

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of an Investigation of Duke)
Energy Kentucky, Inc.'s Accounting Sale of) Case No. 2014-00078
Natural Gas Not Used in its Combustion)
Turbines)

PUBLIC VERSION

DIRECT TESTIMONY OF

JOHN D. SWEZ

ON BEHALF OF

DUKE ENERGY KENTUCKY, INC.

April 2, 2014

TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION AND PURPOSE	1
II. DISCUSSION.....	2
III. CONCLUSION	14

Attachments:

**JDS-1: Operational Balancing Agreement between Texas Eastern Transmission, LP
and The Union Light, Heat and Power Company**

JDS-2: Email dated January 28, 2014 from Texas Eastern Transmission, LP

JDS-3: Email dated March 28, 2014 from Texas Eastern Transmission, LP

I. INTRODUCTION AND PURPOSE

1 **Q. STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is John D. Swez, and my business address is 526 S. Church Street,
3 Charlotte, North Carolina 28202.

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A. I am employed as Director, Generation Dispatch & Operations in the Fuels and
6 Systems Optimization department by Duke Energy Carolinas, LLC, a service
7 company subsidiary of Duke Energy Corporation and a non-utility affiliate of
8 Duke Energy Kentucky, Inc. (Duke Energy Kentucky, or Company).

9 **Q. HAVE YOU TESTIFIED PREVIOUSLY BEFORE THE PUBLIC**
10 **SERVICE COMMISSION?**

11 A. Yes.

12 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND**
13 **AND BUSINESS EXPERIENCE.**

14 A. I received a Bachelor of Science degree in Mechanical Engineering from Purdue
15 University in 1992. I received a Masters of Business Administration degree from
16 the University of Indianapolis in 1995. I joined PSI Energy, Inc. in 1992 and have
17 held various engineering positions with the Company or its affiliates in the Power
18 Services and Power Trading departments. In 2003, I assumed the position of
19 Manager, Real-Time Operations. Though my title has changed on several
20 occasions, I assumed my current role on January 1, 2006.

21 **Q. PLEASE BRIEFLY DESCRIBE YOUR DUTIES AS DIRECTOR,**
22 **GENERATION DISPATCH & OPERATIONS.**

1 A. I am responsible for the Company's: (i) generating dispatch; (ii) unit
2 commitment; (iii) 24-hour real-time operations; and (iv) short-term generating
3 maintenance planning. I was also responsible for the submission of the
4 Company's supply offers to the PJM Interconnection, LLC (PJM) regional
5 transmission organization (RTO) day-ahead and real-time electric power markets
6 as well as managing the Company's short term supply position to ensure that the
7 Company has adequate resources committed to serve its retail customers'
8 electricity needs.

9 **Q. WHAT IS THE PURPOSE OF YOUR PREFILED TESTIMONY?**

10 A. The purpose of my testimony is to respond to the Commission's March 14, 2014,
11 Order and address the operational components of Duke Energy Kentucky's
12 proposed accounting treatment for the cost of gas purchased for the Woodsdale
13 Generating Station (Woodsdale), but not burned, and consequently sold. Through
14 this testimony, I describe the inter-play between the day-ahead and intra-day
15 natural gas markets and the day-ahead and real-time energy markets that affect the
16 operation of the Woodsdale.

II. DISCUSSION

17 **Q. PLEASE GENERALLY DESCRIBE THE WOODSDALE GENERATING**
18 **STATION.**

19 A. Woodsdale is a six-unit combustion turbine (CT) station located in Butler County,
20 Ohio, just north of Cincinnati, with a collective net winter capability of 564 MW
21 and a net summer capability of 492 MW (including inlet cooling). Woodsdale is
22 designed for peaking service, and it has dual fuel capability (natural gas and

1 propane) and black start capability. Black start capability means that the station
2 has the ability to initiate a recovery of a substantial portion of load without relying
3 on energy from outside sources if the regional grid experiences a blackout. The
4 black start capability is initiated by an Allison 501-KB gas turbine that serves as a
5 back-up power source and allows the station to start generating energy without
6 power from the electric grid.

7 Woodsdale is connected to two separate gas transmission companies,
8 Texas Eastern Transmission Company (TETCO) and Texas Gas Transmission
9 Company, that transports the natural gas to supply the station.

10 **Q. PLEASE GENERALLY DESCRIBE HOW THE COMPANYS**
11 **WOODSDALE STATION INTERACTS WITHIN THE PJM MARKET.**

12 A. Operationally, PJM coordinates the commitment and dispatch of all units in its
13 footprint in two separate and distinct market operations. In the day-ahead energy
14 market, PJM commits units and makes generation awards based on load demand,
15 generation availability, offer pricing, and system transmission topology forecasts.
16 As part of this process, prior to 12:00 EPT each day, the Company submits
17 generating unit supply offers for the Woodsdale units to PJM for the next
18 operating day (the day-ahead market) based on the current natural gas price,
19 generating unit heat rate (conversion efficiency) and other operational factors. At
20 16:00 EPT of the same day, PJM notifies the Company if a unit has received an
21 energy award, which is financially binding, for the following operating day. PJM
22 may also commit the units in the Real-Time market or may also choose to not run

1 the units in the real-time energy market, even if the units received an award in the
2 day-ahead energy market.

