

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

ANR Pipeline Company )

Docket No. RP16 - \_\_\_\_-000

**Summary of the Prepared Direct Testimony of Paul Towne**

Mr. Towne is the Manager, Strategy for TransCanada, U.S. Pipelines. He provides an overview of the ANR Pipeline Company (“ANR”) system, including historical background, and describes changes that have occurred on the system since ANR filed its last general section 4 rate case in 1993. First, Mr. Towne describes ANR’s system, including the principal areas that make up the system and how the system currently is divided into rate zones for ratemaking purposes. He explains how ANR traditionally transported gas from supply areas located in the Midcontinent (the Southwest Area or “SW Area”) and the Gulf of Mexico (the Southeast Area or “SE Area”) through its Southwest Mainline (“SW Mainline”) and Southeast Mainline (“SE Mainline”) to its Northern Area markets (primarily Wisconsin and Michigan). He also describes how ANR historically delivered into Ohio via the jointly-owned Lebanon Lateral off of its SE Mainline. He then summarizes ANR’s current seven-zone rate structure.

Second, Mr. Towne describes the way in which ANR’s system operations, supply and market dynamics, and the competitive environment that ANR faces have changed since ANR’s last rate case. That rate case was filed over two decades ago when ANR was implementing restructured operations pursuant to Order No. 636, and since that time there have been transformative changes in the natural gas marketplace that have had significant impacts on ANR’s operations. In particular, there have been major changes in the sources of natural gas supply that is transported on ANR’s system, and market areas have developed and/or expanded

in regions that were not traditional market areas served by ANR. New and expanded supply sources into ANR have altered demand for transportation services, changed flows from original pipeline design conditions, increased pipeline competition and converted traditional market areas into supply areas.

Finally, Mr. Towne discusses how these changes support ANR's proposal to implement changes to its rate zone structure on a prospective basis, by reducing the number of rate zones on its system from seven to four and how this change will benefit shippers and ANR alike by fostering competitive opportunities and maximizing the use of ANR's system by facilitating access to all sources of supply available for transportation on ANR

Docket No. RP16-\_\_\_\_-000

Exhibit No. ANR-003

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

ANR Pipeline Company

)

Docket No. RP16 - \_\_\_\_-000

**PREPARED DIRECT TESTIMONY  
OF PAUL TOWNE ON BEHALF OF  
ANR PIPELINE COMPANY**

January 29, 2016

**Glossary of Terms**

Alliance	Alliance Pipeline L.P.
ANR	ANR Pipeline Company
Bcf	Billion cubic feet
Bcf/d	Billion cubic feet per day
Cheyenne Plains	Cheyenne Plains Gas Pipeline Company, L.L.C.
Columbia Gas	Columbia Gas Transmission, LLC
Commission	Federal Energy Regulatory Commission
DTI	Dominion Transmission, Inc.
EIA	Energy Information Administration
Enable	Enable Gas Transmission, LLC
Lebanon Lateral	The jointly-owned lateral extending from Glen Karn, Indiana to Lebanon, Ohio
LNG	Liquefied natural gas
Michigan Leg	A segment of ANR's SW Mainline extending through Indiana and into Michigan
NGPL	Natural Gas Pipeline Company of America
Northern Border	Northern Border Pipeline Company
Northern Natural	Northern Natural Gas Company
REX	Rockies Express Pipeline LLC
REX East Leg 1	The second phase of REX that interconnected with ANR's SE Mainline
REX West	The initial phase of REX that interconnected with ANR's SW Mainline
Rover	Energy Transfer Partners Rover Pipeline Project

RP94-43 Settlement	Stipulation and Agreement dated October 17, 1997 in <u>ANR Pipeline Company</u> , Docket No. RP94-43-016
SE Area	Southeast Area
SE Mainline	Southeast Mainline
SW Area	Southwest Area
SW Mainline	Southwest Mainline
TBO	Transportation by others
TC Offshore	TC Offshore LLC
Texas Gas	Texas Gas Transmission, LLC
Texas Eastern	Texas Eastern Transmission, LP
TGPL	Tennessee Gas Pipeline Company
Tie Line	A line from Defiance, Ohio to Bridgman, Michigan that connects ANR's SE and SW Mainlines
Vector	Vector Pipeline L.P.



1 term pipeline and storage capacity when serving as Manager, Marketing and Business  
2 Development for Tennessee Gas Pipeline Company (“TGPL”). I have been responsible  
3 for developing, implementing and marketing a variety of services on TGPL. I have also  
4 been responsible for overseeing the development and execution of plans to ensure  
5 regulatory compliance and had primary responsibility for revenue forecasting and budget  
6 reconciliation for several pipelines and storage companies.

7 **Q: Have you ever testified before the Federal Energy Regulatory Commission**  
8 **(“Commission”) or any other energy regulatory commission?**

9 A: Yes, I testified before the Commission in ANR Storage Co., Docket No. RP12-479-000.

10 **Q: What is the purpose of your testimony in this proceeding?**

11 A: My testimony will provide an overview of the ANR system, including historical  
12 background, and will describe changes that have occurred on the system since ANR filed  
13 its last general section 4 rate case in 1993.

14 First, I will provide an overview of ANR’s system, including the various areas  
15 that make up the system and how the system currently is divided into rate zones for  
16 ratemaking purposes. Second, I will describe the way in which ANR’s system  
17 operations, supply and market dynamics, and the competitive environment that ANR  
18 faces have changed since ANR’s last rate case. That rate case was filed over two decades  
19 ago, when ANR was implementing restructured operations pursuant to Order No. 636,  
20 and there have been dramatic changes on ANR’s system in the decades since that time.  
21 Finally, I will explain why these changes support ANR’s proposal to implement changes  
22 to its rate zone structure on a prospective basis, by reducing the number of rate zones on  
23 its system from seven to four.

24 **Q: Are you sponsoring any exhibits in addition to your testimony?**

1 A: Yes, I am sponsoring the following exhibits:

2 Exhibit No. ANR-004 ANR SW Area Map with receipt and delivery points

3 Exhibit No. ANR-005 ANR SE Area Map with receipt and delivery points

4 Exhibit No. ANR-006 ANR Northern Area Map with receipt and delivery points

5 Exhibit No. ANR-007 ANR Mainline Map with receipt and delivery points

6 Exhibit No. ANR-008 ANR Receipts and Deliveries by Segment Data

7 Exhibit No. ANR-009 Maj. Changes in Nat. Gas Trans. Capacity 1998-2008

8 Exhibit No. ANR-010 EIA Natural Gas Gross Withdrawals and Production

9 Exhibit No. ANR-011 EIA Natural Gas Wellhead Prices

10 Exhibit No. ANR-012 EIA Additions to Capacity on U.S. Natural Gas Pipeline  
11 Network: 2005

12 Exhibit No. ANR-013 EIA Additions to Capacity on U.S. Natural Gas Pipeline  
13 Network: 2007

14 Exhibit No. ANR-014 EIA Drilling Productivity

15 Exhibit No. ANR-015 EIA Natural Gas Pipeline Projects

16 Exhibit No. ANR-016 EIA NE & OH Consumption; Marcellus/Utica Prod.

17 Exhibit No. ANR-017 Natural Gas Annual Respondent Query System EIA-191

18 **II. OVERVIEW OF THE ANR PIPELINE SYSTEM**

19 **Q. Please provide a general description of the ANR pipeline system.**

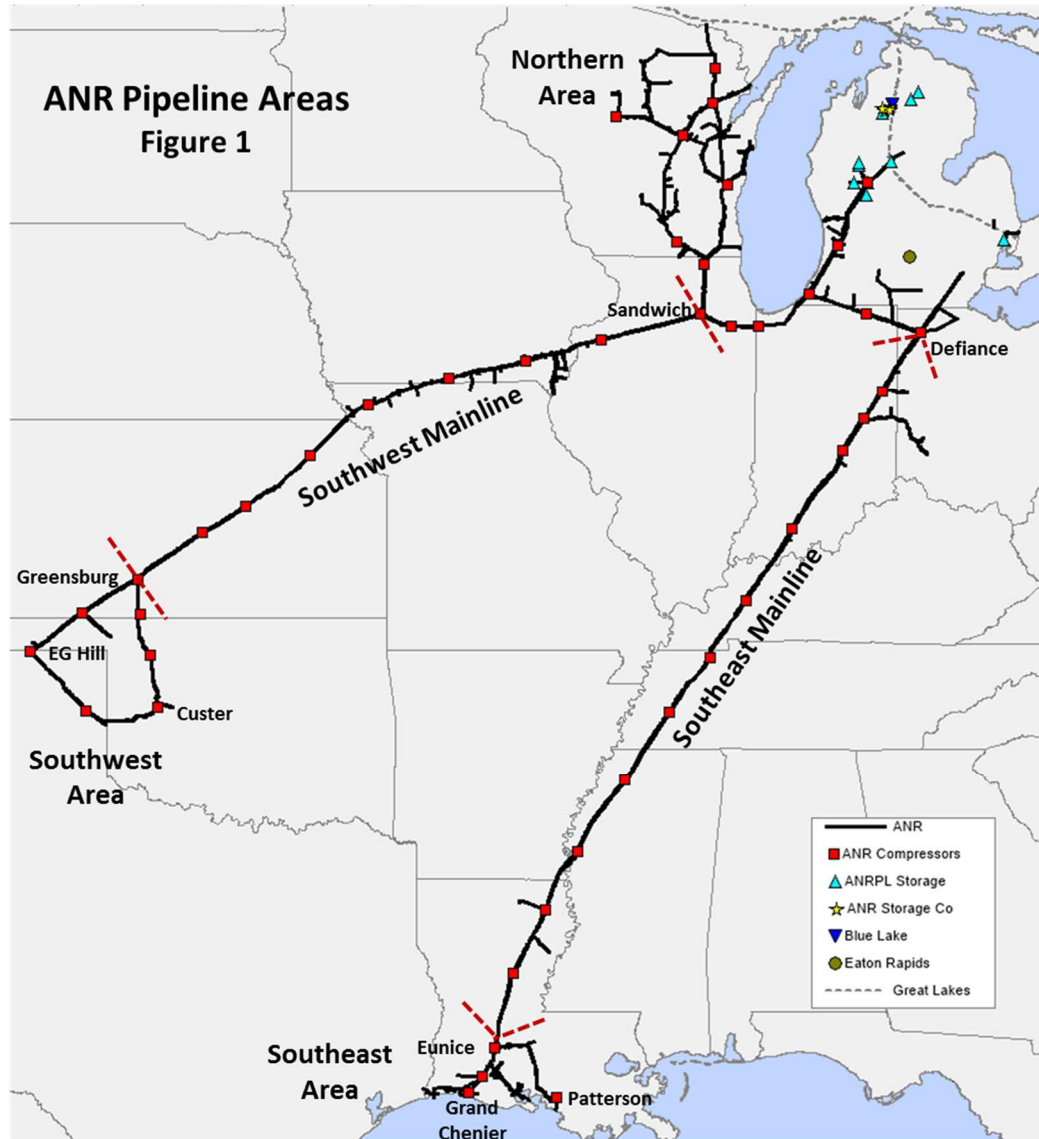
20 A: ANR originated with the construction of the Michigan Wisconsin Pipeline in 1949, which  
21 was designed to connect production sources in western Texas and Oklahoma to points in  
22 Michigan, Wisconsin and adjoining states to the south. In 1957, the American Louisiana  
23 Pipeline was constructed to connect production sources in southern Louisiana to markets



1 in Michigan. Also in 1957, a 22-inch-diameter line from Defiance, Ohio, to Bridgman,  
2 Michigan (the “Tie Line”), was constructed to connect the two pipelines.

3 Today, ANR’s system consists of approximately 9,400 miles of pipeline and  
4 nearly 216 billion cubic feet (“Bcf”) of storage and delivers more than 1 trillion cubic  
5 feet of natural gas annually, with a peak-day delivery capacity of more than 6 Bcf.  
6 ANR’s facilities include two main pipelines: the Southwest Mainline (“SW Mainline”)  
7 extending from Texas north through Oklahoma, Kansas, Missouri, Iowa, Illinois and into  
8 Wisconsin with a segment extending through Indiana and into Michigan (“Michigan  
9 Leg”), and the Southeast Mainline (“SE Mainline”) extending from Louisiana north  
10 through Arkansas, Mississippi, Tennessee, Kentucky, Indiana, Ohio, and into Michigan.  
11 The Tie Line connects the two main branches. ANR also owns storage facilities located  
12 in Michigan and purchases additional storage capacity from third-party storage providers.  
13 As discussed more fully by ANR witness Pollard, ANR has purchased transportation  
14 capacity on third-party systems (referred to as “transportation by others” or “TBO”) to  
15 integrate its storage facilities and also to ensure reliability for ANR’s transportation  
16 services.

