, Shell does not permit a supplier to participate in the Southern Control Area until the aggregate control area possess available economic capacity, regardless of how much available economic capacity the individual suppliers may have. Shell claims that this methodology complies with the Commission's preference for first-tier control areas. Moreover, it logically assumes that suppliers will export to capacity-short areas before sending energy to the Southern Control Area. Shell contrasts its approach with Southern's iterative process, which continues to allocate SIC beyond economically efficient levels to simply "fill" the available SIC.

523. Similarly, Staff's allocation of SIC contemplates the opportunity costs of exporting into the Southern Control Area. Staff limited the participation of external suppliers to those that are in control areas with AEC. Staff concludes that Southern has misinterpreted controlling precedent and that the Commission's regulations and orders support its allocation of SIC.

Positions of the Parties

Southern

The Allocation of SIC is not an Issue for Consideration in This Proceeding.

524. According to Southern, the Joint Stipulation is an exhaustive list of issues for this proceeding and it does not include the allocation of simultaneous import capability.¹⁶⁵⁵ Therefore, this is not an issue that the Presiding Judge is free to consider.¹⁶⁵⁶ But if it is considered then it should be given little weight.¹⁶⁵⁷

The Commission Supports Southern's Modeling of Outside Suppliers.

525. Regardless, Southern contends that the Commission's orders and regulations clearly support its modeling of outside suppliers.¹⁶⁵⁸ According to Southern, Order No. 592 establishes that relevant outside suppliers are to be identified "on an individual supplier basis" and limited to those that can physically and economically deliver energy to the Southern Control Area. The physical capability to reach the market is a function of the Simultaneous Import Capability, which creates a "hard cap" on the amount of power that can travel across that interface.¹⁶⁵⁹ The economic capability is "determined on the basis of the delivered price construct of variable generation cost, coupled with transmission-related charges that would be incurred to make the delivery."¹⁶⁶⁰ Supplies are "economic," if their costs are within 105% of the competitive price, and are located inside the study area or can be delivered there.¹⁶⁶¹ In the pursuit of precision, Southern adjusts the costs of the external supplies upward to account for increased transmission fees and "losses incurred in delivering them to the Southern Control Area." Finally, if external "economic" supplies exceed SIC, then Southern reallocates the supply on a pro rata basis.¹⁶⁶²

¹⁶⁵⁵ SCS IB at 175-76.

¹⁶⁵⁶ *See id.*

¹⁶⁵⁷ *See id.*

¹⁶⁵⁸ *Id.* at 177.

¹⁶⁵⁹ *Id.* at 178.

¹⁶⁶⁰ *Id.* at 177-78.

¹⁶⁶¹ *Id.*

¹⁶⁶² *Id.* at 178-79.

Shell Incorrectly Allocates SIC Based on the Aggregate First-Tier Control Area's Ability to Meet its Obligations.

526. Conversely, Shell ignores the Commission's guidance and calculates "economic outside supply" on a control area basis and then restricts participation below the "physical import limits."¹⁶⁶³ As Southern explained above, the Commission clearly announced that the importation of outside supply is only limited by physical and economic capability.¹⁶⁶⁴ Physical capability is determined by the SIC, and economic capability is limited to supplies within 1.05 percent of the destination market price after adjusting for variable costs and the added transmission costs.¹⁶⁶⁵ Moreover, these standards are only "applied to individual suppliers (not control market areas or even broader geographic areas), with no assumptions made as to which suppliers sell what uncommitted, in-the-money output to whom."¹⁶⁶⁶

527. Southern relies on Section 33.3(c)(i)(A) & (B) to support its "individual supplier" theory, because it clearly defines economic capacity and available economic capacity.¹⁶⁶⁷ Similarly, Southern relies on language in *AEP I*, which instructs applicants to calculate economic and available economic capacity for "*all suppliers*" and to "subtract the supplier's native load obligation."¹⁶⁶⁸ These definitions and instructions refer only to "suppliers" as opposed to control areas or geographical regions.¹⁶⁶⁹ Also, Southern briefly notes that there is no reference to the "sponge-type" concept employed by Shell and Staff.¹⁶⁷⁰ Southern attributes this to the fact that the DPT is used to measure the amount of competing supply that is "available to discipline the potential exercise of market power in the destination market."¹⁶⁷¹ In Southern's view, it is irrelevant to the DPT whether the supplier *might* have other market alternatives.¹⁶⁷² The DPT is designed, in part, to assess whether an *individual supplier* is "able," as opposed to "willing," to deliver energy into the *study area* (Southern Control Area), without assumptions about how that supplier will discipline other markets.¹⁶⁷³

¹⁶⁶³ *Id.* at 179.

¹⁶⁶⁴ *See id.*

¹⁶⁶⁵ *See id.*

¹⁶⁶⁶ *Id.*

¹⁶⁶⁷ *Id.*

¹⁶⁶⁸ *Id.*

¹⁶⁶⁹ *See id.* at 185

¹⁶⁷⁰ *See id.*

¹⁶⁷¹ *Id.*

¹⁶⁷² *See id.* at 185-86.

¹⁶⁷³ *See id.*

Shell's Errant Allocation of SIC Significantly Restrains the Amount of Supply That Should be Competing in the Southern Control Area.

528. The practical effect of Shell's "Control Area" approach is to: "(i) constrain the amount of outside supplies that would otherwise qualify for inclusion in the Southern Control Area market; and (ii) cause the SIC developed by Shell Trading's own witness to lie fallow in many DPT periods."¹⁶⁷⁴

529. With respect to the Peninsular Florida area, "[n]one of the Available Economic Capacity of any individual supplier in Peninsular Florida is made available to the Southern Control Area until all such Peninsular Florida AEC shortfalls are fully satisfied."¹⁶⁷⁵ The practical effect of this methodology is that "uncommitted, economic generation capacity in Peninsular Florida—even that owned by merchants without load or contract obligations—is never allowed to compete as a supply source for the Southern Control Area and therefore never enters into Shell Trading's DPT computations."¹⁶⁷⁶ Southern has termed this "anomaly" the "Florida Sponge."¹⁶⁷⁷

530. At the northern interface, Shell applies different methodological assumptions, but the "sponge-effect" is similar.¹⁶⁷⁸ First, Shell permitted "uncommitted, in the money supplies . . . to be considered as sources for the Southern Control Area market regardless of the presence or absence of Available Economic Capacity at the control area level."¹⁶⁷⁹ But Shell limited the geographic participation parameters to the Northern tier-one suppliers, and only allowed the Northern tier-two and tier-three suppliers to participate if all of the Northern control areas possessed "sufficient Economic Capacity to meet their aggregated load obligations."¹⁶⁸⁰ This effectively treated "all of the Northern control areas (that is, all seventeen control areas representing tier-one, tier-two and tier-three suppliers)" as one big control area and then required the aggregate load obligations to be satisfied before it would "fill" the remaining Southern Control Area SIC with exports from the Northern tier-two and tier-three control supply.¹⁶⁸¹ According to Southern, this "sponged-up" much of the available economic supply that should have otherwise been permitted to participate in the Southern Control Area

¹⁶⁷⁴ *Id.*

¹⁶⁷⁵ *Id.* at 180-81.

¹⁶⁷⁶ *Id.* at 181.

¹⁶⁷⁷ *Id.*

¹⁶⁷⁸ *Id.*

¹⁶⁷⁹ *Id.*

¹⁶⁸⁰ *Id.* at 181-82.