3 **Q. HOW IS NATURAL GAS PROCURED FOR WOODSDALE STATION?**

4 A. Woodsdale's 6 simple cycle combustion turbines typically burn gas delivered
5 from the TETCO pipeline. Since Woodsdale is dispatched primarily during peak
6 load conditions, the units typically have relatively low capacity factors and the
7 Company does not maintain long-term delivery contracts for specific volumes of
8 natural gas. Duke Energy Kentucky does have in place an operational balancing
9 agreement with TETCO to manage the difference between the volume of gas
10 delivered and burned for Woodsdale. Attachment JDS-1 is a true and accurate
11 copy of the current Operational Balancing Agreement (OBA) between Duke
12 Energy Kentucky and TETCO.

13 There are several possible scenarios under which Duke Energy Kentucky
14 procures the natural gas commodity to fuel the units when they receive a day-
15 ahead award from PJM. The methodology of procurement depends upon when
16 and how the units are dispatched by PJM.

17 Under normal operation, natural gas can be purchased either in the day-
18 ahead gas market at the time the offer is made to PJM, at 16:00 EPT once the day-
19 ahead award is received, or procured in the intra-day gas market the next day. In
20 addition, as mentioned, PJM also has the ability to commit the generating units in
21 the real-time energy market without a day-ahead award or may also choose to not
22 actually turn the units on-line even though the units received a day-ahead energy
23 market award. All of these situations are possible and typically the gas position is

1 managed through the various options available. For example, if Real Time
2 conditions do not support PJM dispatching the generating units after receiving a
3 day-ahead award, under normal conditions either the natural gas was never
4 purchased for the unit's day-ahead award or if gas was purchased, it is left "on the
5 pipe" simply to be consumed at another time when the units run in the future. The
6 option to procure gas in the intra-day gas market, after waiting to see if PJM
7 actually turns on the generating units in the real-time energy market, is also used
8 and is a cost effective way to manage the gas needs of the units and position on
9 the pipeline when this option is available; however, at times, market liquidity and
10 supply conditions may preclude the intraday purchase option as either uneconomic
11 or impossible.

12 **Q. PLEASE EXPLAIN HOW THE EXTREME COLD WEATHER**
13 **EXPERIENCED IN THE MIDWEST IN EARLY 2014, AND MORE**
14 **SPECIFICALLY, DUKE ENERGY KENTUCKY'S SERVICE**
15 **TERRITORY, IMPACTED THE COMPANY'S PROCUREMENT OF**
16 **NATURAL GAS AS A FUEL FOR WOODSDALE.**

17 A. During January through March of 2014, much of the Eastern half of the United
18 States experienced prolonged periods of extreme cold and below normal
19 temperatures. For January and February 2014, temperatures across the
20 Company's service territory averaged 7.1 and 6.2 degrees Fahrenheit (F) below
21 normal, respectively. In addition, March has seen temperatures average between 3
22 and 6 degrees F below normal through the first half of the month. During the
23 coldest days of January and February 2014, average temperatures were as much as

1 25 degrees F below normal. One of the many challenges faced by utilities,
2 including Duke Energy Kentucky during this period, has been the persistent
3 operational restrictions in effect on natural gas pipelines. These restrictions
4 impacted the Company's fuel procurement strategies. For much of the months of
5 January, February, and March 2014, TETCO has placed operational flow
6 restrictions on Duke Energy Kentucky that limited daily actual natural gas burn
7 volumes to the volume specifically nominated and delivered for that day.

8 **Q. PLEASE EXPLAIN THESE OPERATIONAL FLOW RESTRICTIONS**
9 **AND WHAT THAT MEANT FOR DUKE ENERGY KENTUCKY.**

10 A. During periods of high/low demand (or potential high/low demand), the pipelines
11 may issue operational flow restrictions called Imbalance Postings. These alerts
12 are to prevent shippers/operators from acting in a way that could cause operational
13 issues on the pipeline. There are generally two types of Imbalance Postings:

14 1. Shippers/Operators cannot take more gas off the system than they
15 have coming on to the system (High system demand situations).

16 2. Shippers/Operators cannot put more gas onto the system than they
17 are taking from the system (Low system demand situations).

18 When an Imbalance Posting is issued during periods of high demand, as
19 was the case for much of January through March 2014, a power plant operator
20 cannot be short on the pipe, i.e. cannot owe the pipeline gas for the days of the
21 posting. On the days for which the alert is issued, an operator must have enough
22 gas flowing to the station to cover the gas consumed. Any gas that is delivered to
23 the station and not consumed on that day remains in the stations balance but

1 cannot be used until the Imbalance Posting has been removed, regardless of the
2 position on the pipeline. Since flowing gas must be sent to the station to cover
3 expected consumption each day, the balance at a given point could continue
4 building at a location.