17 The ANR system is divided into five major areas: two traditional production  
18 areas, the Southwest Area (“SW Area”) and the Southeast Area (“SE Area”); one  
19 traditional market area (the Northern Area); the SW Mainline; and the SE Mainline. The  
20 latter two historically linked the production areas to the market area. A map depicting  
21 these areas is shown in Figure 1.



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Exhibit No. ANR-004 is a map showing all of ANR's receipt and delivery points in the SW Area. Exhibit No. ANR-005 is a map showing all of ANR's receipt and delivery points in the SE Area. Exhibit No. ANR-006 is a map showing all of ANR's receipt and delivery points in the Northern Area. Exhibit No. ANR-007 is a map showing all of ANR's receipt and delivery points on the SW Mainline and SE Mainline.

**Q: How is ANR's system currently divided into zones for ratemaking purposes?**

1 A: ANR currently employs a seven-zone rate structure. The SW Area and SE Area each  
 2 constitute a separate rate zone, and the Northern Area constitutes a separate zone (ML-7).  
 3 The SW Mainline is divided into two separate segments, the SW Southern Segment (ML-  
 4 5) and the SW Central Segment (ML-6), and the SE Mainline likewise is divided into two  
 5 segments, the SE Southern Segment (ML-2) and the SE Central Segment (ML-3). Figure  
 6 2 depicts the current zone boundaries.

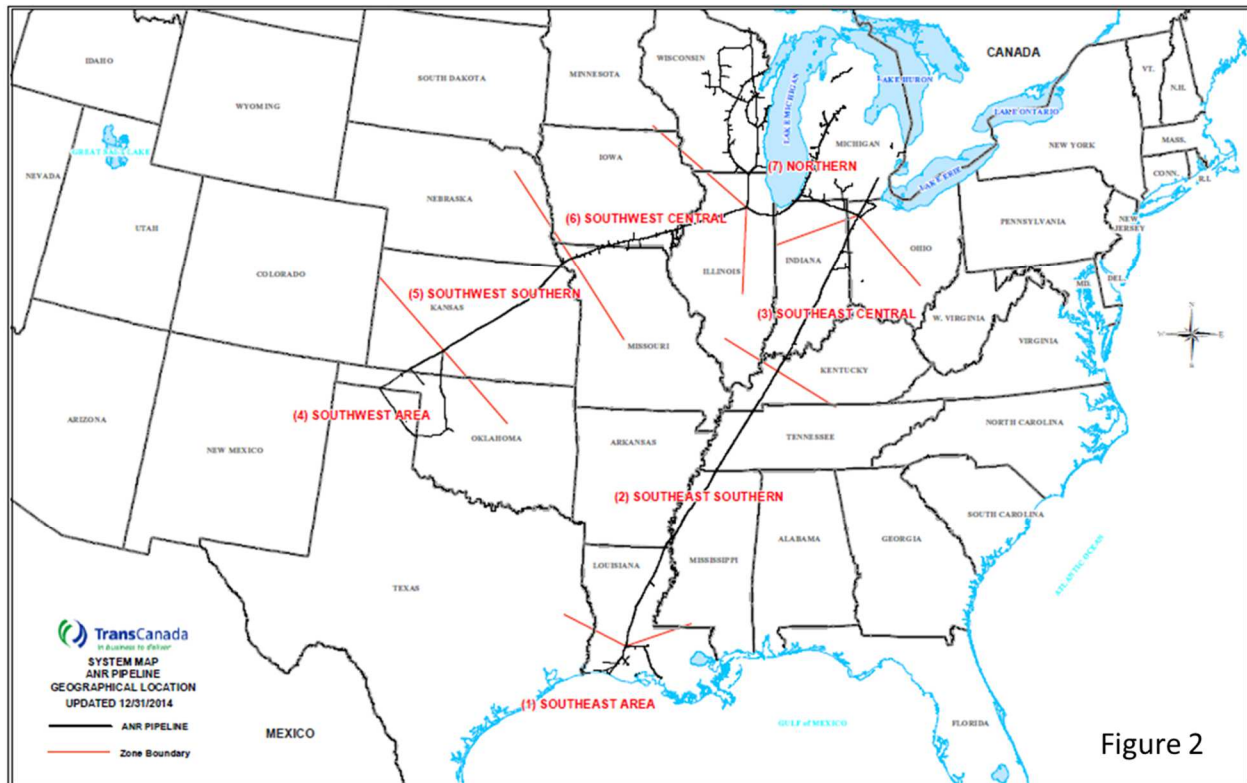


Figure 2

8 **Q: Can you describe the general characteristics of the facilities for each of the major**  
 9 **areas on ANR's system?**

10 A: Yes, I will begin with the SE Area. This portion of ANR's system includes the pipelines  
 11 and laterals that extend east and south of ANR's compressor station near Eunice,  
 12 Louisiana, a compressor facility that has become known as the Southeast Headstation or  
 13 simply Eunice. The Eunice compressor station is the demarcation point between the SE  
 14 Area and the SE Mainline. The SE Area is composed of two operational areas: the

1 Louisiana System – East, commonly referred to as the Patterson System, and the  
2 Louisiana System – West, generally known as the Grand Chenier System. The Patterson  
3 and Grand Chenier Systems formerly included certain offshore facilities, but these  
4 facilities were spun down to ANR’s subsidiary, TC Offshore LLC (“TC Offshore”), in  
5 2012.

6 Supply into the Patterson System comes primarily from the Eugene Island  
7 Operating Area through TC Offshore, with additional supply from other natural gas  
8 processing plants delivering into the system near Patterson, Louisiana. Supply into the  
9 Grand Chenier System comes primarily from TC Offshore facilities that extend into the  
10 West Cameron Offshore Area and connect to High Island Offshore System. The SE Area  
11 facilities, including receipt and delivery points, are shown on Exhibit No. ANR-005.

12 The SE Area traditionally functioned primarily as a supply area for ANR.  
13 However, as I discuss more fully in Section III of my testimony, the decline in receipts  
14 from the Gulf of Mexico, coupled with increased demand for deliveries into the SE Area,  
15 has resulted in the SE Area increasingly becoming a net market area on ANR’s system.

16 **Q. Please describe the SE Mainline.**

17 A: The SE Mainline encompasses two rate zones, ML-2 and ML-3, which are operationally  
18 interdependent and indistinguishable. The SE Mainline extends from Eunice, Louisiana  
19 to Defiance, Ohio. ANR is also a partial owner (with Texas Eastern Transmission, LP  
20 (“Texas Eastern”)) of the Lebanon Lateral, which extends from the jointly-owned Glen  
21 Karn compressor station in Indiana to the lateral’s terminus near Lebanon, Ohio. A  
22 wholly-owned ANR lateral from Glen Karn connects the Lebanon Lateral with ANR’s  
23 SE Mainline at Sulphur Springs, Indiana. The ML-2 and ML-3 facilities, including  
24 receipt and delivery points, are shown on Exhibit No. ANR-007.

1           Supply from Texas, Oklahoma, Louisiana and Arkansas enters ML-2, while  
2 supply from the Rockies and Appalachia regions enters ML-3. ANR's two largest market  
3 areas are on opposite ends of the SE Mainline: the Northern Area (ML-7) and the SE  
4 Area in southern Louisiana. As I discuss more fully in Section III of my testimony, ANR  
5 formerly made significant deliveries off of the Lebanon Lateral in ML-3, but due to the  
6 development of the Utica and Marcellus shale formations, ANR's deliveries off of the  
7 Lebanon Lateral are now minimal. ANR's SE Mainline now transports supplies received  
8 from the Lebanon Lateral, so that the SE Mainline functions as a supply header.

9 **Q. Please describe the SW Area.**

10 A: The SW Area is composed of a triangle-like set of facilities, at the top of which is the  
11 ANR compressor station located near Greensburg, Kansas (generally referred to as the  
12 Southwest Headstation or Greensburg). The southwestern leg of the triangle extends  
13 from Greensburg to ANR's E.G. Hill compressor station that straddles the Oklahoma-  
14 Texas border. The eastern leg of the triangle extends from Greensburg to a compressor  
15 station located in Custer County, Oklahoma. The base of the triangle extends from E.G.  
16 Hill southeast through ANR's Gageby Creek Compressor Station, and then to Custer.  
17 The SW Area facilities, including receipt and delivery points, are shown on Exhibit No.  
18 ANR-004.

19           The SW Area is primarily a supply region with limited local delivery markets,  
20 primarily due to the relatively low population in this region. Excess supply is exported  
21 from the Anadarko Basin via interstate and intrastate pipelines that connect with distant  
22 end-use markets. The SW Area also operates as a market center that receives local  
23 supply and supply shipped from the Permian and Rockies supply basins. These supplies  
24 are aggregated and transported to various markets in the Midwest and the Northeast as

1 well as into other pipelines transporting supply away from the Anadarko Basin. Supply  
2 from the Rocky Mountains enters the ANR system in the SW Area from Colorado  
3 Interstate Gas Company, L.L.C., and Cheyenne Plains Gas Pipeline Company, L.L.C.  
4 (“Cheyenne Plains”). Gas is transported between the Permian Basin and ANR on El Paso  
5 Natural Gas Company, L.L.C. and Transwestern Pipeline Company, LLC.

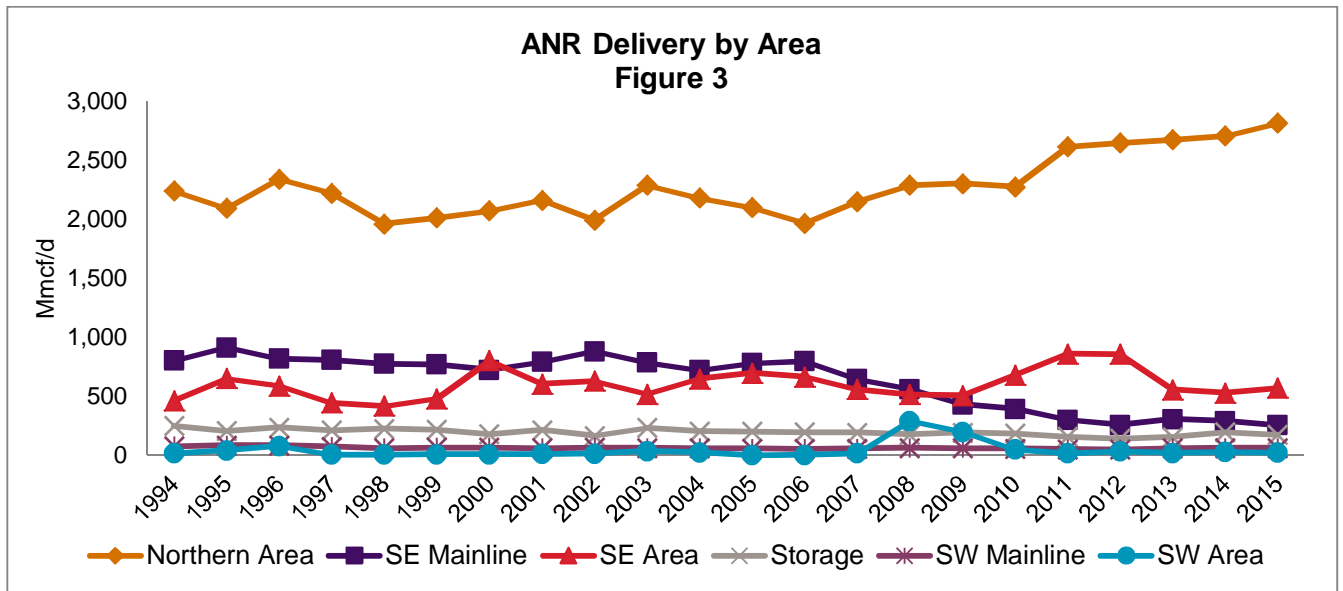
6 **Q. Please describe the SW Mainline.**

7 A: ANR’s SW Mainline extends from Greensburg to an ANR compressor station near  
8 Sandwich, Illinois. The SW Mainline encompasses two rate zones, ML-5 and ML-6.  
9 The ML-5 and ML-6 facilities, including receipt and delivery points, are shown on  
10 Exhibit No. ANR-007. The two SW Mainline rate zones perform different operational  
11 functions. ML-5 is primarily confined to Kansas, with a very small segment in Nebraska  
12 and in western Missouri. Commercial activity in this rate zone is limited to relatively  
13 small bidirectional flows between ANR and Southern Star Central Gas Pipeline, Inc. The  
14 ML-5 pipeline segment primarily functions as an extension of the SW Area, namely to  
15 aggregate and transport gas from a supply-rich region to markets located to the north of  
16 ML-5. By contrast, ML-6 has no local or pipeline-connected supply to supplement  
17 supply flowing into and within the zone, and due to multiple interconnections with local  
18 end-use markets in Missouri and Iowa, ML-6 is a market area while ML-5 functions  
19 essentially as a supply area.