¹⁶⁸¹ *Id.* at 182.

market.¹⁶⁸²

531. According to Southern, this methodology has a *dramatic* impact on Shell’s DPT results. First, none of the supply from Peninsular Florida is permitted to participate in the Southern Control Area market, which leaves between 737 and 1,102 MW of Available Economic Capacity improperly excluded and “on the table.”¹⁶⁸³ In the North, the effect differs by the DPT period, “depending on whether Shell Trading calculated an aggregate AEC shortfall for the aggregated Northern control areas[,]” which occurs in four periods.¹⁶⁸⁴ During those periods the “Northern Sponge serves to exclude up to 3,000 MW of Available Economic Capacity from competing suppliers—capacity that should be reflected in a properly constructed DPT analysis of the Southern Control Area market.”¹⁶⁸⁵

Southern Rejects Shell’s Claim that the “Florida Sponge” Theory is Supported by the Historical Trade Data.

532. Southern also rejects Shell’s claim that “the actual pattern of generation imports from Florida” supports its exclusion of that area from the group of exporting control areas.¹⁶⁸⁶ According to Southern, “the presentation offered in support of this conclusion does not reflect an examination of Florida exports, but rather compares net power flows over the Southern/Florida interface.”¹⁶⁸⁷ “These net power flows are not transactions, but rather are the sum of positive and negative power flows.”¹⁶⁸⁸ For example “an export transaction of 1,000 MW and an import transaction of 500 MW would produce a “net power flow” (export) of 500 MW, but there would be two transactions taking place: a 1,000 MW transaction going out of the Southern Company Control Area and a 500 MW transaction coming into the Southern Company Control Area.”¹⁶⁸⁹ Southern explains that this only proves that there are “large base transfers from the Southern Control Area to the Peninsular Florida on a daily basis[,]” but it does not reflect the fact that these base transfers “are attributable to the more than 2,200 MWs of low-cost coal fired generation located in the Southern Control Area that is owned or controlled by certain Peninsular Florida utilities.”¹⁶⁹⁰ Thus, the simple fact that there are rarely sufficient south to north transactions to overcome the north to

¹⁶⁸² *See id.*

¹⁶⁸³ *See id.*

¹⁶⁸⁴ *Id.*

¹⁶⁸⁵ *Id.* at 182-83.

¹⁶⁸⁶ *See id.* at 187.

¹⁶⁸⁷ *Id.*

¹⁶⁸⁸ *Id.*

¹⁶⁸⁹ *Id.*

¹⁶⁹⁰ *Id.*

south transactions does not justify Shell's "Florida sponge."¹⁶⁹¹

533. Furthermore, Southern claims that the EQR data shows that the Florida utilities participate in the Southern Control Area market.¹⁶⁹² According to Southern, "[t]hat data revealed thousands of transactions in amounts ranging up to more than 500 MW involving a number of different counterparties in the Southern Control Area."¹⁶⁹³ Southern claims that this refutes the theory that the Florida Utilities do not sell energy in the Southern Control Area.¹⁶⁹⁴ In addition, there are several non-jurisdictional entities in Florida, and as such, their sales information is not captured in the EQR data.¹⁶⁹⁵ Southern argues that there is no reason to assume that these entities "could not (or would not) make sales into the Southern Control Area."¹⁶⁹⁶ Therefore, the historical trade data shows that Florida does participate in the Southern Control Area market and probably understates the amount of that participation.

The Northern Sponge Defies Logic.

534. Southern then turns to the "troubling" "Northern Sponge," arguing that it defies logic.¹⁶⁹⁷ Southern claims that "individual suppliers in PJM have thousands of megawatts of AEC that is economically and physically deliverable to the Southern Control Area," but Shell's "Northern sponge" only permits a "tiny percentage" of this power to participate in the Southern Control Area.¹⁶⁹⁸ This is despite the fact that much of the Southern Control Area's SIC remains "unutilized."¹⁶⁹⁹ Southern cannot understand why Shell has excluded so much economic and physically deliverable energy.¹⁷⁰⁰

Staff's Consideration of "Opportunity Costs" Reflects the Same Errant Logic as Shell's Allocation Methodology.

535. Southern then responds to Staff's "brief theoretical discussion" about "opportunity costs."¹⁷⁰¹ Staff "computed Economic Capacity and obligations on a

¹⁶⁹¹ See *id.* at 188.

¹⁶⁹² *Id.*

¹⁶⁹³ *Id.*

¹⁶⁹⁴ See *id.*

¹⁶⁹⁵ See *id.*

¹⁶⁹⁶ *Id.*

¹⁶⁹⁷ See *id.* at 189.

¹⁶⁹⁸ *Id.*

¹⁶⁹⁹ *Id.*

¹⁷⁰⁰ See *id.*

¹⁷⁰¹ See *id.* at 183.

control area (rather than individual supplier) basis.”¹⁷⁰² If the “first-tier control area had negative AEC” for the period, then Staff “considered whether there was sufficient import capability into that control area to offset the negative AEC value.”¹⁷⁰³ Under this methodology, “Staff limited the export capability from each of Southern Companies’ first-tier control areas to the lower of their TTC or the sum of the control area’s AEC plus potential imports.”¹⁷⁰⁴ Staff relies on the following language from Order No. 592 to support its “opportunity cost” approach:

[It] may be useful in certain cases to account for suppliers’ opportunity costs in defining geographic markets. We note that ongoing modeling efforts are attempting to incorporate this capability and we encourage merger applicants and industry experts to continue such efforts. If merger applicants wish to provide market analyses that reflect suppliers’ opportunity costs, we will consider such analyses as a supplement to the required analysis.¹⁷⁰⁵

According to Southern, the quoted excerpt does little to support Staff’s theory because it only concerns defining the relevant geographic markets, which is not at issue in this proceeding.¹⁷⁰⁶ Though Staff only uses this methodology for one of its sensitivity analysis, it shows that Staff, like Shell, embraces the errant theory that the allocation of SIC should hinge on whether the local control area is capacity short.¹⁷⁰⁷

Any Challenge to the Number of Market Participants is Foreclosed by the Joint Stipulation, and Regardless, Shell’s Attempt is Misleading and Plagued with Errors.

536. Southern then challenges Shell’s attempted comparison of EQR data with the suppliers that Southern’s DPT claims to be market participants in the Southern Control Area.¹⁷⁰⁸ According to Shell, the comparison reveals that Southern grossly overstates the number of participants.¹⁷⁰⁹ First, Southern argues that “this

¹⁷⁰² *Id.*

¹⁷⁰³ *Id.*

¹⁷⁰⁴ SCS RB at 179.

¹⁷⁰⁵ *Id.* at 179-80 (quoting *Order No. 642*, FERC Stats. & Regs. ¶ 31,111 at p. 31,889).

¹⁷⁰⁶ *See id.* at 180. Southern contends that both Shell and Staff rely on this same excerpt to support their “sponge” theories. *See id.* at 180.

¹⁷⁰⁷ *See* SCS IB at 183.

¹⁷⁰⁸ *See id.* at 190.

¹⁷⁰⁹ *See id.*

comparison is precluded by the Joint Stipulation, whereby the parties agreed to the list of potential suppliers that would be included in their DPT analyses.”¹⁷¹⁰ Therefore, the Presiding Judge should dismiss Shell’s challenge as untimely.¹⁷¹¹

537. Second, “the comparison . . . is entirely misleading and fraught with errors.”¹⁷¹² According to Southern, Shell has conceded that it did not allocate SIC among the total 155 suppliers, but rather, that it limited allocation to 78 suppliers.¹⁷¹³ Southern further contends that Shell allocated five or less MW in any of the DPT periods to 21 of those suppliers.¹⁷¹⁴ Thus, Shell’s own errant allocation methodology, as opposed to the composition of the list, is the cause of the discrepancy.¹⁷¹⁵ Also, Southern explains that a number of the outside suppliers listed in its DPT are non-jurisdictional entities, which means that the EQR data that Shell is using in its “comparison” inherently does not include these entities.¹⁷¹⁶ In addition, Southern notes that “some of the entities listed as EQR sellers were also represented in the potential supplier list, but under a different name.”¹⁷¹⁷ Finally, Southern claims that many of the entities represented in the EQR are marketers who distribute for a number of other sellers.¹⁷¹⁸ Therefore, one marketer may represent several suppliers, making any comparison between the EQR list and Southern’s list of potential suppliers useless.¹⁷¹⁹

Contrary to Shell’s Claims, the Commission has not Approved of the use of Allocation Methods that Preference the First-Tier.