5 Pursuant to the terms and conditions of the OBA, during the periods of
6 operational restrictions on the pipeline, Duke Energy Kentucky needed to secure
7 physical natural gas and inject it into the pipeline in order to make the Woodsdale
8 units available to satisfy anticipated PJM day-ahead generation awards. However,
9 Duke Energy Kentucky does not have the discretion to burn nominated and
10 delivered gas volumes at Woodsdale absent PJM dispatch orders. The extreme
11 weather and on-going operational restrictions on the TETCO pipeline was further
12 complicated by the limited gas availability for delivered interruptible supply. As
13 such, waiting to procure gas in the intra-day gas market was not a viable
14 procurement strategy. Thus, in order to guarantee that the Woodsdale units
15 acquired the needed natural gas to meet their PJM day-ahead energy market
16 obligation, the Company procured and nominated the expected natural gas burn in
17 the day-ahead gas market.

18 **Q. WHY DIDN'T DUKE ENERGY KENTUCKY BURN THE GAS**
19 **PROCURED IN THE DAY-AHEAD MARKET AT WOODSDALE?**

20 **A.** Even though the Woodsdale units cleared the PJM day-ahead energy market and
21 received day-ahead energy awards as anticipated, PJM has the authority to either
22 de-commit the units or reduce the output level from that awarded in the day-ahead
23 energy market. Such was the case through much of January and February 2014.

1 As a result, Duke Energy Kentucky found itself in the position where the
2 Woodsdale units received PJM day-ahead energy market awards, but were either
3 not picked-up in the real-time energy market or if the units were turned on, PJM
4 frequently ran the units at an output level lower than the day-ahead energy market
5 award. As such, Duke Energy Kentucky developed a substantial long natural gas
6 position on the pipeline.

7 **Q. WHY IS IT IMPORTANT TO CONTINUE TO OFFER THE**
8 **WOODSDALE UNITS INTO THE PJM MARKET WHILE THE**
9 **PIPELINE IS UNDER AN IMBALANCE POSTING?**

10 A. First, keeping Woodsdale units available in the energy market benefits the Duke
11 Energy Kentucky customer. In addition, PJM tariffs require Duke Energy
12 Kentucky (and all members) to follow PJM's must offer market rule obligations
13 for generating resources so to ensure the generating units availability as Duke
14 Energy Kentucky customer resources. This means that Duke Energy Kentucky
15 has an obligation under PJM's tariffs to offer its generation into both the PJM
16 day-ahead energy market and the real-time energy market. To do so, Duke Energy
17 Kentucky must ensure that the units are capable of meeting those obligations if
18 called upon - meaning fuel must be available. There is not a guarantee that if an
19 award is granted in the day-ahead energy market that the unit will actually be
20 called upon and/or dispatched at the same level in the real time energy market.

21 Offering the units to PJM in the day-ahead energy market without
22 confidence as to the ability to secure gas below the offered price exposes Duke
23 Energy Kentucky and its customers to excessive risk as to price, penalties and

1 raises reliability concerns in the event that the units are committed in the day-
2 ahead energy market, natural gas is not procured in the day-ahead natural gas
3 market, and natural gas is not available in the intra-day gas market.

4 **Q. ARE THERE ANY LIMITS ON THE AMOUNT OF THE LONG**
5 **NATURAL GAS POSITION THAT TETCO ALLOWS AT WOODSDALE**
6 **STATION?**

7 A. Yes. The OBA between the Company and TETCO limits the daily operational
8 imbalance to [REDACTED] dekatherms a day and the cumulative operational imbalance
9 on any gas day to not exceed [REDACTED] dekatherms. During January, February, and
10 March of 2014, TETCO has allowed the Company to have an imbalance to be
11 greater than the [REDACTED] dekatherms specified in the OBA. However, TETCO does
12 place a limit on this additional amount as excessive long positions can cause other
13 operational problems for the pipeline.

14 **Q. DURING JANUARY 2014, WHAT WAS THE COMPANY'S NATURAL**
15 **GAS POSITION AS A RESULT OF THE OBLIGATION TO PROCURE**
16 **THE NATURAL GAS FOR THE DAY AHEAD ENERGY MARKET AND**
17 **THE INABILITY TO BURN IT IN THE REAL TIME ENERGY**
18 **MARKET?**

19 A. Duke Energy Kentucky's imbalance position resulted in the Company having an
20 imbalance of more than [REDACTED] dekatherms for the Month of January prior to
21 selling the gas.

22 **Q. CAN THE COMPANY REDUCE ITS IMBALANCE GAS POSITION BY**
23 **RUNNING THE UNITS WITHOUT NOMINATING NATURAL GAS?**

1 A. Normally, yes. However, while in an Imbalance Posting, TETCO does not permit
2 its customers to burn the gas that is being carried over or banked from one day to
3 the next. Thus, while the restrictions on the pipeline are present, the option of
4 burning the gas does not reduce the current natural gas imbalance position since
5 additional gas must continue to be procured that at least matches the anticipated
6 expected burn at the station. This creates an anomalous situation creating a
7 disconnection between the PJM energy market obligations and the natural gas
8 interstate pipeline operational specifications.