20 **Q. Please describe the Northern Area.**

21 A: ANR’s Northern Area (ML-7) rate zone is an integrated network between Wisconsin and  
22 Michigan utility markets and storage fields that are connected by ANR pipeline  
23 infrastructure in northern Illinois and Indiana extending east into northwest Ohio. That  
24 network is augmented by TBO agreements and storage by others agreements with

1 pipelines and storage operators in Northern Michigan and through Michigan's Upper  
 2 Peninsula. The Northern Area is ANR's largest market area as shown in Figure 3;  
 3 indeed, as I noted previously, the ANR system was originally constructed primarily for  
 4 the purpose of transporting supplies to the Northern Area.



5 Supporting data for Figure 3 is included in Exhibit No. ANR-008.

7 As I discuss more fully below in Section III of my testimony, ANR also receives  
 8 substantial deliveries of Canadian supply in the Northern Area, but the Northern Area  
 9 continues to function as a market area and market center due to the highly integrated  
 10 network of competitive pipelines and storage fields that support multiple published liquid  
 11 trading points. The Northern Area facilities, including receipt and delivery points, are  
 12 shown on Exhibit No. ANR-006.

13 **Q: You mentioned that ANR has storage fields in the Northern Area. How does ANR**  
 14 **use its storage assets?**

15 **A:** Storage plays a significant role on ANR's system, representing approximately 45 percent  
 16 of winter deliverability. ANR operates six storage fields that are directly connected to  
 17 the system and four that are connected to Great Lakes Gas Transmission Limited

1 Partnership. ANR contracts for additional storage capacity with other storage service  
2 providers; one is directly connected to ANR's system with the remainder connected to  
3 other pipelines. All told, nine of the storage fields relied upon by ANR are discontinuous  
4 to its system, and approximately 75 percent of ANR's storage deliverability is  
5 discontinuous to its system. ANR provides storage and related transportation services  
6 that rely upon integrated storage facility operations rather than limiting customers to  
7 allocated capacity in individual storage facilities which is both beneficial for customers  
8 and more efficient for ANR system operations. Therefore, ANR relies upon service  
9 agreements with other pipelines to operationally balance and integrate ANR's operated  
10 storage network with its contracted storage services provided by others. As ANR witness  
11 Pollard explains in greater detail, these contracted service agreements provide essential  
12 operational flexibility necessary for the integrated storage and transportation operations  
13 on ANR's system. Exhibit No. ANR-069 shows ANR's storage fields and the  
14 transportation facilities used to integrate those facilities.

15 **Q. What functions has ANR's system historically served?**

16 A: Historically, ANR existed primarily to transport natural gas from traditional supply  
17 basins in the Midcontinent and the Gulf of Mexico to Northern Area markets. ANR's  
18 system was designed to serve base-load markets and temperature-sensitive loads in  
19 Wisconsin and Michigan that were characterized by high demand in the winter and low  
20 demand in the summer. ANR's SW and SE Mainlines operated primarily as  
21 unidirectional pipelines that flowed gas supply from traditional production areas, the SW  
22 and SE Areas, to the Northern Area.



1       **III.    EVOLUTION OF THE ANR SYSTEM SINCE ITS LAST RATE CASE**

2       **Q.    What is the basis for ANR’s currently effective rates?**

3       A:    With the exception of certain incremental rates for particular projects and rates for new  
4           services implemented after November 1, 1997, ANR’s current generally effective system  
5           rates are the result of a settlement of ANR’s last general Section 4 rate case in Docket  
6           No. RP94-43 (“RP94-43 Settlement”). ANR filed that rate case on November 1, 1993,  
7           which was the effective date of ANR’s commencement of restructured operations  
8           pursuant to Order No. 636, and ANR’s revised rates went into effect, subject to refund,  
9           on May 1, 1994. The RP94-43 Settlement was filed in October 1997, and the  
10          Commission approved it in an order dated February 13, 1998. The rates established by  
11          the RP94-43 Settlement became effective as of November 1, 1997.

12       **Q.    Did the RP94-43 Settlement reflect ANR’s current seven-zone rate structure?**

13       A:    Yes, it is my understanding that the RP94-43 Settlement continued in effect the seven-  
14          zone rate structure that the Commission required ANR to implement in ANR’s Order No.  
15          636 restructuring proceeding. As ANR witness Roscher explains, the seven-zone rate  
16          structure reasonably reflected the flow of gas on ANR’s system at that time.

17       **Q.    You stated that ANR’s filing of its last rate case coincided with the commencement**  
18       **of restructured operations on ANR’s system pursuant to Order No. 636. How did**  
19       **that timing impact the rate case?**

20       A:    Restructuring pursuant to Order No. 636 changed nearly every aspect of the long-  
21          standing existing commercial environment for interstate pipelines. Pipelines were  
22          confronted with the challenges of abrogating long-term supply contracts, creating and  
23          seeking approval for new tariffs with expanded transportation and storage services,  
24          developing and implementing electronic bulletin boards, overhauling nomination and  
25          scheduling systems with new timelines, and revamping volume allocation and billing

1 systems. These were just a few of the major challenges. The dizzying array of  
2 challenges facing pipelines and their shippers led to decisions about necessities and  
3 priorities for change, particularly in light of the uncertainty about the as-yet-unknown  
4 commercial environment and future business implications that were presented by the  
5 requirements of Order No. 636. Thus, when ANR filed its Docket No. RP94-43 rate  
6 case, its primary focus was on positioning the pipeline to address the immediate  
7 challenges presented by the new regulatory environment, rather than trying to predict  
8 how the vast uncertainty presented by the changed industry landscape would ultimately  
9 play out.

10 To take just one example of the business environment that was unknown to  
11 industry participants at the time, the Gas Industry Standards Board, which later became  
12 the North American Energy Standards Board, would develop standardized business  
13 procedures, communications protocols, and nomination timelines and practices. ANR,  
14 like many other pipelines at that time, sought to maintain stability for those business  
15 practices that did not require immediate change, particularly given the uncertainty about  
16 the future. There may have been business elements that ANR and its shippers would like  
17 to have addressed at that time, but those issues were prudently left for the future given the  
18 enormous changes being managed when ANR filed the Docket No. RP94-43 rate case.

19 **Q. Since ANR filed its last rate case, have there been changes in the natural gas**  
20 **marketplace in general and in particular with respect to the ANR system, that have**  
21 **affected ANR's operations and competitive environment?**

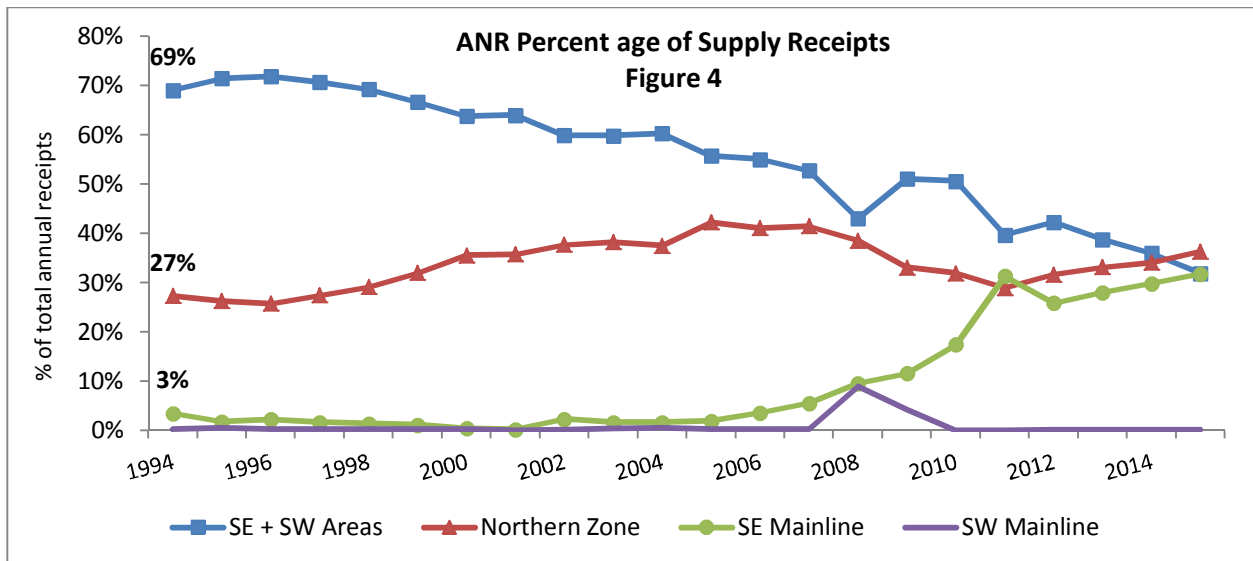
22 A: Yes, over the last two decades, there have been transformative changes in the natural gas  
23 marketplace that have had significant impacts on ANR's operations. In particular, there  
24 have been major changes in the sources of natural gas supply that is transported on  
25 ANR's system, and market areas have developed and/or expanded in regions that were

1 not traditional market areas served by ANR. New and expanded supply sources into  
 2 ANR have altered demand for transportation services, changed flows from original  
 3 pipeline design conditions, increased pipeline competition and converted traditional  
 4 market areas into supply areas. I will discuss these changes below.

### 5 Supply Changes

6 **Q: Please summarize the changes in sources of gas supply that flow on ANR's system**  
 7 **that have taken place since 1994.**

8 A: As I explained above, ANR historically existed primarily to transport natural gas from  
 9 traditional supply basins in the Midcontinent and the Gulf of Mexico to Northern Area  
 10 markets. As shown on Figure 4, ANR received 69 percent of its supply from the SE Area  
 11 and SW Area combined while 27 percent of its supply was received in the Northern Area.



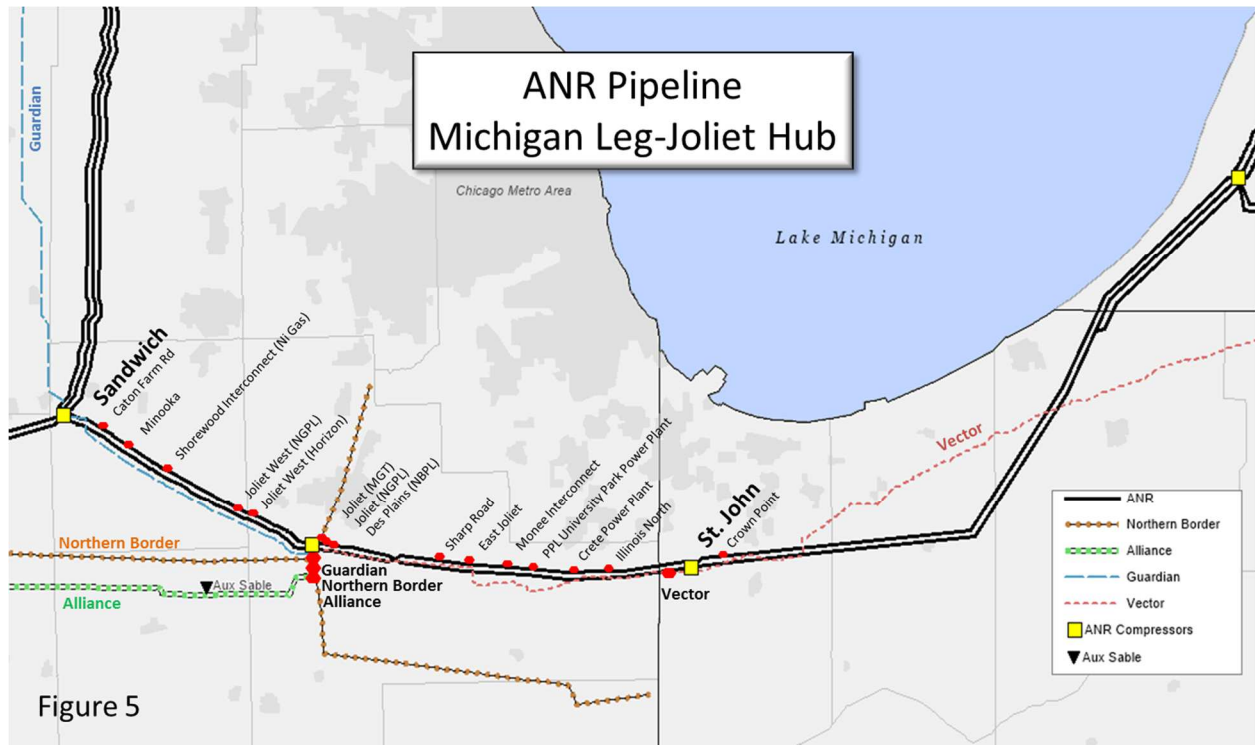
12  
 13 The data underlying Figure 4 are provided in Exhibit No. ANR-008. ANR has seen a  
 14 number of changes in its overall supply profile since the RP94-43 Settlement.  
 15 Specifically, ANR has seen developments with respect to: (1) increased supply received  
 16 into the Northern Area, primarily supply imported from Canada; (2) declining receipts

1 from offshore Gulf of Mexico; (3) increased receipts from the Rocky Mountain region  
2 into the mainlines; (4) rising gas prices during the early to mid-2000s leading to  
3 increasing unconventional production; (5) the construction of significant west-to-east  
4 pipeline infrastructure delivering supply into ANR's Southeast Mainline; (6) increased  
5 receipts from Marcellus/Utica; and (7) declining receipts into the Southwest Area.