538. Southern also refutes Shell’s claim that the Commission has approved the use of allocation methods that preference the first-tier.¹⁷²⁰ Shell relies heavily on the following excerpt from Order No. 697:

[W]e note that pro rata allocation of transmission capacity based on first-tier uncommitted generation capacity is an approximation and is consistent with the manner in which we conduct the SIL study
The import capability of the study area is the simultaneous transfer

¹⁷¹⁰ *Id.*

¹⁷¹¹ *See id.*

¹⁷¹² *Id.*

¹⁷¹³ *See id.* at 191.

¹⁷¹⁴ *See id.*

¹⁷¹⁵ *See id.*

¹⁷¹⁶ *See id.*

¹⁷¹⁷ *Id.*

¹⁷¹⁸ *Id.*

¹⁷¹⁹ *Id.*

¹⁷²⁰ SCS RB at 176.

limit from the aggregated first-tier market area into the study area. We then allocate imports based on transmission capacity (limited by the physical capabilities of the transmission system as determined by the SIL study) pro rata based on sellers' first-tier uncommitted generation capacity.¹⁷²¹

Southern admits that the Commission has established such a preference for first-tier exports in its indicative screens, but it claims that this does not translate into a first-tier preference in the application of the DPT because the DPT is intended to be a more robust and detailed analysis of the market.¹⁷²² Southern supports this notion with the following quote from Appendix A of Order No. 592, “the farther away a supplier, the more transmission and ancillary service prices that must be added to its power costs.”¹⁷²³ Southern concludes that this reference to distance clearly comports with the Commission’s instruction to include all sellers that can “economically and physically deliver generation services to the destination market[.]” and thus refutes any notion of a first-tier preference.¹⁷²⁴

Shell Incorrectly Stops Allocating Transmission Capability When Utilization Reaches Maximum Economic Efficiency.

539. Southern criticizes Shell for leaving SIC “on the table.”¹⁷²⁵ Shell only permits utilization of transmission capability up to the point that it reaches the estimated maximum cost efficient mark.¹⁷²⁶ Southern criticizes this methodology, noting that it directly contradicts Commission instruction, which requires that “economic capacity of outside suppliers be included up to the simultaneous limits of transmission system capability.”¹⁷²⁷ Shell’s disregard for the Commission’s instructions substantially restricts the amount of supply competing in the Southern Control Area.¹⁷²⁸

¹⁷²¹ *Id.* (quoting *Order No. 697*, 119 FERC ¶ 61,295 at P 374).

¹⁷²² *Id.* at 176-77 (citing *AEP I*, 107 FERC ¶ 61,018 at P 73).

¹⁷²³ *Id.* at 178.

¹⁷²⁴ *Id.*

¹⁷²⁵ *See id.* at 182.

¹⁷²⁶ *See id.*

¹⁷²⁷ *See id.* (citing *Order No. 592*, FERC Stats. & Regs. ¶ 31,044 at 30,119).

¹⁷²⁸ *See id.*

Shell

Shell Criticizes Southern's Allocation of SIC.

540. Shell begins by arguing that Southern's allocation of SIC is flawed.¹⁷²⁹ Shell claims that Southern "allocates SIC to suppliers beyond the first-tier control areas *regardless* of the availability of supply in the first-tier control areas."¹⁷³⁰ According to Shell, this allocation methodology ignores Appendix E's preference for first-tier control areas and "the fact that [Southern's] SIC estimates were for the first-tier control area only."¹⁷³¹ Practically speaking, this artificially dilutes the market concentration HHI values.¹⁷³²

541. Next, Shell criticizes Southern for not distinguishing between AEC at the supplier level and AEC at the control area level.¹⁷³³ Shell claims that this distinction is important because while there may be significant AEC at the supplier level there may not be sufficient AEC at the control area level to satisfy load obligations.¹⁷³⁴ For example, Peninsular Florida has between 695 MW and 2,343 MW of AEC at the supplier level, but it has between negative 3,060 MW and negative 14,228 MW of AEC at the control area level.¹⁷³⁵ Shell claims that this negative AEC makes it economically illogical to expect Florida to export power into the Southern control area because the capacity-short Florida market yields prices "higher than those in the Southern Control Area for all DPT periods except the Summer peak periods (using system lambda as a proxy for market prices)."¹⁷³⁶ Therefore, Shell argues that it is "simply unrealistic to assume that the Florida control area can consistently export any significant amount of power to the Southern control area."¹⁷³⁷

542. Shell further criticizes Southern for assuming that all generators with available economic capacity will sell into the Southern Control Area.¹⁷³⁸ According to Shell, this contradicts historical trade data that Order 592 holds to be relevant in determining "how much of a supplier's capacity should be included in

¹⁷²⁹ Shell IB at 115.

¹⁷³⁰ *Id.*

¹⁷³¹ *Id.*

¹⁷³² *See id.* at 115-116.

¹⁷³³ *See id.* at 116.

¹⁷³⁴ *Id.*

¹⁷³⁵ *See id.* at 117.

¹⁷³⁶ *Id.* at 118.

¹⁷³⁷ *Id.*

¹⁷³⁸ *Id.* at 119.

the relevant market.”¹⁷³⁹ For example, the historical trade data shows “‘minimal exports’ from Peninsular Florida to the Southern Control Area, with Peninsular Florida typically requiring all of the generation located in its control areas, in addition to substantial imports from the Southern control area.”¹⁷⁴⁰ But Southern allocates significant SIC to the Peninsular Florida suppliers, reflecting a historically baseless assumption that they participate in the Southern Control Area market.¹⁷⁴¹

543. In addition, Southern employs an errant iterative optimization process that artificially inflates the number of market participants.¹⁷⁴² Southern first “identifies the level of capacity each outside supplier can sell into the Southern control area absent transmission constraints, and then uses the GAMS software program to identify the least expensive path for transmitting energy from remote resources into the Southern control area.”¹⁷⁴³ It “then allocates transmission line capacity to shippers either on a pro rata basis (if demand exceeds a line’s capacity) or based on the shipper’s full desired use (if demand is less than a line’s capacity).”¹⁷⁴⁴ The “program then repeats this optimization procedure until all transmission capacity into the Southern control area is allocated to external suppliers or until there is no more generating capacity that can economically serve the Southern control area.”¹⁷⁴⁵

544. According to Shell, this “iterative optimization” process “makes little economic and physical sense.”¹⁷⁴⁶ The process first calculates the most cost effective “path for transmitting energy” into the Southern Control Area, but then recalculates to include additional transmission.¹⁷⁴⁷ This ignores the fact that the first calculation already determined the most cost effective path, which means that the remaining unscheduled transmission and capacity should not be utilized because, according to the first calculation, it is not economically efficient.¹⁷⁴⁸ According to Shell, “[u]tility companies do not generate and transmit additional

¹⁷³⁹ *Id.* (citing *Order No. 592*, FERC Stats. & Regs. ¶ 31,044 at 30,133. (if there has been little or no trade between a customer and a specific supplier, it may be appropriate to exclude that supplier from the market, unless the applicants can show why it should be included prospectively’’)).

¹⁷⁴⁰ *Id.*

¹⁷⁴¹ *See id.*

¹⁷⁴² *Id.* at 121.

¹⁷⁴³ *Id.*

¹⁷⁴⁴ *Id.*

¹⁷⁴⁵ *Id.*

¹⁷⁴⁶ *Id.*

¹⁷⁴⁷ *Id.* at 121-22.

¹⁷⁴⁸ *Id.* at 122.

power just to fill up the unscheduled transmission and generation capacity in economic dispatch.”¹⁷⁴⁹ Therefore, once Southern calculates the minimum transmission cost, it should not repeat the process solely to fill up available transmission.¹⁷⁵⁰

Shell’s Allocation of SIC Reflects Reality and Comports With the Commission’s Relevant Instructions.