9 **Q. WHAT OPTIONS ARE AVAILABLE TO REDUCE THE NATURAL GAS**
10 **LENGTH AT WOODSDALE STATION DURING AN IMBALANCE**
11 **POSTING?**

12 A. There are only two options, besides burning the gas, available to the Company to
13 remedy this long imbalance position. Duke Energy Kentucky could either sell the
14 unburned natural gas sitting in the pipeline or allow the pipeline to confiscate
15 delivery. Confiscation is not an acceptable solution due to the financial impact
16 that could result from this action as the entire value of the gas position would be
17 taken by TETCO.

18 **Q. HAS TETCO CONTACTED THE COMPANY REGARDING THIS LONG**
19 **NATURAL GAS POSITION AT WOODSDALE STATION?**

20 A. Yes. Although the parties work together daily, on Tuesday, January 28, 2014,
21 Duke Energy Kentucky received official notification from TETCO pipeline that
22 the positive imbalance could not be increased and would also need to be
23 addressed immediately upon removal of the restrictions, and reduced in an

1 efficient manner. Attachment JDS-2 is a true and accurate copy of the email
2 received from TETCO.

3 **Q. PLEASE DESCRIBE THE ACTIONS OF DUKE ENERGY KENTUCKY**
4 **IN RESPONSE TO THIS NOTIFICATION FROM TETCO?**

5 A. At the time of this notification, the Company had [REDACTED] dekatherms of gas
6 delivery scheduled each day through January 31, 2014. In order to ensure that no
7 gas was confiscated, Duke Energy Kentucky needed to sell any of the excess daily
8 gas before the end of each gas day. If the gas was not sold, TETCO has the right
9 to cut the gas down to the amount of dekatherm burned for the day. Because the
10 Woodsdale units were only called upon and dispatched for approximately one
11 hour in the PJM real-time energy market between January 28-31, 2014, the burn
12 was very low and TETCO would have confiscated almost 100 percent of the gas
13 that Duke Energy Kentucky had purchased. As a result, Duke Energy Kentucky
14 was forced to sell natural gas to avoid TETCO confiscation. In addition, once the
15 imbalance posting is removed, it is anticipated that additional natural gas may be
16 sold to work the imbalance down to an acceptable amount.

17 **Q. DID THE SALE OF THE NATURAL GAS IN JANUARY RESOLVE THE**
18 **NATURAL GAS LONG POSITION FOR DUKE ENERGY KENTUCKY?**

19 A. No. The sale of natural gas did not resolve the natural gas long position, but did
20 mitigate the risk that TETCO would outright confiscate the gas as it did prevent
21 an increase in the long natural gas position. Duke Energy Kentucky still
22 maintained a long natural gas position on the pipeline even after the January sale.

1 **Q. DID DUKE ENERGY KENTUCKY MAKE ANY ADDITIONAL SALES**
2 **OF NATURAL GAS?**

3 A. Yes, Duke Energy Kentucky made an additional sale in February of 10,000
4 dekatherms to mitigate the risk of a potential natural gas confiscation. Once
5 again, this sale prevented an increase in the natural gas position. To this day, the
6 Company continues to carry a positive balance because the imbalance posting
7 continued for much of the time period and when dispatched, the unit's burn was
8 approximately equal to its delivered volume.

9 **Q. WAS SELLING THE NATURAL GAS IN THE BEST INTEREST OF THE**
10 **CUSTOMER?**

11 A. Yes. Because of the rules and interplay between the PJM energy markets and the
12 natural gas markets, the inability to "carry forward" gas balances, the need to keep
13 Woodsdale available in the energy market for the benefit of the customer, and to
14 meet the PJM "must-offer" obligation, the Company had to procure gas in the
15 day-ahead gas market and inject it into the pipeline without having any assurance
16 that it will be able to burn the gas and be called upon in the real-time energy
17 market. Because TETCO informed Duke Energy Kentucky that the Company
18 could not add any additional volume to the current imbalance position and so to
19 avoid the risk of confiscation of the existing position altogether, selling the natural
20 gas was the only viable option to ensure Woodsdale's availability, while not
21 increasing the current natural gas position on the pipeline.

22 **Q. DID TETCO LIFT THE OPERATIONAL FLOW RESTRICTIONS?**

1 A. Yes. TETCO finally lifted the operational flow restriction on March 28, 2014.
2 Attachment JDS-3 is a true and accurate copy of the email notification from
3 TETCO officially lifting the restriction.

4 **Q. WHAT IS DUKE ENERGY KENTUCKY'S CURRENT NATURAL GAS**
5 **POSITION AS A RESULT OF THE INTERPLAY BETWEEN THE GAS**
6 **AND ENERGY MARKETS YOU PREVIOUSLY MENTIONED?**

7 A. Currently Duke Energy Kentucky still has an imbalance position of just under
8 [REDACTED] dekatherms.

9 **Q. DOES THE COMPANY ANTICIPATE BEING ABLE TO BURN THIS**
10 **GAS IMBALANCE IN THE NEAR FUTURE?**

11 A. No. As the Company is heading into milder spring time temperatures, albeit
12 warmer, the Company does not foresee an opportunity for Woodsdale to be called
13 upon enough to consume this volume of gas given its status as a peaking unit until
14 much later in the summer.

