

**STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES**

**In the Matter of the Merger of Southern)
Company and AGL Resources, Inc.) BPU Docket No. GM15101196**

**DIRECT TESTIMONY OF MAXIMILIAN CHANG
ON BEHALF OF DIVISION OF RATE COUNSEL**

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TABLE OF CONTENTS

	<u>Page No.</u>
I. STATEMENT OF QUALIFICATIONS	1
II. PURPOSE AND SUMMARY	3
III. MARKET POWER CONCERNS.....	6
IV. FUTURE COMPETITION CONCERNS.....	8
ATTACHMENT MC-1	

1 **I. STATEMENT OF QUALIFICATIONS**

2 **Q. Would you please state your name, position, and business address?**

3 A. My name is Maximilian Chang. I am a Principal Associate with Synapse Energy
4 Economics, an energy consulting company located at 485 Massachusetts Avenue,
5 Cambridge, Massachusetts.

6 **Q. On whose behalf are you submitting testimony in this proceeding?**

7 A. I am submitting testimony on behalf of the New Jersey Division of Rate Counsel
8 (“Rate Counsel”).

9 **Q. Mr. Chang, please describe your professional background at Synapse Energy**
10 **Economics.**

11 A. My experience is summarized in my resume, which is attached as **Attachment**
12 **MC-1**. I am an environmental engineer and energy economics analyst who has
13 analyzed energy industry issues for more than seven years. In my current position
14 at Synapse Energy Economics, I focus on economic and technical analysis of
15 many aspects of the electric power industry, including: (1) utility mergers and
16 acquisitions (2) utility reliability performance and distribution investments, (3)
17 nuclear power, (4) wholesale and retail electricity markets, and (5) energy
18 efficiency and demand response alternatives. I have been an author and project
19 coordinator for the last two biennial New England Avoided Energy Supply
20 Component reports used by energy efficiency program administrators in the six
21 New England states to evaluate energy efficiency programs.

22 **Q. Mr. Chang, please describe your experience in New Jersey energy matters.**

1 A. In the last six years, I have worked on the following specific New Jersey Board of
2 Public Utilities (“BPU” or the “Board”) dockets: EO09010049 and EO09010054
3 (Infrastructure Investment Plan), ER09080664 (2009 ACE Base Rate Case),
4 ER09060459 (Rockland Electric Smart Grid), EO11050306 (Stafford Properties
5 Apartments), ER11080469 (2011 ACE Base Rate Case), EO11110780 (PSEG
6 Base Rate Case), GO12050363 (South Jersey Gas Energy Efficiency),
7 ER12121071 (2012 ACE Base Rate Case), EO13020155 (Public Service Electric
8 Energy Strong), EM140460581 (Exelon-PHI Merger), and ER14030250 (RECO
9 Storm Resiliency).

10 **Q. Mr. Chang, please describe your educational background.**

11 A. I hold a Master of Science degree from the Harvard School of Public Health in
12 Environmental Health and Engineering Studies, and a Bachelor of Science degree
13 from Cornell University in Biology and Classical Civilizations.

14 **Q. Have you previously submitted testimony before the Board of Public**
15 **Utilities?**

16 A. Yes. I filed testimony before the Board in dockets EM140460581 (Exelon-PHI
17 Merger), and ER14030250 (RECO Storm Resiliency).

18 **Q. Mr. Chang, have you previously testified before utility regulatory agencies?**

19 A. Yes. I have previously testified before the Massachusetts Department of Public
20 Utilities, the District of Columbia Public Service Commission, the Hawaii Public
21 Utilities Commission, and the Maine Public Utilities Commission. I have also
22 filed testimony before the Delaware Public Utilities Commission, Maryland

1 Public Service Commission, and the United States District Court District of
2 Maine.

3 **II. PURPOSE AND SUMMARY**

4 **Q. What is the purpose of your testimony in this proceeding?**

5 A. The purpose of my testimony is to review market power and competition issues
6 raised by the proposed merger between AGL Resources (“AGLR”) and Southern
7 Company (“Southern”) or (“the Joint Petitioners”). AGLR is the parent of New
8 the Jersey utility Pivotal Utility Holdings, Inc. d/b/a/ Elizabethtown Gas (“ETG”).
9 I will also comment on the potential conflicts of interest that will arise if Sequent
10 Energy Management, L.P. (“SEM”) an affiliate of AGLR, continues to provide
11 natural gas asset management services to ETG following the merger.