545. Shell reiterates that Appendix E requires a “reasonable simulation of historical conditions,” and then it explains how its method best reflects reality.¹⁷⁵¹ According to Shell, it “does not add imports from beyond the first-tier suppliers if there are sufficient first-tier suppliers to fully utilize the SIC coming into the Southern control area.”¹⁷⁵² Shell claims that “this assumption reflects a balanced approach, recognizing both the physical network topologies assumed in developing the SIC values . . . as well as the economic considerations involved in identifying external suppliers who would have both the incentives and the ability to respond to an attempt to increase prices in the Southern control area.”¹⁷⁵³

546. In the economic capacity prong of the test, Shell does not look for imports beyond the first-tier control areas because there is sufficient economic capacity “to fully utilize SIC into the Southern Control Area.”¹⁷⁵⁴ However, in the available economic capacity prong, there is not sufficient available economic capacity in the first-tier control areas to fully utilize SIC, so Shell “conservatively” assumed that suppliers outside the first-tier import energy into the Southern Control Area on a pro rata basis.¹⁷⁵⁵ However, Shell first required those suppliers to satisfy load obligations in the aggregate control area.¹⁷⁵⁶ From Shell’s perspective, it was illogical to assume that these outside suppliers would be exporting energy while the aggregate control area is capacity short.¹⁷⁵⁷

547. According to Shell, this approach is “conservative” because “it assumes that supply shortages in one exporting control area will be covered by the AECs from other external control areas, if such AEC is available on an aggregate or control area basis, with 100% physical deliverability among the various exporting

¹⁷⁴⁹ *Id.*

¹⁷⁵⁰ *See id.*

¹⁷⁵¹ *Id.* at 125.

¹⁷⁵² *Id.*

¹⁷⁵³ *Id.*

¹⁷⁵⁴ *Id.*

¹⁷⁵⁵ *See id.* at 126.

¹⁷⁵⁶ *See id.* at 126

¹⁷⁵⁷ *See id.*

control areas.”¹⁷⁵⁸ Shell further argues that its approach is “conservative” because it permits the importation of energy to the Southern Control Area even when prices are higher in other control areas with the only exception being where the aggregate control area has negative AEC.¹⁷⁵⁹ Therefore, Shell claims that its approach, which considers opportunity costs, complies with Order No. 642’s admonition regarding accounting for historical conditions.¹⁷⁶⁰

Shell Systematically Refutes Southern’s Criticisms of its SIC Allocation Methodology.

548. Shell starts with Southern’s criticism that the Joint Stipulation precludes the consideration of the allocation of SIC.¹⁷⁶¹ According to Shell, this criticism has previously been rejected by the ALJ in the “January 17, 2007 Order in this proceeding.”¹⁷⁶² Additionally, Shell regards the allocation of SIC as being subsumed in the issue regarding the proper calculation of SIC.¹⁷⁶³ Moreover, it is impossible for the allocation of SIC to have been a stipulated item in the Joint Stipulation because the parties use completely different methodologies.¹⁷⁶⁴

549. Shell then addresses Southern’s “sponge” criticisms.¹⁷⁶⁵ First, Southern claims that Shell’s allocation methodology was rejected in “an order regarding the aborted Exelon/PSEG merger.”¹⁷⁶⁶ According to Shell, that “case concerned whether the relevant market was narrower than the entire PJM control area.”¹⁷⁶⁷ Distinguishing the cases, Shell claims that it has “not proposed dividing the Southern control area into smaller relevant markets.”¹⁷⁶⁸ Instead, the issue here is how to properly allocate the SIC among the competing control areas and outside suppliers.¹⁷⁶⁹

550. Southern also claims that Shell’s allocation methodology implies an agreement between generators with economic capacity “to sell to local LSEs, in

¹⁷⁵⁸ *Id.*

¹⁷⁵⁹ *Id.* at 127.

¹⁷⁶⁰ *See id.*

¹⁷⁶¹ *Id.* at 128.

¹⁷⁶² *Id.* at 128.

¹⁷⁶³ *Id.*

¹⁷⁶⁴ *See id.*

¹⁷⁶⁵ *See id.* at 129.

¹⁷⁶⁶ *Id.*

¹⁷⁶⁷ *Id.*

¹⁷⁶⁸ *Id.*

¹⁷⁶⁹ *Id.*

contravention of open access transmission principles.”¹⁷⁷⁰ Shell refutes this claim, arguing that its methodology “simply assumes that generators act in their economic self-interest, taking into consideration physical constraints, and that they would likely offer their capacity to buyers located in their own control area, if the control area is capacity-short and particularly in the presence of higher prices in their own control areas, before participating in the Southern control area.”¹⁷⁷¹

551. Furthermore, Shell favorably, (for Southern), assumes that generators who require transmission through the TVA, an entity not subject to open-access, are in the Southern Control Area’s wholesale market.¹⁷⁷² Shell makes this assumption despite the fact that the Commission has instructed analysts to account for statutory restrictions in their DPT analyses and the fact that the TVA has such restrictions that limit or prevent its suppliers from selling to certain control areas, like the Southern Control Area.¹⁷⁷³

552. Southern also criticizes Shell’s allocation methodology because it makes “specific assumptions” regarding how a supplier will dispatch its AEC, which Southern claims is counter to the purpose of the DPT as well as the Commission’s regulations and orders.¹⁷⁷⁴ Shell rejects this criticism, arguing that determining the likelihood of participation is “a basic input into the DPT analysis; it is only once sources of supply are defined to be *included* in the relevant market that the DPT makes no assumption how they use their supply to serve the relevant market.”¹⁷⁷⁵ Therefore, the Commission does not prohibit applicants from considering market forces in the process of defining which utilities should be included in the exporting first-tier aggregate control area. “Furthermore, [Shell’s] procedure merely refines how capacity should be allocated, in the event of a capacity shortage; it in no way conflicts with the objective of the DPT analysis.”¹⁷⁷⁶ According to Shell, the “Commission [] does not require a supplier-by-supplier assessment in an economic vacuum, as Southern apparently believes.”¹⁷⁷⁷ “Rather, the Commission permits consideration of the economic and physical realities of exporting markets[.]”¹⁷⁷⁸

553. Next, Southern criticizes Shell’s allocation methodology because it fails to

¹⁷⁷⁰ *Id.*

¹⁷⁷¹ *Id.*

¹⁷⁷² *See id.* at 129-30.

¹⁷⁷³ *Id.*

¹⁷⁷⁴ *Id.* at 131.

¹⁷⁷⁵ *Id.*

¹⁷⁷⁶ *Id.*

¹⁷⁷⁷ Shell RB at 46.

¹⁷⁷⁸ *Id.*

distribute all of the available SIC, stopping once it reaches the point of economic inefficiency.¹⁷⁷⁹ Incorporating its logic above regarding the allocation of SIC past the point of maximum economic efficiency, Shell claims that this excess SIC is attributable to the fact that system lambda is set too low.¹⁷⁸⁰ These low price proxies create negative AEC, which in turn makes it economically inefficient to allocate all SIC.¹⁷⁸¹ Where EQR data is used as the proxy for market price, a much greater percentage of AEC, if not all of it, is included in the SIC allocation process.¹⁷⁸²

554. Finally, Southern criticizes Shell's "sponges" for not also "soaking up" Southern's AEC, while they freely soak up the AEC existing in other control areas.¹⁷⁸³ Shell argues that this criticism is a baffling *non sequitur* because the allocation of SIC deals only with outside suppliers' AEC, which *by definition* does not include Southern's AEC.¹⁷⁸⁴

Staff

The Issue of SIC Allocation Can and Should be Adjudicated in This Proceeding.