15 **Q. IF TETCO HAS NOW LIFTED THE OPERATIONAL FLOW**
16 **RESTRICTION, CAN DUKE ENERGY KENTUCKY NOW SIMPLY**
17 **CARRY FORWARD THIS IMBALANCE POSTING UNTIL THE**
18 **WOODSDALE UNITS ARE CALLED UPON?**

19 A. No. While the lifting of the operational flow restriction does alleviate some of the
20 pressure Duke Energy Kentucky was experiencing, it does not resolve the
21 situation. The Company maintains a large imbalance and must mitigate it. This is
22 especially true if there is another operational flow restriction issued in the future
23 and the Company needs to procure additional gas. The Company will likely have

1 to make additional sales of the gas to reduce to imbalance to levels acceptable
2 under the contract with TETCO.

3 **Q. HOW DOES DUKE ENERGY KENTUCKY PROPOSE TO ADDRESS**
4 **THE ACCOUNTING FOR THIS NECESSARY SALE OF THE NATURAL**
5 **GAS PROCEEDS?**

6 A. Duke Energy Kentucky witness, Lisa Steinkuhl fully discusses the Company's
7 recommended accounting treatment in her Direct Testimony.

III. CONCLUSION

8 **Q. WERE ATTACHMENTS JDS-1, JDS-2, AND JDS-3 PREPARED BY YOU**
9 **OR UNDER YOUR DIRECTION AND CONTROL?**

10 A. Yes.

11 **Q. DOES THIS CONCLUDE YOUR PREPARED TESTIMONY?**

12 A. Yes, it does.

**OPERATIONAL BALANCING AGREEMENT
BETWEEN
TEXAS EASTERN TRANSMISSION, LP
AND
THE UNION LIGHT, HEAT AND POWER COMPANY**

This Agreement is made and entered into as of the 1st day of February, 2006 by The Union Light, Heat and Power Company ("UHL&P") and by Texas Eastern Transmission, LP ("TE"), collectively referred to as "Parties" or individually referred to as a "Party".

WITNESSETH

WHEREAS, the pipeline facilities operated by the Parties interconnect at the interconnection point(s) specified on Exhibit 1 attached hereto and incorporated herein by this reference (hereinafter referred to as "Location", whether one or more); and

WHEREAS, Party or Parties have entered into one or more agreements with third party Service Requesters ("Service Requester(s)") for the transportation of natural gas to or from the Location on the Parties' respective systems (said agreements hereinafter referred to as "Service Requester Agreements"); and

WHEREAS, from time to time, dekatherms of natural gas confirmed and scheduled by the Parties to be delivered to or received from the Location (said quantities hereinafter referred to as "Scheduled Quantities") may be greater than or less than the dekatherms of natural gas which are actually delivered at the Location, resulting in inadvertent over- or under-deliveries of the Service Requesters' Scheduled Quantities; and

WHEREAS, the Parties desire to implement an operational balancing agreement in order to facilitate more efficient operations, accounting, and systems management at the Location and on the Parties' respective systems; and

WHEREAS, TE is designated as the "Measuring Party" for purposes of this Agreement; and

WHEREAS, both Parties maintain a 24 hour a day, 365 days a year Gas Control Center and the Measuring Party has the ability to alter the flow at the Location; and

WHEREAS, unless specifically stated otherwise, all references to "gas day" herein shall be defined as a 24 hour period commencing at 9:00 A.M., Central Clock Time ("CCT").

CONFIDENTIAL PROPRIETARY TRADE SECRET

Operational Balancing Agreement
Between Union Light Heat & Power and Texas Eastern
Page 2 of 8

NOW, THEREFORE, in consideration of the premises and mutual covenants contained herein, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