12 **Q. Please summarize your findings and recommendations.**

13 A. My findings and recommendations are summarized as follows:

- 14 • As detailed in my testimony, I find that the merger as currently proposed does not
15 adequately provide positive benefits for New Jersey ratepayers in terms of market
16 power and competition.
- 17 • The Joint Petitioners have not provided any analyses of horizontal or vertical
18 market power effects of the merger. The Joint Petitioners have claimed attorney
19 client privilege for materials that are responsive to Rate Counsel’s request. Thus,
20 the Joint Petitioners have not demonstrated a lack of horizontal or vertical market
21 power issues that could be associated with the proposed merger.

- 1 • Southern is not precluded from acquiring or developing natural-gas fired
2 generation units in PJM if the Board approves the merger. These future generation
3 units may unfairly benefit from pipeline capacity contracts currently held for
4 ETG. As a result, this may unfairly impact competition within PJM.
- 5 • ETG currently has pipeline capacity contracts on a number of interstate pipelines
6 that also supply several Southern natural gas-fired generation units. The
7 continuation of the asset management agreement post-merger creates a potential
8 conflict of interest between SEM's obligation to maximize the value of ETG's gas
9 supply assets for ETG ratepayers and Southern's interest in supplying gas to its
10 affiliates' gas fired generation units on favorable terms.
- 11 • If the Board approves the merger, the Board should require Southern to provide
12 an analysis of vertical and horizontal market power issues that may arise as a
13 result of the merger and retain authority to implement remedial measures if
14 required.
- 15 • If the Board approves the merger, the Board should require Southern to report on
16 pipeline contracts and prices for any future natural gas-fired generation units that
17 it may acquire or develop within PJM. Since Southern is not precluded from
18 entering the PJM market in the future, this reporting is needed to ensure that
19 ETG's ratepayers are not providing a competitive advantage to Southern in the
20 PJM market area.

21 I understand that Rate Counsel's other witnesses are addressing other matters in
22 this proceeding.

1 **Q. What is your understanding of the Board’s standard for review regarding**
2 **the issues are part of your testimony?**

3 A. I have been advised by counsel that under New Jersey’s change in ownership and
4 control statute, N.J.S.A. 48:2-51.1, the Board is required to:

5 ...evaluate the impact of the acquisition on competition, on the rates of
6 ratepayers affected by the acquisition of control, on the employees of the
7 affected public utility or utilities, and on the provision of safe and
8 adequate utility service at just and reasonable rates.
9

10 As interpreted in the Board’s regulations in N.J.A.C. 14:1-5.14(c) proposed
11 mergers must meet the following standard:

12 The Board shall not approve a merger, consolidation, Acquisition
13 and/or change in control unless it is satisfied that positive benefits
14 will flow to customers and the State of New Jersey and, at a
15 minimum, that there are no adverse impacts on any of the criteria
16 delineated in N.J.S.A. 48:2-51.1.
17
18

19 **Q. Have the Joint Petitioners met this merger standard concerning competition**
20 **issues?**

21 A. No, my testimony, below, shows that there are concerns about the proposed
22 merger that should be addressed in order to assure that there is no adverse impact
23 on competition or on ETG’s ratepayers if the Board were to approve the proposed
24 merger.