555. Southern argues that the "proper allocation of SIC among outside suppliers is beyond the scope of this proceeding."¹⁷⁸⁵ Staff disagrees with this argument and claims that the Presiding Judge rejected it in the January 17, 2007 Order.¹⁷⁸⁶ Therefore, Staff argues that Southern must respond on the merits.¹⁷⁸⁷

The Commission Requires Applicants to Account for Opportunity Costs, and Southern's Failure to Comply Drastically Skewed its Results.

556. Staff claims that an appropriate modeling of outside generation capacity should account for opportunity costs.¹⁷⁸⁸ According to Staff, the Commission recognized in Order No. 642 that ignoring a supplier's option to sell into alternative markets could overstate the amount of available capacity in the study

¹⁷⁷⁹ See *id.* at 51.

¹⁷⁸⁰ See *id.*

¹⁷⁸¹ See *id.*

¹⁷⁸² See *id.* at 52.

¹⁷⁸³ See Shell IB at 130.

¹⁷⁸⁴ See *id.*

¹⁷⁸⁵ Staff RB at 93.

¹⁷⁸⁶ *Id.* at 93-94.

¹⁷⁸⁷ *Id.* at 94.

¹⁷⁸⁸ Staff IB at 113.

area.¹⁷⁸⁹ As such, the Commission instructed all market-rate applicants to “present information regarding the suppliers’ opportunity costs, in the context of a sensitivity analysis[.]”¹⁷⁹⁰ To that same end, Order No. 592 “explained that it expected that there would be some correlation between the suppliers included in the market by the DPT and those actually trading in the market.”¹⁷⁹¹ According to Staff, this clearly evidences the Commission’s desire for applicants to consider opportunity costs in their allocation of SIC.¹⁷⁹²

557. Turning to Southern’s allocation of SIC, Staff claims that it is concerned that Southern is overstating external market participation because its base case DPT produces negative AEC in several periods.¹⁷⁹³ According to Staff, the problem is that Southern’s allocation methodology only asks whether a supplier is capable of exporting energy to the Southern Control Area as opposed to whether it would in light of opportunity costs.¹⁷⁹⁴ Staff reasons that “if a control area is capacity short (*e.g.*, negative AEC)[,]” then it is unlikely that a supplier would “bypass it to sell into the SCA.”¹⁷⁹⁵ In fact, Staff argues that it is reasonable to assume that the supplier will sell into the market that returns the greatest profit margin, which is generally the one with the short supply and high demand (*i.e.* the highest price).¹⁷⁹⁶

558. Though the parties reached an agreement as to the treatment of suppliers with negative AEC *within* the Southern Control Area, “no such agreement was reached for how the negative AEC for LSEs located *outside* of the SCA would be handled for DPT purposes.”¹⁷⁹⁷ The current model simply assumes that if a supplier has positive AEC, then it participates in the Southern Control Area, regardless of whether its control area has negative AEC or not.¹⁷⁹⁸ As noted in the preceding paragraph, Staff argues that this artificially inflates the number of market participants drastically skewing the DPT results.¹⁷⁹⁹

¹⁷⁸⁹ *Id.*

¹⁷⁹⁰ *Id.* (citing *Order No. 592*, FERC Stats. & Regs. ¶ 31,044 at 31,889).

¹⁷⁹¹ *Id.*

¹⁷⁹² *See id.* at 113-14

¹⁷⁹³ *See id.* at 114.

¹⁷⁹⁴ *See id.*

¹⁷⁹⁵ *Id.*

¹⁷⁹⁶ *See id.*

¹⁷⁹⁷ *Id.* at 114-15.

¹⁷⁹⁸ *See id.* at 115.

¹⁷⁹⁹ *See id.*

Following the Commission's Instructions, Staff Performed a Sensitivity Analysis That Addresses this Concern.

559. Staff claims to have addressed this issue in one of its sensitivity analysis.¹⁸⁰⁰ In that analysis, Staff incorporated opportunity costs by comparing the total control area load and the total economic capacity for each control area (1.05 times market price).¹⁸⁰¹ “If a first-tier control area had a negative AEC for a given DPT period, [Staff] then considered if there was sufficient import capability into that control area to offset the negative AEC value[,]” which limited the export capability of the first-tier control areas “to reflect the lower of the control area TTC or the sum of the control area’s AEC plus potential imports.”¹⁸⁰² The practical effect is the exclusion of the Peninsular Florida region in all DPT periods as well as the “Entergy, Santee Cooper and South Carolina Electric & Gas control areas in certain time periods.”¹⁸⁰³

560. Staff notes that Shell’s DPT similarly reflects opportunity costs.¹⁸⁰⁴ Staff claims that Shell’s DPT actually just extends the rationale it applies in its sensitivity analysis beyond the first-tier control areas into the second and third-tiers.¹⁸⁰⁵

Staff Rejects Southern's Criticisms of its Allocation Methodology.

561. First, Southern claims that the DPT is designed to focus on “individual suppliers” as opposed to control areas or other regions, and it does not make assumptions as to how those suppliers will dispatch their available economic capacity.¹⁸⁰⁶ Southern cites “section 33.3 of the Commission’s regulations, Appendix F of *AEP I*, and the *Exelon-PSEG* decision as support.”¹⁸⁰⁷ Staff claims that Southern’s presentation of the law is incomplete because Order No. 642 revised the filing requirements, explicitly encouraging “the filing of sensitivity analyses to address whether the opportunity costs of the suppliers should be taken into consideration.”¹⁸⁰⁸ Also, Staff argues that Southern’s reading of the language in Appendix F and its references to “suppliers” would require applicants to

¹⁸⁰⁰ *See id.*

¹⁸⁰¹ *See id.*

¹⁸⁰² *Id.*

¹⁸⁰³ *Id.*

¹⁸⁰⁴ *Id.* at 116

¹⁸⁰⁵ *See id.*

¹⁸⁰⁶ *See id.* at 117.

¹⁸⁰⁷ *Id.*

¹⁸⁰⁸ *Id.*

suspend reality by ignoring that generators act in their own economic self interest.¹⁸⁰⁹ Furthermore, “Southern’s reliance on *Exelon-PSEG* merger proceeding is misplaced” because in *Exelon-PSEG*, the parties disputed the relevant geographic market, which specifically involved the bifurcation of the PJM control area.¹⁸¹⁰ But here, the parties are disputing the proper method of SIC allocation not the relevant geographic market.¹⁸¹¹

562. Finally, Southern claims that Staff’s and Shell’s approach requires the imputation of an agreement “between uncommitted, in-the-money generation supplies and local LSEs and that such an assumption is inconsistent with the Commission’s policy regarding open access transmission.”¹⁸¹² Staff argues that the “opportunity cost” methodology simply “assumes that generators will act in their own best interest and offer their capacity to buyers located in their own control areas, if the control area is capacity-short, before they would provide it to Southern.”¹⁸¹³

Discussion and Findings

Neither the Modeling of Outside Supplies Nor the Allocation of SIC Was an Issue Reserved for Hearing.

563. As a threshold matter, it is important to make clear that the undersigned concurs with Southern’s position that neither the modeling of outside supplies nor the allocation of SIC was an issue reserved for hearing. This is evident from the unambiguous language of the Joint Stipulation, which sets forth an exclusive list of the issues that remained unresolved and could be the subject of evidentiary presentations.¹⁸¹⁴ Seeking to circumvent this aspect of that agreement, Shell Trading has argued that the modeling of outside suppliers falls within the first reserved issue, which relates to “the *quantification of simultaneous import capability* (SIC) into the Southern control area for calendar year 2004.”¹⁸¹⁵ As confirmed during the hearing, this argument has twice been rejected by the undersigned Presiding Judge.¹⁸¹⁶

¹⁸⁰⁹ *Id.*

¹⁸¹⁰ *See id.*

¹⁸¹¹ *See id.*

¹⁸¹² *Id.*

¹⁸¹³ *Id.*

¹⁸¹⁴ *See* J-1 pp. 5-6.