6 Exhibit No. ANR-009 is a presentation prepared by Mr. James Tobin for the U.S. Energy  
7 Information Administration ("EIA") in November 2008, *Major Changes in Natural Gas*  
8 *Transportation Capacity, 1998-2008*. This presentation describes major changes in  
9 supply and pipeline infrastructure during that time.

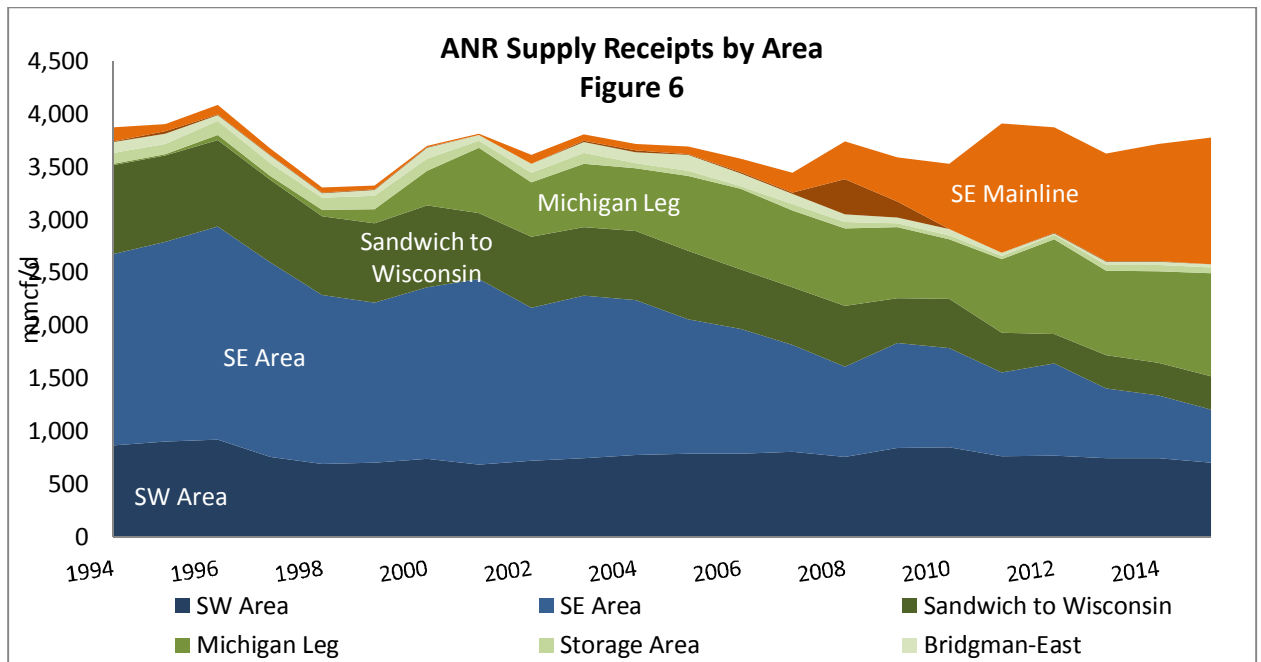
10 **Q: How did Canadian supply come to play an increased role on the ANR system?**

11 A: In 1998, Northern Border Pipeline Company ("Northern Border") expanded and extended  
12 its pipeline to connect Western Canadian supply with pipelines and markets in the Great  
13 Lakes region resulting in deliveries into ANR's Michigan Leg in an area known today as  
14 ANR's Joliet Hub. In addition, Alliance Pipeline L.P. ("Alliance") constructed its  
15 pipeline facilities to deliver rich gas from Western Canada to the Aux Sable Liquid  
16 Products plant in Channahon, Illinois, leading to residue gas from this plant being  
17 delivered into ANR in the Michigan Leg area. The map in Figure 5 below illustrates the  
18 numerous interconnections at ANR's Joliet Hub, a market center established by ANR in  
19 2003.



1  
2 In 1994, 0.2 percent of ANR's total supplies were received into the Michigan Leg; by  
3 2001, these receipts accounted for sixteen percent of the total supply into ANR, primarily  
4 due to receipts from Northern Border and Alliance.

5 The additional supply transported on Northern Border and Alliance was largely  
6 absorbed by growing demand in the Great Lakes region, with the remainder being  
7 transported from Chicago to Ontario via Vector Pipeline L.P. ("Vector"), which entered  
8 service in 2000. Figure 6 shows the increasing supply receipts into the Michigan Leg  
9 since 1994.



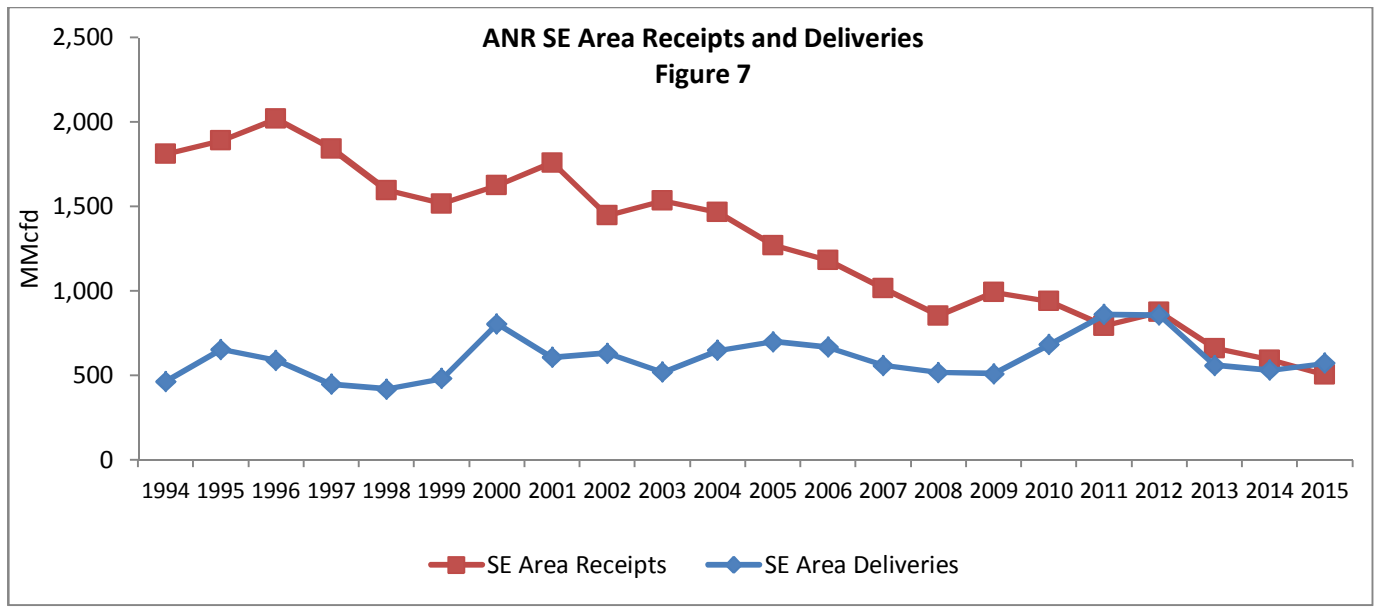
Supporting data for Figure 6 are provided in Exhibit No. ANR-008.

**Q. Has the trend of increasing Canadian supply into the Michigan Leg continued to the present day?**

A. Yes, in 2015, supply received into ANR from the Michigan Leg grew to 26 percent of ANR's total supply, and 36 percent of ANR's total supply (other than storage withdrawal) is received in the Northern Area (ML-7), as shown in Figure 4. This is an increase from the 27 percent of total supply received in the Northern Area in 1994, although it is down from the peak of 42 percent of total supply in 2005, due to other supply source developments I will discuss below.

**Q. What developments have taken place with respect to Gulf of Mexico supplies since 1994?**

A: As shown in Figure 7, receipts from offshore Gulf of Mexico production into ANR's SE Area peaked in 1996 at approximately 2.0 billion cubic feet per day ("Bcf/d").

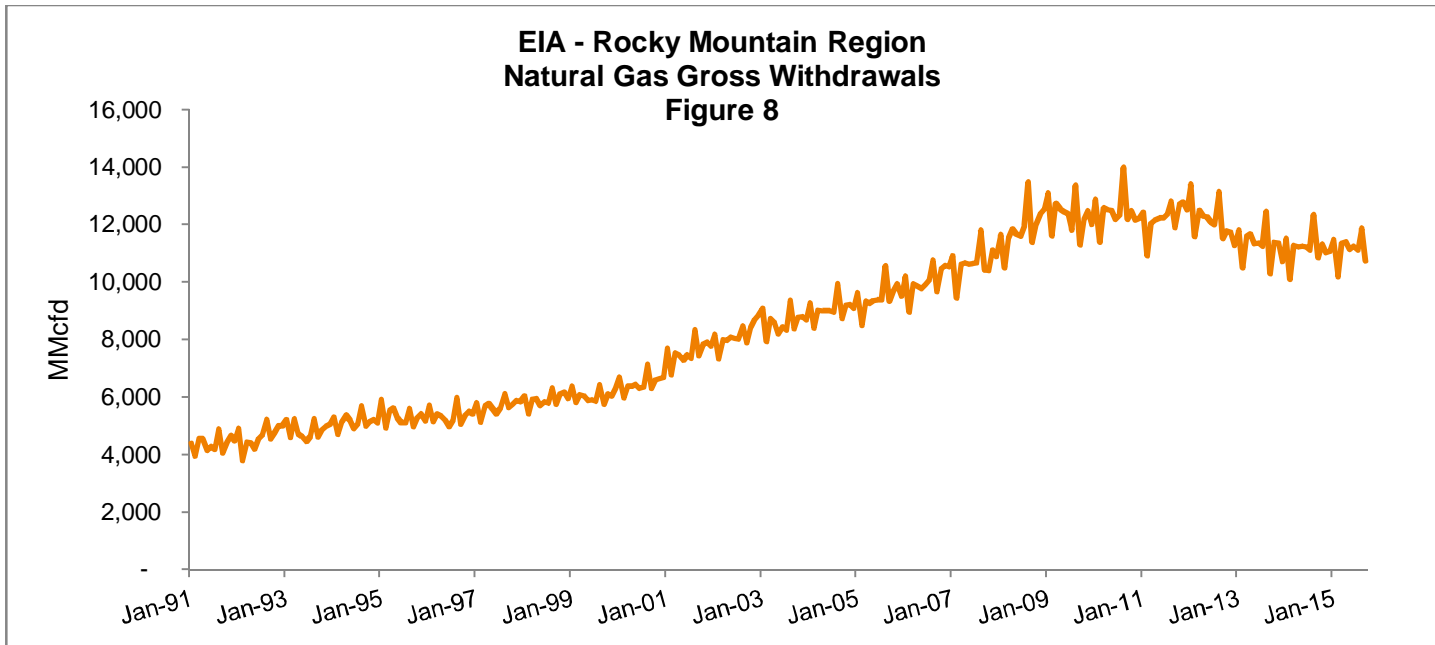


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2 The data underlying the above graph are provided in Exhibit No. ANR-008. Supply  
 3 received into ANR's SE Area declined steeply after 2002, and by 2007 ANR's receipts in  
 4 this area were approximately 1.0 Bcf/d, or half of the 1996 peak. Supply into ANR's SE  
 5 Area has continued to decline, and as of 2015 is half of the 2007 volume (0.5 Bcf/d).

6 **Q: Please describe how ANR has been affected by developments related to Rocky**  
 7 **Mountain supplies.**

8 **A:** Production in the Rocky Mountain region rose sharply in the 2000s, spurred by rising  
 9 natural gas prices. Figure 8 shows the gross natural gas production volumes as reported  
 10 by the EIA for Colorado, Wyoming and Utah from 1991 through September 2015.