1 **III. MARKET POWER CONCERNS**

2 **Q. Do you have enough information from the Company to determine if there are**
3 **horizontal and vertical market power issues resulting from this proposed**
4 **merger?**

5 A. The Joint Petitioners have not provided any information or analyses regarding
6 market power issues that may arise as a result of the proposed merger.
7 Furthermore, Southern has claimed attorney-client and work product privileges
8 for documents containing such information or analysis. Therefore, I do not have
9 enough information to be able to assure the Board that there is no problem or that
10 there is a problem.

11 **Q. How would you frame market power issues?**

12 A. In this proceeding, I acknowledge that the proposed merger would combine
13 Southern, which does not have natural gas distribution customers, to AGLR,
14 which does not have electric distribution customers. However, the proposed
15 merger would result in the combination of two large purchasers of natural gas. On
16 some interstate pipelines (e.g. Transco) where there is an overlap between the two
17 organizations, I am concerned that the removal of a market participant as a result
18 of the merger may impact competition. On “vertical” market issues I am
19 concerned that some of the ETG interstate pipeline contracts mentioned above
20 also serve some of Southern’s electric generating units. This concern is also
21 discussed further in the testimony of another Rate Counsel witness, John
22 Rosenkranz.

1 **Q. Have the Joint Petitioners provided any analyses of vertical or horizontal**
2 **market power issues?**

3 A. No. Rate Counsel’s discovery requests RCR-COM-3 and RCR-COM-4 requested
4 copies of any analyses of regarding vertical and horizontal market concerns. The
5 Joint Petitioners provided the same response to both discovery requests:¹

6 The Joint Petitioners object to this question to the extent that it seeks to
7 discover any information that is protected by the attorney-client
8 privilege, work product doctrine, and/or other protections. Therefore, no
9 information is provided.

10
11 **Q. Have the Joint Petitioners indicated whether or not they have conducted any**
12 **analyses of horizontal or vertical market power issues?**

13 A. Yes. In their responses to Rate Counsel discovery requests RCR-COM-29 and
14 RCR-COM-30 Joint Petitioners state that they have withheld “the subject
15 analysis,” which is contained in two documents that were also withheld from
16 Southern’s Hart-Scott-Rodino (“HSR”) filings. These same two responses state
17 that the basis for Southern’s claims that the two documents are protected from
18 disclosure may be found in items identified as PRIV-7 and PRIV-12 of the
19 “privilege log” provided with Southern’s HSR filing.² Southern’s entire HSR
20 filing was designated as “CONFIDENTIAL-OPRA-Southern Company Eyes
21 Only.”³ According to a redacted public version of the privilege log that was
22 provided by Southern’s counsel on March 7, 2016, the two withheld documents

¹ Joint Petitioners’ responses to RCR-COM-3 and RCR-COM-4.

² Joint Petitioners’ responses to RCR-COM-1 Public Version, RCR-COM-29, and RCR-COM-30.

³ Joint Petitioners’ response to RCR-COM-1.

1 are an attorney authored memorandum and a presentation prepared at the request
2 of counsel.

3 **Q. What are your recommendations?**

4 Ideally, in the absence of any analyses, I recommend that the Board not take
5 action on the merger proposal until such analyses are made available for review
6 by Board Staff and intervenors, even if on a confidential basis. However, if the
7 Board approves the merger, then I recommend the Board require the Joint
8 Petitioners provide analyses of all horizontal and vertical market power issues that
9 might arise as a result of the merger. Furthermore, I recommend that the Board
10 reserve its authority to take remedial action to redress market power issues should
11 it be necessary.

12 **IV. FUTURE COMPETITION CONCERNS**

13 **Q. Please summarize your concerns about future competition issues in PJM if**
14 **the Board approves the merger.**

15 A. Southern does not currently own any natural gas-fired generation units in the PJM
16 territory, and specifically it does not have any activities in New Jersey.^{4, 5}
17 Southern has also indicated that it does not currently have any plans to enter
18 PJM.⁶ However, Southern may decide at some point to enter into PJM, since there
19 is no preclusion of Southern from acquiring or developing natural gas-fired

⁴ PJM is the regional transmission organization (RTO) responsible for the coordination of wholesale electricity across 13 states, including New Jersey, and the District of Columbia. More is available at <http://www.pjm.com/about-pjm/who-we-are.aspx>.