¹⁸¹⁵ J-1, p. 5 (emphasis added).

¹⁸¹⁶ *See* Tr. 907, lines 8-15; *see also* Order Granting in Part and Denying in Part Motion to Strike at P 26 (Dec. 28, 2006) ([I]n point of fact, for the Joint Stipulation to have any benefit in narrowing the scope of issues for

564. Southern initially raised this issue in its December 5, 2006 motion to strike. As reflected in the undersigned Presiding Judge's December 28, 2006 Order, Southern's position on this issue was affirmed; however, in response to assertions that the ruling would adversely affect the ability of Staff and Shell to develop a full record, that ruling was subsequently reversed when the undersigned Presiding Judge issued an Order Granting Motion For Reconsideration And Ruling On Motion for Clarification on January 17, 2007. However, in that Order, as well as during the hearing, the undersigned made clear that while the undersigned continued to agree with Southern's position on this issue, in an overabundance of caution and erring on the side of a fully developed record, Shell and Staff would be allowed to present evidence on this unreserved issue based upon their assertion that Mr. Frame's DPT model was not part of the "template."¹⁸¹⁷

565. Having allowed Shell and Staff's pre-filed Testimony to remain in the record, Southern Companies was "... given an opportunity to respond to the issues of the quantification of AEC in control areas external to Southern and the allocation of the SIC among those sources of generation, matters they believed to have been foreclosed by the Joint Stipulation, through appropriate responsive testimony."¹⁸¹⁸ Thus, notwithstanding the fact that neither the modeling of outside supplies nor the allocation of SIC was an issue reserved for hearing under the Joint Stipulation, Southern's only option was to respond to Shell and Staff's pre-filed Testimony on these issues. Because the parties have been given an opportunity to develop the record on these unreserved issues, the undersigned will make findings on these issues for the purpose of facilitating the Commission's consideration of the merits should the Commission elect to do so.

adjudication in this proceeding as intended by the Parties and Trial Staff in entering into the Joint Stipulation, all of the prefiled testimony must fall within the scope of one or more of the seven issues set forth in Part II of the Joint Stipulation. Discussion of a quantification of AEC in control areas that are external to Southern, and the allocation of the so quantified SIC, among those sources of generation, does not meet this test and is, therefore, outside the scope of the Joint Stipulation's reserved issues."); Order Granting Motion for Reconsideration and Ruling on Motion for Clarification at P 8 (Jan. 17, 2007) ([T]he undersigned remains convinced that quantifying SIC is not the same as quantifying outside AEC or allocating SIC to that outside AEC as reflected in the analysis of the December 28 Order ...").

¹⁸¹⁷ See J-1, p. 5.

¹⁸¹⁸ Southern Company Energy Marketing, Inc. and Southern Company Services, Inc., Unpublished Order issued January 17, 2007 at P 8.

The Commission's Orders and Regulations are Clear Regarding the Modeling of Outside Suppliers.

566. The Commission set forth the approach to identifying potential suppliers that can compete to serve a given market in Order No. 592 as follows:

Suppliers must be able to reach the market both physically and economically. There are two parts to this analysis. One is determining the economic capability of a supplier to reach a market. This is accomplished by a delivered price test, which accounts for the supplier's relative generation costs and the price of transmission service to the customer, including ancillary services and losses. The second part evaluates the physical capability of a supplier to reach the customer, that is, the amount of electric energy a supplier can deliver to a market based on transmission system capability.¹⁸¹⁹

567. This same approach is reflected in the Commission's current regulations, which require applicants to: (3) [i]dentify potential suppliers. The applicant must identify potential suppliers to each destination market using the delivered price test described in paragraph (c)(4) of this section. A seller may be included in a geographic market to the extent it can economically and physically deliver generation services to the destination market.¹⁸²⁰

568. Thus, the Commission's regulations plainly address, *on an individual supplier basis*, the identification of outside supplies that can be economically and physically delivered to the destination market (in this case, the Southern Control Area). The economic capability of an outside supplier to reach that market is determined on the basis of the delivered price construct of variable generation cost, coupled with transmission-related charges that would be incurred to make the delivery. The second part of the assessment—physical capability of a supplier to reach the market—is based upon the simultaneous import capability of the destination market. When the amount of economic outside supply exceeds the available import capability, the SIC must be allocated among those competing suppliers—usually on a pro rata basis.

569. It is the determination of the undersigned that the Commission's orders and regulations support Southern's methodology for the modeling of outside suppliers.¹⁸²¹ According to Southern, Order No. 592 establishes that relevant

¹⁸¹⁹ *Order No. 592*, FERC Stats. & Regs. ¶ 31,044 at 30119.

¹⁸²⁰ 18 CFR § 33.3(c)(3).

¹⁸²¹ SCS IB at 177.

outside suppliers are to be identified *on an individual supplier basis* and limited to those that can physically and economically deliver energy to the Southern Control Area. The physical capability to reach the market is a function of the Simultaneous Import Capability, which creates a “hard cap” on the amount of power that can travel across that interface.¹⁸²² The economic capability is “determined on the basis of the delivered price construct of variable generation cost, coupled with transmission-related charges that would be incurred to make the delivery.”¹⁸²³ Supplies are “economic,” if their costs are within 105% of the competitive price, and are located inside the study area or can be delivered there.¹⁸²⁴ In the pursuit of precision, Southern adjusts the costs of the external supplies upward to account for increased transmission fees and “losses incurred in delivering them to the Southern Control Area.” Finally, if external “economic” supplies exceed SIC, then Southern reallocates the supply on a pro rata basis.¹⁸²⁵

570. Under Shell’s DPT modeling, the suppliers in Peninsular Florida, taken together, always have less Economic Capacity than their cumulative load obligations. As a result, uncommitted, economic generation capacity in Peninsular Florida—even that owned by merchants without load or contract obligations—is never allowed to compete as a supply source for the Southern Control Area and therefore never enters into Shell’s DPT computations.¹⁸²⁶ Southern’s short-hand reference to this approach is the “Florida Sponge,” because it results in uncommitted, in-the-money supplies in Peninsular Florida being absorbed (sponged up) before they are allowed to compete to supply energy to the Southern Control Area in the DPT.¹⁸²⁷ Thus, with respect to Peninsular Florida, no outside suppliers are permitted to participate in the Southern Control Area market in any DPT period.

571. With respect to outside suppliers located to the north of the Southern Control Area, Shell employs a different set of assumptions, but to the same end of “sponging-up” the AEC of outside suppliers that would otherwise be able to participate in the Southern Control Area market. Within Northern tier-one control areas, uncommitted, in-the-money supplies were permitted to be considered as sources for the Southern Control Area market regardless of the presence or absence of Available Economic Capacity at the control area level. Thus, Shell correctly allows participation of individual suppliers having AEC (and without regard to Available Economic Capacity at the control area level), *but only to the*

¹⁸²² *Id.* at 178.

¹⁸²³ *Id.* at 177-78.

¹⁸²⁴ *Id.*

¹⁸²⁵ *Id.* at 178-79.

¹⁸²⁶ *See* SCS-32, pp. 58-59.

¹⁸²⁷ *See id.*, p. 39, lines 13-16.

extent they are located in the first tier. With respect to Northern tier-two and Northern tier-three suppliers, however, Shell treated Northern control area suppliers as if they were a single entity, and allowed those suppliers to be considered as potential supply sources for the Southern Control Area only if all of the Northern control areas (that is, all seventeen control areas representing tier-one, tier-two and tier-three suppliers) collectively had sufficient Economic Capacity to meet their aggregated load obligations. If not, then Shell's DPT analysis did not allow any uncommitted in-the-money supplies from the Northern tier-two or tier-three areas to compete in the Southern Control Area market, effectively assuming that such supplies were "sponged up" by some other Northern control area.¹⁸²⁸ The effect of the Northern Sponge assumption on Southern Companies' Available Economic Capacity market shares differs by DPT period, depending on whether Shell Trading calculated an aggregate AEC shortfall for the aggregated Northern control areas. Such a collective shortfall was reflected in four DPT periods.