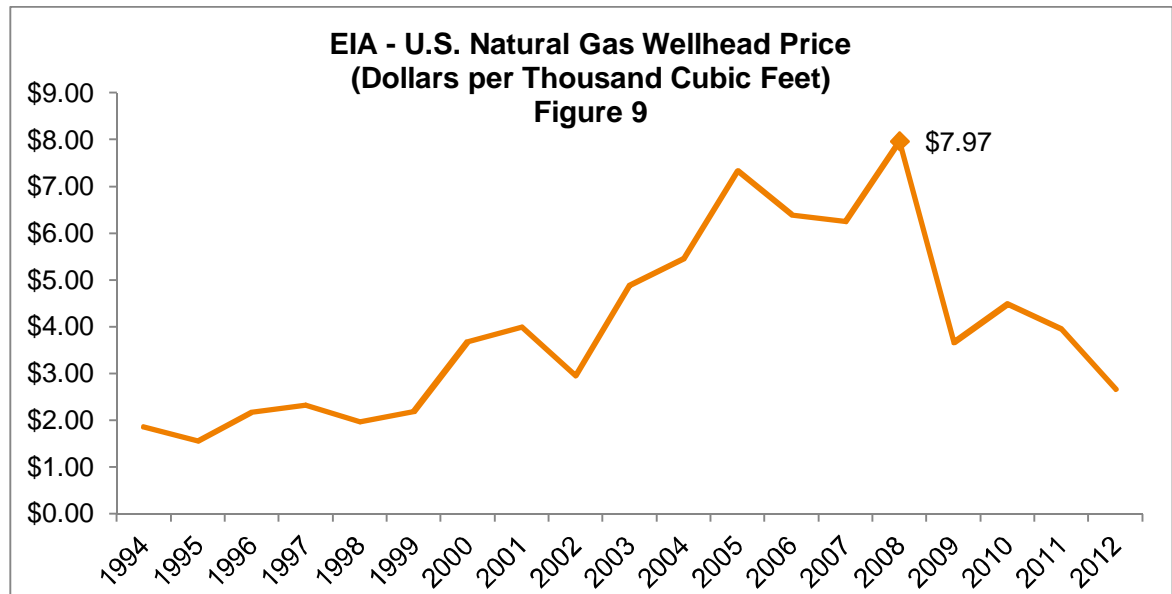
1 The EIA data underlying Figure 8 is included in Exhibit No. ANR-010. Production  
2 growth in the Rockies strained existing pipeline infrastructure which led to the  
3 construction of new and expanded pipeline capacity, such as KN Interstate Gas  
4 Transmission Company's Pony Express Line and Trailblazer Pipeline Company LLC, to  
5 export supply from the Rockies to serve demand in eastern regions. Cheyenne Plains was  
6 constructed to deliver Rockies supply to Greensburg, where it connected with pipeline  
7 infrastructure delivering into Midwest markets. Cheyenne Plains began delivering into  
8 ANR in the SW Area at Greensburg in 2004, and achieved peak annual delivery into  
9 ANR in 2009. These developments are also described in Exhibit No. ANR-009 at 10-11.  
10 More importantly, the initial phase of Rockies Express Pipeline LLC ("REX West") was  
11 constructed to relieve pipeline capacity constraints out of the Rockies and connected to  
12 ANR in the SW Southern Zone (ML-5) in 2008, and subsequently was extended further  
13 east ("REX East Leg 1") to interconnect with ANR's system near Shelbyville, Indiana, in  
14



1 2009. REX West deliveries into ANR's SW Mainline ceased after 2009, while deliveries  
 2 into the SE Mainline have increased.

3 **Q: What effect did rising natural gas prices have on ANR's supply situation?**

4 A: As I briefly noted above, natural gas prices rose steadily from historical levels beginning  
 5 in the early 2000s until 2008 as shown in Figure 9, which triggered increased supply  
 6 being developed and produced in the Rockies.



7  
 8 The EIA data underlying Figure 9 is included in Exhibit No. ANR-011.

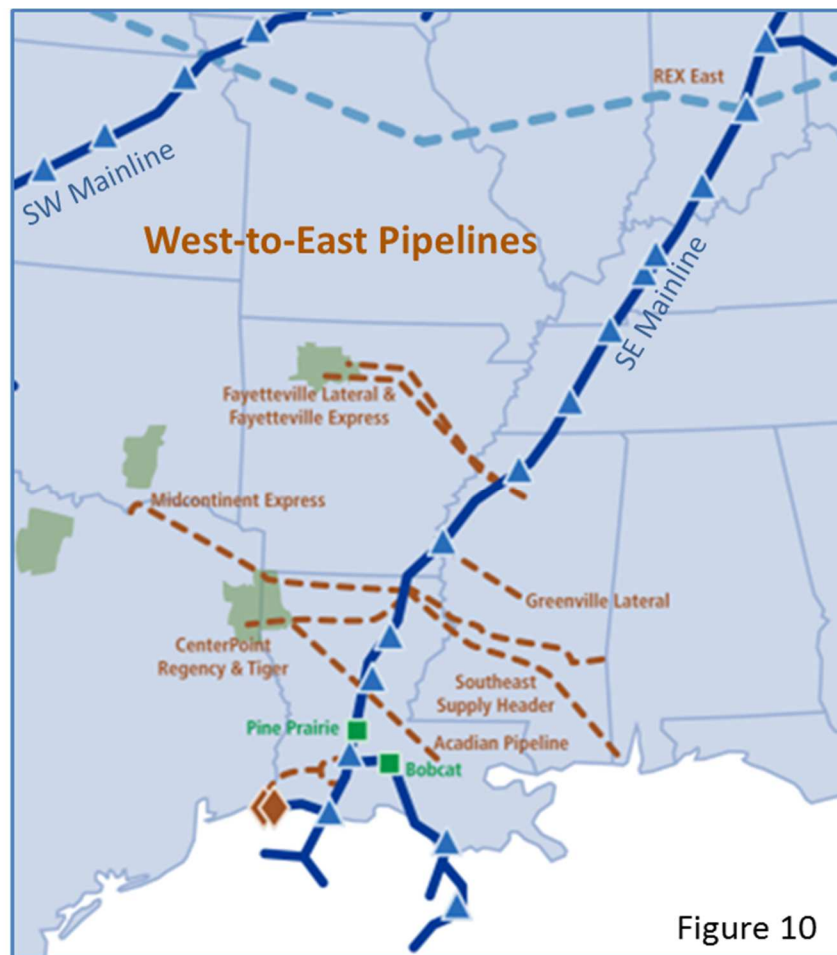
9 In addition, natural gas prices were driven higher by growing market demand,  
 10 particularly for power generation, and an overall challenging domestic supply  
 11 development outlook. Hurricanes Rita and Katrina severely damaged substantial natural  
 12 gas infrastructure in the Gulf of Mexico in 2005, resulting in decreased offshore  
 13 production, which raised concerns about anticipated supply shortages, which further  
 14 supported higher prices. The expected shortfall in domestic supply also spurred  
 15 investment in new liquefied natural gas ("LNG") regasification terminals and associated  
 16 pipeline infrastructure to accommodate increased natural gas imports. Rising natural gas

1 prices also supported increased investment in domestic production, particularly in the  
2 Fort Worth Basin in northern Texas and in the Cotton Valley/Haynesville/Bossier  
3 formations in northeast Texas and northwest Louisiana. Growing production in these  
4 areas initially supported intrastate pipeline infrastructure expansion projects, and  
5 eventually led to the development of new and expanded interstate pipeline capacity from  
6 Texas and eastward into Louisiana, Mississippi, and beyond. Details about natural gas  
7 supply and pipeline capacity additions during this time are provided in a report titled  
8 *Additions to Capacity on the U.S. Natural Gas Pipeline Network: 2005* prepared by the  
9 EIA Office of Oil and Gas in August 2006, included as Exhibit No. ANR-012 and in  
10 *Additions to Capacity on the U.S. Natural Gas Pipeline Network: 2007* prepared by the  
11 EIA Office of Oil and Gas in July 2008, included as Exhibit No. ANR-013.  
12 Unconventional supply developed in response to higher natural gas prices in Oklahoma  
13 and Arkansas led to additional pipeline capacity being constructed eastward connecting  
14 with interstate pipelines delivering into northern and eastern markets. Eventually the  
15 high natural gas prices promoted increased exploration into unconventional supply  
16 sources in the U.S. Northeast and the development of Marcellus and Utica shale  
17 resources. Ultimately, domestic natural gas supply growth in response to higher prices  
18 supported new and expanded pipeline infrastructure, some of which connected with ANR  
19 principally increasing receipts into the Southeast Mainline.

20 **Q: Please discuss the development of west-to-east pipeline capacity that delivers Texas**  
21 **and Midcontinent supplies into ANR's SE Mainline.**

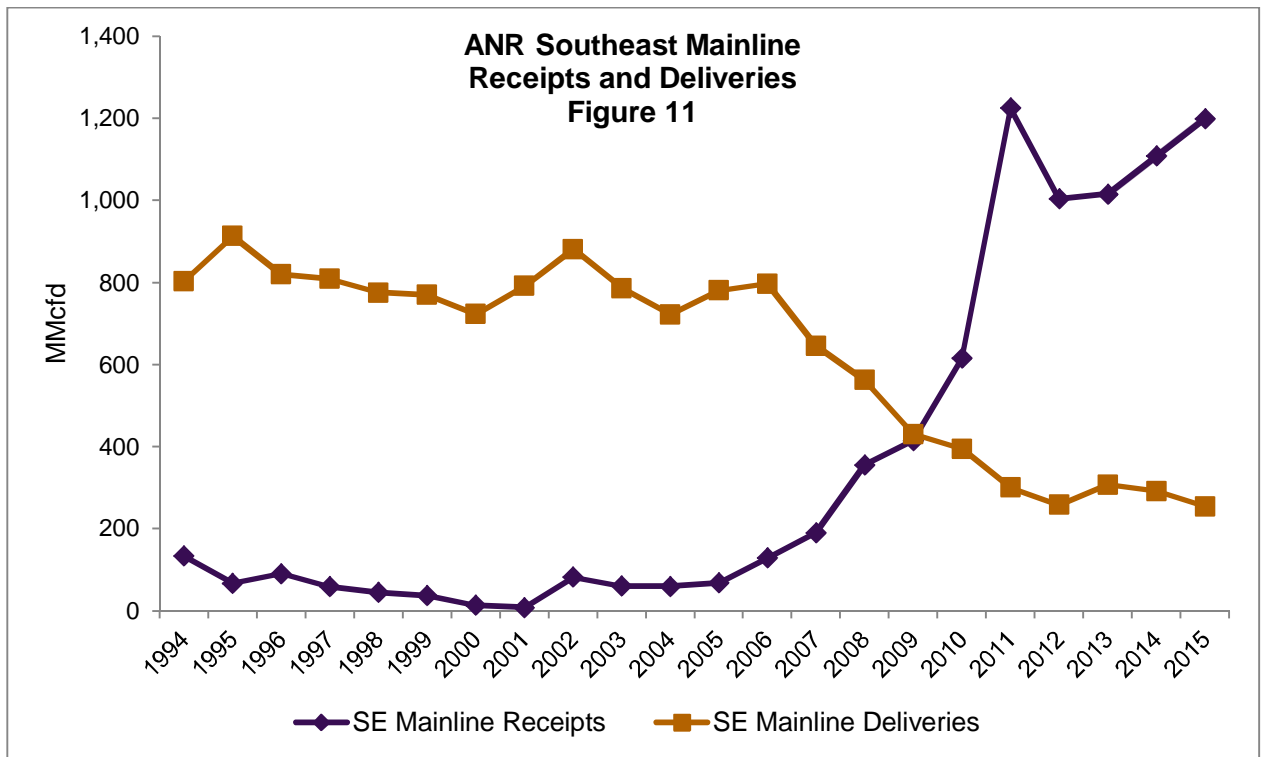
22 A: Intrastate pipeline systems in northern Louisiana began delivering some of the growing  
23 supply from northeast Texas and northwest Louisiana into ANR's SE Mainline via three  
24 new intrastate pipeline interconnections: Regency Intrastate Gas LP (2006); Louisiana

1 Intrastate Gas (2007); and the Acadian Gas Pipeline System Haynesville Extension  
2 (2012). Enable Gas Transmission, LLC's ("Enable", formerly CenterPoint Energy Gas  
3 Transmission) CP Line Expansion from Carthage in northeast Texas to interconnections  
4 with interstate and intrastate pipelines at Perryville in northwest Louisiana, was one of  
5 the first of many new west-to-east interstate pipeline projects developed to connect  
6 rapidly growing supply in Texas, Oklahoma and Arkansas with existing pipeline  
7 infrastructure delivering to markets in the Midwest and East. Some of these new pipeline  
8 facilities are depicted on Figure 10:



9  
10 The CP Line Expansion began delivering into ANR's SE Mainline through a new  
11 interconnection in 2007. Texas Gas Transmission, LLC's ("Texas Gas") Greenville

1 Lateral and Midcontinent Express Pipeline LLC's new pipeline began delivering into the  
 2 SE Mainline in 2009, as did REX East Leg 1. Two new pipelines, ETC Tiger Pipeline,  
 3 LLC, and Fayetteville Express Pipeline, LLC, began deliveries into the SE Mainline in  
 4 2010. All told, eight new pipeline interconnects were completed and began delivery into  
 5 ANR's SE Mainline between 2006 and the end of 2010. Supply received from these  
 6 eight pipelines into the SE Mainline was approximately 1.0 Bcf/d in 2012. Figure 11  
 7 illustrates the trend for receipts and deliveries for points on the SE Mainline since 1994.