⁵ Joint Petitioners' response to S-ETG-COMP-1

⁶ Joint Petitioners' response to S-ETG-COMP-1

1 generation assets in the future. Should Southern enter the PJM market, then the
2 Board should assure that Southern natural gas fired generation is not improperly
3 benefiting by utilizing firm capacity contracted for ETG.

4 **Q. Please describe this future competition scenario that concerns you.**

5 A. In response to RCR-COM-8, the Joint Petitioners identified contracts for firm
6 natural gas pipeline and storage services held by or for use of ETG.⁷ Their
7 response identified eight pipeline companies with which Elizabethtown has
8 contracts for firm transportation capacity, storage, and peaking services. The
9 identified eight companies are:

- 10 • Transcontinental Gas Pipe Line Company;
- 11 • Texas Eastern Transmission Company;
- 12 • Tennessee Gas Pipeline;
- 13 • Columbia Gas Transmission;
- 14 • Dominion Transmission, Inc.;
- 15 • National Fuel Gas Supply Company;
- 16 • Texas Gas Transmission; and
- 17 • Gulf South Pipeline Company.⁸

18
19 It is possible that if Southern acquires or develops a natural gas-fired generation
20 unit in PJM, it may require natural gas contracts that may overlap with existing or
21 future ETG contracts. If that occurs, then there is the opportunity for Southern to
22 utilize ETG's asset management arrangements for the benefit of a future
23 generation unit within PJM's footprint. Mr. Rosenkranz also discusses this
24 concern in his testimony with regard to existing Southern generation units. The
25 same concern applies to future generation units owned by Southern.

⁷ Joint Petitioners' response to RCR-COM-8

⁸ Joint Petitioners' response to RCR-COM-8

1 **Q. Are the possible other concerns that you have about the proposed merger?**

2 A. Yes. As I noted above, ETG utilizes the Transco pipeline that runs from south
3 Texas to New York City.⁹ Presumably, both other AGLR and Southern affiliates
4 utilize Transco and possibly other interstate pipelines. Where there is overlap in
5 the utilization of interstate pipeline capacity between the two entities, I am
6 concerned that the merger will result in the loss of a major purchaser of natural
7 gas on some interstate pipelines that may have an impact on market power.

8 **Q. Have the Joint Petitioners analyzed the potential utilization of AGLR
9 pipeline capacity for Southern?**

10 A. No. In response to RCR-COM-6, the Joint Petitioners state that they have not
11 conducted or commissioned any such analyses.¹⁰

12 **Q. Have the Joint Petitions provided any analysis of horizontal or vertical
13 market power issues?**

14 A. No, the Joint Petitioners have not provided any information.¹¹

15 **Q. What does it mean if the Joint Petitioners have not conducted any analyses
16 about this issue currently?**

17 A. The fact that there is no information about this concern does not eliminate the
18 possibility that my concern may arise in the future. As such, the Board has an
19 opportunity to impose reasonable reporting mechanisms to safeguard ratepayers if
20 the Board approves this proposed merger.

⁹ <http://co.williams.com/operations/atlanticgulf-operations/transco/>

¹⁰ Joint Petitioners' response to RCR-COM-6.

¹¹ Joint Petitioners' response to RCR-COM-3

1 **Q. Please explain your concerns regarding any future Southern owned natural**
2 **gas-fired generation in PJM.**

3 A. If the Board approves the merger, then Southern is not precluded from owning or
4 acquiring natural gas-fired generation units in PJM in the future. This future
5 natural gas-fired generation unit may require interstate pipeline capacity currently
6 utilized by ETG. Should this overlap occur, then there is the opportunity for a
7 generation affiliate of the merged company to acquire excess pipeline capacity
8 from existing ETG contracts. This raises the concern that ETG pipeline contracts
9 would subsidize future Southern merchant generation within PJM.