572. Staff also utilized a control area rather than individual supplier basis for its analysis.¹⁸²⁹ Southern's GAMS Model treats suppliers in a given control area with positive AEC as if they are exporting power to the SCA even though that control area has LSEs with negative AEC, but Staff believes that it is more logical to assume that these suppliers would more than likely sell their power in their own control area.¹⁸³⁰ Therefore, Staff prepared and offered a sensitivity analysis incorporating an "opportunity cost" concept into its Base Case DPT analysis.¹⁸³¹ Mr. Siskind computed the total control area load for each of these control areas and the total economic capacity for each control area based on 1.05 times the market price (system lambda) for the SCA in each of the 10 DPT periods (adjusted for transmission costs and losses). If a first-tier control area had a negative AEC for a given DPT period, Mr. Siskind then considered if there was sufficient import capability into that control area to offset the negative AEC value. That is, Mr. Siskind limited the export capability from each of Southern's first-tier control areas to reflect the lower of the control area TTC or the sum of the control area's AEC plus potential imports. To be conservative, he assumed, rather than verified, that there was sufficient AEC in the surrounding control areas (excluding the SCA) to maximize imports into the first-tier control area. This resulted in the exclusion of imports from Florida peninsula in all time periods and from the Entergy, Santee Cooper and South Carolina Electric & Gas control areas in certain time periods.¹⁸³² Mr. Siskind incorporated this "opportunity costs" theory into his

¹⁸²⁸ See SCS-32, pp. 68-69.

¹⁸²⁹ *Id.*

¹⁸³⁰ Exh. S-1 at 29:19-30:8.

¹⁸³¹ Exh. S-47.

¹⁸³² Exh. S-31 at 43:16-44:6.

DPT sensitivity analysis reflected in Exhibit No. S-47.

573. Staff and Shell cite to Order No. 642 in support of their positions asserting that Order No. 642 explicitly encourages the filing of sensitivity analyses to address whether the opportunity costs of the suppliers should be taken into consideration.¹⁸³³ However, Southern persuasively argues that while Shell and Staff embrace Order No. 642 because it contains a reference to “suppliers’ opportunity costs,” the very provision they cite renders it inapplicable to the case at hand because neither Shell nor Staff is trying to define the relevant geographic market. The relevant geographic market has already been determined by the Commission in this proceeding as the Southern Control Area.¹⁸³⁴ Thus, Shell and Staff are attempting to rely upon this language for a wholly different purpose (the treatment of outside suppliers) than contemplated by Order No. 642 and in doing so have found themselves in conflict with individual supplier approach adopted by the Commission and embodied in its regulations.¹⁸³⁵ Accordingly, to the extent Shell and Staff contend that Order No. 642 signaled Commission interest in a broader DPT use of “opportunity costs” than the limited, supplemental analysis specifically described therein, Order No. 697 and Commission precedent indicate otherwise.

574. As noted above, Commission precedent and associated regulations contemplate the inclusion of potential suppliers to the extent they can economically and physically deliver generation services to the destination market. In the case of outside supplies, “economically” equates to such supplies that are within 1.05 percent of the destination market price after recognition of both variable costs and transmission-related costs necessary to effect delivery. The reference to “physically deliver” relates to the destination market’s simultaneous import capability and to any associated allocations in the event the total amount of outside supplies that qualify as “economical” exceeds such SIC.

575. Moreover, these DPT procedures are applied to individual suppliers (not control or market areas or even broader geographic areas), with no assumptions made as to which suppliers sell what uncommitted, in-the-money output to whom. For example, Section 33.3(c)(i)(A) defines Economic Capacity as “the amount of generating capacity owned or controlled by a potential supplier with variable costs low enough that energy from such capacity could be economically delivered to the

¹⁸³³ *Id.*

¹⁸³⁴ See June 2007 Order, at PP 29-31.

¹⁸³⁵ Another instructive feature of this excerpt is the Commission’s characterization that any such analysis would be considered as a “supplement” to the required analysis. See *Order No. 592*, FERC Stats. & Regs. ¶ 31,044 at p. 30,133.

destination market.”¹⁸³⁶ To like effect is Section 33.3 (c)(i)(B), which defines Available Economic Capacity as the “amount of generating capacity meeting the definition of Economic Capacity less the amount of generating capacity needed to serve the potential supplier’s native load commitments”¹⁸³⁷ Similarly, Appendix F of *AEP I* describes the process to determine the Economic Capacity and Available Economic Capacity as follows:

Next, calculate the number of megawatts of *all the suppliers* that can compete in the destination market, given their costs and transmission availability. This number is called their “Economic Capacity.” In order to calculate available Economic Capacity, subtract the supplier’s native load obligation and adjust transmission availability accordingly.¹⁸³⁸

576. Accordingly, the undersigned concurs with Southern’s position that the clear focus of these and other such descriptions in the DPT process is on the individual suppliers’ positions in the determination of Economic Capacity and Available Economic Capacity, and not on net control area positions or broader geographic ranges. Because the methodologies advocated by Shell and Staff contravene the individual supplier approach adopted by the Commission and embodied in its regulations, it is the determination of the undersigned that they must be rejected in favor of Southern’s methodology for use in this proceeding.

These findings must be considered in the context of the findings set forth under Section II F pertaining to the proper treatment of Peninsular Florida.

577. As Staff has explained,¹⁸³⁹ the Florida-to-Southern Control Area (SCA) interconnection differs from the interconnections with other first-tier control areas because it consists of a radial interconnection providing no loop flow with the northern control areas.¹⁸⁴⁰ In other words, Florida is electrically interconnected to the rest of the Eastern Interconnect *only* through the SCA. Because of the radial nature of the Florida interconnection, Southern has historically and appropriately treated it separately. However, the plain language of Appendix E requires Peninsular Florida to be included in the aggregated first-tier control area in so far as it is directly connected to the Southern Control Area. While the undersigned concurs with Southern’s position that the plain language of Appendix E requires

¹⁸³⁶ 18 CFR § 33.3 (c)(4)(i)(A) (emphasis added).

¹⁸³⁷ 18 CFR § 33.3 (c)(4)(i)(B) (emphasis added).

¹⁸³⁸ *AEP I*, 107 FERC ¶ 61,018 at Appendix F (emphasis added).

¹⁸³⁹ Staff IB at pages 51-52; Staff RB at pages 19-21

¹⁸⁴⁰ Tr. 496.

Peninsular Florida to be included in the aggregated first-tier control area in so far as it is directly connected to the Southern Control Area, the undersigned concurs with Shell and Staff's position that if Peninsular Florida is included in the "Super Area" its base transfers must be subtracted from the total import capability based on Commission precedent and Southern's historical practices. This finding is consistent with Southern's historical practices because Southern's 2002 SIC study included the first-tier Florida control area in the aggregated first-tier super area (which included the northern interface imports) but Southern deducted the Florida imports from the calculation of the FCTTC.¹⁸⁴¹ Moreover, Southern's original SIC study, which the Commission accepted in its December 17, 2004 Order, complied with Commission precedent by excluding all Florida control areas not directly interconnected to the Southern Control Area.¹⁸⁴²

SUMMARY AND CONCLUSION

578. This proceeding began on December 17, 2004, when the Commission issued an order¹⁸⁴³ instituting a Federal Power Act (FPA) Section 206¹⁸⁴⁴ proceeding to determine whether Southern may continue to charge market-based rates in the Southern Control Area (SCA). Prior to that order, Southern had on August 9, 2004 (as amended on August 27, 2004 and November 19, 2004) submitted revised generation market power screens in accordance with the Commission's orders issued on April 14, 2004¹⁸⁴⁵ and July 8, 2004¹⁸⁴⁶ for the SCA and twelve first-tier markets.