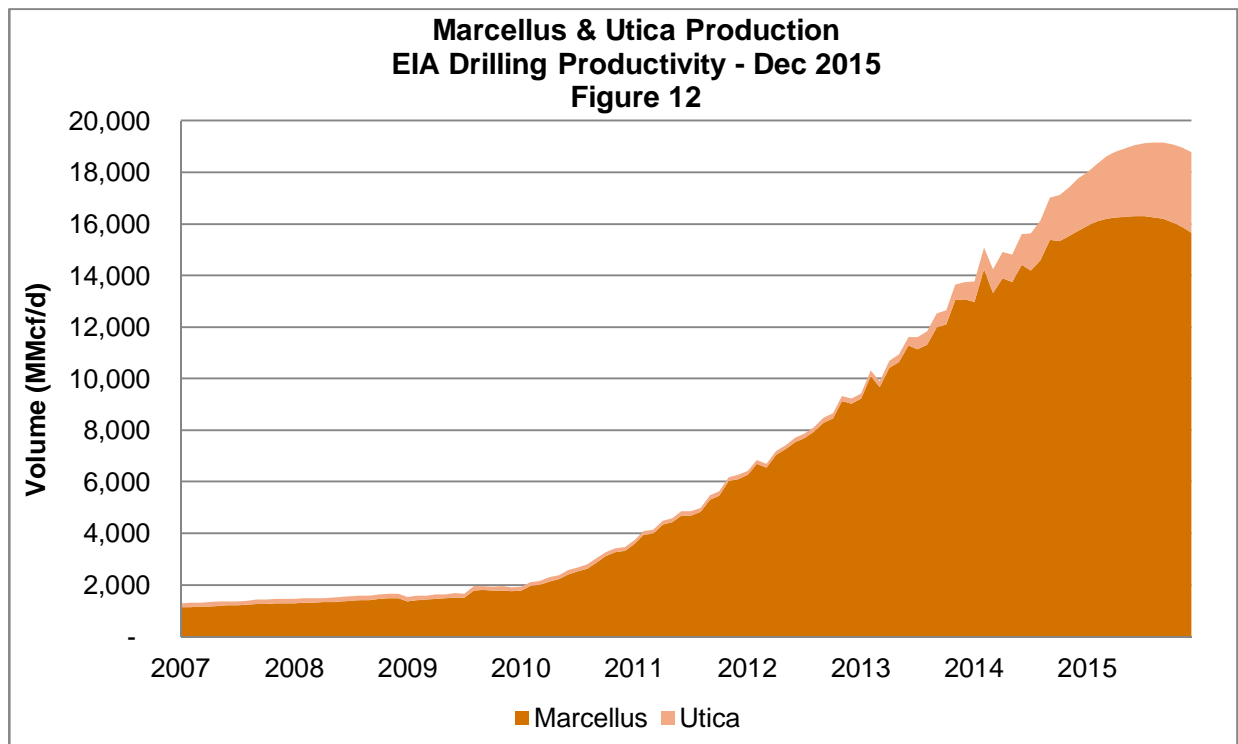


8  
 9 The data underlying the above graph are provided in Exhibit No. ANR-008.

10 **Q: Would you describe the impact of the development of Marcellus and Utica shale on**  
 11 **the pipeline industry in general?**

12 **A:** Natural gas production from the Marcellus and Utica shale formations has impacted  
 13 nearly every pipeline in North America, and ANR is no exception. I refer specifically to

1 Marcellus and Utica because they are the two largest sources of the rapidly expanding  
 2 production in the Appalachian region, although they are by no means the only two  
 3 producing formations in the U.S. Northeast. Figure 12, which is derived from the EIA  
 4 Drilling Productivity Report – December 2015 (included as Exhibit No. ANR-014)  
 5 illustrates the rapid supply growth in these two regions. The Marcellus region produced  
 6 less than 2 Bcf/d in 2010, but is now producing nearly 16 Bcf/d, an increase of 800  
 7 percent, while production from the Utica region has grown from just under a reported 0.7  
 8 Bcf/d in December 2013 to 3.1 Bcf/d in December 2015, a 440 percent increase.



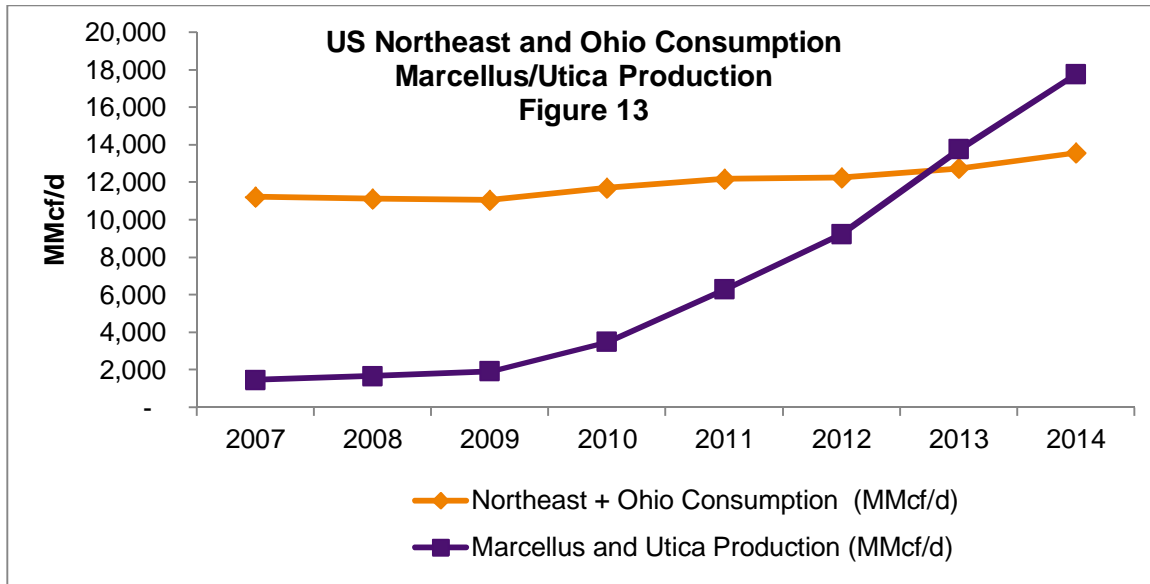
9  
 10 Combined, these two regions currently produce more gas each day than any other region  
 11 in North America. To put this in context, production from the Marcellus and Utica  
 12 region combined in 2010 could have been transported by a single modern high-pressure  
 13 42-inch diameter pipeline with 2.0 Bcf/d of capacity. Today, it would require more than

1 eight additional pipelines of this size to transport the combined supply increase from the  
2 Marcellus and Utica regions over the past five years.

3 As a direct result of this development, interstate pipelines transporting from the  
4 Gulf Coast into and through the Marcellus and Utica region, including TGPL, Texas  
5 Eastern, Columbia Gulf Transmission, LLC, Columbia Gas Transmission, LLC  
6 (“Columbia Gas”) and Transcontinental Gas Pipe Line Company, LLC, have been or are  
7 currently being modified to reverse flow back to the Gulf Coast, with one or more  
8 announced projects for each pipeline. See Exhibit No. ANR-015. Pipelines from the Gulf  
9 Coast into the Great Lakes region, including ANR, Texas Gas, Natural Gas Pipeline  
10 Company of America (“NGPL”), and Trunkline Gas Company, LLC, have experienced  
11 the same phenomenon, with the growing Marcellus and Utica supply currently delivering  
12 (or expected to deliver) into those pipelines via (1) REX reversal; (2) the Dominion  
13 Transmission, Inc. (“DTI”), and Texas Eastern reversals (including supply from these  
14 two pipelines through the Lebanon Lateral reversal); and (3) the proposed Energy  
15 Transfer Partners’ Rover Pipeline Project (“Rover”).

16 **Q: How have these developments specifically affected ANR?**

17 A: Simply stated, EIA-reported natural gas production from Marcellus and Utica is greater  
18 than the total reported annual natural gas consumption for the nine-state U.S. Northeast  
19 region and Ohio combined, as shown in Figure 13, which is derived from EIA data  
20 included as Exhibit No. ANR-016.



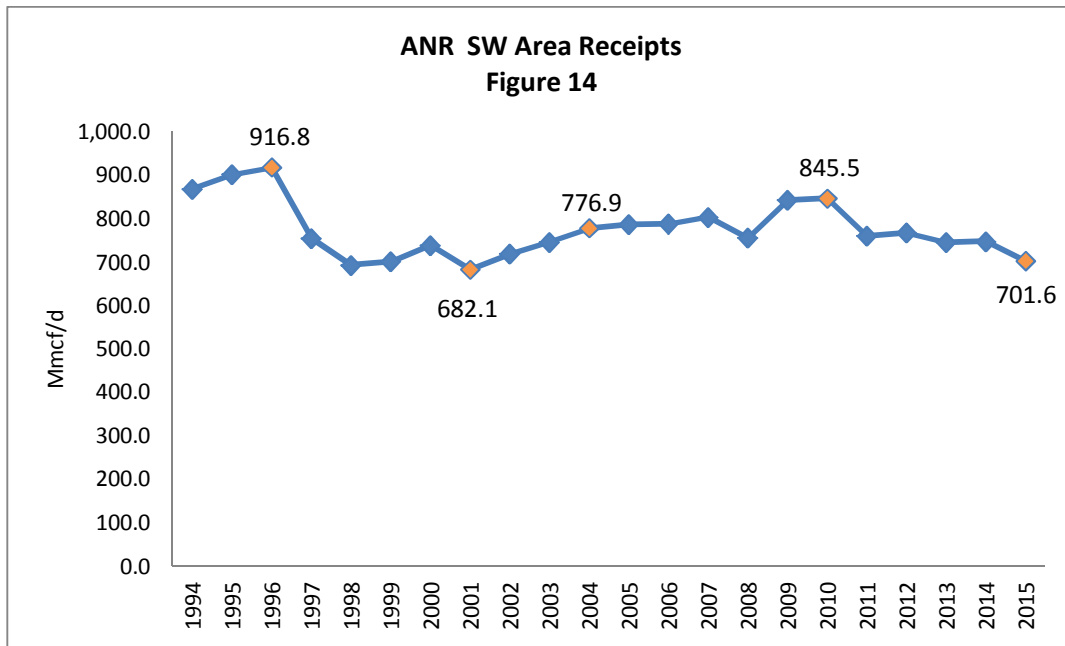
1  
2 Excess Marcellus and Utica production was initially exported to Canada, but more  
3 recently shippers have contracted for pipeline capacity into the Great Lakes, Southeast  
4 and Gulf Coast regions in an effort to capture market share in these nearby consuming  
5 regions. In response to this situation, ANR currently has three projects that are either  
6 complete or under way that increase receipts into the SE Mainline from Marcellus and  
7 Utica, which provides shippers with access to Great Lakes, Midwest and Gulf Coast  
8 markets. These projects include: (1) reversing the jointly-owned Lebanon Lateral and  
9 expanding ANR's wholly-owned facilities to receive additional supply from Texas  
10 Eastern's capacity on the lateral; (2) expanding the existing REX Shelbyville meter to  
11 receive additional supply from REX reversal and expansion projects into the SE  
12 Mainline; and (3) preparing for a new pipeline interconnect with Rover to receive  
13 Marcellus/Utica production near ANR's Defiance compressor station at the north end of  
14 the SE Mainline.

15 Supply received into ANR on the SE Mainline has already transformed this  
16 pipeline segment into the one of the largest supply regions on the ANR system, as shown

1 in Figure 4, and these new supply-driven projects are expected to ensure that the SE  
 2 Mainline will continue to be a major source of supply on ANR.

3 **Q: Please describe how supply has changed in the SW Area.**

4 A: As shown in Figure 14, supply receipts into the SW Area peaked in 1996, then declined  
 5 sharply to their lowest level in 2001, which coincides with the timing for new supply  
 6 being received into the Northern Area from Northern Border and Alliance.



7  
 8 The data underlying the above graph are provided in Exhibit No. ANR-008.

9 Supply receipts into the SW Area began increasing after 2001 as domestic supply  
 10 began to increase in response to rising natural gas prices, particularly supply from the  
 11 Rockies and from unconventional production sources in northern Texas and Louisiana  
 12 and in Oklahoma and Arkansas. As I discussed previously, Cheyenne Plains began  
 13 delivering into the SW Area at Greensburg in 2004. Towards the end of the decade, new  
 14 pipeline construction led to decreasing deliveries into the SW Area. REX was extended  
 15 to Ohio in 2009 and later, the construction of Ruby Pipeline from Opal, Wyoming to



1 Malin, Oregon which went into service in July 2011, finally eliminated pipeline capacity  
2 constraints from the Rockies. In addition, new pipelines and expansion projects  
3 constructed during the 2007 to 2011 time frame to transport new unconventional supply  
4 from Texas, Louisiana, Oklahoma and Arkansas enabled supply from these regions to  
5 reach markets in the east. Thus, supply receipts into the SW Area once again declined  
6 sharply after 2010, and by 2015, supply receipts had fallen to approximately 2001 levels.