Article 1: Operational Parameters

- (1.1) Prior to the date and time of flow at each Location, the Parties shall confirm and schedule Service Requester(s) nominations, in accordance with the North American Energy Standards Board ("NAESB") nomination time cycles or more flexible cycles as may be permitted by the Parties' respective FERC Gas Tariffs, for Service Requester(s) Scheduled Quantities which will be delivered or received at each Location. Such confirmation between the Parties shall be made electronically via electronic interface system (such as the Parties' Electronic Bulletin Boards or other successor systems), by telephone or in writing via facsimile prior to gas flow, unless otherwise mutually agreed to by the Parties.
- (1.2) The Parties intend that the total dekatherms of natural gas actually delivered and received each gas day at each Location will equal the Scheduled Quantities for said Location. Each Party will allocate the dekatherms that have been delivered and received at each Location among the Service Requester Agreements on its system pursuant to the Scheduled Quantities at each such Location. Any difference between the total actual physical flow of gas and the total of all Scheduled Quantities at each Location for such gas day is defined for the purposes of this Agreement as the "Daily Operational Imbalance". The sum of all unresolved Daily Operational Imbalances at any given time is defined for purposes of this Agreement as the "Cumulative Operational Imbalance". The Parties shall eliminate such Daily Operational Imbalance and Cumulative Operational Imbalance pursuant to this Agreement.
- (1.3) Unless the Parties otherwise mutually agree, each Party shall use reasonable efforts to adjust the operations of its pipeline system to keep the measured flow of natural gas at each Location as nearly as possible to the Scheduled Quantities, but in any event the total Daily Operational Imbalance on any gas day shall not exceed [REDACTED] dekatherms at the Location and the total Cumulative Operational Imbalance on any gas day shall not exceed [REDACTED] dekatherms for the Location. The Parties acknowledge and agree that the Daily Operational Imbalance and Cumulative Operational Imbalance tolerances specified herein do not establish any rights to transportation, storage, park and loan or any other type of service. Moreover, notwithstanding the foregoing, TE reserves its right to limit or restrict, on any given day(s), the Daily Operational Imbalance and/or Cumulative Operational Imbalance tolerances, in order to maintain system integrity or to alleviate conditions which threaten to impair TE's ability to provide reliable firm transportation service.
- (1.4) Unless the Parties otherwise mutually agree, neither Party shall be obligated to adjust the operation of its pipeline system below operating pressures which, in its sole judgment, are reasonably necessary to transport the Scheduled Quantities and are consistent with prudent

Operational Balancing Agreement
Between Union Light Heat & Power and Texas Eastern
Page 3 of 8

operating conditions on its pipeline systems. If at any time the pressure in either Party's pipeline system is such that receipts or deliveries cannot be made at a Location, the nominations at that Location will be scheduled according to Paragraph (1.7) of this Agreement until such time that gas flow can be re-established.

- (1.5) The Parties agree to cooperate with each other in the making of the adjustments required under Paragraphs (1.3) and (1.4).
- (1.6) If it becomes apparent to either Party that the Daily Operational Imbalance exceeds or will exceed [REDACTED] dekatherms or the Cumulative Operational Imbalance exceeds or will exceed [REDACTED] dekatherms, such Party shall notify the other Party by telephone as soon as reasonably practicable and the Parties shall adjust, that same gas day, the operations of their respective pipeline systems pursuant to this Article 1 in order to keep the Daily or Cumulative Operational Imbalances, as the case may be, within the applicable tolerances set forth above.
- (1.7) If a capacity constraint occurs on either Party's pipeline system which results in curtailment of Scheduled Quantities through the Location, the Party on whose pipeline system the constraint has occurred shall determine the reallocation of dekatherms of gas to Service Requesters on its pipeline system in accordance with the provisions of its then effective FERC Gas Tariff. Such Party shall promptly notify the other Party by telephone of the constraint and the reallocation of dekatherms of gas to its Service Requester(s). Such Party shall also provide confirmation of the constraint and reallocation of dekatherms of gas by facsimile, in writing or electronic interface system to the other Party as soon as reasonably possible but not more than twenty-four (24) hours after the occurrence of the constraint and the reallocation of dekatherms of gas. If the constraint occurs at the measuring facilities at the Location, the Measuring Party shall be deemed to have the constraint on its pipeline system.
- (1.8) If either Party requires assistance during certain operating conditions on its pipeline system and the other Party is in a position to assist in alleviating such operating condition or conditions, then pursuant to the mutual agreement of the Parties, the Daily or Cumulative Operational Imbalance tolerances set forth in Paragraph (1.3) may be waived and the Parties may use this Agreement to schedule an increase or decrease in flows of gas as each Location independent of the regular Scheduled Quantities at such Location. Imbalances resulting from such assistance, including those that exceed the normal Daily or Cumulative Operational Imbalance tolerances referenced in Paragraph (1.3), shall be eliminated pursuant to such mutual agreement of the Parties, provided that, unless otherwise agreed to by the Parties, such imbalances shall be eliminated within thirty (30) days after the day such assistance ends.

CONFIDENTIAL PROPRIETARY TRADE SECRET

Operational Balancing Agreement
Between Union Light Heat & Power and Texas Eastern
Page 4 of 8