10 **Q. Please summarize your concerns about possible affiliate transactions if the**
11 **Board approves the merger.**

12 A. My testimony and Rate Counsel witness Rosenkranz's testimony raise concerns
13 that Southern's natural gas-fired generation units may benefit from firm capacity
14 contracted by ETG but managed by SEM. The future SEM/Southern/ETG
15 arrangement could potentially result in scenarios where ETG's gas capacity and
16 supply assets are not managed to maximize the value of those assets for ETG's
17 ratepayers, but are instead managed to benefit Southern. Mr. Rosenkranz's
18 testimony describes the SEM asset management agreement in more detail and his
19 recommendations to address his concerns about the SEM asset management
20 agreement.

1 **Q. What are your recommendations to address your concerns?**

2 A. In addition to the recommendations set forth in Mr. Rosenkranz’s testimony, in
3 the event that Southern decides to develop or acquire natural-gas fired generation
4 units in the PJM footprint, the Company should be required to provide annual
5 reports detailing gas capacity contract information, including but not limited to
6 firm capacity volumes and contract prices, to Rate Counsel and the Board. This
7 transparency would help ensure that any future Southern natural gas-fired
8 generation units in PJM are not improperly benefiting from capacity contracts
9 held by ETG. In addition, the Board should reserve its authority to take remedial
10 action to redress market competition issues should it be necessary.

11 **Q. Does this conclude your testimony?**

12 A. Yes, however I reserve my right to modify my testimony based on additional
13 information provided by the Joint Petitioners.

ATTACHMENT MC-1



Maximilian Chang, Principal Associate

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PROFESSIONAL EXPERIENCE

Synapse Energy Economics Inc., Cambridge, MA. *Principal Associate*, 2013 – present, *Associate*, 2008 – 2013.

Consults and provides analysis of technologies and policies, electric policy modeling, evaluation of air emissions of electricity generation, and other topics including energy efficiency, consumer advocacy, environmental compliance, and technology strategy within the energy industry. Conducts analysis in utility rate-cases focusing on reliability metrics and infrastructure issues and analyzes the benefits and costs of electric and natural gas energy efficiency measures and programs.

Environmental Health and Engineering, Newton, MA. *Senior Scientist*, 2001 – 2008.

Managed complex EPA-mandated abatement projects involving polychlorinated biphenyls (PCBs) in building-related materials. Provided green building assessment services for new and existing construction projects. Communicated and interpreted environmental data for clients and building occupants. Initiated and implemented web-based health and safety awareness training system used by laboratories and property management companies.

The Penobscot Group, Inc., Boston, MA. *Analyst*, 1994 – 2000.

Authored investment reports on Real Estate Investment Trusts (REITs) for buy-side research boutique. Advised institutional clients on REIT investment strategies and real estate asset exchanges for public equity transactions. Wrote and edited monthly publications of statistical and graphical comparison of coverage universe.

Harvard University Extension School, Cambridge, MA. *Teaching Assistant*, 1995 – 2002.

Teaching Assistant for Environmental Management I and Ocean Environments.

Brigham and Women’s Hospital, Boston, MA. *Cancer Laboratory Technician*, 1992 – 1994.

Studied the biological mechanism of tumor eradication in mouse and human models. Organized and performed immunotherapy experiments for experimental cancer therapy. Analyzed and authored results in peer-reviewed scientific journals.

EDUCATION

Harvard University, Cambridge, MA

Master of Science in Environmental Science and Engineering, 2000

Cornell University, Ithaca, NY
Bachelor of Arts in Biology and Classics, 1992

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Resume dated March 2016