7 **Q: How have these supply changes into the SW Area impacted ANR?**

8 A: At the time of the RP94-43 Settlement, supply received into the SW Area exceeded the  
9 amount that could be transported for its shippers using the SW Mainline facilities alone.  
10 ANR was able to accommodate the firm requirements of its shippers by utilizing TBO  
11 agreements. Specifically, ANR transported from Greensburg to the Northern Area on  
12 Northern Natural, and transported from Custer to the SE Mainline on Enable. These  
13 TBO arrangements provided shippers with access to needed supply and provided ANR  
14 with a flexible alternative to expanding the SW Mainline. This flexibility proved useful  
15 when new supply coming into the Northern Area in 2000 and 2001 increased shipper  
16 demand for capacity capable of accessing this new, nearby supply and diminished  
17 demand for capacity from the SW Area. ANR was able to reduce costs and its capacity  
18 from the SW Area by terminating its TBO with Northern Natural in response to shifting  
19 supply and shipper demand.

20 As supply shifted again in response to rising natural gas prices and supply from  
21 Rockies and from unconventional sources grew, resulting in increasing supply receipts  
22 into the SW Area from the lower 2001 levels, ANR relied upon the remaining Enable  
23 TBO to meet shipper demand for capacity from the SW Area that exceeded the amount of  
24 capacity provided by the SW Mainline facilities. However, as noted above, the large

1 increase in west-to-east pipeline capacity from unconventional sources in Oklahoma,  
2 Texas, Arkansas and Louisiana coincided with reduced supply receipts into the SW Area  
3 after 2010. TBO flexibility once again proved useful as ANR was able to again reduce  
4 costs and capacity from the SW Area in response to declining shipper demand for this  
5 capacity by terminating the Enable TBO in 2015. ANR's revenues from capacity sold for  
6 transportation of supply receipts in the SW Area have diminished as the amount of  
7 available capacity underpinned by TBOs has declined in response to reduced shipper  
8 demand for this capacity.

9 **Q. Can you summarize the effect of these changes with respect to ANR's overall supply**  
10 **mix?**

11 A: Yes, as shown in Figure 6, ANR received a daily average of 3.7 Bcf/d of gas supply into  
12 its system annually since 1994 (excluding receipts from on-system storage). In 1994,  
13 approximately 70 percent of this supply was received in ANR's traditional supply areas:  
14 46.7 percent in the SE Area and 22.4 percent in the SW Area. An additional 21.7 percent  
15 was received in the Sandwich-to-Wisconsin segment of the Northern Area. By  
16 comparison, as shown in Figure 4, in 2015, roughly one-third of ANR's total supply was  
17 received in each of the north, south and middle portions of the system, with 36 percent of  
18 its supply received in the Northern Area, 32 percent in the SW Area and SE Area  
19 combined (18.6 and 13.3 percent, respectively) and 32 percent in the Southeast Mainline.  
20 The largest change has been the declining supply from offshore Gulf of Mexico that was  
21 replaced by increased supply received into the Northern Area, primarily imported from  
22 Canada and by supply into the SE Mainline from (1) sources in northern Louisiana,  
23 (2) west-to-east pipelines out of Texas, Oklahoma, and Arkansas, (3) the Rockies, and  
24 (4) Marcellus and Utica production. The decline in supply receipts into the SW Area led

1 ANR to reduce its TBO capacity, which capacity had allowed ANR to transport more gas  
2 from the SW Area than it could on the SW Mainline alone. As a result, ANR has  
3 experienced a diminished ability to generate transportation revenue on this portion of its  
4 system.

### 5 **Market Changes**

6 **Q: Please summarize the changes that ANR has seen with respect to market areas on its**  
7 **system that have taken place since 1994.**

8 A: ANR has experienced several major developments over the last 20 years that have  
9 affected the market areas on its system. These include: (1) increased pipeline  
10 competition in ANR's Northern Area markets; (2) Appalachia supply growth reducing  
11 ANR's deliveries into Ohio and Northeast markets; (3) increased demand for deliveries  
12 into the Louisiana market area and (4) increased competition for storage and associated  
13 transportation from new and expanded storage capacity.

14 **Q: What changes have occurred in ANR's market areas in Wisconsin and Michigan?**

15 A: The biggest change to ANR's Northern Area markets occurred when the Northern Border  
16 extension (1999) and Alliance (2000) were constructed and ANR began receiving  
17 additional Canadian supplies into northern Illinois near Chicago. Access to an alternative  
18 supply option imported from Canada into ANR's Northern Area underpinned short-haul  
19 pipeline expansions within the region, which in turn enabled shippers to reduce  
20 contracted long-haul capacity from the SW Area and the SE Area. ANR responded to  
21 requests for short-haul expansions in the region with a series of expansion projects  
22 beginning in 1999, as summarized in the table in Figure 15, which is derived from  
23 information found on EIA's website.

ANR Wisconsin Expansion Projects - Figure 15

Project Name	Docket Number	Completed Date	Additional Capacity (MMcf/d)
ANR Wisconsin Loop Expansion I	CP97-765	11/1/1999	190
ANR Wisconsin Expansion II A	CP99-241	12/15/2000	109
ANR Wisconsin Expansion IIB	CP99-241	12/15/2001	40
ANR WestLeg Expansion	CP02-434	10/1/2004	220
ANR EastLeg Expansion	CP04-51	11/1/2005	143.4
ANR NorthLeg Expansion	CP04-01	12/16/2005	105
ANR Wisconsin 2006 Expansion Project	CP05-364	12/15/2006	168.2
ANR Wisconsin Project Expansion	CP08-465	10/28/2010	97.9
Marshfield Reduction Project	CP11-539	11/1/2012	101.1

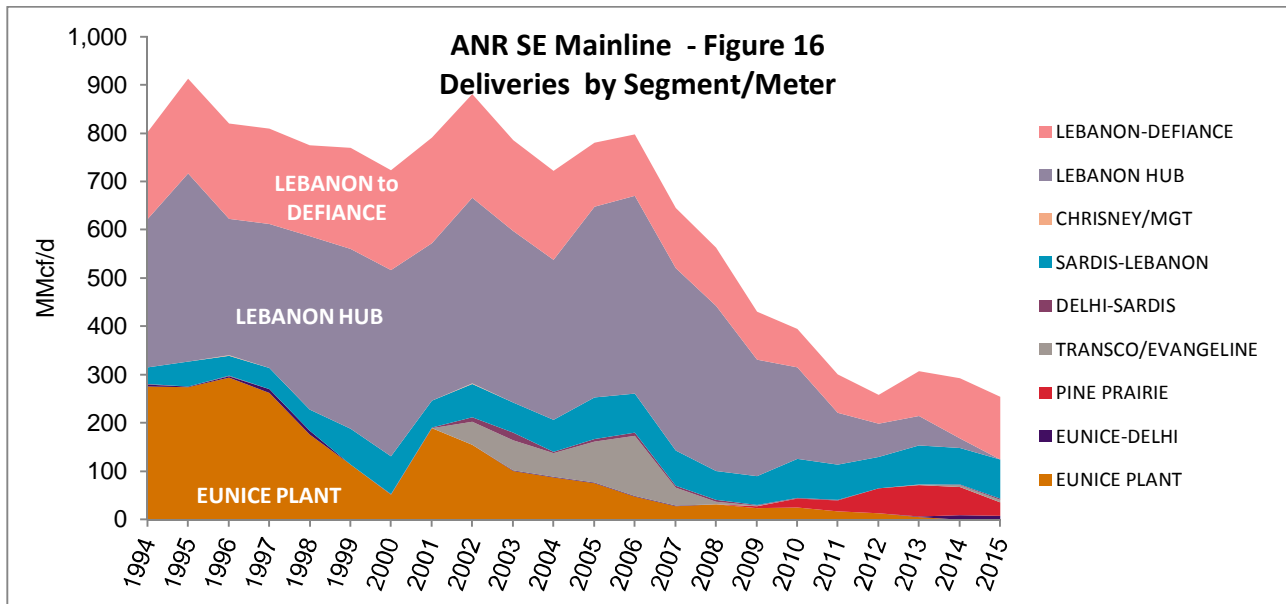
The source of this information is provided in Exhibit No. ANR-015.

The Commission also approved the Vector Pipeline project that was constructed to deliver Canadian supply received from Alliance and Northern Border to Illinois, Indiana, Michigan, and Ontario, providing shippers, storage customers and end-use consumers with a competitive new alternative to supply from ANR's SE and SW Mainlines. Increased supply from Canada into northern Illinois also underpinned Guardian Pipeline, L.L.C. ("Guardian"), a new pipeline that was completed in 2002 into Wisconsin from connections with Northern Border and Alliance and also connected with Vector, Midwestern Gas Transmission Company, NGPL, and ANR.

**Q: How has increased Ohio-sourced supply affected ANR's deliveries into Ohio markets?**

A: Until 2014, Ohio was one of the largest delivery outlets for shippers on ANR, with deliveries into Columbia Gas, DTI, and Texas Eastern via the Lebanon Lateral being the principal outlets from the SE Mainline into Ohio. However, due to the growing Marcellus and Utica production in the Appalachia region that I have described previously, Pennsylvania and Ohio have transformed from states where natural gas consumption exceeded production to states that export excess supply, as shown in Figure

1 13. From 1994 through 2012, deliveries through the Lebanon Lateral to pipelines in Ohio  
 2 represented the largest volume of deliveries from any segment on ANR’s SE Mainline.  
 3 Figure 16, supporting data for which is included in Exhibit No. ANR-008, depicts  
 4 deliveries by segment and meter from the SE Mainline since 1994.



5  
 6 Deliveries from the SE Mainline through the Lebanon Lateral began to decline in 2009 as  
 7 Marcellus and Utica production increased, and by the end of 2014 deliveries from ANR  
 8 through the Lebanon Lateral to pipelines in Ohio was minimal.

9 **Q: How did ANR respond to this development?**

10 A. Beginning in 2009, as Figure 11 shows, supply volumes received into the SE Mainline  
 11 exceeded delivered volumes from the SE Mainline, a trend that continues today. In 2014,  
 12 ANR and Texas Eastern, joint owners of the Lebanon Lateral, reversed flow on that line,  
 13 enabling ANR to receive supply from Texas Eastern and DTI for delivery into the SE  
 14 Mainline. ANR also performed its Southeast Mainline System Reversal Project in  
 15 response to shipper demand for “backhaul” capacity from three recently reversed pipeline  
 16 interconnect meters: REX at Shelbyville and the Texas Eastern and DTI meters into the

1 Lebanon Lateral. Shippers also acquired SE Mainline capacity from the proposed Rover  
2 interconnect meter near Defiance and delivering to an ANR pooling point at Eunice and  
3 other nearby delivery meters. As a result, the SE Mainline is ANR's second largest  
4 supply receipt area, with over 1 Bcf/d received between Eunice and Defiance in 2015 and  
5 with shippers subscribed to additional capacity from north-to-south expecting to receive  
6 supply from Rover when that pipeline interconnection is complete. In summary, as  
7 shown in Figure 11, deliveries out from points along the SE Mainline have declined  
8 steadily since 1994 while volumes received from points into the SE Mainline have  
9 increased.

10 **Q: How has the SE Area changed?**

11 A: Until 2005, ANR received more supply from the SE Area than from any other area on its  
12 system. However, as I discussed previously, supply receipts into the SE Area declined  
13 steadily as previously discussed. In 2011, deliveries from points in the SE Area exceeded  
14 the total supply from receipt points within the area, as shown in Figure 7. Operationally,  
15 this required gas flow to be reversed through Eunice to deliver into the SE Area from the  
16 SE Mainline. As ANR witness Bennett explains, however, it is unlikely that ANR will  
17 experience further increases in demand in this area.

18 **Q: What changes have you observed in storage?**

19 A: Natural gas prices rose during the early 2000s, fueled by concerns about adequate gas  
20 supply, as I have discussed previously and shown in Figure 9, this price rise spurred  
21 investments in production and LNG import capacity also spurred investments and in  
22 natural gas storage capacity and deliverability. New Commission regulations  
23 implementing legislation making it easier for new natural gas storage entrants to obtain  
24 market-based rate authority also contributed to investment in new storage capacity. As

1 shown in Exhibit No. ANR-017, natural gas storage working capacity in the U.S. lower  
2 48 states was expanded by 803 Bcf from 3,863 Bcf in 2005 to 4,666 Bcf in 2014; a  
3 20.8% increase. Michigan, which has more storage working gas capacity than any other  
4 state, increased capacity from 634.1 Bcf in 2005 to 675 Bcf in 2014. Louisiana recorded  
5 the second largest increase in storage working gas capacity for any state during this same  
6 period, with working gas capacity expanding from 324.4 Bcf to 454.1 Bcf, an increase of  
7 129.1 Bcf. Mississippi, another state where ANR is located and operates, recorded the  
8 largest increase in storage working gas capacity during this period, with storage capacity  
9 nearly tripling from 69.5 Bcf to 201.2 Bcf, an increase of 131.7 Bcf.