579. In the December 17 Order, the Commission concluded that Southern passed both the pivotal supplier screen and the wholesale market share screen for the twelve first-tier control areas for each of the four seasons.¹⁸⁴⁷ However, the Commission concluded that Southern's submitted screens indicated failures of the wholesale market share screen in each of the four seasons.¹⁸⁴⁸ Southern elected to respond to the findings of the Commission's December 17 Order by filing a Delivered Price Test (DPT) analysis in support of its application for market-based rates to avoid having the Commission adopt the April 14 Order's default cost-based rates or propose other cost-based rates in the SCA.

¹⁸⁴¹ Staff IB at 53.

¹⁸⁴² See Shell IB at 68.

¹⁸⁴³ *Southern Company Energy Marketing, Inc. and Southern Company Services, Inc.*, 109 FERC ¶ 61,275 (2004) (December 17 Order).

¹⁸⁴⁴ 16 U.S.C. § 824e.

¹⁸⁴⁵ *AEP Power Marketing, Inc., et al*, 107 FERC ¶ 61,018 (2004) (*AEP I*).

¹⁸⁴⁶ *AEP Power Marketing, Inc., et al*, 108 FERC ¶ 61,026 (2004) (*AEP II*).

¹⁸⁴⁷ December 17 Order, 109 FERC ¶ 61,275 at P 30.

¹⁸⁴⁸ *Id.* at P 31.

580. The DPT is a well-established method, affirmed by the courts,¹⁸⁴⁹ for analyzing whether an applicant has market power in electric markets which the Commission has long used in merger applications. More recently, as in the instant proceeding, the Commission has used the DPT for analyzing whether an applicant has market power in market-based rate (MBR) applications.¹⁸⁵⁰

581. The wholesale market share screen is an initial screen which provides a “safe harbor” for applicants and failing an initial screen carries a rebuttable presumption of market power. The DPT analysis then is designed to provide a much more rigorous review of an applicants’ market position to determine if it indeed could exercise market power. The purpose of this proceeding is to develop a full and complete evidentiary record for the Commission on what constitutes a properly-constructed DPT upon which the Commission can rely in determining whether Southern has generation market power in the Southern Control Area.

582. The DPT is implemented using two alternative measures of generation capacity: Economic Capacity (EC) and Available Economic Capacity (AEC). EC is defined as physically deliverable capacity with a price less than 105% of the market price, while AEC is defined as EC less native load and contractually committed capacity. The Commission weighs both EC and AEC results in assessing whether an applicant has generation market power.¹⁸⁵¹

583. In Southern’s case the results under the EC prong of the DPT are incontrovertible. Southern’s economic capacity DPT analysis shows that it is a “Pivotal Supplier in every DPT period and that [it’s] market share ranges from 54.1 percent to 70.2 percent, and the SCA HHI ranges from 3,089 to 5,042.”¹⁸⁵² Because Southern’s own analysis confirms that Southern fails the DPT for all season/load conditions using the EC form of the DPT, regardless of which specific measure is used (i.e., pivotal supplier, market share, and market concentration

¹⁸⁴⁹ See, e.g., *Wabash Valley Power Associates, Inc. v. FERC*, 268 F.3d 1105 (D.C. Cir. 2001).

¹⁸⁵⁰ *Inquiry Concerning the Commission’s Merger Policy Under the Federal Power Act: Policy Statement*, Order No. 592, 61 Fed. Reg. 68,595 (1996), FERC Stats. & Regs., Regulations Preambles July 1996 – December 2000 P 31,044 (1996), *reconsideration denied*, Order No. 592-A, 62 Fed. Reg. 33,341 (1997), 79 FERC ¶ 61, 321 (1997) (Merger Policy Statement); see also *Revised Filing Requirements Under Part 33 of the Commission’s Regulations*, Order No. 642, 65 Fed. Reg. 70,984 (2000), FERC Stats. & Regs., Regulations Preambles July 1996- December 2000 P 31,111 (2000), *order on reh’g*, Order No. 642-A, 66 Fed. Reg. 16,121 (2001), 94 FERC ¶ 61,289 (2001).

¹⁸⁵¹ June 21, 2007 Commission Order on Rehearing

¹⁸⁵² Staff IB at 96.

test), the issues in this proceeding have focused on the AEC prong of the DPT. As more fully discussed under Section VII, which is specifically devoted to this issue, Southern has demonstrated and Staff has confirmed, Southern passes the AEC pivotal supplier analysis in all ten season/load periods. This result is consistent with considerations of Southern's native load and contractually committed capacity under the AEC measure of generation capacity. While Shell's AEC pivotal supplier analysis indicated a different result, that analysis has been rejected by the undersigned as inconsistent with historical practices and Commission precedent.¹⁸⁵³ Accordingly, Southern's AEC DPT analysis for the market share and market concentration measures of the DPT remain the primary areas of concern.

584. The Parties reach very different results for the available economic capacity prong of the DPT regarding the market share and market concentration measures. Southern claims that its market share ranges from zero percent to 16.8 percent and that the SCA HHI ranges from 551 to 945. In contrast, Staff's AEC Base Case results show that ". . . Southern's market share ranges from zero percent to 30.3 percent, and *exceeds 20 percent in two periods.*"¹⁸⁵⁴ Moreover, Staff's EQR-based sensitivity analysis for available economic capacity shows that Southern's market share ranges from 0.0 percent to 41.1 percent, with the SCA HHI ranging from 512 to 1,890;¹⁸⁵⁵ and reflects ". . . that Southern's market share *exceeds the 20 percent threshold in four of the ten DPT periods.*"¹⁸⁵⁶ The historic trade data also contradicts important aspects of Southern's DPT as well.¹⁸⁵⁷ With a few notable exceptions, Shell generally agrees with Staff's position on most issues; however, Shell's arguments are even more critical of Southern's DPT study than Staff's.

585. While the undersigned is confident that the Parties have developed a full and complete evidentiary record for the Commission on what constitutes a properly-constructed DPT upon which the Commission can rely in determining whether Southern has generation market power in the Southern Control Area, the undersigned is unable to adopt any single DPT study in its entirety to recommend to the Commission. While the undersigned finds that Southern's DPT analysis is fatally flawed in several critical areas, the undersigned also had concerns with several aspects of Shell's submission. Staff has provided a relatively well-balanced and well-reasoned position on most of the key issues submitted to the undersigned for adjudication; however, Staff did not conduct its own SIC analysis,

¹⁸⁵³ See SCS-32, p. 52, line 23 through p. 53, line 5; see also SCS-15; S-29, pp. 9-11 & S-12.

¹⁸⁵⁴ *Id.* at 96-97.

¹⁸⁵⁵ *Id.* at 97.

¹⁸⁵⁶ *Id.*

¹⁸⁵⁷ *Id.*

and Staff has had its own challenges to deal with in terms of the availability and accuracy of data and the like. Accordingly, the undersigned has attempted to work through each of the disputed issues in a manner which will permit the Commission to consider each of the findings contained herein separately in accordance with the Commission's decision *not* to set for hearing the issue of how the results of the properly-constructed DPT should be interpreted or whether Southern has generation market power in the Southern Control Area.¹⁸⁵⁸

¹⁸⁵⁸ *Southern Company Energy Marketing, Inc. and Southern Company Services, Inc.*, 112 FERC ¶ 61,054 at P 60, (July 2005 Order).

ORDER

586. IT IS ORDERED, subject to review by the Commission on exceptions or on its own motion, as provided by the Commission's Rules of Practice and Procedure, that within thirty days of the issuance of the Final Order in this proceeding, all parties shall take appropriate action to implement all the rulings in this decision. All arguments made by the participants which have not been discussed and/or adopted by this decision have been considered and are rejected.

Bobbie J. McCartney
Presiding Administrative Law Judge