Article 2: Measurement and Balancing

- (2.1) The actual measured quantity of gas at each Location each month shall be determined and communicated by the Measuring Party by facsimile, electronic interface system or in writing to the other Party in accordance with NAESB Standard 2.3.7. The actual measured quantity shall be determined pursuant to the applicable provisions of the Measuring Party's FERC Gas Tariff or applicable measurement procedures of the Measuring Party's pipeline system. The Cumulative Operational Imbalance shall be calculated initially by Measuring Party no later than the tenth (10th) day of the following month and shall be agreed to by electronic interface systems or in writing by the Parties prior to the fifteenth (15th) day of such month.
- (2.2) The Parties shall resolve any Cumulative Operational Imbalance incurred during the prior month by adjusting the receipts and deliveries of gas for the remainder of the current month as provided herein after such prior month's Cumulative Operational Imbalance has been agreed to by the Parties, unless mutually agreed to otherwise. Any prior month Cumulative Operational Imbalance not fully resolved will become part of the current Cumulative Operational Imbalance.
- (2.3) Confirmed nominations are required for scheduling of gas to resolve Cumulative Operational Imbalances unless mutually agreed otherwise. Such nominations and scheduling of deliveries to resolve Cumulative Operational Imbalances shall be made at the Location where the imbalance was created, unless otherwise mutually agreed.
- (2.4) Any gas received and delivered to resolve a Daily or Cumulative Operational Imbalance shall be adjusted for variations in BTU content.
- (2.5) Upon the termination of this Agreement, the Parties agree to reconcile and eliminate any remaining Cumulative Operational Imbalance pursuant to the terms and conditions of this Agreement within thirty (30) days of termination of this Agreement or such other period of time which is mutually agreed to by the Parties. Or, upon mutual agreement by the Parties, the Cumulative Operational Imbalance may be resolved by cash out according to the provisions of TE's FERC Gas Tariff.

Article 3: Term and Effectiveness

- (3.1) Subject to the provisions of this Article 3, this Agreement shall be effective as of February 1, 2006 and shall continue until February 28, 2006 and from month to month thereafter until cancelled by either Party upon not less than two (2) business days prior written notice. Such notice shall be effective at the end of the month of such notification.
- (3.2) Notwithstanding the provisions of Paragraph (3.1), this Agreement can be permanently cancelled by either Party under the following conditions:

Operational Balancing Agreement
Between Union Light Heat & Power and Texas Eastern
Page 5 of 8

- (a) Failure by either Party to immediately adjust the operations of its system when informed in writing or by electronic interface system of a critical operating condition(s) by the other Party. A critical operating condition is determined in the sole reasonable judgment of the Party claiming a critical operating condition.
 - (b) Failure of the Parties to agree in writing on the final adjusted Cumulative Operational Imbalance prior to the fifteenth (15th) day of the month following the last month gas was delivered. Provided, however, if the Parties disagree on the final adjusted Cumulative Operational Imbalance but are diligently working towards a resolution, then this Agreement will not be cancelled.
 - (c) Exceeding the Daily Operational Imbalance or the Cumulative Operational Imbalance without the prior written agreement of the other Party if a suspension of the Agreement has occurred in the previous six (6) months pursuant to Paragraph (3.3).
- (3.3) If the Cumulative Operational Imbalance exceeds [REDACTED] dekatherms and the Parties fail to make the adjustments provided in Paragraph (1.6), this Agreement can be suspended by the Party not exceeding the Cumulative Operational Imbalance upon 48 hours prior written notice given to the other Party via facsimile, such suspension to be effective at 9:00 A.M. CCT following the end of the 48 hour notice period and will remain in effect until such time as the Cumulative Operational Imbalance is less than [REDACTED] dekatherms. However, if prior to the effective time of the suspension, the Cumulative Operational Imbalance is reduced to less than [REDACTED] dekatherms, such suspension will not go into effect. During the period of suspension of this Agreement, imbalances at the Location(s) that would otherwise increase the Cumulative Operational Imbalance shall be allocated pro rata among the Service Requester(s), and imbalances at the Location(s) that would reduce the Cumulative Operational Imbalance will be allocated to this Agreement.

Article 4: Miscellaneous

- (4.1) This Agreement and the terms and conditions herein are subject to all present and future valid laws, orders, rules and regulations of duly constituted authorities having jurisdiction.
- (4.2) In the event a conflict exists or arises between this Agreement and the Parties' FERC Gas Tariff, as amended from time to time, it is agreed and understood that the latter shall control. This Agreement shall supercede any other agreements with respect to the handling of Daily and Cumulative Operational Balances at the Location.
- (4.3) UHL&P hereby agrees that the provisions of TE's FERC Gas Tariff are incorporated herein by reference and made a part of this Agreement for all purposes. UHL&P also agrees that it shall be

Operational Balancing Agreement
Between Union Light Heat & Power and Texas Eastern
Page 6 of 8

required to comply with all of the creditworthiness requirements in TE's FERC Gas Tariff throughout the term of this Agreement.

- (4.4) This Agreement is for accounting and system management purposes only, and is entered into by the Parties with the understanding that the balancing activities provided for hereunder will not subject any non-jurisdictional entity to regulation by the Federal Energy Regulatory Commission as a "natural gas company" under the provisions of the Natural Gas Act. If, at any time, it should be determined that such balancing activities do result in such regulation, then this Agreement shall immediately terminate, and any remaining Cumulative Operational Imbalance shall be resolved pursuant to Paragraph (2.5) of this Agreement.
- (4.5) This Agreement is not assignable.
- (4.6) THE INTERPRETATION AND PERFORMANCE OF THIS AGREEMENT SHALL BE IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS, WITHOUT RECOURSE TO THE LAW REGARDING THE CONFLICT OF LAWS.
- (4.7) No waiver by either Party of any one or more defaults by the other in the performance of any provision of this Agreement shall operate or be construed as a waiver of any continuing or future default or defaults, whether of a like or different character, or a waiver of each of the Parties' obligation to eliminate Daily or Cumulative Operational Imbalances by adjusting nominations and/or deliveries and receipts of gas at the Location, as provided herein.
- (4.8) As provided in this Agreement, written notices shall be mailed to the post office address of the Party intended to receive the same, as follows:

The Union Light, Heat and Power Company
139 East Fourth Street
Mail Location EA503
Cincinnati, OH 45202
Attention: Contract Administration

Texas Eastern:
P. O. Box 1642
Houston, Texas 77251-1642
Attention: Capacity Scheduling

- (4.9) With regard to operational matters, either Party shall have the right to designate different personnel or locations to receive notices from the other Party for different periods of the week.
- (4.10) This Agreement replaces and supercedes the prior agreement between Texas Eastern and Cinergy Marketing & Trading, LP dated April 1, 2001. Any imbalance which may exist upon the effective date of this Agreement at the Location found in the Exhibit 1 due to prior Operating Balancing Agreements will be transferred to this Agreement and handled under the terms contained herein.

CONFIDENTIAL PROPRIETARY TRADE SECRET

Operational Balancing Agreement
Between Union Light Heat & Power and Texas Eastern
Page 7 of 8

IN WITNESS WHEREOF, the Parties hereto have executed duplicate originals of this Agreement on the date set forth hereinabove.

TEXAS EASTERN TRANSMISSION, LP
by its General Partner
Duke Energy Gas Transmission Services, LLC

By: *R. Mark Fiedorek* *HF*

R. Mark Fiedorek
Vice President, Asset Optimization & Marketer Services

THE UNION LIGHT, HEAT AND POWER COMPANY

By: *Anthony D'Agostino*

As To Form
1/27

Name: *Anthony D'Agostino*

Title: *VP Executing Agent*

CONFIDENTIAL PROPRIETARY TRADE SECRET

Operational Balancing Agreement
Between Union Light Heat & Power and Texas Eastern
Page 8 of 8

EXHIBIT 1

To the Operational Balancing Agreement
Between
The Union Light, Heat and Power Company
And
Texas Eastern Transmission, LP
February 1, 2006

Location

<u>TETCO</u>	<u>D-R-N</u>	<u>Description</u>	<u>Measuring Party</u>
<u>M&R</u>	<u>Number</u>		
73280	Not Avail.	Woodsdale Plant	Texas Eastern

TEXAS EASTERN TRANSMISSION, LP
by its General Partner
Duke Energy Gas Transmission Services, LLC

By: *R. Mark Fiedorek*

R. Mark Fiedorek
Vice President, Asset Optimization & Marketer Services

THE UNION LIGHT, HEAT AND POWER COMPANY

By: *Anthony D'Agostino*

Name: Anthony D'Agostino

Title: VP Executive Agent

As To Form
MS

From: [Lopez, Elvia D](#)
To: [Manning, James B](#)
Cc: [Pilkenton, Paul D](#); [Fontenot, Daniel L](#)
Subject: Duke Energy KY - OBA k#630078 (m#73280)
Date: Tuesday, January 28, 2014 6:04:49 PM

*** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ***

Good afternoon James.

As of January 27, 2014, the imbalance on OBA k#630078 (Duke Energy KY/m#73280 – Woodsdale) is approximately 430k Due Shipper. The cumulative tolerance on this OBA is only +/- 30k so this is extremely over that limit. As such, Texas Eastern can no longer allow any more length to be left on the pipeline. If the meter does not burn the scheduled nominations, Texas Eastern expects the nominated quantities to be reduced accordingly. Currently Texas Eastern has an Imbalance Posting (no shorts to pipeline regardless of cumulative imbalance) in effect in Market Area Zones M2 and M3 (m#73280 is in M2). Once this restriction is lifted, you will be allowed to work down your due shipper imbalance. This will need to be coordinated with us on a daily basis and scheduled on your OBA.

If you have any questions, please feel free to contact your Account Manager Dan Fontenot at 713.627.5914 or myself at 713.627.5777. Thanks!

Elvia Lopez
Capacity Services Manager

-----Original Message-----

From: Manning, James B

Sent: Friday, March 28, 2014 2:17 PM

To: D'Ascenzo, Rocco O; Swez, John; Steinkuhl, Lisa D; Phipps, Brett; McCallister, Joseph; Verderame, John; Eckstein, Jim

Subject: FW: Critical,Constraint,20140328,TE,007932908

This is the notice from TETCO lifting their alert.

-----Original Message-----

From: infopost@spectraenergy.com [<mailto:infopost@spectraenergy.com>]

Sent: Friday, March 28, 2014 8:24 AM

To: LinkSystem@spectraenergy.com

Subject: Critical,Constraint,20140328,TE,007932908

*** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ***

Effective immediately, Texas Eastern (TE) will lift the no due pipe creation and no due shipper payback restrictions for all points.

Additionally, TE will lift all FERC Order No. 698 reporting requirements.

Please contact your Operations Account Manager should you have any question