10 **Q: What has been the impact on ANR as a result of this increased storage working gas**  
11 **capacity?**

12 **A:** Increased storage capacity allowed domestic natural gas production to grow by increasing  
13 the amount of capacity available for excess production to be stored. This led to lower  
14 natural gas prices and also dampened seasonal price differentials. Increased storage  
15 working gas capacity and the associated increase in maximum daily deliverability have  
16 increased the competitive storage alternatives available to customers. Supply from new  
17 or expanded storage working gas capacity competes with gas transportation from other  
18 supply sources connected to the pipeline, and the impact of this increased competition is  
19 magnified when a new or expanded storage field is connected to other pipelines, as this  
20 provides an additional competitive transportation option for supply to reach storage.  
21 Increased available storage working gas capacity and lower seasonal price differentials  
22 have combined to increase competition for ANR's storage capacity and associated  
23 transportation services. ANR witness Bennett describes this development and its impact  
24 on ANR in his testimony.

1 **Q: What has been the overall impact on ANR's system of the supply and market**  
2 **changes you have described?**

3 A: The changes I have described have significantly transformed the flow patterns and supply  
4 and market dynamics on ANR's system from those that existed at the time of the Docket  
5 No. RP94-43 rate proceeding 20 years ago. ANR has seen new supply imported from  
6 Canada into the Northern Area, which both enabled new interstate pipelines to deliver  
7 into each of ANR's two largest traditional Northern Area markets, Wisconsin and  
8 Michigan, and resulted in the Northern Area becoming ANR's largest source of system  
9 supply. Declining production from the offshore Gulf of Mexico was partially offset by  
10 increased production in the Rockies that was first delivered into the SW Mainline but  
11 now is delivered into the SE Mainline. Unconventional supply in Texas, Oklahoma,  
12 Arkansas and Louisiana delivered via new pipeline interconnect meters into the SE  
13 Mainline, coupled with the supply from the Rockies, transformed the SE Mainline into a  
14 significant supply header that delivers into the Northern Area and into the SE Area as  
15 Gulf of Mexico supply continues to decline.

16 Most recently, unprecedented rapid production growth from unconventional  
17 sources in the Marcellus and Utica shale formations continues to flood into pipelines,  
18 such as ANR, that traditionally flowed from the Gulf Coast to Northeast and Midwest  
19 markets. As a result, shippers are acquiring the available existing and expanded pipeline  
20 capacity on major interstate pipelines to transport to the Gulf Coast. New pipelines to  
21 transport growing supply from Appalachia to adjacent markets are in various stages of  
22 planning or construction, with Rover expected to deliver into ANR's SE Mainline while  
23 also increasing competition in ANR's Northern Area and into Canada.



1           Simply stated, the Northern Area, the zone with the largest historical and current  
2 delivered volumes, is now the zone with the largest supply receipt volumes. Four new  
3 interstate pipelines have been built into and through ANR's largest markets (Guardian,  
4 Alliance, Northern Border and Vector), with each providing competitive alternatives in  
5 the Northern Area. It is expected that Rover, Spectra Energy's Nexus Gas Transmission  
6 Project, and perhaps other pipelines with supply from Marcellus and Utica will further  
7 increase competitive pressure on ANR in the Northern Area. The SE Area that  
8 historically was ANR's zone with the most supply receipts now has more deliveries than  
9 receipts. The SE Mainline, which did not directly receive any meaningful supply volume  
10 in 1994 other than the supply from the Gulf of Mexico through Eunice, now receives  
11 supply directly from new pipeline and storage interconnects, including supply from  
12 several pipelines that did not exist in 1994. These interconnects provide supply into  
13 ANR from the Rockies and from unconventional sources in Texas, Oklahoma, Arkansas,  
14 Louisiana and Appalachia regions.

15 **Q: Please summarize these impacts.**

16 **A;** ANR historically served the principal function of transporting gas supply from the SW  
17 and SE Areas for delivery to markets in the Northern Area. Now however, the market  
18 changes described above have resulted in a variety of impacts on ANR: the development  
19 of new sources of supply and new pipeline infrastructure has resulted in increased  
20 competition in the Northern Area; increased demand for transportation from the SE  
21 Mainline to the SE Area and changes to the historic unidirectional flows on the SE  
22 Mainline; declining revenue generating opportunities from the SW Area; and decreased  
23 demand for ANR storage as a result of significant new storage capacity and deliverability

1 additions and dampening of seasonal gas price differentials. ANR anticipates that this  
2 state of affairs will continue for the foreseeable future.

#### 3 **IV. MARKET SUPPORT FOR PROPOSED RATE ZONES**

4 **Q: What changes does ANR propose to make to its existing rate zone structure?**

5 A: As explained by ANR witness Roscher, ANR proposes to consolidate its existing seven  
6 rate zones into four zones. Specifically, ANR proposes to combine the existing SW Area  
7 and ML-5 zones into a single zone; to combine the existing ML-6 and ML-7 zones into a  
8 single zone; and to combine the existing ML-2 and ML-3 zones on the SE Mainline into a  
9 single zone. ANR does not propose to move any zone boundaries, but three existing  
10 boundaries will be eliminated: the boundary between the SW Area and ML-6 zones; the  
11 boundary between the ML-6 and ML-7 zones; and the boundary between the ML-2 and  
12 ML-3 zones. A map depicting the resulting four zones is included as Figure 2 in the  
13 testimony of ANR witness Roscher. These changes would become effective on a  
14 prospective basis following a Commission order approving ANR's proposal.

15 **Q. Please explain why ANR proposes to combine existing rate zones ML-2 and ML-3.**

16 A: Since 2009, supply received into the SE Mainline between Eunice and Defiance has  
17 exceeded deliveries from this segment. Supply from Texas, Oklahoma, Louisiana and  
18 Arkansas enters the SE Southern segment (ML-2) while supply from the Rockies and  
19 Appalachia regions enters the SE Central segment (ML-3). All supply entering the SE  
20 Mainline is received from intrastate or interstate pipelines. As I have explained  
21 previously, ANR's largest deliveries from points along the SE Mainline had been into  
22 interstate pipelines via the Lebanon Lateral. The eastern markets that had been served by  
23 those volumes are now served in large measure by supply from Marcellus and Utica. As

1 a result, ANR's two largest market outlets are on opposite ends of the SE Mainline: the  
2 Northern Zone (ML-7) and the SE Area in Southern Louisiana. ANR's proposal to  
3 combine ML-2 and ML-3 would create a single rate-zone header. Combining the ML-2  
4 and ML-3 rate zones into a single zone removes an artificial barrier to competition by  
5 eliminating an unnecessary zone access charge and enabling supplies within these zones  
6 to serve adjoining markets on equal terms. This will foster increased competition  
7 between supplies entering ANR from the south and from the north, while providing all  
8 supplies with an equal opportunity to compete for markets in the Northern Area and the  
9 SE Area, as well as for the few markets along the SE Mainline.

10 **Q: Does ANR anticipate that demand in the SE Area will continue to exceed supply**  
11 **from the SE Area for the foreseeable future?**

12 A: Yes, due to the decline in offshore Gulf of Mexico supply, deliveries into ANR's SE  
13 Area from the offshore Gulf are less than the average annual delivery volumes between  
14 Eunice and Patterson in the SE Area. Gas routinely flows through Eunice from north to  
15 south on a daily basis when supply is less than delivery requirements south of Eunice.  
16 Strong demand for pipeline capacity from receipt points in ML-3 to Louisiana has led  
17 ANR to reverse the SE Mainline flow capability, and ANR has entered into significant  
18 long-term contracts for north-to-south flow on the SE Mainline. This demonstrates  
19 market support for deliveries into southern Louisiana where ANR already provides  
20 supply aggregation services at Eunice that function equally regardless of ultimate  
21 nomination or flow direction.

22 **Q: Have the developments you cite affected the operational characteristics of the SE**  
23 **Mainline?**

24 A: Yes, as ANR witness Hampton explains in greater detail, the development of  
25 bidirectional flows on the SE Mainline has resulted in the creation of a point of zero flow

1 (or “null point”) through the SE Mainline. The null point is the receipt point from which  
2 gas physically flows both north and south at any given point in time. The creation of  
3 reverse flow capability on the Lebanon Lateral and the changes at the Shelbyville  
4 interconnection with REX has had significant impacts on ANR’s SE Mainline operations.  
5 Although the null point is still associated with Haynesville and Fayetteville receipts, gas  
6 is often free-flowing both north and south through all of the stations south of the Portland  
7 compressor station. These operational developments further demonstrate that the SE  
8 Mainline as a whole functions as a single supply header and supports the proposed  
9 consolidation of ML-2 and ML-3 into a single rate zone.

10 **Q. Please explain why ANR proposes to combine the existing SW Area and ML-5 rate**  
11 **zones.**

12 A: As I have explained previously, the SW Southern segment (ML-5) of ANR’s SW  
13 Mainline serves essentially the same function as the SW Area, in that ANR receives gas  
14 supply in ML-5 primarily from the SW Area and transports it to markets that are  
15 downstream of ML-5, with minimal deliveries to points within ML-5. As I described  
16 with respect to combining ML-2 and ML-3, combining the SW Area and ML-5 rate  
17 zones into a single zone would create a header system, thereby removing artificial  
18 barriers to competition by eliminating an unnecessary zone access charge and enabling  
19 supplies within these zones to serve adjoining markets on equal terms. Further, the SW  
20 Area and ML-5 are located in states where the total production within each state exceeds  
21 total consumption in that state, and so ultimately the SW Area and ML-5 operate in an  
22 integrated manner to provide pipeline export capacity from the region.

23 **Q: Why does ANR believe it is appropriate to combine the existing ML-6 and ML-7**  
24 **rate zones?**

1 A: As I have explained, the SW Central segment (ML-6) of ANR's system functions as a  
2 market area, in that ANR delivers considerably more gas off of its system in ML6 than it  
3 receives in that zone. As a result, combining ML-6 and ML-7 will create a single  
4 geographic market area zone. ANR's proposal would remove the zone access charge for  
5 existing ML-7 shippers to a region that is exclusively a market area; removing the zone  
6 access charge for ML-6 shippers provides expanded access to supply and storage options  
7 without the additional zone access charge they bear today. Shippers in both zones will  
8 benefit from expanded alternate point options.

9 **Q. Why is ANR proposing to change from its existing seven-zone rate structure to a**  
10 **four-zone structure at this time?**

11 A: As I have discussed above, ANR's supply and market conditions have evolved  
12 dramatically since ANR's last rate case. Whereas ANR traditionally transported natural  
13 gas from the Midcontinent and Gulf of Mexico to markets in its Northern Area, ANR  
14 now transports gas from a variety of sources that did not exist in 1994, including  
15 additional Canadian supplies, shale gas that enters ANR's system on the southern end of  
16 the SE Mainline, Marcellus and Utica shale gas that enters ANR's system on the northern  
17 end of the SE Mainline, and Rocky Mountain supplies that enter ANR's system on the SE  
18 Mainline at Shelbyville. In addition, ANR has developed substantial new market  
19 opportunities in Louisiana. As explained in greater detail by ANR witness Roscher,  
20 ANR believes that implementing its proposed four-zone rate structure reflects these  
21 developments and will benefit shippers and ANR alike by fostering competitive  
22 opportunities and maximizing the use of ANR's system by facilitating access to all  
23 sources of supply available for transportation on ANR.

24 **Q: Does this conclude your testimony?**

1 A: Yes, it does.

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

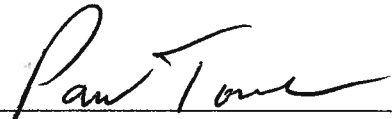
ANR Pipeline Company )

Docket No. RP16-\_\_\_\_-000

State of Texas )  
County of Harris ) ss.

AFFIDAVIT OF PAUL TOWNE

Paul Towne, being first duly sworn, on oath states that he is the witness whose testimony appears on the preceding pages entitled "Prepared Direct Testimony of Paul Towne"; that, if asked the questions which appear in the text of said testimony, he would give the answers that are therein set forth; and that affiant adopts the aforesaid testimony as Paul Towne's sworn testimony in this proceeding.

  
\_\_\_\_\_  
Paul Towne

SWORN TO AND SUBSCRIBED BEFORE ME THIS 22<sup>nd</sup> DAY OF January, 2016

  
\_\_\_\_\_  
Notary Public  
My Commission Expires:

